

COMPREHENSIVE REPORT

TOPIC:

Plastic Management in Namibia:
Best Practice Review

DATE:

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PREPARED FOR:

Namibia Chamber of Commerce and Industry
(NCCI)

PREPARED BY:



FISHER
CONSULTING



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REPORT READING GUIDE

The information needs of readers will differ invariably.
As such, the report caters for this varying need for detail.

Section 1: Introduction

This section provides background on the project. It is suggested that all readers peruse this section first.

Section 2: Conclusion

This section contains the summary of findings and conclusions.

Section 3: Executive Summary

This section comprises both the core findings that stood out for the research team as well as the conclusions and recommendations made. The information provided in this section is sufficient and thorough enough to enable the reader to gain an overall picture and to make consequent decisions. If additional information is required, the reader can consult the next sections.

Section 4: Comprehensive Qualitative Report – Opinion Leaders

This section contains *all* findings derived from the qualitative in-depth interviews conducted with industry opinion leaders together with recommendations. It does, however, not include all supporting verbatim comments. If more detail is required on a specific topic, please refer to the Appendix, which provides all supporting verbatim comments.

Appendix: Supporting Participant Quotes

This section contains supporting verbatim comments. Please refer to the Table of Contents for the particular section of interest.

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SECTION 1: INTRODUCTION

1. BACKGROUND

The Namibia Chamber of Commerce and Industry (NCCI) recently commissioned Cornerstone Consultants in partnership with FISHER CONSULTING to conduct a best practice review of the plastics industry in Namibia. In order to gauge and determine best practice in this particular regard, it was deemed necessary to conduct comprehensive research. The goal of the project is to employ the insights gathered from the research phase to guide and influence government policy and advise the plastic industry's strategy going forward.

2. RESEARCH GOAL

To identify ways to manage the use, manufacturing and import of plastics in Namibia responsibly in order to minimise the country's carbon footprint.

3. RESEARCH OBJECTIVES

In order to meet the above goal, the following objectives were set:

1. To assess the perceptions around plastic in general:
 - a. Arguments for and against the use of plastic; and
 - b. Common misperceptions about plastic.
2. To assess the overall effectiveness with which plastic is managed in Namibia in terms of ensuring:
 - a. Zero marine litter;
 - b. Protection of all water sources, including aquifers;
 - c. Protection of fauna, flora, landscapes and heritage;
 - d. Zero waste to landfill;
 - e. Lowest possible carbon footprint; and
 - f. Lowest possible impact on non-renewable resources.
3. To determine the awareness of current plastic recycling activities in Namibia, their perceived effectiveness and possible best practices that can be employed to optimise the efficiency, success and impact of the country's current plastic recycling efforts.
4. To determine the awareness of current plastic re-using activities in Namibia, their perceived effectiveness and possible best practices that can be employed to optimise the efficiency, success and impact of the country's current plastic re-using efforts.
5. To determine the awareness of current plastic reducing activities in Namibia, their perceived effectiveness and possible best practices that can be employed to optimise the efficiency, success and impact of the country's current plastic reduction efforts.
6. To establish the information needs of key stakeholders.
7. To identify the optimal communication mediums to be employed in order to reach, inform, educate and engage key stakeholders, the business community and the general public.
8. To determine measurable targets to be reached over the next three years with regards to plastic management in Namibia.

4. DATA COLLECTION

4.1. QUALITATIVE RESEARCH METHODOLOGY – 25 IN-DEPTH INTERVIEWS

- Given the high-profile of the opinion leaders identified, the most optimal data collection method was determined to be depth interviews.
- Moreover, such qualitative research allows for an in-depth exploration of ideas, motives and behaviours. It allows the researcher to probe below the surface for areas of concern, strength and possible innovations and/or solutions going forward. It also supports the process of identifying industry best practice and even permits its redefinition where necessary.

- A discussion guide was subsequently drafted, after which semi-structured depth interviews were conducted, allowing for rich, qualitative data to be collected.

The researcher conducted the following twenty-five interviews:

Cluster	Company	Participant	Designation
Plastic manufacturers	Plastic Packaging Group of Companies	Jaco Venter	Managing Director
	Coca Cola Namibia Bottling Company	Isak Martiz	Planning Manager
		Ina Jorr	Public Affairs Manager
	Polyoak Packaging Namibia	Greg Mackintosh	General Manager
	Namibia Plastic Converters	Nico du Plessis	Director
	North West Plastics Ondangwa	Ndeshi Ndungula	Owner
Plastic importers for manufacturing	Namibia Breweries	Greame Mouton	Finance Director
	Namib Poultry Industries	Trudie van der Merwe	Quality Assurance Manager
		Bultie Biermann	Production Manager of Processing
	Namib Mills	Frans Meyer	Operations Manager (Outgoing)
		Frieda Roos	Operations Manager
		Talia Varmansen	Operations Manager
		Leon Flemming	Packaging Manager
	Elizabeth Gouws	Packaging Coordinator	
Re-users	Rent-a-Drum	Gys Louw	CEO
		Albert Mynhart	Recycling Manager
	Tommy van der Merwe	Kleentek Waste Management	General Manager
Government	Ministry of Industrialisation, Trade and SME Development	Dr. Michael Humavindu	Deputy Permanent Secretary
	Ministry of Health and Social Services	Benson Ntomwa	Deputy Director of Public and Environmental Health
	Ministry of Finance	Immanuel Nashivela	Deputy Director: Financial Monetary and Financial Market Development
		Joseph Malodi	Chief Economist responsible for regional and international studies
	Ministry of Environment and Tourism	Teofilus Nghitila	Environmental Commissioner
	Namibia Standards Institute	Jekonia Haufiku	General Manger for Standard Development and Coordination
Focused Trade Associations	Recycle Namibia Forum	Anita Witt	Coordinator
	Namibian Manufacturers Association	Ronnie Varkevisser	CEO
Environmental Groups	United Nations Development Programme	Martha Naanda	Head of Programmes
	Namibian Chamber of Environment	Chris Brown	CEO
Plastic Consumers	Pick n Pay	Tewis Brand	Operations Manager
	Spar Group	Johan Mostert	Regional Buyer
	Woermann Brock	Jesko Woerman	Director
	Shoprite Namibia	Paul Malan	General Manager
	Megasave	Wybrand Liebenberg	Divisional Manager: Namibia
	Windhoek Cash & Carry	Bertie van Zyl	Manager

5. DATA AND REPORTING

5.1. CONFIDENTIALITY

To encourage open and honest engagement from research participants, responses are held in the highest confidence. The approach centred on strict confidentiality enhances the accuracy of data collected. In the feedback report that **FISHER CONSULTING** provided, responses are therefore not traced back to particular participants, unless they provided express permission to reveal their identity.

5.2. FEEDBACK FORMAT

1. **FISHER CONSULTING** submitted a comprehensive report in MS Word format. Section 4 of the report reflects an analysis and interpretation of data as well as the relevant recommendations.
2. Two three-hour feedback sessions were provided for.

6. QUALITY CONTROL: ENSURING RESEARCH VALIDITY AND RELIABILITY

6.1. QUALIFIED, EXPERIENCED AND HIGHLY-TRAINED TEAM

- The project manager is a qualified research psychologist with some 14 years' experience conducting quantitative and qualitative research.
- An experienced team of interviewers and data capturers were trained on the measurement tools and briefed on client expectations prior to fieldwork commencing.
- Interviewers and data capturers operated under strict supervision.

6.2. RESEARCHER TRIANGULATION

- Research triangulation entails that more than one researcher is involved in the analysis and interpretation phases of the research. The approach ensures that there is more than one perspective on the research conducted, which reduces researcher bias and subjectivity in the research and thus makes it more credible.
- Only qualified and experienced researchers are used to analyse and interpret data.

6.3. QUALITATIVE RESEARCH QUALITY MEASURES

A. THEME SATURATION

- Research has shown that approximately 95% thematic saturation is reached after five to seven depth interviews. The sample can, however, be reduced further, depending on the population size. Sample sizes were chosen in line with this principle.
- To ensure that all relevant themes across industry clusters are identified, the most informed and influential stakeholders were interviewed.
- A semi-structured discussion guide was used during the interview process. This enabled the researcher to cover all topics of interest while keeping his or her personal influence to a minimum. Spontaneous answers provided by the respondents still guided the interview.

B. CONFIRMABILITY

- Confirmability entails "the extent to which the findings are the product of the focus of the inquiry not of the biases of the researcher" (Terre Blanche & Durrheim, 1999). Quotes provided in the analysis phase allow the reader to determine how the results were derived from the data and thus verify the credibility of the emerging themes. As such, all quotes supporting a theme have been included in the comprehensive report.

6.4. DATA ANALYSIS AND REPORTING

FISHER CONSULTING'S representation of the data collected goes well beyond merely providing our clients with the knowledge obtained from statistical analysis and verbatim quotes. We employ multiple layers of data analysis techniques in conjunction with cross correlations to identify patterns that offer greater insight. We pride ourselves on transforming knowledge into insight through recommendations that can then feed into strategy formulation, action planning and ultimately growth.



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SECTION 2: CONCLUSION

1. OVERALL PERCEPTION OF PLASTIC

- It is imperative that the information that shapes opinions and ultimately drives decisions and action is accurate. Research results have shown that more widespread awareness on the facts around the topic of plastic in general, plastic management in Namibia specifically and viable alternatives is needed. Awareness campaigns should be launched to both shape opinions and dispel false perceptions.
- The replacement of plastic and the manner in which such a process should be approached are highly contested issues. The key/central issue around the successful replacement of plastic is the availability of viable alternatives. The economic viability, environmental viability and practical viability of such alternatives must be established. In the absence of a viable alternative to plastic, participants offered the following suggestions:
 1. A longer-term approach to the replacement of plastic should be considered. Such an approach should entail seeking viable alternatives first and gathering empirical evidence to verify all arguments made for and against plastic and its proposed alternatives;
 2. While a viable alternative to plastic is sought, intense effort should be made to ensure a fully functional plastic management system in Namibia in terms of the 5 Rs: Responsible disposal, Reduce, Re-use, Recycle and Recovery. It is understood that significant time, effort and resources will go into this endeavour, as large-scale behavioural change is required for its successful implementation. Supporting infrastructure must also be put in place; and
 3. Quick wins in the form of banning certain discardable plastic products, such as straws and plastic utensils can be considered. However, a thorough environmental and economic impact assessment must be conducted before selecting the plastic products to be banned in order to mitigate any risks. It is important to remember that there is a market for discardable plastic, provided it enters the recycling and recovery value chain instead of being disposed of irresponsibly.

2. PLASTIC MANAGEMENT IN NAMIBIA

2.1. RESPONSIBLE DISPOSAL

A. CURRENT STATUS

A great concern raised in the report is that plastic is not being disposed of responsibly in Namibia. It is therefore not feeding into the recycling value chain effectively – causing pollution.

B. BEST PRACTICE PROPOSED

- **Foundation – awareness creation:**
 - A general ‘no litter’ movement should be cultivated first, something that is thought to be severely lacking in Namibia: “My first issue is that people are not even doing the basic things of putting the stuff in waste bins...if we can't even get that part right, then it would be a struggle to even go look at the recycling side. You need to crawl before you can walk”.
- **Step 1: Ensure the effective management of local authorities/ municipalities.**
- **Step 2: Set Up a Support Structure to Responsible Disposal**

Ensure the following:

 - Available and accessible waste bins
 - Reliable municipal services
 - Available, accessible, properly managed and funded dumpsites/landfills: This has already been flagged in the “National Solid Waste Plan by the Ministry of Environment”, where it currently forms part of a ten-year plan “to make sure that each town and village gets a dedicated refuse dumpsite according to set standards”. It is recommended that this ten-year strategic government plan must be studied to identify ways of contributing to its success.
- **Step 3: Introduce penalties/fines for littering**
- **Step 4: Systematic, regular clean-up drives supported by Namibia’s business and government leaders**

2.2. REDUCE

A. CURRENT STATUS

- 38% of the participants indicated that they do not have enough information to rate the effectiveness with which plastic usage is being reduced in the country. More information in this regard is clearly required.
- Plastic usage reduction in Namibia achieved a low red-zone mean score of 2 out of 10. Participants clearly do not believe that enough is done in Namibia in this regard. Considering the high level of unawareness on the topic, however, it is important to consider whether this score is based on sufficient information.

B. BEST PRACTICE PROPOSED

- **Plastic Carrier Bag Levy (Contested Issue):** The following questions and concerns must be addressed:
 - *For What Purpose will the Levy be Used?*
 - Stakeholders will support the introduction of a levy on plastic carrier bags, provided the funds collected will be used to endorse effective plastic management in Namibia. A common concern raised was that funds collected from a levy will instead “be redirected to the Ministry of Finance”, where it will be used to “prop up other problem areas”.
 - A Government participant confirmed this concern. It was explained that only a percentage, for example “25%”, of the full levy collected will be “earmarked” to go to the Environmental Investment Fund (EIF) for promoting environmental goals. This is common practice and if an exception is to be made, other industries will object.
 - An additional concern was raised that the government, as in South Africa, will mismanage the funds collected. Public financial reporting is therefore required.
 - *Will a Levy Result in Long-term Positive Behavioural Change?*
 - Stakeholders believe that a permanent behavioural change is doubtful.
 - Case studies need to be consulted.
 - *Who Should be Levied?*
 - Plastic manufacturers and importers should pay the government-imposed levy according to the number of units sold or imported. However, at the end of the day, the cost of the levy will be passed on to the end consumer.
 - *Who Should Collect and Manage the Levy?*
 - Ministry of Environment and Tourism through the EIF.
 - *How Much Should the Levy Be?*
 - Suggestions ranged between 10 cents to N\$1 per bag.
 - More research is needed to find the balance point between “affordability” and imposing a levy that will encourage permanent behaviour change.
 - Case studies need to be consulted.
- **Thinner Plastic Bags as Best Practice**
- **Optimise the Plastic Manufacturing Process**
 - *Introduce new technology to reduce plastic usage in production while ensuring durability.*
 - *Introduce Environmental Management and Product Standards, such as ISO 14001: A standard can however only be considered compulsory once it is confirmed as law.*
 - *Introduce more knowledge and skills in the field of plastic.*
- **Increase Down Packaging Efforts:**
 - A cost-benefit analysis must be done before removing packaging layers and viable alternatives identified where needed.
 - More widespread awareness on the topic of down packaging and the possible means of implementation within various industries is required.
- **Introduce Viable Alternatives to Plastic**
 - More research and development is required in this regard.
 - Viable alternatives, such as material shopping bags, are currently available. In order to boost current usage, awareness creation and education initiatives are required.
- **Continue Banning Plastic Usage in Conservancies**

2.3. RE-USE

A. CURRENT STATUS

- 25% of the participants commented that they do not have enough information to rate the effectiveness with which plastic is re-used in the country. It is evident that more information in this regard is required.
- Plastic re-use in Namibia achieved a low red-zone mean score of 4.1 out of 10. Participants clearly do not believe that enough is done in Namibia in this regard. Considering the high level of unawareness on the topic, however, it is important to consider whether this score is based on sufficient information.

B. BEST PRACTICE PROPOSED

- **Further encourage the individual re-use market**
- **Encourage secondary life-cycle market on a larger scale**
 - Positioning craft products made from re-used plastic as a “Proudly Namibian” product would increase its appeal in the local and international markets.
 - Platforms for sharing creative ideas and products should also be created to connect these new alternative industries with the market.
- **Thicker carrier bags (Contested issue)**
 - Despite it being a contested issue, the vast majority of arguments were against the idea.

2.4. RECYCLE

A. CURRENT STATUS

- 9% of participants indicated that their level of awareness of current recycling initiatives is too low to offer an opinion as to the effectiveness of recycling in the country.
- Respondents who offered their opinion on the effectiveness of current recycling initiatives in Namibia provided a concerning average score of 3.9 out of 10. This score places recycling in the red zone.

B. BEST PRACTICE PROPOSED

- **Control Plastic Products in the Market**
 - *Control Plastic Imports – All Plastic Imports Must Be Recyclable:*
 - *Ban vs Import Duty:* Either institute an outright ban on all non-recyclable plastic products entering the market or charging a duty on non-recyclable products as a deterrent.
 - *Regulation:* This proposed best practice standard must be passed into law before it can be regulated without infringing on various trade agreements.
 - *Unrestricted Return Export:* If a ban or duty cannot be implemented, non-recyclable imported plastic products should at least be exported back to the country of origin without the cost of “permits” or “certificates”.
 - *Control Locally Manufactured Plastic – All Locally Manufactured Plastic Must Be Recyclable*
 - *Types of Plastic That Should Be Controlled for Recyclability:*
 - *Plastic Products Containing CaCO₃*
 - *Printed Shrink:* More research is required to establish the permissible printing percentage that will ensure that a product is recyclable while allowing for a sufficient “branding” area, as well as the “minimum information requirements” to appear on the product itself.
 - *Coloured PET*
 - *Combination Products:* “All components on a product must be fully recyclable”.
 - *Polypropylene*
 - *Polystyrene Containers*
- **Influence Buying Behaviour**
 - *Product Recyclability Rating System (Contested Issue):*
 - The predicted success of a rating system to change buying behaviour was doubted in that the Namibian market is still considered predominantly “price sensitive”.
 - A foundation of awareness and education is essential for successful execution.

- *Plastic Codes:*
 - “People don’t know what this signage necessarily means”. The plastic code is also not displayed visibly on all plastic products. It is then ineffective in guiding buying behaviour.
 - Product displays at retail outlets should clearly indicate which products are recyclable.
- **Optimise the Recycling Value Chain**
 - *Awareness Campaigns:* Recycling is not seen as “part of our culture as Namibians”. Intensive nationwide awareness and education campaigns are thus required.
 - *Create an Emotional Motivation for Recycling:* An internal sense of “recycling because it is the right thing to do” should be cultivated.
 - *Incentivise Recycling:* Two concerns were raised:
 - *Concern 1: Low and Variable Rates:*
 - Proposed Solutions
 - *Use the Free Market System:* Stimulate a demand for sorted and recycled plastic. An increase in demand will result in an increase in value, making it more lucrative and therefore attractive to suppliers.
 - *Funded by Consumers:* Charge a “returnable deposit”.
 - *Subsidisation:* The proposed carrier bag levy or import duty on plastic products can be used to incentivise recycling.
 - *Concern 2: Insufficient Collection Methods Proposed:*
 - Proposed Solutions
 - Set up widely accessible mobile collection centres that are equipped with scales and baling infrastructure.
 - *Introduce Penalties/Fines for not Recycling:* A sufficient support structure for recycling must, however, be put in place first.
- **Set up Recycling Support Structure/Enablers**
 - *Ensure available and accessible recycling bins, bags and collection centres:*
 - *Conduct Research:* Identify the optimal locations and number of recycling bins, bags and collection centres that need to be established countrywide. The estimated cost implication should also be calculated, and the responsible parties identified.
 - *Establish Nationwide Growth Plan:* A rollout plan and timeline should be agreed upon.
 - *Secure Funds:* If a plastic carrier bag levy or plastic import duty is introduced, it can be used to fund recycling support structures.
 - *Collection Services and Sorting:*
 - *Increase Recycling at Dump Sites:* It was proposed that this function should be outsourced to private companies. Close cooperation with local recyclers was also suggested.
 - *Expand operations of current recyclers by enhancing economic viability:*
 - *Establish Creative Ways of Collecting Waste:*
 - The “vast distance” between cities, towns and villages in Namibia pose a significant “logistical” and “operational cost” challenge.
 - Creative ways of collecting waste should be explored, for example, agreeing with retailers, distributors and transporters across Namibia that “no truck runs empty in Namibia”.
 - *Government Subsidies/Incentives:*
 - Interviewees proposed that a levy or duty collected on plastic should in part be used to expand current recycling operations in Namibia.
 - *More Recycling Plants in Namibia (Converting Plastic Waste into Raw Material):*
 - With more local recycling plants in operation, the cost of exporting sorted waste to South Africa can be avoided, making local recycling operations more lucrative.
 - *Recycling Plants (Converting Plastic Waste into Raw Material):*
 - Conduct a Feasibility Study
 - Establish a resultant Industry Growth Plan

2.5. RECOVER (WASTE TO ENERGY)

A. CURRENT STATUS

- 4% of participants indicated that turning plastic into energy is a myth, while 17% said they are uncertain whether it is possible. Even where there is an awareness that plastic can indeed be turned into energy, few in Namibia know the specifics regarding waste-to-energy activities. More awareness is required on the topic.
- Participants who revealed a greater level of awareness of the waste-to-energy activities at Ohorongo Cement spoke positively about it.

B. BEST PRACTICE PROPOSED

Increase waste to energy efforts in Namibia by balancing the supply and demand of plastic waste: How?

- *Create a Constant Supply of Plastic Waste*
 - Currently, the demand for plastic waste required for the waste-to-energy process is believed to be greater than the supply. This introduces two opportunities:
 - Waste-to-energy has the potential to “keep the entire country clean”. This, however, requires large-scale responsible disposal and successful recycling in Namibia to feed into the value chain, supplying the input required for waste-to-energy production.
 - Once the national plastic waste problem is addressed, Namibia can consider becoming an importer of waste to add greater economies of scale to the value chain. This will not only make Namibia less dependent on energy imports, but also position the country as an exporter of energy in the region.
 - Sweden was proposed as a possible case study.
- *Expand Current Waste-to-Energy Operations*
- *Address Concerns of Air Pollution*
- *Ensure Proper Funding for Required Infrastructure*
 - Participants suggested that feasibility studies should be conducted to support capital investment.
 - Furthermore, if a plastic levy or duty is to be introduced, it was recommended that a subsidy be offered to those intending to expand or erect waste-to-energy operations.

3. STAKEHOLDER ENGAGEMENT

Participants believe that creating awareness serves as the foundation for the successful implementation of all 5 Rs. The following is proposed:

- **Reaching the general public:** Two routes were identified.
 - Route 1 firstly entails clarifying the facts around the topic of plastic in general and the management thereof. Secondly, the route proposes creating an emotional response to the facts shared with the intent of triggering positive, long-lasting behavioural change. Lastly, the route endeavours to equip the general public with a how-to guide, which will enable them to manage plastic waste responsibly. It is proposed that the communication campaign should be focused progressively around the 5 Rs of responsible plastic management, starting with Responsible Disposal.
 - Route 2 entails providing a quick fix, in which knowledge creation and emotional triggers do not play a role, yet in which the desired behavioural change is still achieved by enforcing responsible plastic management through legislation. However, a how-to guide will still be required to equip the general public to comply with the relevant legislation.
- **Reaching the business community:** Routes 1 and 2 as proposed under reaching the general public were also suggested for reaching the business community. Participants also identified Route 3 as an additional option, which entails highlighting the bottom-line benefits of responsible plastic management.
- **Reaching opinion leaders interviewed:** Opinion leaders interviewed desired a similar messaging as proposed for reaching the business community.

4. PLASTIC MANAGEMENT GOALS, THREE-YEAR TARGETS AND ACTION PLAN PROPOSED

4.1. NATIONAL PLASTIC MANAGEMENT GOALS

A. PROPOSED NATIONAL PLASTIC MANAGEMENT GOALS

Participants were first asked to consider six proposed plastic management goals for Namibia.

- 1) Zero marine litter.
- 2) Protection of all water sources, including aquifers.
- 3) Protection of fauna, flora, landscapes and heritage.
- 4) Zero waste to landfill.
- 5) Lowest possible carbon footprint.
- 6) Lowest possible impact on non-renewable resources.

- **Overall Agreement:** All stakeholder clusters agreed that the proposed goals are “good goals for Namibia” and that “at the end of the day, that’s where we want to be”.
- **Amendments Suggested:** Convert the proposed goals into SMART goals (Specific, Measurable, Attainable, Relevant, Time-bound).
- **Additional Goals Suggested:**
 - A Positive Polymer Balance Sheet
 - Education/Awareness Creation Goals
- **Alignment with Existing Plans:**
 - Local and international policies and plans must be reviewed to pinpoint means of alignment and cooperation. Participants indicated that a more unified approach will have greater impact.

B. CURRENT ACHIEVEMENT

Participants scored a mean of 3.8 out of 10 on the overall performance on the proposal national plastic management goals. Red zone means falling below 5 out of 10 were also scored on all the proposed individual plastic management goals. It is evident that more must be done in terms of the 5 Rs of plastic management. Each ‘R’ is believed to contribute to the achievement of the proposed goals listed.

4.2. THREE-YEAR TARGETS AND ACTION PLAN

The following targets were recommended by participants interviewed. Please refer to the Comprehensive Qualitative Report for more detail on the recommended action plan.

1. Target 1: Identify and Empower a Coordinating Body
2. Target 2: Conduct Research and Stakeholder Consultations
3. Target 3: Finalise SMART Goals and Targets
4. Target 4: Finalise Industry and Product Standards
5. Target 5: Establish Government’s Position
6. Target 6: Devise an Implementation Strategy

SECTION 3: EXECUTIVE SUMMARY

1. BACKGROUND

The Namibia Chamber of Commerce and Industry (NCCI) recently commissioned Cornerstone Consultants in partnership with FISHER CONSULTING to conduct a best practice review of the plastics industry in Namibia. In order to gauge and determine best practice concerning this particular industry, it was deemed necessary to conduct comprehensive research. The goal of the project was to employ the insights gathered from the research phase to guide and influence government policy and advise the plastic industry's strategy going forward.

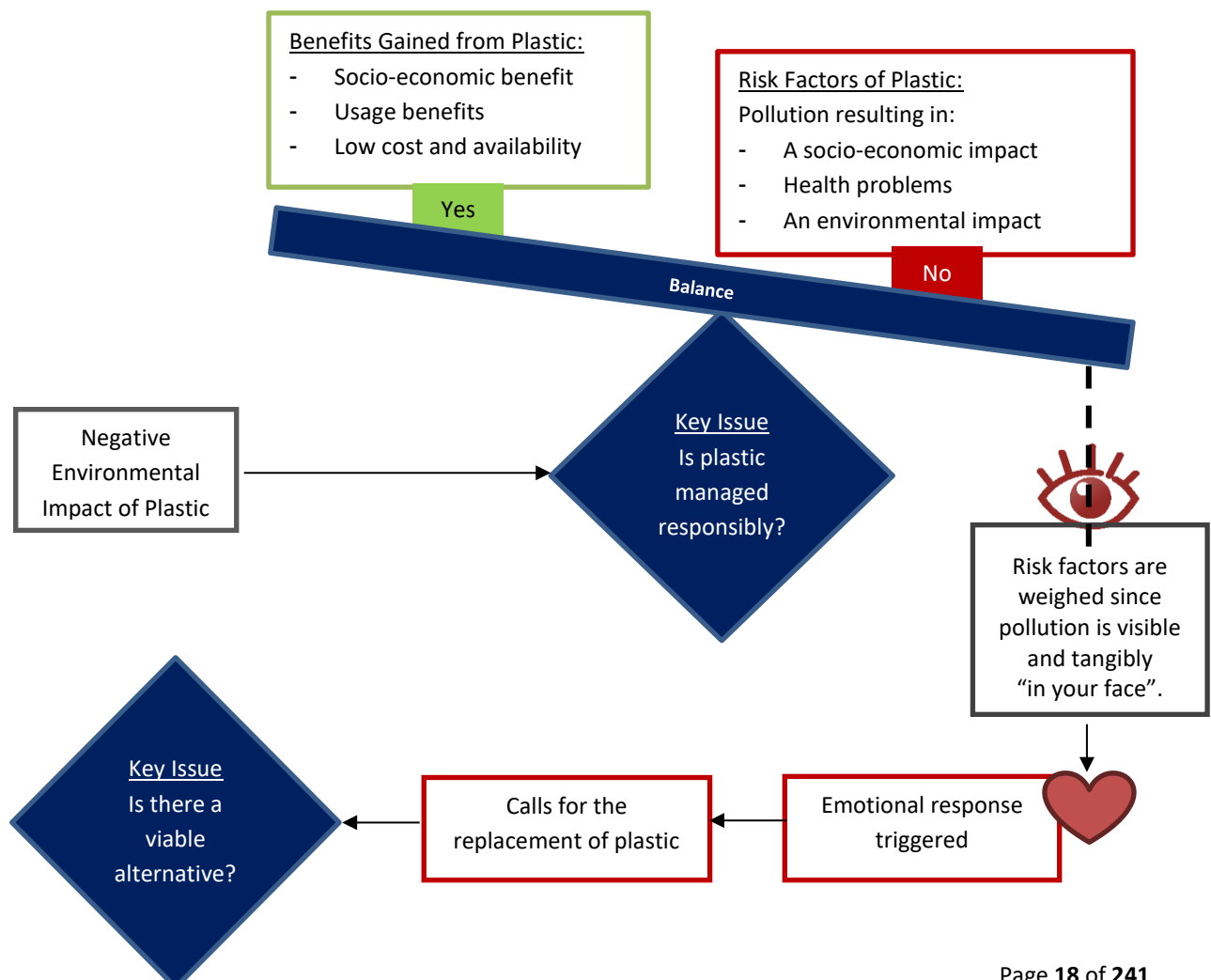
Given the high profile of the opinion leaders invited to participate in the interviews, the most optimal data collection method was determined to be depth interviews. A discussion guide was drafted, after which semi-structured depth interviews were conducted with 25 opinion leaders, allowing for rich, qualitative data to be collected.

A summary of key findings and recommendations is provided below. Please refer to Section 4: Comprehensive Qualitative Report for a more in-depth and detailed description.

2. OVERALL PERCEPTION OF PLASTIC

Participants were first invited to consider plastic in general and were requested to provide their main arguments for and against plastic. In light of these arguments, they were then asked whether they believe that alternatives should replace plastic. If participants answered in the affirmative, they were asked which viable alternatives are currently available.

2.1. ARGUMENTS FOR AND AGAINST PLASTIC



- **Environmental Impact:**
 - The foundational argument against plastic is that it is believed to have a negative environmental impact. Participants did, however, offer conflicting information concerning the bio-degradability and carbon footprint of plastic.
 - Participants were asked to evaluate 11 statements as truth or myth. The results are discussed under heading 2.4 below. The findings revealed a great level of uncertainty and/or disagreement. It is thus evident that there is a need for more clarity on the topic of plastic in general.
- **Is Plastic Managed Responsibly? Key Issue:**
 - The question as to whether plastic is managed responsibly in terms of the 5 Rs, namely, Responsible disposal, Reduction, Re-use, Recycling and Recovery, was the key issue identified. The answer to this key question determines how the benefits and risk factors of plastic are balanced in order to assess its overall impact.
 - **If no:** Interviewees believe that a compounding negative effect occurs when consumers do not manage this perceived harmful substance properly. If plastic is not recycled or disposed of responsibly but instead rather discarded through “indiscriminate” littering and dumping, it ends up in the environment, resulting in pollution. The consequent negative environmental impact of this pollution on human health, livestock, planting soil, water sources, the food chain and tourism have a socio-economic ripple effect.
 - **If yes:** Interviewees believe that there is a market for recycled plastic. If plastic is thus managed responsibly, risk factors can be mitigated, and a socio-economic benefit gained. Still, reaching the point where plastic is managed responsibly will require time, effort and resources. Moreover, whether the environment can wait for such a solution is a question that remains unanswered.
- **Emotional Trigger:**
 - The arguments against plastic gain additional traction due to the visibly damaging effects of plastic on the environment. The strong negative emotions that plastic triggers are thus understandable. As a result, the world-wide drive in favour of banning plastic has gained tremendous momentum.
 - At the same time, participants cautioned that while Namibia should be part of the “global solution”, decisions should be made based on facts instead of on emotions. It is therefore essential for all Namibians that facts be gathered from all relevant sources to ensure that an informed decision is taken regarding the way forward.
- **Calls for Replacement of Plastic:**
 - The question remains: are there any viable alternatives to plastic? Interviewees concurred that plastic is versatile, convenient, provide safe and secure packaging as well as enable efficient merchandising, branding and marketing.
 - As such, a standard production cycle has been developed over decades, ensuring production efficiency and the consequent ability to produce a low cost and accessible supply of plastic.
 - Plastic is used as an input to various products and thus has a direct impact on product affordability and availability.
 - Many participants believe that these qualities make plastic “unrivalled” at present. This brings us to the next discussion point, namely a possible replacement for plastic.

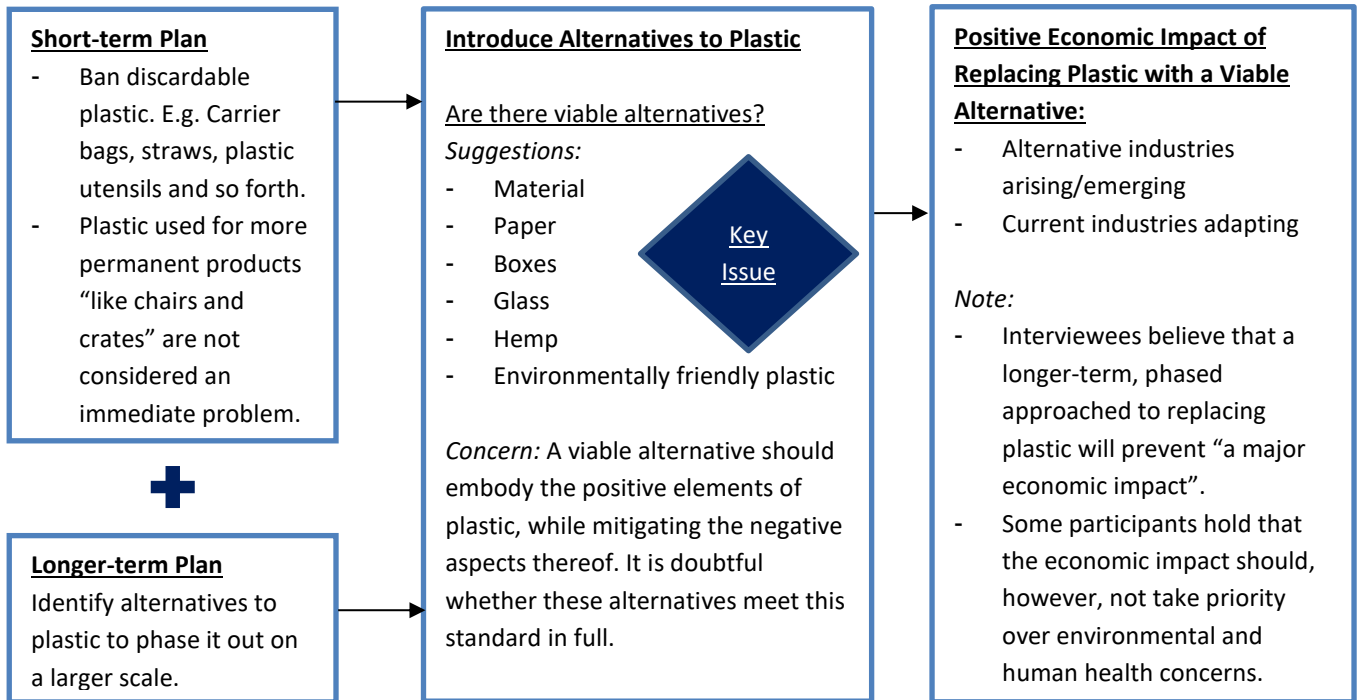
Conclusion

- Opinions guide decisions and consequent actions. Information, whether obtained from formal sources, such as journals, or informal sources, such as friends and family, shape these opinions. It is therefore imperative that the information that shapes opinions and ultimately drives decisions and action is accurate.
- More widespread awareness on the facts around the topic of plastic in general, plastic management in Namibia specifically and viable alternatives is needed. Awareness campaigns should be launched to both shape opinions and dispel false perceptions.

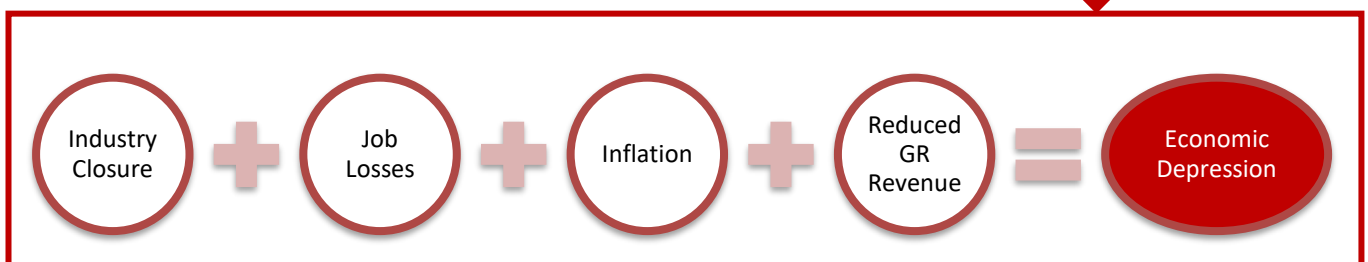
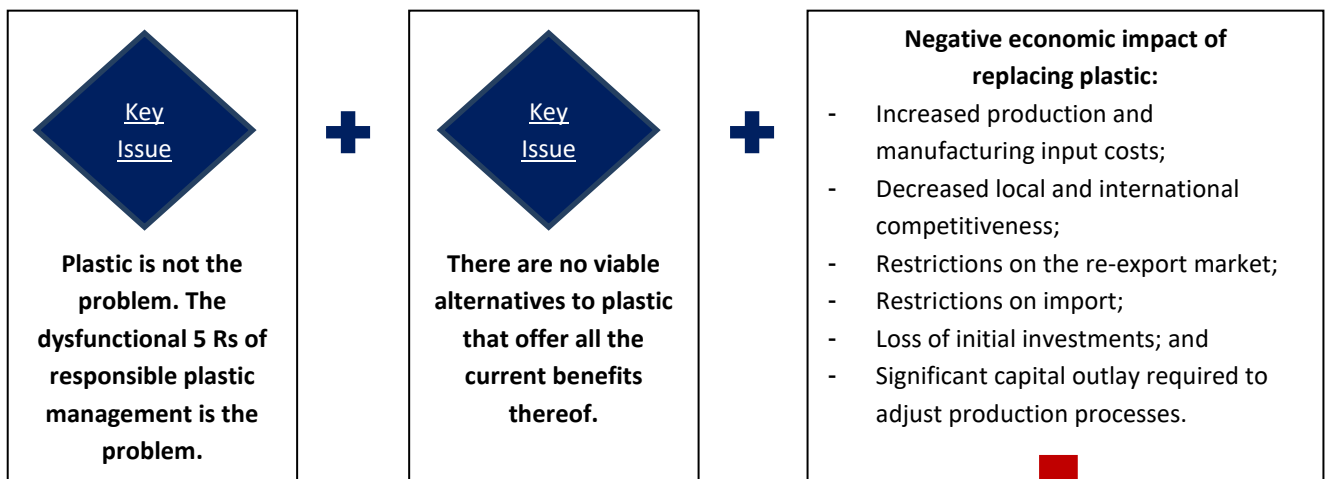
2.2. CONSIDERING THE REPLACEMENT OF PLASTIC

The arguments for and against plastic are summarised in the images below. For more detail, please refer to Section 4: Comprehensive Qualitative Report.

A. ARGUMENTS FOR THE REPLACEMENT OF PLASTIC



B. ARGUMENTS AGAINST THE REPLACEMENT OF PLASTIC



Conclusion

- Participants across and within the stakeholder clusters presented conflicting opinions. It can be concluded that the replacement of plastic and the manner in which such a process should be approached are highly contested issues. It is important to take note of the themes arising under each topic as well as the arguments for and against the replacement of plastic in order to gain a thorough understanding. More empirical evidence should also be obtained from a wide range of information sources to make an informed decision on the way forward.
- It is interesting to note that the key/central issue around the successful replacement of plastic is the availability of viable alternatives. The economic viability, environmental viability and practical viability of such alternatives must be established. Where there is no viable alternative to plastic, there is no benefit to be gained from its replacement. In fact, participants believe that the eventual outcome will be economic depression.
- In the absence of a viable alternative to plastic, participants offered the following suggestions:
 1. A longer-term approach to the replacement of plastic should be considered. Such an approach should entail seeking viable alternatives first and gathering empirical evidence to verify all arguments made for and against plastic and its proposed alternatives;
 2. While an economically, environmentally and practically viable alternative to plastic is sought, intense effort should be made to ensure a fully functional plastic management system in Namibia in terms of the 5 Rs: Responsible disposal, Reduce, Re-use, Recycle and Recovery. It is understood that significant time, effort and resources will go into this endeavour, as large-scale behavioural change is required for its successful implementation. Supporting infrastructure must also be put in place; and
 3. Quick wins in the form of banning certain discardable plastic products, such as straws and plastic utensils can be considered. However, a thorough environmental and economic impact assessment must be conducted before selecting the plastic products to be banned in order to mitigate any risks. It is important to remember that there is a market for discardable plastic, provided it enters the recycling and recovery value chain instead of being disposed of irresponsibly.

3. PLASTIC MANAGEMENT IN NAMIBIA

Participants were requested to consider the 3 Rs of waste management, namely Reduce; Re-use; and Recycle, as it pertains to plastic in particular. However, as the data analysis phase progressed, it became clear that waste management as it pertains to plastic comprises 5 as opposed to 3 Rs. The 5 Rs are: Responsible disposal; Reduce; Re-use; Recycle; and Recover. The discussions throughout the report to follow thus follow this trend. The 5 Rs were understood as follows:

- **Responsible disposal** is seen as the least that a consumer of plastic can do. This entails that a consumer refrains from littering and instead disposes of plastic in a waste bin, where it can enter into the value chain, hopefully to be re-used, recycled or recovered later. On the other hand, should a consumer engage in littering, plastic ends up in the environment as a pollutant;
- **Reduce** entails limiting the amount of waste created in the first place. This includes buying products with less packaging;
- **Re-use** means to use something again that would normally be thrown away, for instance, utilising glass jars for food or plastic bags for bin liners;
- **Recycle** entails that the product goes through a mechanical process to change its form. This is only recommended where neither reducing nor re-using is possible; and
- **Recover** pertains to converting waste into resources, such as electricity, heat, compost and fuel through thermal and biological means. This fifth component of the 5 Rs occurs after reducing, re-using and recycling have been attempted.



Responsible
Disposal

Reduce

Re-use

Recycle

Recover

3.1. RESPONSIBLE DISPOSAL

A. CURRENT STATUS

- A score out of ten for the believed effectiveness with which plastic is disposed of responsibly in Namibia cannot be provided, as the theme Responsible disposal emerged from the data. As such, an effectiveness score was not probed directly during the interviews.
- However, it is safe to deduce from the discussions under the headings Overall Perception of Plastic and National Plastic Management Goals that littering is a great concern in Namibia, which warrants the placement of this responsible waste management R in the red zone.
- Conclusion: Current activities are insufficient and ineffective to ensure optimal responsible disposal of plastic.
- Please refer to Section 4: Comprehensive Qualitative Report for a detailed discussion on participant knowledge regarding the current activity in Namibia aimed at ensuring responsible disposal of plastic.

B. BEST PRACTICE PROPOSED

- **Foundation:** Participants believe that creating awareness serves as the foundation for the successful implementation of all 5 Rs namely, Responsible disposal, Reduce, Re-use, Recycle and Recover.
- **Step 1: Ensure the effective management of local authorities/ municipalities.**
 - In the absence of effective management, strategic planning and execution will prove unsuccessful. However, participants believe that municipalities are “badly run”, full of “corruption”, lacking in “awareness to tackle the (waste management) problem efficiently” and in need of “resources” to operate effectively. It is crucial that these concerns must be resolved.
- **Step 2: Set Up a Support Structure**
 - *Available Bins:*
 - More bins must be made available to the public: “Make sure there are systems in place and there are dustbins at all the places and towns, townships and everywhere”, especially in “traffic places, like the corner of the Grove where all the taxis stand”.
 - *Reliable Municipal Services:*
 - Waste should be collected regularly and timeously in all neighbourhoods, villages, towns and cities.
 - *Dumpsites/Landfills:*
 - Ensure available, accessible, properly managed and funded dumpsites/landfills.
 - The concern of accessible and properly managed dumpsites has already been flagged in the “National Solid Waste Plan by the Ministry of Environment”, where it currently forms part of a ten-year plan “to make sure that each town and village gets a dedicated refuse dumpsite according to set standards”.
 - Instead of embarking on a new, separate initiative, it is recommended that this ten-year strategic government plan must be studied to identify ways of contributing to its success.
- **Step 3: Introduce penalties/fines for littering**
 - As soon as the above support structure is in place, penalties and/or fines should be implemented as a means of ensuring responsible disposal. One Manufacturer indicated: “It sort of needs to be made a crime to litter. It should not be tolerated”.
- **Step 4: Clean-up Drives**
 - Clean-up drives should not be seen as the primary solution to responsible disposal. Rather, it should be viewed as a final sweep-up where the value chain has failed.
 - A more “systematic approach” is recommended, where clean-up drives are implemented more regularly.
 - The success of the national clean-up day was also largely attributed to the visible support of Namibia’s business and government leaders. An Importer said: “I think the president can organise more cleaning up exercises like the last one”.

3.2. REDUCE

A. CURRENT STATUS

How effectively is plastic usage being reduced in Namibia?	
Average score out of 10	2
I don't know	38%

- 38% of the participants indicated that they do not have enough information to rate the effectiveness with which plastic usage is being reduced in the country. Please refer to Section 4: Comprehensive Qualitative Report for a discussion on participant knowledge regarding the current activity in Namibia aimed at plastic reduction. More information in this regard is clearly required.
- The current status of plastic usage reduction in Namibia achieved a low red-zone mean score of 2 out of 10. Participants rating this question clearly do not believe that enough is done in Namibia to reduce the use of plastic. Considering the high level of unawareness displayed regarding the topic, it is important to consider whether this score is based on sufficient information.

B. BEST PRACTICE PROPOSED

- **Foundation:** Participants believe that creating awareness serves as the foundation for the successful implementation of all 5 Rs namely, Responsible disposal, Reduce, Re-use, Recycle and Recover.
- **Plastic Carrier Bag Levy (Contested Issue):** Due to conflicting opinions on the matter, the question of whether a plastic carrier bag levy should be introduced as best practice remains unresolved. The following questions and concerns must be addressed in order to arrive at a final decision:
 - *For What Purpose will the Levy be Used?*
 - All stakeholder clusters agreed that they will support the introduction of a levy on plastic carrier bags, provided the funds collected will be used to endorse “environmental goals” pertaining to effective plastic management in Namibia. A common concern raised was that funds collected from a levy will instead “be redirected to the Ministry of Finance”, where it will be used to “prop up other problem areas”.
 - The Government participant confirmed this concern, stating that the levy will be redirected to Treasury: “There is no way you will get the whole funding to the [Environmental Investment Fund] EIF, that argument you will never win”. It was explained by the participant that only a percentage, for example “25%”, of the full levy collected will be “earmarked” to go to the EIF for promoting environmental goals. This is common practice and if an exception is to be made, other industries will object: “If you don’t do it this way, the Ministry of Industrialisation will stand up and tell you that: ‘OK, all the royalties that come from our diamonds and our uranium, please give them back’”.
 - Some interviewees raised an additional concern that the government, as in South Africa, will mismanage the funds collected. Interviewees requested public financial reporting to ensure “transparency” in terms of the allocation of funds.
 - *Will a Levy Result in Long-term Positive Behavioural Change?*
 - Stakeholders debated whether the levy will, in fact, result in long-term positive behavioural change.
 - Since stakeholders believe that a permanent behavioural change is doubtful, the only envisaged outcome of issuing a levy is “more burden on poor people”.
 - It is essential to consider case studies of other countries that have implemented a similar levy on plastic carrier bags.
 - *Who Should be Levied?*
 - Interviewees commonly hold that the levy should be “managed at source”. In other words, plastic manufacturers and importers should pay the government-imposed levy to the relevant body according to the number of units sold or imported. However, at the end of the day, the cost of the levy will be passed on to the end consumer.

- *Who Should Collect and Manage the Levy?*
Opinion on this question was divided. The following recommendation was, however, preferred:
 - Government has “a higher authority” to ensure compliance. Stakeholders specifically identified the Ministry of Environment and Tourism for collection of the levy through the Environmental Investment Fund (EIF).
 - The EIF is already in place and has received the “mandate to manage, drive and promote investments in the environmental sector”.
- *How Much Should the Levy Be?*
 - Suggestions ranged between 10 cents to N\$1 per bag.
 - All interviewees agreed that more research is needed to find the balance point between “affordability” and imposing a levy that will encourage permanent behaviour change.
 - It was proposed that successful case studies must be considered.
- **Thinner Plastic Bags as Best Practice:**
 - Producing thinner plastic carrier bags is regarded as best practice in the sense that: “The thinner the bag, the friendlier the carbon footprint and the easier it will break down into little particles in UV radiation”. Thinner plastic bags are also said to be “more recyclable”.
- **Optimise the Plastic Manufacturing Process:**
 - *Introduce New Technology to Reduce Plastic Usage in Production While Ensuring Durability*
 - *Introduce Environmental Management and Product Standards, Such as ISO:*
 - It was, however, noted that although seen as best practice, “standards are voluntary”. As such, “it would be against the SACU agreement and a lot of international trade barriers” to enforce compliance amongst local plastic manufacturers and companies importing plastic into Namibia. A standard can only be considered compulsory and become subject to regulation by authorities once it is confirmed as law; and
 - Until such time, the Namibia Standards Institute can only “encourage companies to make use of best practices as highlighted in the standards”. Furthermore, the public should be made aware of ISO standards and must be encouraged to look for the mark of ISO compliance on products in order to guide responsible buying decisions.
 - *Introduce More Knowledge and Skills in the Field of Plastic:*
 - Interviewees proposed a best practice of increasing the focus on plastic manufacturing as a chosen field of study and ensuing career paths in an effort to garner more knowledge and skill for the industry, thus introducing development as an additional goal.
- **Increase Down Packaging Efforts:**
 - Down packaging entails reducing “unnecessary multi-layer packaging” on the same product.
 - All stakeholder clusters consider employing down packaging methods as best practice.
 - However, certain interviewees cautioned that down packaging should be done “within limits”. Stakeholders appreciate the fact that “there’s a lot of reasoning behind certain forms and layers of packaging”, whether it is product protection, consumer health and safety and/or more effective product storage, transportation or display. A cost-benefit analysis must be done before removing packaging layers and viable alternatives identified where needed.
 - More widespread awareness on the topic of down packaging and the possible means of implementation within various industries is required.
- **Introduce Viable Alternatives to Plastic**
 - Plastic usage will decrease if viable alternatives are introduced. As highlighted in the report, more research and development is required in this regard.
 - Viable alternatives, such as material shopping bags, are currently available. In order to boost current usage that will ultimately play a role in plastic reduction in Namibia, awareness creation and education initiatives are required.
- **Continue Banning Plastic Usage in Conservancies:**
 - A Government participant noted that the Ministry of Environment and Tourism recently “banned plastic bags in the conservancies, in the parks”. As a result, “95% of Namibia is plastic free”. This was regarded as a positive initiative that should be continued.

3.3. RE-USE

A. CURRENT STATUS

How effectively is plastic being re-used in Namibia?	
Average score out of 10	4.1
I don't know	25%

- 25% of the participants commented that they do not have enough information to rate the effectiveness with which plastic is re-used in the country. Please refer to Section 4: Comprehensive Qualitative Report for a detailed description of participant knowledge on the current activity in Namibia regarding the re-use of plastic. It is evident that more information in this regard is required.
- The current status of plastic usage re-use in Namibia achieved a low red-zone mean score of 4.1 out of 10. Participants rating this question clearly do not believe that enough is done in this country to re-use plastic. Considering the high level of unawareness displayed regarding the topic, it is important to consider whether this score is based on sufficient information.

B. BEST PRACTICE PROPOSED

- **Foundation:** Participants hold that creating awareness serves as the foundation for the successful implementation of all 5 Rs namely, Responsible disposal, Reduce, Re-use, Recycle and Recover.
- **Further Encourage Individual Re-use Market:**
 - Participants believe that a market for used plastic, especially for carrier bags, exists: “If you talk to Mrs Housewife, they are 95% re-using their plastic bags for something”. As such, if carrier bags are to be banned, households will have to seek alternatives, for example, black refuse bags. The question was therefore raised whether it would be best practice to ban plastic carrier bags.
- **Further Encourage Secondary Life-cycle Market**
 - Although participants described the secondary lifecycle market as “small” and therefore “without major impact”, they felt that there might be “growth potential” if it were to be “encouraged” on a larger scale. For example, positioning craft products made from re-used plastic as a “Proudly Namibian” product would increase its appeal in the local and international markets.
 - The more market demand there is for re-used plastic products, such as crafts or furniture, the more innovative ideas will likely be stimulated and *vice versa*. Platforms for sharing creative ideas and products should also be created to connect these new alternative industries with the market.
- **Thicker Carrier Bags (Contested issue):**
 - The vast majority of arguments were against introducing thicker carrier bags.
 - Arguments against the introduction of thicker carrier bags were:
 - *It will Increase Namibia’s Carbon Footprint in Terms of:*
 - Increased transport requirements;
 - Increased manufacturing costs;
 - Increased use of plastic in the manufacturing process; and
 - Reduced bio-degradability of plastic products manufactured.
 - *It will Not Encourage Behaviour Change (Re-use and Reduce)*
 - All stakeholder clusters agreed that while the Namibian people are stuck in a “throw-away culture”, carrier bags, regardless of whether they are thick or thin, will “end up in the environment in any case”.
 - *Consider Recyclability and Strength Combined*
 - Since Calcium Carbonate (CaCO₃) is often used as a filler to make the plastic carrier bags thicker, it was warned that thicker plastic bags are either less recyclable or not at all.
 - Should it be decided that best practice going forward would entail thicker carrier bags, the use of fillers, such as CaCO₃, must be banned.

3.4. RECYCLE

A. CURRENT STATUS

How effectively is plastic being recycled in Namibia?	
Average score out of 10	3.9
I don't know	9%

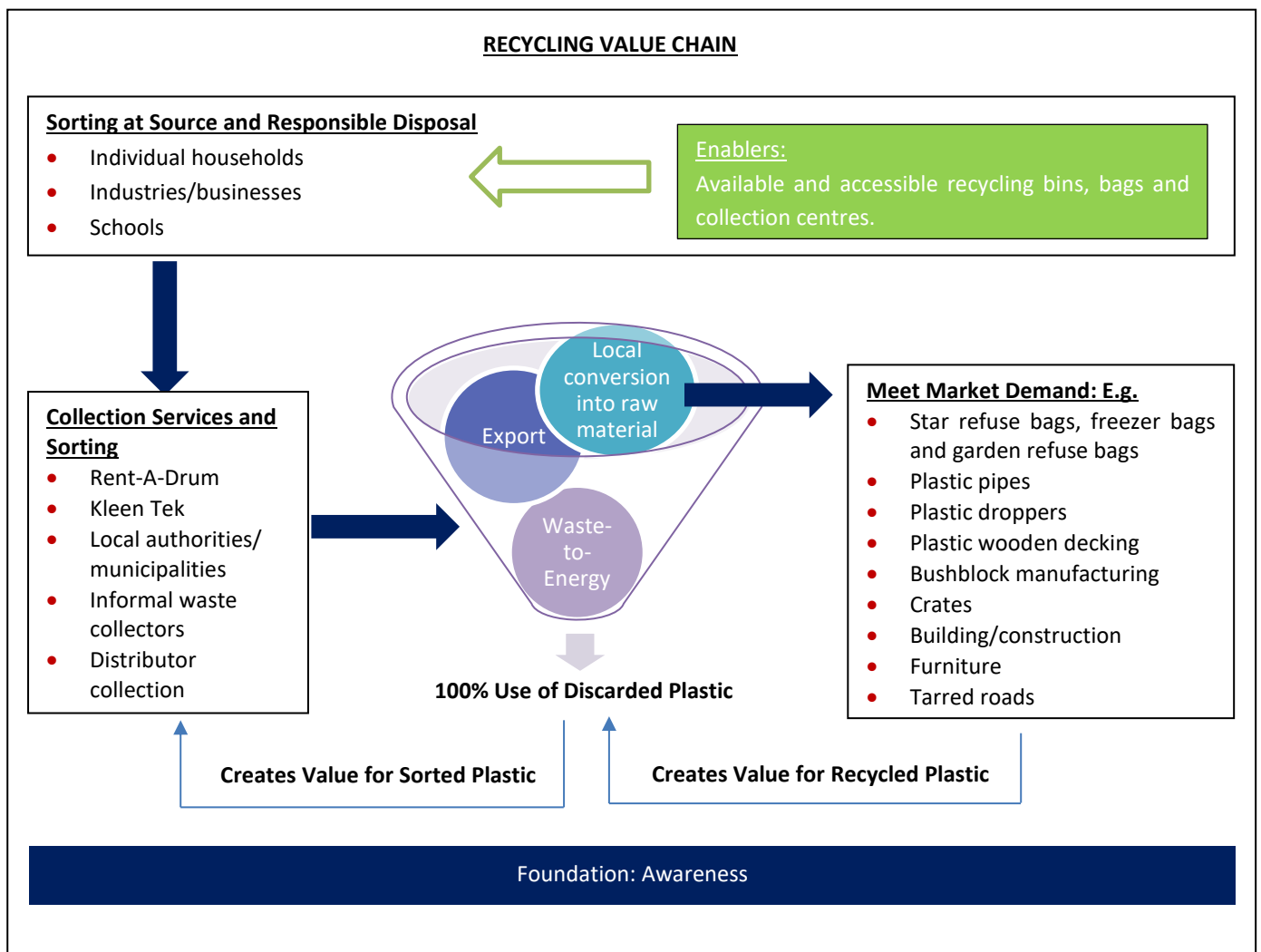
- Participants were relatively more aware of recycling initiatives in Namibia than they were of efforts to reduce, re-use or recover plastic. Only 9% of participants indicated that their level of awareness of current recycling initiatives is too low to offer an opinion as to the effectiveness of recycling in the country. Please refer to Section 4: Comprehensive Qualitative Report for a detailed discussion of participant knowledge on current activity in Namibia with regards to the recycling of plastic.
- However, the respondents who offered their opinion on the effectiveness of current recycling initiatives in Namibia provided a concerning average score of 3.9 out of 10. This score places recycling in the red zone.

B. BEST PRACTICE PROPOSED

- **Control Plastic Products in the Market**
 - *Control Plastic Imports – All Plastic Imports Must Be Recyclable*
 - *Ban vs Import Duty:* Imports can be managed by employing either of the following methods: Instituting an outright ban on all non-recyclable plastic products entering the market or charging a duty on non-recyclable products as a deterrent.
 - *Regulation:* For uniform implementation to occur, this proposed best practice standard must be passed into law before it can be regulated without infringing on various trade agreements.
 - *Unrestricted Return Export:* If a ban or duty cannot be implemented, a Re-user requested that non-recyclable imported plastic products should at least be allowed the option of being exported back to the country of origin without the cost of “permits” or “certificates”. “They (South Africa) just send everything here without any stoppages and then we are not allowed to send it back. For me that is like dumping”. One of the Consumers interviewed agrees: “There's a lot of countries, for example, China and India where they can bring in stuff which is not recyclable, which will end up in our country. It will become our problem”.
 - *Control Locally Manufactured Plastic – All Locally Manufactured Plastic Must Be Recyclable*
 - All stakeholders agreed that the same standard should be applied to local manufacturers and importers, rendering all plastic products in our market recyclable.
 - *Types of Plastic That Should Be Controlled for Recyclability:*
 - *Plastic Products Containing CaCO₃*
 - *Printed Shrink:* More research is required to establish the permissible printing percentage that will ensure that a product is recyclable while allowing for a sufficient “branding” area, as well as the “minimum information requirements” to appear on the product itself.
 - *Coloured PET*
 - *Combination Products:* As a minimum standard, “all components on a product must be fully recyclable”.
 - *Polypropylene*
 - *Polystyrene Containers*
- **Influence Buying Behaviour**
 - *Product Recyclability Rating System (Contested Issue):*
 - A mixed response was received.

- Some participants believe that consumers are becoming more aware of their carbon footprint and that a rating system will “definitely” result in more responsible buying behaviour.
 - However, others believe that the Namibian market is still predominantly “price sensitive”, especially considering that “80% of our population is LSM six and under”.
 - Establishing a foundation of awareness and education was a prerequisite for a rating system to be employed successfully.
 - A Re-user shared the opinion that a rating system will effectively be irrelevant in light of the fact that non-recyclable products should not even be allowed to enter the market, which reintroduces the argument regarding the first best practice point discussed, namely controlling plastic products in the market.
- *Plastic Codes:*
- Products containing plastic contains a number ranging between one and seven. The purpose of the number is to identify the type of plastic used for the product. Not all plastics are recyclable or even re-usable.
 - Interviewees noted, however, that “people don’t know that (what) this signage necessarily means”. The plastic code is also not displayed visibly on all plastic products. It is therefore ineffective in guiding purchasing decisions. More awareness creation is required.
 - As a best practice, interviewees proposed that retailers play a more significant role in clearly indicating whether a product is recyclable or not on their displays.

- **Optimise the Recycling Value Chain**



Two factors are thought to optimise the recycling value chain, namely demand and supply.

- **Demand – Establishing a Market:**

- Market demand gives value to recycled plastic raw material. Once the exact market size is established through a feasibility study, local sorting, collection and recycling initiatives can be expanded and new developments sought accordingly, thus optimising the recycling value chain.
- The local market for recycled plastic raw material is perceived as underutilised. The fact that sorted plastic is exported to South Africa and “finished raw material imported again” is seen as proof of the above perception; and
- The export market for recycled plastic raw material should also be considered when establishing potential market size for recycled plastic raw material.

- **Supply:**

- It is argued that the recycling value chain is in place, but that “we just need to feed into it more and that starts with the end consumer”. The recycling value chain has the potential to utilise 100% of all discarded plastic through local conversion into raw material, export of sorted plastic waste and recovery through waste-to-energy. However, if plastic does not enter the recycling value chain, it will end up polluting the environment. National buy-in and support is required to feed into the recycling value chain effectively; and
- Sorting waste for the purposes of recycling at households, businesses and schools was highlighted as best practice.

Implementation:

Encourage Nation-wide Recycling



1. **Awareness Campaigns:**

- Recycling is not seen as “part of our culture as Namibians”. Furthermore, “it’s very difficult to change consumer behaviour. It’s not going to happen overnight”. Intensive nationwide awareness and education campaigns are thus required.

2. **Create an Emotional Motivation for Recycling:**

- Certain participants felt that monetary incentives should not be the sole driver or focal point of recycling. Instead, creating an internal sense of “recycling because it is the right thing to do” should drive this positive behaviour.
- The most successful driver to foster positive, long-lasting behavioural change is an emotional connection with the topic. If knowledge and understanding stir the heart, behavioural change will be the result. Three triggers to establish an emotional connection with the topic of responsible plastic management in general were identified under heading 3 Stakeholder Engagement, namely, sharing good news stories, stirring a sense of patriotism and communicating the consequences of inaction.

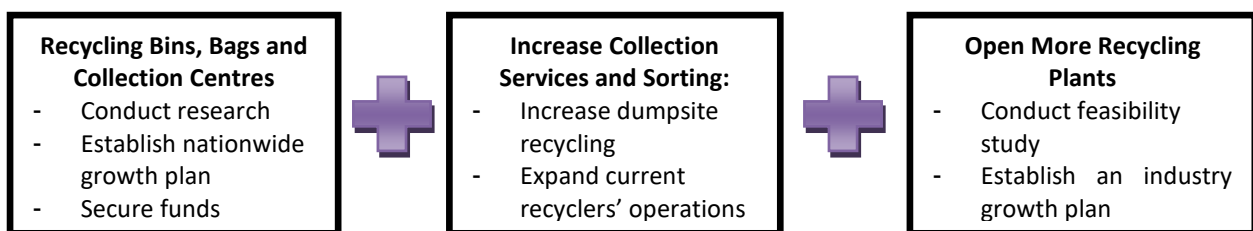
3. **Incentivise Recycling:**

A monetary incentive to recycling is expected to encourage wider scale recycling amongst individuals as well as to promote the rise of more informal waste collectors. However, it remains uncertain how this will be implemented practically. Two concerns were raised:

- **Concern 1: Low and Variable Rates:**
 - Proposed Solutions
 - *Use the Free Market System:* Stimulate a demand for sorted and recycled plastic. Examples include increasing waste-to-energy operations in Namibia, the country becoming an exporter of recycled plastic raw material or supporting businesses already operating in this sphere. An increase in demand will result in an increase in value, making it more lucrative and therefore attractive to suppliers.
 - *Funded by Consumers:* Recycling could be funded by charging a “returnable deposit” on, for example, plastic water bottles. The deposit is then reimbursed when the plastic product is returned.
 - *Subsidisation:* The proposed carrier bag levy or import duty on plastic products can be used to incentivise recycling.
- **Concern 2: Insufficient Collection Methods Proposed:**
 - Interviewees proposed “automated machines” in which plastic is deposited in return for either a “coupon” or “cash”. This infrastructure will, however, be costly to install across Namibia.
 - Formal waste collectors are compensated for plastic received “per kilogram”. However, the informal waste collector or individual will need to have “transport” and “infrastructure to bale” collected plastic in order to utilise this option effectively.
 - The returning of plastic products for deposit to retailers is also not a viable option, as is illustrated by this Consumer’s statement: “The store is not geared for coping with that amount of plastic”.
 - Proposed Solutions
 - Set up widely accessible mobile collection centres that are equipped with scales and baling infrastructure. However, the value of recycled plastic must justify this expense.
 - Mobile collection centres can also be used as a means of creating employment: “Sponsors for the stations need to be found so that the entrepreneurs who are going to do the work on boots level, don’t have the capital layout”.

4. Introduce Penalties/Fines for not Recycling: A sufficient support structure for recycling must, however, be put in place first.

Set up Recycling Support Structure/Enablers



1. Recycling Bins, Bags and Collection Centres:

- *Target:* There must be sufficient recycling bins, bags and collection centres available and accessible to the public in cities, towns, villages and neighbourhoods throughout the country to enable effective recycling across Namibia.
- *Conduct Research:* Research must be conducted to identify the optimal locations and number of recycling bins, bags and collection centres that need to be established countrywide. The estimated cost implication should also be calculated, and the responsible parties identified. Finally, a rollout plan and timeline should be agreed upon.
- *Establish Nationwide Growth Plan:* A nationwide plan must be drafted, and industry and government participation secured.
- *Secure Funds:* Such a large-scale intervention will require significant funds. Some of the interviewees suggested that if a plastic carrier bag levy or plastic import tax is introduced, the funds obtained from such an endeavour should be applied to finance the above target.

2. Collection Services and Sorting:

- *Increase Recycling at Dump Sites:* Recycling efforts should be established at dumpsites across the country. A best practice recommendation was that this function should be outsourced to private companies. Close cooperation with local recyclers was also suggested.
- *Expand Operations of Current Recyclers:* Current recyclers, such as Rent-A-Drum and Kleen Tek, should “increase their operations”. It was rightly noted that: “They’re economically driven. Unless there’s a potential for it to become economically viable, they’re not going to do this for free. That’s a barrier”. How can this barrier be addressed?
 - *Establish Creative Ways of Collecting Waste:*
 - The “vast distance” between cities, towns and villages in Namibia pose a significant “logistical” and “operational cost” challenge to waste collectors and sorters.
 - More creative ways of collecting waste should be explored, for example, agreeing with retailers, distributors and transporters that “no truck runs empty in Namibia”. Although this is already starting to happen on a small scale, it should be developed into common practice: “As part of their social responsibility, we need distributors to bring back what they put out”. Service level agreements must be drawn up in this regard.
 - *Government Subsidies/Incentives:*
 - Interviewees proposed that a levy or duty collected on plastic should in part be used to expand current recycling operations in Namibia. Current recyclers can then “make an application from the EIF to say, ‘If you give us 2 million we are going to recycle x-amount’”.
 - A Government participant suggested that the government can also look at offering land earmarked for expansion at “a little bit of a low price” as an incentive.
 - *Establish More Recycling Plants in Namibia (Converting Plastic Waste into Raw Material):*
 - Recyclers are currently exporting sorted waste to South Africa at great expense. With more local recycling plants in operation, the cost of exporting sorted waste to South Africa can be avoided, making local recycling operations more lucrative.
 - The exposure of local recyclers to the fluctuation in the South African market will then also be reduced, which will put them in a better position to expand local operations.
 - The question is, however whether there is a viable market for more recycling plants operating in Namibia, which brings us to the next point.

3. Recycling Plants (Converting Plastic Waste into Raw Material):

- *Conduct a Feasibility Study:* Further investigation is required to quantify the market size, calculate the required financial investment and to establish “economies of scale”. The exact “volumes” of plastic raw material being both imported and utilised locally must therefore be established and a formal feasibility study conducted to support investment activity in this area.
- *Establish an Industry Growth Plan.*

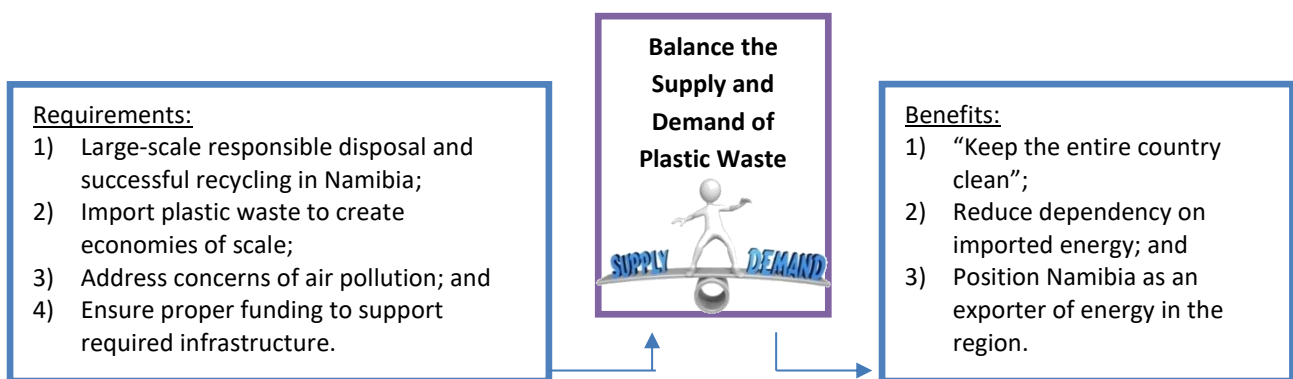
3.5. RECOVER (WASTE TO ENERGY)

A. CURRENT STATUS

- The theme Recover emerged from the data. As such, an effectiveness score was not directly probed during the interviews and cannot be provided.
- Under the heading Fact or Myth, 4% of participants indicated that turning plastic into energy is a myth, while 17% said they are uncertain whether it is possible. Even where there is an awareness that plastic can indeed be turned into energy, few in Namibia know the specifics regarding waste-to-energy activities.
- On a more optimistic note, participants who revealed a greater level of awareness of the waste-to-energy activities at Ohorongo Cement spoke positively about it.
- In conclusion, participants require more awareness of the current waste-to-energy activities in Namibia. For this reason, the current status is classified as a grey and uncertain area.

B. BEST PRACTICE PROPOSED

Increase waste to energy efforts in Namibia by balancing the supply and demand of plastic waste.



- **Create a Constant Supply of Plastic Waste**
 - Currently, the demand for plastic waste required for the waste-to-energy process is believed to be greater than the supply. This introduces two opportunities:
 - Waste-to-energy has the potential to “keep the entire country clean”. This, however, requires large-scale responsible disposal and successful recycling in Namibia to feed into the value chain, supplying the input required for waste-to-energy production. If done effectively, it is believed that 100% of the country’s plastic waste can be repurposed;
 - Participants suggested that once the national plastic waste problem is addressed, Namibia considers becoming an importer of waste to add greater economies of scale to the value chain. This will not only make Namibia less dependent on energy imports, but also position the country as an exporter of energy in the region.
 - Sweden was proposed as a possible case study.
- **Expand Current Waste-to-Energy Operations**
 - At present, Ohorongo Cement still utilises “non-renewable resources like coal” in its process. The demand for plastic waste at Ohorongo Cement can therefore be enhanced if the burning of non-renewable resources is replaced entirely with plastic waste.
 - It was further suggested that current energy producers should devise even more innovative ideas to transform waste to energy and that activities should thus not be limited to Ohorongo Cement.
- **Address Concerns of Air Pollution**
 - Although stakeholders appreciated the potential benefits to be derived from waste-to-energy initiatives, concerns were raised that this would entail swapping one environmental problem for another, namely air pollution.
 - More information is required to evaluate the environmental impact of waste-to-energy initiatives.
 - The Government cluster suggested that once empirical “energy studies” have been reviewed, the environmental impact should be “controlled” as far as possible. The cost to the environment and the benefits to the socio-economy of Namibia should be determined before deciding on the way forward.
- **Ensure Proper Funding for Required Infrastructure**
 - The Consumer and Re-user clusters noted that growing the waste-to-energy sector in Namibia will require significant infrastructure development that will also ensure “environmentally friendly” and “cost-efficient” operations.
 - Participants suggested that feasibility studies should be conducted to support capital investment.
 - Furthermore, if a plastic levy or sin tax is to be introduced, it was recommended that a subsidy be offered to those intending to expand or erect waste-to-energy operations.

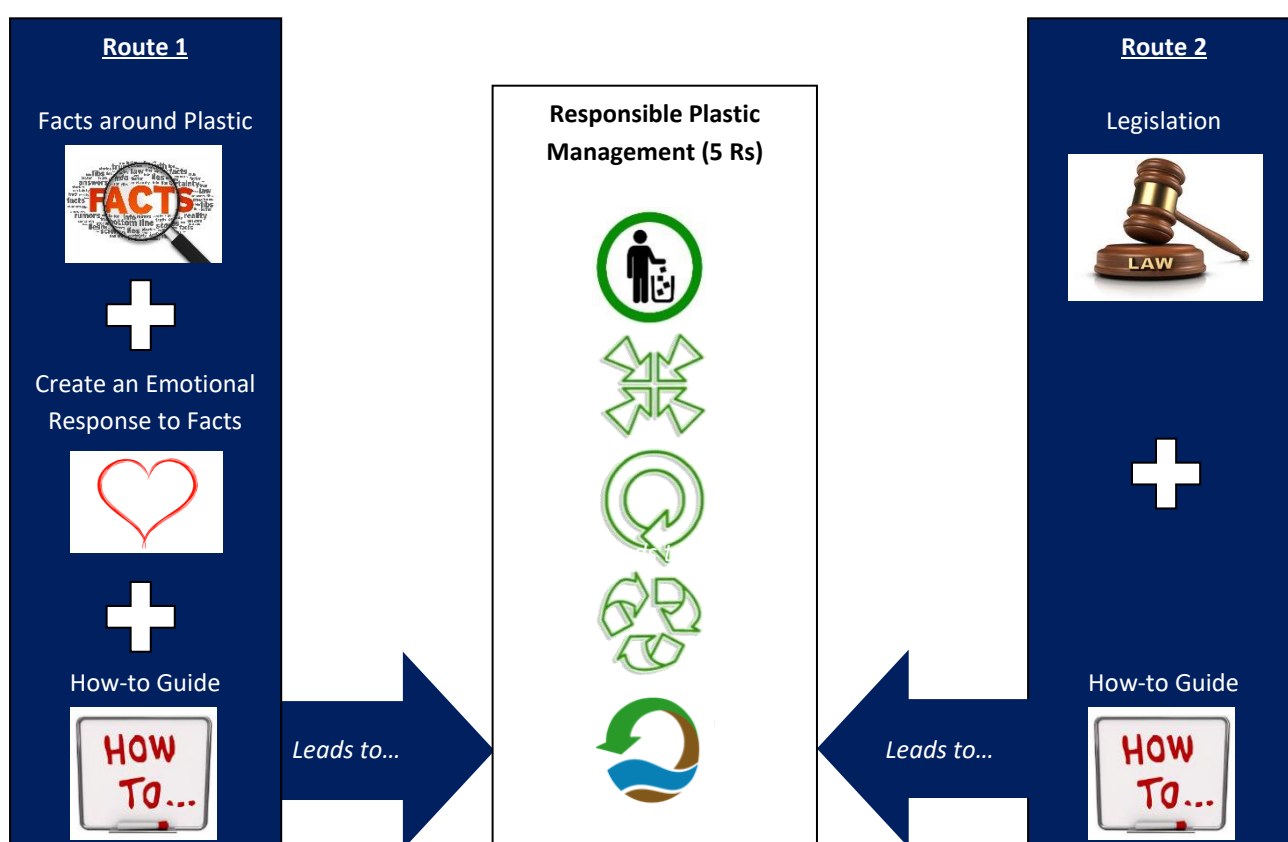
4. STAKEHOLDER ENGAGEMENT

4.1. REACHING THE GENERAL PUBLIC

A. MESSAGING

Two routes to reaching the general public with the message of responsible plastic management were identified. Please refer to the image below.

- **Route 1** firstly entails clarifying the facts around the topic of plastic in general and the management thereof. Secondly, the route proposes creating an emotional response to the facts shared with the intent of triggering positive, long-lasting behavioural change. Lastly, the route endeavours to equip the general public with a how-to guide, which will enable them to manage plastic waste responsibly. It is proposed that the communication campaign should be focused progressively around the 5 Rs of responsible plastic management, starting with Responsible disposal.
- **Route 2** entails providing a quick fix, in which knowledge creation and emotional triggers do not play a role, yet in which the desired behavioural change is still achieved by enforcing responsible plastic management through legislation. However, a how-to guide will still be required to equip the general public to comply with the relevant legislation.



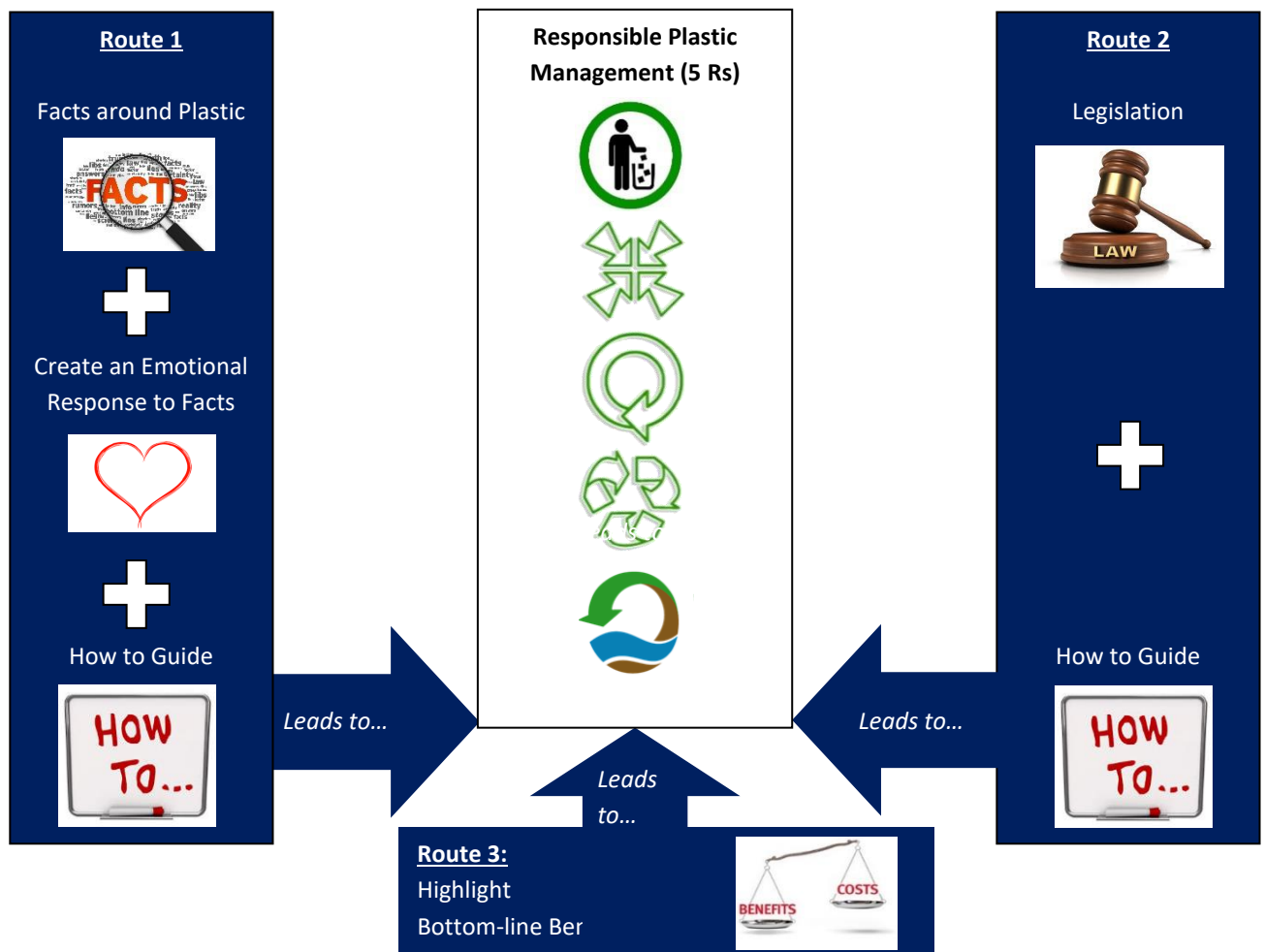
B. PREFERRED MEDIUMS

<p>Reaching the General Public:</p> <ul style="list-style-type: none"> • Multi-media approach • Social media • Radio • Television • Newspaper • Expos/trade shows/public talks • Leaflets distributed through the postal service 	<p>Younger Generation Specific Mediums</p> <ul style="list-style-type: none"> • Education/school system • Podcasts/YouTube videos 	<p>Public Participation Activities and Draw-cards</p> <ul style="list-style-type: none"> • Clean-up campaigns/recycling drives • Creating recycling ambassadors in the community • Recycling site visits to plants • Competitions: inter-business, inter-school or inter-town • Recycling plays
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4.2. REACHING THE BUSINESS COMMUNITY

A. MESSAGING

Routes 1 and 2 as proposed under reaching the general public were also suggested for reaching the business community. Participants also identified Route 3 as an additional option, which entails highlighting the bottom-line benefits of responsible plastic management. Please refer to the image below:



B. PREFERRED MEDIUMS

- The public campaigns will also reach businesses
- Conferences/presentations
- Association communication
- Email
- Staff training on the subject of responsible disposal
- Brochure on responsible plastic management received with the company's municipal bill
- Inter-business competitions

4.3. REACHING THE OPINION LEADERS INTERVIEWED

A. MESSAGING

Opinion leaders interviewed desired a similar messaging as proposed for reaching the business community.

B. PREFERRED MEDIUMS

- Email
- Newspaper
- Social media
- Newsletters
- Trade associations
- Conferences/presentations
- *Reports on:*
National polymer balance sheet and performance on national plastic management goals; Organisational polymer balance sheet; and application of funds from, for example, the EIF, and if a levy, sin tax or duty was to be introduced, a similar report on its application is required.

5. PLASTIC MANAGEMENT GOALS, THREE-YEAR TARGETS AND ACTION PLAN PROPOSED

5.1. NATIONAL PLASTIC MANAGEMENT GOALS

Participants were first asked to consider six proposed plastic management goals for Namibia. They were subsequently requested to gauge Namibia's performance for each of these proposed goals on a scale from 1 to 10, where 1 reflects an extremely low achievement of the goal, 5 a moderate achievement and 10 equates to achieving the goal fully. Participants were then asked whether they agree with the proposed goals and if there are any suggested amendments thereto.

A. CURRENT ACHIEVEMENT

<u>Proposed National Plastic Management Goals</u>	<u>Performance Assessment</u>
1) Zero marine litter.	3.2
2) Protection of all water sources, including aquifers.	4.5
3) Protection of fauna, flora, landscapes and heritage.	4.3
4) Zero waste to landfill.	3.0
5) Lowest possible carbon footprint.	4.0
6) Lowest possible impact on non-renewable resources.	3.7
Overall Performance Assessment	3.8

- Red zone means falling below 5 out of 10 were scored on all the proposed individual plastic management goals, which highlights an extremely low level of perceived achievement for each proposed goal.
- It is evident that more must be done in terms of the 5 Rs of plastic management. Each 'R' is believed to contribute to the achievement of the proposed goals listed in the table above.
- Current activity, strengths, shortcomings and proposed best practices as they relate to each 'R' are discussed under headings 3.1 through 3.5 of Section 4 in the comprehensive qualitative report.

B. AGREEMENT WITH PROPOSED GOALS

- **Overall Agreement:** All stakeholder clusters agreed that the proposed goals are "good goals for Namibia" and that "at the end of the day, that's where we want to be".
- **Amendments Suggested:** Convert the proposed goals into SMART goals (Specific, Measurable, Attainable, Relevant, Time-bound).
- **Additional Goals Suggested:**
 - *A Positive Polymer Balance Sheet:* The polymer balance sheet is the total tonnage of plastic waste being produced locally and imported into Namibia versus the tonnage of plastic waste collected, recycled, recovered as waste-to-energy and/or exported. The remainder of the plastic is presumed to be disposed of irresponsibly, either through illegal dumping or littering. The goal is to have a "positive polymer balance sheet", reflecting zero irresponsible plastic disposal and that Namibia is "using more second life-cycle polymers than importing virgin polymer".
 - *Education/Awareness Creation Goals:* Participants believe that education/awareness creation will serve as the foundation for the successful implementation of all 5 Rs of plastic waste management. However, in its absence, the required national mind-shift necessary to support responsible disposal, plastic reduction, re-use, recycling and recovery efforts will not take place. Since "education is a big part of it", it was proposed that a SMART goal be set accordingly.
- **Alignment with Existing Plans:**
 - Before the plastic waste management goals are finalised and the consequent action plan communicated, it was suggested that the local and international policies and plans be reviewed to pinpoint means of alignment and cooperation. Participants indicated that a more unified approach will have greater impact.

5.2. THREE-YEAR TARGETS AND ACTION PLAN

Target 1: Identify and Empower a Coordinating Body

- A coordinating body needs to be identified and empowered to roll out the proposed action plan. This body will also be responsible for ensuring the set targets and goals are met.
- The Ministry of Environment and Tourism (MET), in particular, is recommended as the appropriate government department for the following reasons:
 - MET has already been appointed as “the custodian of the environment”.
 - The Sustainable Development Advisory Council (SDAC) already forms part of the MET. Instead of “duplicating efforts” or “creating new things”, it is suggested that the SDAC be empowered to effectively act in this capacity.
 - If a levy were to be charged on plastic carrier bags and/or a plastic import duty imposed, the MET was also proposed as the best suited candidate to collect the levy and/or duty through the Environmental Investment Fund (EIF). The fact that the EIF is already in place and has received the “mandate to manage, drive and promote investments in the environmental sector” is supportive of this proposal.

Target 2: Conduct Research and Stakeholder Consultations

- **Need for Research:**
 - Decisions regarding the setting of industry and product standards as well as ensuing laws and regulations must not be a “knee jerk” reaction, based on “too little information and consultation”. It is essential for the process to be “well considered” and thoroughly thought through.
 - Stakeholders shared a concern that there is currently a “lack in data”.
- **Research Required:**
 - **International Best Thinking and Practices:**
 - Information Gaps Identified:
 - Concurring facts around plastic, drawing on the global body of knowledge. Currently, there is thought to be misinformation on the topic, negatively impacting decision-making.
 - A means of alignment and cooperation with international thinking and practices should be established. As stated by a Government participant: “As a country we can benchmark with other countries, then come up with something that we can use. We are trying to swim into the same direction as the globe, while catering for national interests”.
 - Recommended Information Sources:
 - *Existing Research: For example:*
 - Research documents available from International Recycling Organisations.
 - United Nations Environmental Protection Agency research papers and best practices.
 - Best practice documents on the South African Plastic Recycling Organisation’s website.
 - Research done by the Institute of Waste Management of South Africa, the Plastic Federation of South Africa and the South African PET Recycling Company (PETCO).
 - *Existing International Plans:*
 - UN Global Compact Sustainable Development Goals.
 - Waste management policies, strategies, standards and regulations of other governments, particularly that of our neighbouring countries and those operating in our waters.
 - **Local Input and Statistics:**
 - Information Gaps Identified:
 - “Consolidated data” on the following is lacking:
 - Current performance on proposed national plastic management goals.
 - Namibia’s polymer balance sheet: Total tonnage of plastic being produced locally and imported into Namibia compared to tonnage of plastic waste collected, recycled, recovered as waste-to-energy and/or exported.

Recommended Information Sources:

- Local Statistics:
 - Information Gathering “Catalysts” or “Facilitators” Were Proposed:
 - *Ministry of Industrialisation, Trade and SME development (MIT):*
 - Since all businesses are required to register with MIT, it is assumed that there will be a “database” of all registered businesses.
 - Employing such a database, plastic management statistics can be requested on a “monthly” or “quarterly” basis from all registered businesses and fed into the national plastic management goals and polymer balance sheet.
 - *Namibia Statistics Agency (NSA):*
 - Through an Act of Parliament (Statistics Act No. 9 of 2011), the NSA has already been mandated to gather, consolidate, manage, report and advise on national data. Including an “additional criteria” of tracking the polymer balance in Namibia should therefore “not be a problem”.
 - The NSA can make use of MIT’s business registration database to gather the required information and generate reports accordingly.
- Stakeholder consultation:
 - It was proposed that a “technical committee” comprising a wide range of stakeholders, for example, government, regulators, environmental groups, economists, plastic manufacturers, plastic importers, plastic re-users, relevant associations/forums, trade unions, retailers, manufacturers, relevant industry suppliers and private citizens be established.
 - The Namibian Standards Institution (NSI) indicated that they are currently in the process of setting up such a committee. A coordinated approach is however recommended. It is therefore suggested that if the Ministry of Environment and Tourism is selected as the coordinating body, the efforts of the NSI should either be taken over by or feed into this governmental department.
- **Understanding the Namibian Government’s Current Position:**
 - Information Gaps Identified:
 - It is essential to understand what standards, laws and regulations currently guide plastic management in Namibia in order for them to be developed or revised where needed. It is vital to avoid duplication or counterproductive efforts.
 - The majority of interviews reflected however that at large, stakeholders are uncertain of government’s current position on the topic of plastic management in Namibia. The reason for the level of uncertainty is unclear. Is it due to:
 - A lack of awareness of current government documents that are already in place;
 - A lack of stakeholder consultation in the drafting of these government documents;
 - The operational government documents not being relevant to guide plastic management in Namibia specifically; or
 - The implementation of relevant strategies not having commenced yet.

Recommended Information Sources:

Upon conducting some desktop research, **FISHER CONSULTING** identified the following documents for referral when setting the way forward in terms of plastic management in Namibia:

- Namibia’s Green Plan
- Vision 2030: Comprising the National Solid Waste Management Strategy
- Environmental Management Act (No.7 of 2007)
- Environmental Investment Fund of Namibia Act (No.13 of 2001)
- Public and Environmental Health Act (No.1 of 2015)
- Waste Management Regulations: Local Authorities Act (No.23 of 1992)

Target 3: Finalise SMART Goals and Targets

- Based on the secondary data collected and via the stakeholder consultations process, the proposed goals need to be converted into SMART goals and targets.
- The finalised SMART goals and targets should carry stakeholder agreement, buy-in and support to ensure efforts are driven towards the attainment thereof.

Target 4: Finalise Industry and Product Standards

- Building on the research and stakeholder consultation, and considering the finalised SMART goals and targets set, a document stipulating the agreed industry and product standards for plastic in Namibia should be formulated. “If we can get one document that says ‘this is us’, these are the rules that we subscribe to, I think it will help us to align our interests. We won’t have different stakeholders pulling in different directions. We will know exactly what to do”.
- All recommended standards that impact imports will have to be confirmed into law to avoid contravening any international trade agreements.
- For the above reasons it is recommended that Target 5 be prioritised into the first three years’ planning.

Target 5: Establish Government’s Position

- Based on the review of current relevant national development plans, laws and regulations; and considering the agreed SMART goals, targets, and product and industry standards proposed for plastic management in Namibia – existing laws and regulations need to be amended and/or supplemented where necessary.
- Structures ensuring that laws are “monitored” and “enforced” have to be put in place. For example, the information that all businesses will be required to submit on a monthly basis to the MET can serve as a means of auditing compliance.
- “Penalties” and “fines” should be introduced for non-compliance.
- Regulations proposed for consideration: (Please refer to the relevant sections in the report)
 - Non-recyclable plastic ban;
 - Plastic import duty on non-recyclable plastic; and
 - Levy on plastic carrier bags.

Target 6: Devise an Implementation Strategy

- An implementation strategy or “working plan” needs to be formulated and approved, based on the SMART goals and targets set, and considering the standards and laws put in place to guide and regulate plastic management in Namibia.
- The first two proposed implementation steps are:
 - Setting Up a Nationwide Awareness Campaign
 - Setting Up Plastic Management Support Structures: The first steps proposed for consideration are:
 - Setting up and formalising dumpsites/landfills for each town and village (following the National Solid Waste Strategy).
 - Ensure the availability and accessibility of waste bins.
 - Ensure the availability and accessibility of recycling bins, bags and collection centres.
 - Conduct a feasibility study into the increasing and expanding recycling plants in Namibia.
 - Conduct a feasibility study into the expanding waste-to-energy initiatives in Namibia.

The above will run beyond the three-year period under discussion.

**SECTION 4: COMPREHENSIVE QUALITATIVE REPORT
– OPINION LEADERS**

1. RESEARCH APPROACH

Discussions followed the approach detailed below.

Part 1: Overall Perception of Plastic

- Arguments for and against plastic as well as the possible replacement thereof: Participants were first invited to consider plastic in general. They were requested to provide their main arguments for and against plastic. Considering these arguments, they were then asked whether they believe plastic should be replaced by alternatives. If participants answered in the affirmative, they were asked which viable alternatives are currently available.
- Plastic facts and myths: Various statements were subsequently presented, and participants were asked whether the statements are fact or myth. This approach allowed an assessment of the level of awareness and agreement amongst opinion leaders regarding plastic. It is purposed that strategic decisions regarding the management of the use, manufacturing and import of plastic cannot be taken in the absence of a common understanding and agreement around the facts.

Part 2: Plastic Management in Namibia

- Participants were requested to consider the 3 Rs of waste management as it pertains to plastic in particular, namely: Reduce; Re-use; and Recycle. Current and proposed best practice was assessed. However, as the data analysis phase progressed, it became clear that waste management as it pertains to plastic entails five as opposed to three Rs. The 5 Rs are: Responsible disposal; Reduce; Re-use; Recycle; and Recover. The discussions throughout the report to follow thus follow this trend. The 5 Rs were understood as follows:
 - **Responsible disposal** is seen as the least that a consumer of plastic can do. This entails that a consumer refrains from littering and instead disposes of plastic in a waste bin, where it can enter into the value chain, hopefully to be re-used, recycled or recovered later. On the other hand, should a consumer engage in littering, plastic ends up in the environment as a pollutant;
 - **Reduce** entails limiting the amount of waste created in the first place. This includes buying products with less packaging;
 - **Re-use** means to use something again that would normally throw away, for instance, employing glass jar for food or plastic bags for bin liners;
 - **Recycle** entails that the product goes through a mechanical process to change its form. This is only recommended where neither reducing nor re-using is possible; and
 - **Recover** pertains to converting waste into resources, such as electricity, heat, compost and fuel through thermal and biological means. This fifth component of the 5 Rs occurs after reducing, re-using and recycling have been attempted.



Responsible
Disposal

Reduce

Re-use

Recycle

Recover

Part 3: Stakeholder Engagement

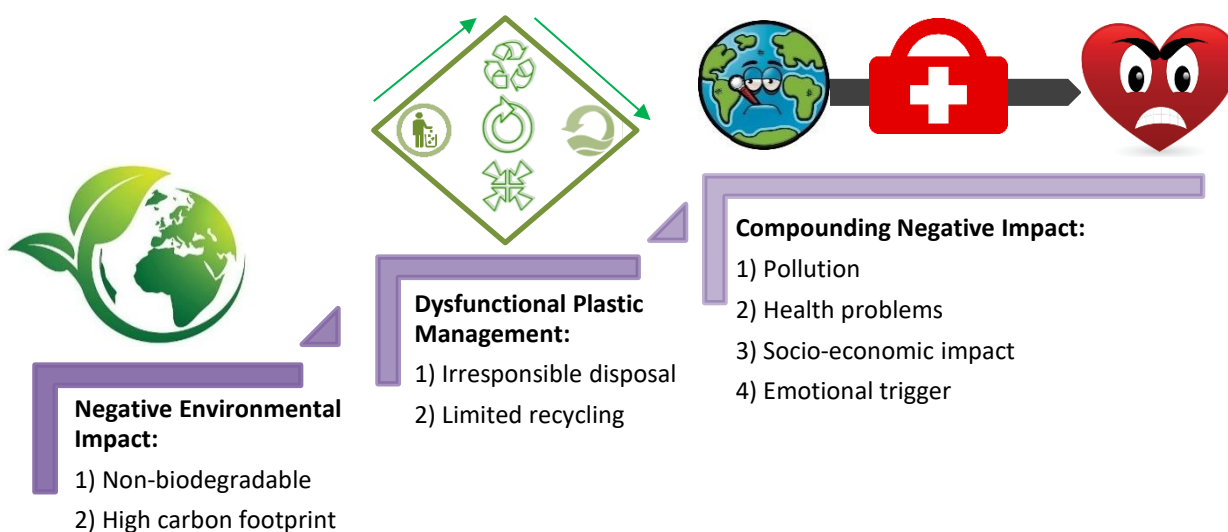
- Opinion leaders: Participants were requested to consider their own information needs regarding plastic in Namibia. They were also asked who they believe should be responsible for primarily sourcing and disseminating the relevant information. The most effective medium(s) to reach participants were also considered.
- Business community and general public: Participants were subsequently asked what would be the most effective communication medium(s) to reach, inform, educate and engage the business community and general public on this topic.

Part 4: National plastic management goals, three-year action plan and targets

- National plastic management goals: Participants were first asked to consider six proposed plastic management goals for Namibia. They were requested to gauge Namibia’s performance regarding these proposed goals on a scale from 1 to 10, where 1 reflects an extremely low achievement of the goal, 5 a moderate achievement and 10 equals achieving the goal fully. Participants were then asked whether they agree with the proposed goals and if they have any suggested amendments.
- Action plan and targets: Finally, participants were requested to propose an action plan complete with plastic management targets for the next three years in Namibia to be set as a means of prioritising the best practice recommendations proposed during the discussion.

2. OVERALL PERCEPTION OF PLASTIC

2.1. ARGUMENTS AGAINST PLASTIC



Theme	Findings
Negative Environmental Impact	<p>Non-biodegradable:</p> <ul style="list-style-type: none"> • Five out of the seven stakeholder groups commented on the non-biodegradability of plastic. These groups are Importers, Re-users, Consumers, Environmental Groups and Government. The opinion is therefore widely shared. • It was noted that there are “different classes of plastic” and that some classes are more biodegradable than others. However, the most common perception is that “most”, if not all, plastic is non-biodegradable. • The exact period required for plastic to “decompose” is, however, contested. Some say it takes between “20 and 50 years”, while others believe the timeframe to be anything between “500

	<p>and 1,000 years". One participant stated candidly that plastic can take "thousands of years" to "disintegrate".</p> <ul style="list-style-type: none"> • Furthermore, some participants noted that decomposition rates depended on whether the plastic product is exposed to the elements, is buried or sinks to the bottom of a water source, such as the ocean or a dam. • It is evident that more information is required on the above topic. <p>High Carbon Footprint:</p> <ul style="list-style-type: none"> • <u>Use of non-renewable resources:</u> Plastic is perceived to have a high carbon footprint, in that it requires "non-renewable energy sources" during production. Importer 3 stated, "But producing plastic comes from polypropylene which is a by-product of petrol production. Which is used from coal, which is a non-renewable energy source. So actually, just saying plastic is already a zero on carbon footprint". • <u>High energy production process:</u> Environmental Groups noted that the entire value chain of producing plastic needs to be taken into account when considering its carbon footprint. According to one participant, "If the plastic producers are talking about this, they often just talk about the end bit of taking something and converting it into plastic and then distributing it. They don't talk about the whole process of off-shore, pumping the crude oil and servicing the ships out there and getting it on shore and pumping it out in your big container tanks and all of that. If you look at the whole process, it's high energy". • <u>Contested Issue:</u> It should be noted that some participants mentioned plastic's low carbon footprint as one of its advantages. It is therefore a contested issue. It brings into question whether the concept of carbon footprint is commonly understood and as stated by the above participant, whether the whole value chain is taken into account when considering the carbon footprint of plastic. More information is evidently needed on the above topic.
<p>Dysfunctional Plastic Management</p>	<p>All stakeholder clusters agreed that plastic is not managed responsibly in Namibia. Of the 5 Rs of plastic management, two, namely Responsible disposal and Recycling, were mentioned top of mind. This is therefore viewed a good starting point for finding a solution to the plastic problem in Namibia.</p> <p>Responsible Disposal:</p> <ul style="list-style-type: none"> • Responsible disposal is the first R in the plastic management process. It is considered the very least that a consumer can do to lessen his or her carbon footprint. However, participants believe that a "don't care" attitude towards "littering" and "dumping" is prevalent in Namibia. The problem is perceived to be worse in the country's "informal areas", "villages" and "rural areas". Participants agree that consumers are not fulfilling this basic requirement of responsible disposal of plastic. Re-user 2 noted, "Firstly, like I said, my first issue is that people are not even doing the basic things of putting the stuff in waste bins or in skips, does not matter. They are not disposing of it in the proper way. And if we can't even get that part right, then it would be a struggle to even go look at the recycling side. You need to crawl before you can walk". • On the other hand, littering and dumping is not seen as a local phenomenon but rather regarded as a "worldwide problem". Since the rivers in Namibia seldom flow into the sea, the country's marine litter is solely ascribed to waste material and dumping perpetrated by "boats", "ships" and "fishing vessels" operating in Namibian waters. Participants do, however, understand that little can be done to "control" marine litter in these instances. • Furthermore, plastic's light weight and texture makes it easily susceptible to being dispersed by the wind and other elements. As a result, participants believe that plastic cannot be contained in one geographical spot. "You can see it everywhere". Plastic was even described as the "Namibian flower". Although littering also pertains to other products, such as glass, the visibility of plastic makes it a focal point of public outrage.

	<ul style="list-style-type: none"> • Participants point a finger to the main culprit as being “discardable plastics”, including “plastic bags”, “plastic water bottles”, “soft drink bottles”, “plastic utensils”, “straws” and “polystyrene containers”. It is believed that “if we can get that out of the way, then essentially 90% of our problems will be solved”. • The fact that dumpsites are constructed on aquifers is also a cause for great concern. <p>Limited Recycling:</p> <ul style="list-style-type: none"> • <u>Awareness and attitude:</u> Participants mentioned recycling as the next top of mind R regarding responsible disposal. Namibians, they hold, “don’t even know about recycling”. Moreover, those who do have a “don’t care” attitude towards recycling. This is evident in the fact that “people do not recycle”. Namibians are said to live in a “throw-away” society, where the consumer is not “treating plastic with the care that should be taken”. • <u>Non-recyclability of plastic:</u> Participants understand that not all plastic is “100% recyclable”, depending on the manufacturing process. This is believed to stand as one of the major barriers to the recycling efforts in the country. • <u>Non-economical to recycle:</u> <ul style="list-style-type: none"> - Some participants doubt whether there is a market for recycled plastics in Namibia, since recycled plastic is often viewed as “lower quality”. However, Re-users dispelled this notion by stating that there is, in fact, a market for recycled plastic. The major problem, they pointed out, is that the volumes feeding into the value chain are not sufficient to make it economically viable to expand operations. - Another barrier to recycling is the “difficulty in recovering recyclable material” in remote towns in the country. “Namibia is a vast country”, which makes plastic collection a costly exercise. Again, without sufficient volumes, economic viability cannot be established. - In light of the above challenges, responsible disposal of plastic is therefore the first vital step in feeding into the recycling value chain, as it has a direct impact on volumes.
<p>Compounding Negative Impact</p>	<p>All stakeholder clusters agreed that dysfunctional plastic management results in environmental pollution, health problems and the triggering of a negative emotional response.</p> <p>Pollution:</p> <ul style="list-style-type: none"> • Dysfunctional plastic management results in the pollution of the Namibian landscape, including fauna and flora, as well as water sources, including oceans, dams, rivers and aquifers. The Environmental Groups mentioned that failure to take action to rectify concerns in Namibian plastic management will result in “leaving a polluting legacy behind for our children.” • Due to the perceived non-biodegradability of plastic, the pollution effect is seen to be vast. Participants mentioned the following concerns: <ul style="list-style-type: none"> - “Chemical toxins in plastic” are believed to seep into the soil, where it “compromises the quality of the soil or of the earth and then the productivity thereafter”; - “Chemical toxins” also “over time get into the ground water”, which in turn effect humans, animals and plant life; and - Sea animals and birds that perceive plastic floating in the ocean as food feed on it and take it back to their “nestlings”, where it eventually “kills them”. <p>Health Problems:</p> <ul style="list-style-type: none"> • The pollution of the environment has a negative impact on the health of animals. Especially in times of “drought”, “domestic stock and wild animals” allegedly eat plastic, which causes severe health problems. Plastic can also entrap animals, causing them harm and even death. • Plastic in the environmental also reportedly has a negative impact on the “food chain”, eventually resulting in health concerns for humans. One Environmental Group participant noted, “If you are a regular sea-eater, you can have up to 11,000 nano-beads coming into you

every year. And they tend to concentrate in joints and that exacerbates the onset of arthritis and they get into all your muscles and your brain and so on. And they can form a little kernel around, you can get a tumour, or you have a clot and a stroke. So, heart attacks, strokes, tumours and so on are all exacerbated, and incidents are increased as a result of that".

- Participants suggest that “chemical toxins” seeping into ground water in time also have a negative health impact on humans, animals and plant life.
- Participants debated whether plastic is carcinogenic. More information is thus required in this regard.
- Discarded plastic can also be “a harbour for some insects and mosquitos”, which has an adverse effect on human health.

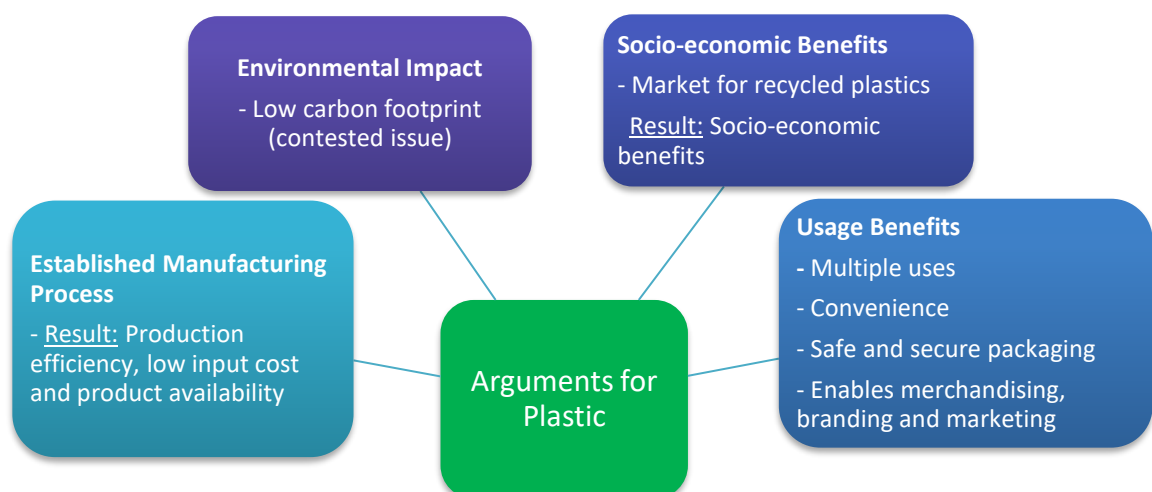
Socio-economic Impact:

- When pollution affects livestock, planting soil or water sources, it has a direct impact on the farmers’ “livelihood”, which, in turn, has socio-economic implications.
- An Environmental Group participant stated, “The rates of plastics, discardable plastics, that is entering the sea now is so high that by 2050 the weights of plastic in the sea will be greater of the weight of all the fish in the sea combined”. Should this be the case, the impact on the fishing industry will be inevitable, resulting in a socio-economic ripple effect.
- Pollution also has a destructive influence on the tourism industry, as it creates a “wrong impression of our country and the discipline of a country is reflected in a messy environment”.

Emotional Trigger:

- One Plastic Manufacturer summed up the situation as follows, “Visual things drive feelings”. As mentioned earlier in the report, plastic poses a particularly visual problem, not only in Namibia, but also around the globe. However, participants cautioned that decisions that will have a “ripple effect on other markets and industries”, especially in a country suffering from an already high unemployment rate, should not be based on emotional triggers, but on “a well-rounded view of all the facts”. A Trade Association participant warned against people “unknowingly and uninformedly just jumping on the band wagon”.
- Government participants described a “global move against plastic”, and since Namibia is part of the “global composite”, it is thought that the country should form “part of the global solution” when it comes to plastic. It remains to be decided how this will translate into a Namibian context practically. The bottom line remains, however, that change is inevitable.
- Participants agree that it is essential for Namibians to gather the facts from all relevant sources to make an informed decision about the way forward.

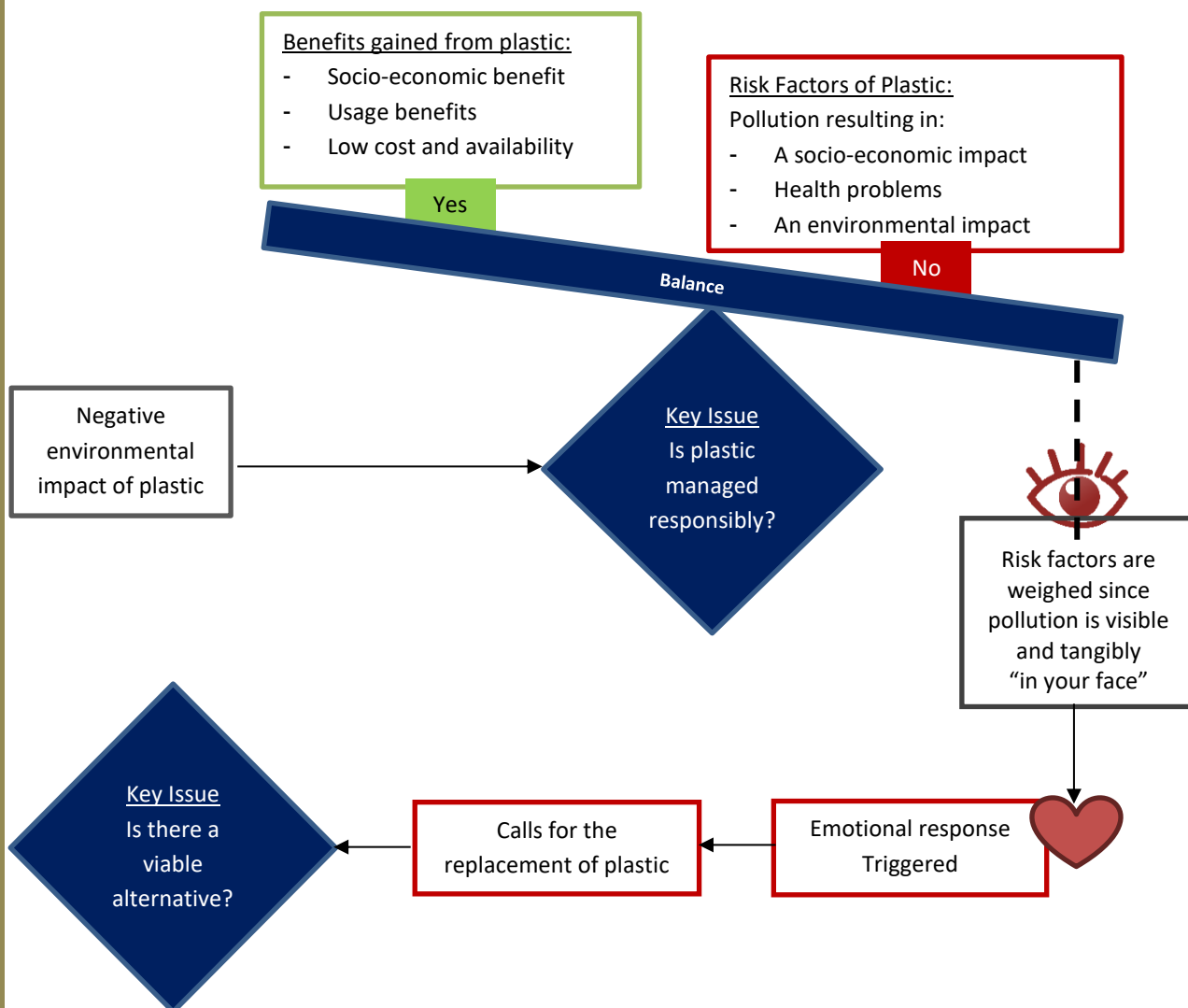
2.2. ARGUMENTS FOR PLASTIC



Theme	Findings
Environmental Impact	<p>Low Carbon Footprint:</p> <ul style="list-style-type: none"> • The carbon footprint of plastic is a contested topic. It is mentioned as both an argument for and against plastic. Clearly there is a need for more information and clarity on what the term carbon footprint actually entails. • Participants from both the Plastic Manufacturer and Trade Association clusters referred to studies conducted on the carbon footprint of plastic. A participant from Trade Associations 1 agreed that "The public is also not aware. Because I have done a lot of research and I have actually compiled articles also to show people that in the end plastic has the smallest carbon footprint". • Specific mention was made of the transport of plastic. Since plastic takes up less space to transport than, for example, glass or paper, less trips are required to deliver the same amount of stock.
Socio-economic Benefits	<p>Market for Recycled Plastic:</p> <ul style="list-style-type: none"> • Participants from the Plastic Manufacturer cluster dispelled concerns that there is not a market for recycled plastics based on the belief that recycled plastic is of lower quality" by noting, "I don't want to go into chemistry, but polymers can be used over and over again". • Some examples given top of mind of where recycled plastics enjoy a market are: <ul style="list-style-type: none"> - Namibia Polymer Recyclers; - Ohorongo refuse-derived fuel plant; and - Export market to South Africa. <p>Resultant Socio-economic Benefits</p> <ul style="list-style-type: none"> • Where there is a market for recycled plastic, industries can as a result be built around this need. This, in turn, stimulates "job creation" and "trading" with neighbouring countries and others "around the globe". The socio-economic benefits of building a thriving industry are evident. • There is a clear need for more information around the recyclability of plastic, the market for recycled plastic and the resultant socio-economic benefits derived from this industry before decisions concerning the future of plastic in Namibia can be taken.
Usage Benefits	<p>Multiple Uses:</p> <ul style="list-style-type: none"> • Plastic was described as "versatile" with "many applications". One participant stated that "80% of everything that is manufactured has plastic", ranging from "plastic bottles", "plastic bags", yoghurt tubs", "butter cups" and "meat plastic covers" to "computer products", "chairs" and "handbags". Plastic is therefore "part of our everyday life". <p>Convenience:</p> <ul style="list-style-type: none"> • Plastic is seen to be convenient, in that it is "familiar", "easy to use" and "light". <p>Safe and Secure Packaging:</p> <ul style="list-style-type: none"> - <u>Food preservation:</u> <ul style="list-style-type: none"> ▪ As summarised by one Manufacturer, "But with the amount of people on planet earth, we cannot do without plastics as a means to preserve foodstuffs... If we don't have plastics, we will have starvation"; ▪ Some participants believe there is no viable alternative to plastic in this regard, especially when it comes to "cost", "carbon footprint" and "transport". For example, replacing plastic water bottles with glass bottles will mean a higher input cost and transport cost in that glass takes up more space than "plastic capsules" that can be "blown up"; ▪ Certain foodstuff, for example meat, can also not be preserved using any other material than plastic. One Importer stated, "In our industry, you can't

	<p>really pack it in anything else. It's a perishable product. The packaging material needs to be compatible with medical temperatures, don't crack or break or stuff like that, because some of our product is fresh product and most of our range is frozen products. So, the packaging material needs to hold at least -18 degrees Celsius without any issues and then the mishandling in the market of our product needs to be, the packaging material needs to be robust"; and</p> <ul style="list-style-type: none"> ▪ Plastic containers are also said to enhance "shelf life", especially when compared with paper, in that it is more "impermeable to water". <p>- <u>Storing poisonous substances:</u></p> <ul style="list-style-type: none"> ▪ One Consumer held that when it comes to the safe storing of poisonous substances, there are no viable alternative to plastic. "There is a lot of insecticides and poison that need to be stored in plastic. You can't use tin or aluminium, as they take a lot longer to 'dissolve'. Plastic is there to stay. Plastic should be, but it should be controlled more". <p>- <u>Durability:</u></p> <ul style="list-style-type: none"> ▪ Plastic was described as a product of "strength" and "quality". It is said to be "waterproof" and "doesn't transfer heat". At the same time, it is "light" and cost effective to transport. These benefits are useful in the following circumstances: <ul style="list-style-type: none"> - For individual transport of shopping, be it "monthly bulk grocery shopping" from the store to the car to the home, or for those with no transport who have to carry their shopping home; - For local transport of goods. Namibia often requires travelling long distances on uneven roads to deliver goods to retail outlets; and - For the safe and secure export of goods. <ul style="list-style-type: none"> • Enables Merchandising, Branding and Marketing: <ul style="list-style-type: none"> - A competitive advantage of plastic for many in the FMCG market is the "display of a product". Plastic is said to be a "flashy product" that is not only easy to use as a "marketing tool", but also serves as a practical means to display products.
<p>Established Manufacturing/ Production Process</p>	<p>Low Cost, Efficiency and Availability</p> <ul style="list-style-type: none"> • A number of participants agreed that plastic have multiple uses, is convenient, offer safe and secure packaging and enable efficient merchandising, branding and marketing. As such, a participant from Government stated, "A standard production cycle across the past decade or so has been developed. Therefore, it's easily affordable, it's readily available, it's easily accessible". • As an input cost, it is essential to the end consumer that it be managed, as "at the end of the day, the prices go back to the consumer". A Manufacturer mentioned for example, "Polymers in themselves are low in terms of value, so if you talk about the value that a plastic pipe can bring to transporting water from one end to the other end and you're talking about the value that you pay for that specific product, I see it's good value for money and there's no substitute for that. And we need polymers in our lives. According to me, we've got PVC and polymers to manufacture pipes. Obviously, there's metal, but compare metal to polymers, you will see the metal outweighs the price tremendously. So, without polymers, it's going to be quite expensive to transport water from one end to another end".

Conclusion



- **Environmental Impact:**

- The foundational argument against plastic is that it is believed to have a negative environmental impact. However, participants shared conflicting information concerning the bio-degradability and carbon footprint of plastic. It is important that more information be made available on both topics in order for an informed environmental impact assessment to be made.

- **Is Plastic Managed Responsibly? Key Issue:**

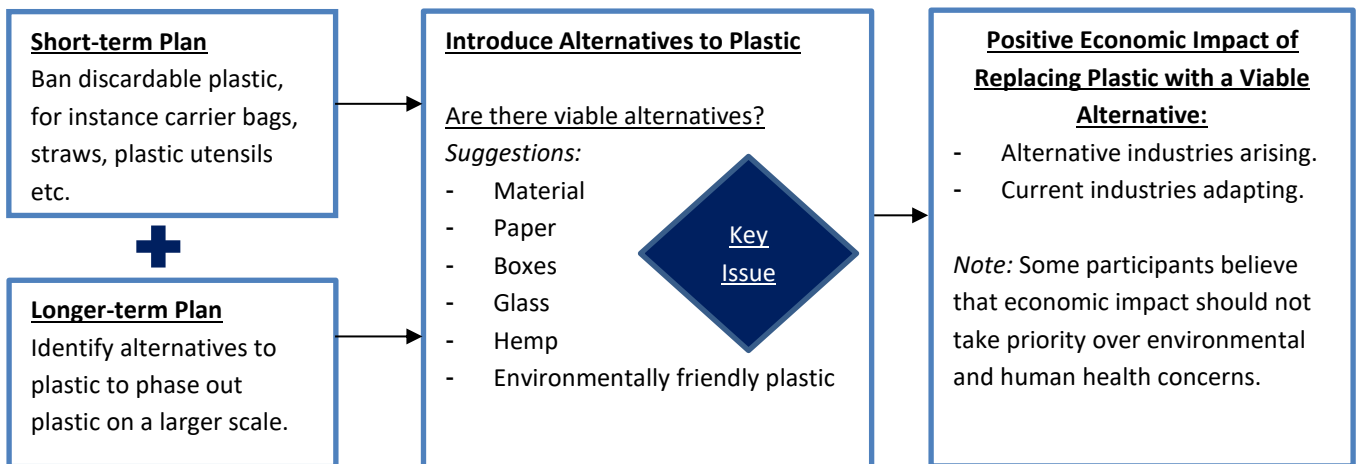
- The question whether plastic is managed responsibly in terms of the 5Rs, namely, Responsible disposal, Reduction, Re-use, Recycling and Recovery, was the key issue identified. The answer to this key question determines how the benefits and risk factors of plastic are balanced in order to assess its overall impact.
- **If no:** A compounding negative effect is believed to occur in that consumers do not manage this perceived harmful substance properly. Since plastic is not disposed of responsibly or recycled but rather discarded through "indiscriminate" littering and dumping, it ends up in the environment, causing pollution. The consequent negative environmental impact of this pollution on human health, livestock, planting soil, water sources, the food chain and tourism have a socio-economic ripple effect.
- **If yes:** If managed responsibly, risk factors can, however, be mitigated and socio-economic benefit gained, since there is believed to be a market for recycled plastic. Still, reaching the point where plastic is managed responsibly will require time, effort and resources. Whether the environment can wait for a solution is a question that remains unanswered.

- **Emotional Trigger:**
 - The arguments against plastic gain additional traction due to the visibly damaging effect of plastic on the environment. The strong negative emotions that plastic triggers are thus understandable. As a result, the world-wide drive in favour of banning plastic has gained tremendous momentum.
 - At the same time, participants cautioned that while Namibia should be part of the “global solution”, decisions should be made based on facts, not emotions. It is therefore essential for all Namibians that facts be gathered from all relevant sources to ensure that an informed decision is taken regarding the way forward.
- **Calls for Replacement of Plastic:**
 - The question remains: are there any viable alternatives to plastics? Plastic was established to be versatile, convenient, provide safe and secure packaging as well as enable efficient merchandising, branding and marketing. As such, a standard production cycle has been developed over decades, ensuring production efficiency and consequent ability to produce a low cost and accessible supply of plastic. Consequently, plastic is used as an input to various products and thus plays a direct role in product affordability and availability. Many participants believe that these qualities make plastic “unrivalled” at the moment. This brings us to the next discussion point, namely the possible replacement of plastic.

2.3. CONSIDERING THE REPLACEMENT OF PLASTIC

Please note: Participants within and between the various stakeholder clusters presented conflicting opinions. The replacement of plastic and the manner in which such a replacement should be approached therefore emerged as highly contested issues. It is important to take note of the themes arising under each topic and the arguments for and against the replacement of plastic to ensure a thorough understanding. More empirical evidence should also be sought from a wide range of information sources to make an informed decision on the way forward.

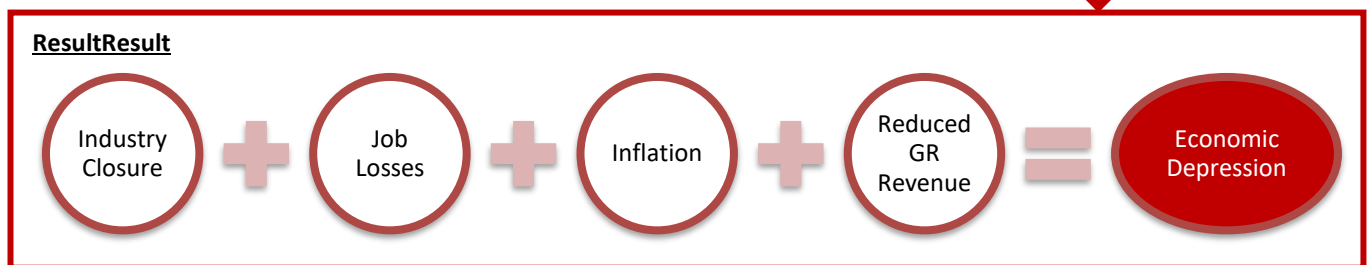
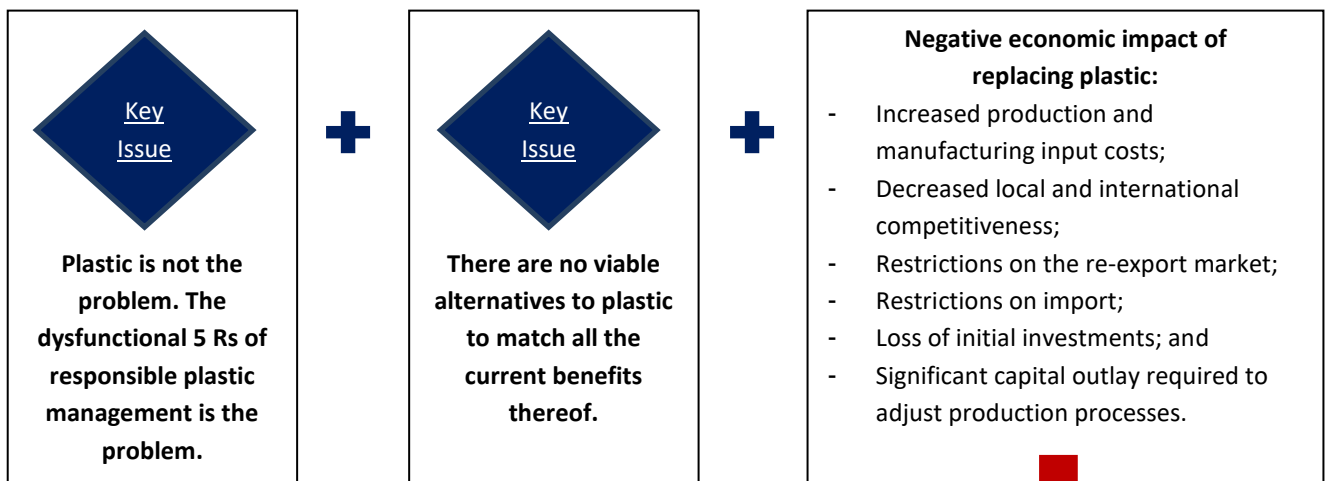
A. ARGUMENTS FOR THE REPLACEMENT OF PLASTIC



Theme	Findings
Short-term Plan	<ul style="list-style-type: none"> • Participants from the Importer, Re-user, Consumer, Trade Associations, Environmental Groups and Government clusters agreed that “discardable plastic”, such as “carrier bags”, “straws”, “plastic utensils”, “polystyrene containers”, “plastic water bottles” and “soft drink bottles” are the main culprits in the plastic pollution problem. One Environmental Group participant stated: “If we can get that out of the way, then essentially 90% of our problems will be solved”. • Plastic used for more permanent products “like chairs and crates” are not considered a problem, as these products are used for extended periods before being discarded. • Participants discussed the necessity for “extreme” solutions to the problem of “discardable plastic”, especially since we are believed to live in a “throwaway society”. A Re-user summarised the situation as follows: “The only way to do this, there shouldn't even be an option to take a plastic bag at the grocer. That is the only way you can force the people that they know when they go there, there is not going to be back-up bags or small bags available. They are going to have to start remembering their bags. Once again, that is an extreme way of implementing it. But if you only have one option, you have to use that option. That will force people to do that”. • Participants noted that banning discardable plastic was not a novel idea and that “many countries have banned the use of plastic bags”. Kenya, Ruanda and Uganda received specific mentions. As a result, “you see the countryside cleaned up immediately”. Some participants believe that these countries should be viewed as case studies in order to learn from their mistakes and emulate their successes. • Calls to ban plastic carrier bags in Namibia are also not new. As stated by one Government participant: “In Namibia, (we) proposed the ban on plastic bags three years ago”.
Longer-term Plan	<ul style="list-style-type: none"> • Some participants in the Importers, Consumer and Environmental Group clusters suggested a more moderate approach, even if there was a sense of agreement that “a replacement (to plastic) needs to be found”, “it is the right direction to go”, as “we can't go on like this forever”. • These participants advised, however, that “viable alternatives need to be found first” before large-scale action is taken towards banning all plastic products. This is especially true when considering the believed “unrivalled” benefits of plastic, namely, the safe and secure packaging of food and poisonous substances, multiple uses, convenience, low cost and availability. • It should also be noted that there is a market for used plastic, ranging from informal re-use of plastic in individual households, “especially in some poorer communities” to formal industries, such as manufacturing, recycling and refuse-derived fuel. The replacement of plastic will have an impact on all these. The question should thus be asked: what alternatives will be available to them if plastic is replaced? • A “deliberate and systematic way of phasing plastic out” was proposed, where an action plan is put in place “today” towards a set “goal” in the future. Participants believe that a phased approach will allow current industries to adapt to the intended change and prompt new industries to arise so as to “not have a major economic impact”. Finding viable alternatives is central to the successful phasing out of plastic. One Government participant shared, “So therefore, we should look at alternative ways to promote the gradual – and I think we should emphasise the 'gradual' – replacement of plastic as a packaging material. We still need to investigate viable alternatives. It will come at one point, but for now the management of plastic is the one that we need to focus on”.
Possible Replacement	<ul style="list-style-type: none"> • Participants mentioned material or paper bags as possible replacements for plastic carrier bags. <ul style="list-style-type: none"> - <i>Perceived benefits:</i> <ul style="list-style-type: none"> ▪ Besides the environmental benefits of replacing plastic carrier bags with material bags, other advantages include that they are considered “durable” and can thus be re-used for many purposes. Furthermore, they are seen as “pleasant to look at”; ▪ The advantages of paper are thought to be that “as it degrades, it doesn't leave toxins in its wake” and it “decays quickly”; and

	<ul style="list-style-type: none"> ▪ A Government participant shared that “invader bush” should be considered as a source from which to produce the paper bags, “because the good thing is that's a renewable opportunity we have. If you harvest, if you cut those trees in a format that will allow you to regrow every seven years, you are able to utilise that resource I think probably for the next 300 years or so”. - “Wax paper” was also proposed instead of “plastic sheeting”. • Boxes, glass and hemp were also proposed as alternatives for plastic carrier bags. • A consumer stated that “plastic is here to stay” and therefore suggested that instead of finding ways to replace plastic, “more research should go into the manufacturing side” to change the “composition” thereof, making it more “environmentally friendly”. <p>It should be noted that participants raised concerns regarding the proposed alternatives suggested above. These will be discussed under the next heading, namely Arguments Against the Replacement of Plastic.</p>
<p>Positive Economic Impact of Replacing Plastic</p>	<p>Alternative Industries Arising:</p> <ul style="list-style-type: none"> • Participants from the Importers, Trade Association and Environmental Group clusters believe that identifying a viable alternative to plastic will prompt the emergence of alternative industries. • At the same time, participants cautioned that the industries arising will at first be “small and it might not be economically viable”. They added that replacement products could also be “less readily available” and “too expensive”. For these reasons, a longer term, systematic approach to the replacement of plastic is supported, thus allowing time for these industries to grow and minimising the economic impact. • Over time and with additional support, for instance “preferred procurement”, it is believed that these alternative industries will “generate employment and local content” “as they grow”. <p>Current Industries Adapting:</p> <ul style="list-style-type: none"> • Participants in the Consumer and Environmental Group clusters noted that manufacturers should see the replacement of plastic as an “opportunity for change”. If they are “awake” and “flexible”, it is believed that manufacturers will be able to “adapt” by converting their current processes into a more environmentally friendly operation. Where manufacturers do not resist change and instead see the initiative as an opportunity, they will emerge with a competitive edge. <p>Not a Priority Concern:</p> <ul style="list-style-type: none"> • Some participants in the Consumer, Environmental Group and Government clusters argued that the economic impact of replacing plastic should not take priority over environmental and human health concerns. A Consumer said, ““Whether it's from a manufacturing point of view or from a retailer point of view, you need to make a very cold, calculated decision for the environment and then you need to enforce it. I get the feeling we always first look after the economy and what the impact of that is and then we decide for the environment and it should probably be the other way around. <i>Ja</i>, and people are adaptable, businesses are adaptable. If you need to find a solution, we will find one.” • Please note, however, that the above opinion was a contested one.

B. ARGUMENTS AGAINST THE REPLACEMENT OF PLASTIC



Theme	Findings
<p>Plastic is not the problem. The dysfunctional 5 Rs of responsible plastic management is the problem.</p>	<ul style="list-style-type: none"> Participants in Manufacturers, Importers, Re-users, Consumers, Trade Association and Government clusters agreed that “plastic is not the problem”, but that the “the management thereof” in terms of the 5 Rs is. As stated by one Environmental Group participant, “So, we’ve got no problem with plastic as plastic, and there are many uses for plastic which are good. It’s the disposable elements to it and the waste element to it. It’s how it gets into the environment and so on that we’ve got a problem with”. Where plastic is not disposed of responsibly, the use thereof reduced, or where plastic is not re-used until it is either recycled or recovered, the substance will be discarded in the environment, thus causing harm. It is believed that the benefits of plastic warrant its continued use, especially since there are no viable alternatives available at present. At the same time, plastic must be managed responsibly to mitigate environmental damage and consequent socio-economic harm. The responsible management of plastic is thought to be attainable. However, it will take time, effort and resources to do so, as it requires large-scale behavioural change. The environmental, social and economic costs involved in the replacement of plastic versus finding ways of managing plastic successfully must be weighed up carefully to ensure that an informed decision is made on the way forward.
<p>There are no viable alternatives to plastic to match all the current benefits thereof.</p>	<p>Overall Opinion:</p> <ul style="list-style-type: none"> Participants across all stakeholder clusters raised the concern of viable alternatives for plastic that have the same benefits thereof. Manufacturers shared the following comments: <ul style="list-style-type: none"> “I would imagine that if there was an economical and a more beneficial replacement option, covering all aspects of the business, then that would be in play by the guys that are already distributing the containers”; and

- "If there were a replacement that is viable to plastic, then you'll obviously move over to that, but there isn't one so what do you do? Example: if bamboo containers was the way forward to stay relevant in our industry, we would be in bamboo containers, no doubt. But there isn't. Worldwide I have attended big manufacturing conferences and shows. There doesn't seem to be that substitute".
- A Consumer clarified that although alternatives are available, "whether they are viable is a different ball game".

Three viability concerns were raised, namely economic, environmental and practical viability. Each of these concerns is discussed below.

Viability concern 1: No Economically Viable Alternatives:

- As noted under the discussion of the benefits of plastic, plastic is perceived to have a positive economic impact in that it is "cheap" and "available". A Manufacturer explained, "I think it comes down to economy, it comes down to availability. You can replace it, you'll have to use an alternative method, which is more expensive, so it will cost the consumer money at the end of the day. Or limit availability, so it's a negative".
- Government shares the above concern, stating, "Without understanding how inequality affects your country and affordability issues of the person downstream. So, if you replace something with something that is more expensive, you are negatively impacting the base of the pyramid in your society and that is also not good. Socially it can also lead to uncomfortable standards of living for some of us".

Viability concern 2: No Environmentally Viable Alternatives:

- As noted earlier in the report, the carbon footprint of plastic was a contested issue. More information is required on this topic to enable the comparison of with other possible alternatives so that an informed opinion can be formed.
- Some participants noted that replacing plastic with paper might not be the answer, explaining "the impact on the environment is perhaps even worse", since now "you are chopping down forests". The exact biodegradability of paper and its effect on the environment were also uncertain. Additional and accurate information is clearly required: "That (the environmental impact of paper) needs to be scientifically studied".
- The entire value chain of replacing plastic with paper needs to be taken into consideration. For example, since paper takes up more space than plastic, additional transportation will be required, which will have an economic and environmental impact.
- All paper products are also not considered equal.
 - An Environmental Group participant noted: "But obviously you are putting the question of how that paper was produced. Yes. Because there are also paper – the way it is produced, the way it is manufactured – maybe even more harmful (than plastic)".
 - Furthermore, it was noted that paper bags, like plastic bags, are also dyed, which means a negative environmental impact during decomposition.
 - A Manufacturer specifically highlighted Tetra: "If you look at Tetra at the moment, which is supposedly manufactured from wood, it is probably as bad in terms of having a foil lining, wax coating, no recyclability. There's a lot that can be done with plastics if it gets returned to be processed".

Viability concern 3: No Practical Alternatives:

- Participants mentioned the following in terms of practical alternatives to transport needs:
 - Paper is less durable than plastic, rendering it less practical, especially to those doing bulk shopping or covering long distances without motorised transport; and

	<ul style="list-style-type: none"> - Furthermore, “plastic plays a very important role in getting a product to the consumer”. When it comes to safe and secure packaging of products themselves and bulk transport in pallets, there are no viable alternatives. • The durability of glass was also questioned in relation to plastic, in that, “if you drop it, it breaks”. Glass is also more expensive to transport as it takes up more space than plastic bottles, which are collapsible. Furthermore, glass in general is more expensive than plastic, which raises the costs for the end consumer. • Replacing plastic with metal is also thought to be impractical, as metal rusts: “Because imagine the water-tanks, the plastic silos, how do you replace all that, the rusting and things like that?” • Due to the widespread use of plastic “in the entire production and logistic process”, it is argued that the practical replacement of plastic at all levels will be “almost impossible”. • The lack of availability of suitable alternatives also renders the replacement of plastic impractical. For example, using beeswax wrappers instead of cling-wrap is considered frustrating, in that the former is not readily available.
<p>Negative economic impact of replacing plastic</p>	<ul style="list-style-type: none"> • Since there is no perceivable viable alternative to plastic, participants believe there will be a “ripple effect on other markets and industries” if plastic is no longer used. Participants across all stakeholder clusters raised concerns about the negative economic impact that replacing plastic may have. • Concerns raised include: <ul style="list-style-type: none"> - <i>Increased production and manufacturing input costs:</i> Plastic is used as an input in multiple manufacturing and production processes. Both its low cost and availability are unrivalled. If any of the current alternatives available, such as glass or metal, replace plastic, input costs will inevitably increase. - <i>Decreased local and international competitiveness:</i> <ul style="list-style-type: none"> ▪ To replace plastic in Namibia successfully, it is crucial that the “whole industry” must be required to adhere to regulations. If not, the retailer, importer or manufacturer who “keeps plastic has the competitive advantage because of pricing”; ▪ If imports are not expected to adhere to similar plastic replacement regulations as the local market, it will render local manufacturers uncompetitive in terms of price; and ▪ If local regulations in terms of the replacement of plastic are not on-par with international standards, it will have an additional deteriorating effect on the price competitiveness of Namibian exports in the international market. - <i>Restrictions on import:</i> <ul style="list-style-type: none"> ▪ Participants shared that “98% of the products that we consume in this country are imported”. If regulations on plastic are to be introduced, it will have a major impact on the type of products that can legally be brought into the country; and ▪ It remains uncertain whether regional and international manufacturers, retailers and exporters will be willing to amend their processes to comply with Namibian regulations. A Manufacturer clarified: “How're we going to dictate them and say we please need our yoghurt in a glass tub. Now for a yoghurt that you pay N\$13 for you now have to pay N\$30 for to compensate because it comes in a nice glass jar. It's not practical. It's absolutely not practical to get rid of plastics”. - <i>Restrictions on the re-export market:</i> <ul style="list-style-type: none"> ▪ A Government participant noted that “Namibia offers re-export transit in SADC. There could be plastic that comes through and then it is re-exported in the rest of SADC. That's also a business opportunity that you are losing”.

	<ul style="list-style-type: none"> - <i>Loss of initial investments:</i> <ul style="list-style-type: none"> ▪ Significant capital was invested in establishing the current plastic industry in Namibia, ranging from manufacturing and recycling to refuse-derived fuel. As a result, one of the participants stated, “You will have impact on dividends that are currently paid to the owners of those businesses”. - <i>Significant capital outlay required to adjust production processes:</i> <ul style="list-style-type: none"> ▪ For current businesses to adapt to the replacement of plastic will require significant capital investment. “Current processes”, “equipment” and “machinery” will have to be “replaced”, not only in “production” but in “product handling” and “warehousing”. Staff will also have to be retrained in order to master a new skill set.
Result	<p>Industry Closure:</p> <ul style="list-style-type: none"> • Participants believe that local industries will be forced to close down, given the increased production and manufacturing input costs, decreased local and international competitiveness, restrictions on the import and export market, loss of initial capital investments and significant capital outlay required to adjust production processes. • Furthermore, there is an existing market for used plastic, ranging from individual households re-using plastic informally, “especially in some poorer communities”, to formal industries, such as manufacturing, recycling and refuse-derived fuel. The replacement of plastic will have an impact on all these. <p>Job Losses:</p> <ul style="list-style-type: none"> • Industry closure will inevitably lead to wide-scale job losses. • One Trade Association participant shared, “Thumb sucking, I would say it's about between 800 and 1,200 jobs [that] will be lost. That is not taking into account the peripherals of the families and whatever or the people that these, say 1,000 people, are looking after. So, it will have a huge effect at the end of the day. And we have got a current problem of unemployment in Namibia. Do we want, at the end of the day, to close down sub-sectors in the manufacturing industry, which we all know is one of the key pillars of NDP4 (Fourth National Development Plan) and NDP5 (Fifth National Development Plan) even in the Harambee Project of His Excellency the President? Do we want to create more unemployment? Emphatically, my answer is 'no'”. <p>Inflation:</p> <ul style="list-style-type: none"> • Since production and manufacturing input costs are set to rise, the cost of end products to the consumer will inevitably also increase. The country will therefore be subjected to an inflationary effect. As stated by a Manufacturer: “If the replacement container pushed up product prices on shelf by 50%, there would be a very different kind of outcry”. <p>Reduced Government Revenue:</p> <ul style="list-style-type: none"> • Industries closing down, decreased dividend income and job losses will result in less revenue flowing to the government in the form of taxes. Less finances will therefore be available to support government development plans and initiatives. <p>Economic Depression:</p> <ul style="list-style-type: none"> • The above scenarios will in turn result in an economic downturn, at the same time as the country is already caught in the throes of an economic depression. As stated by one Importer: “Now is not the time, not where our economy is sitting at the moment”.

Conclusion

- Participants across and within the stakeholder clusters presented conflicting opinions. It can be concluded that the replacement of plastic and the manner in which such a process should be approached are highly contested issues. It is important to take note of the themes arising under each topic as well as the arguments for and against the replacement of plastic in order to gain a thorough understanding. More empirical evidence should also be obtained from a wide range of information sources to make an informed decision on the way forward.
- It is interesting to note that the key/central issue around the successful replacement of plastic is the availability of viable alternatives. The economic viability, environmental viability and practical viability of such alternatives must be established. Where there is no viable alternative to plastic, there is no benefit to be gained from its replacement. In fact, participants believe that the eventual outcome will be economic depression.
- In the absence of a viable alternative to plastic, participants offered the following suggestions:
 1. A longer-term approach to the replacement of plastic should be considered. Such an approach should entail seeking viable alternatives first and gathering empirical evidence to verify all arguments made for and against plastic and its proposed alternatives;
 2. While an economically, environmentally and practically viable alternative to plastic is sought, intense effort should be made to ensure a fully functional plastic management system in Namibia in terms of the 5Rs: Responsible disposal, Reduce, Re-use, Recycle and Recovery. It is understood that significant time, effort and resources will go into this endeavour, as large-scale behavioural change is required for its successful implementation. Supporting infrastructure must also be put in place; and
 3. Quick wins in the form of banning certain discardable plastic products, such as straws and plastic utensils can be considered. However, a thorough environmental and economic impact assessment must be conducted before selecting the plastic products to be banned in order to mitigate any risks. It should be kept in mind that there is a market even for discardable plastic, if only it enters the recycling and recovery value chain instead of being irresponsibly disposed of.

2.4. PLASTIC FACT AND MYTHS

Participants were asked to evaluate eleven statements as truth or myth. They were also encouraged to answer with “I don’t know”, if they felt the statement came with insufficient information to make an informed judgement.

This question is crucial to the research for the following reasons:

- Decisions and consequent actions are guided by opinions. Opinions, in turn, are shaped by information, whether obtained from formal sources, such as journals, or informal sources, such as friends and family. It is therefore imperative that the information that shapes opinions and ultimately drives decisions and action is accurate;
- When perusing the table below, it is important to determine whether the dominant opinions that participants shared do indeed correspond with facts:
 - If not, communication campaigns should be launched to both shape opinions and dispel false perceptions. Additional effort will be required, as the campaigns will go beyond information provision to focus on confronting and reshaping current beliefs. Moreover, engaging with the audience at a level where they are open to receiving alternative information is an additional challenge; and
 - If so, more widespread awareness must be created.
- In the table below, the difference between the top two frequency responses was considered. For example, if 50% of respondents answered “Truth” and 45% answered “myth”, the difference is 5%. The smaller the difference, the greater the uncertainty on the topic and vice versa. The aim is for the difference to be larger than 50%. For example, if 70% of respondents answered “Truth” and only 20% answered “Myth”, the difference is 50%, reflecting a greater level of certainty on a topic.

Statements	Participant Perception				Difference Between Top Two Frequency Responses	Conclusion
	Fact	Myth	Don't Know	Other		
It's not a plastics problem, it's a people problem. Plastic is recyclable, but people do not recycle.	87%	4%	0%	9%	78%	<ul style="list-style-type: none"> Participants indicated a high level of agreement with these two questions in that the difference between the top two frequency responses is well above 50%. These statements are therefore regarded as facts and will guide decision-making accordingly.
Plastic bags can also be used to produce energy.	79%	4%	17%	0%	62%	
Plastic bags are energy-efficient to recycle.	61%	17%	22%	0%	39%	<ul style="list-style-type: none"> Despite the majority of participants agreeing with these statements, a greater level of uncertainty is evident in that the difference between the top two frequency responses is less than 50%. More information is required. Each statement should be considered for accuracy and communication drives guided accordingly. <ul style="list-style-type: none"> Are plastic bags really energy-efficient to recycle? Does paper really decompose more effectively on a landfill? Do today's plastic bags really use significantly less plastic than 20 years ago to manufacture? Are Namibian manufactured plastic carrier bags really 100% recyclable? Is plastic packaging really carcinogenic?
Paper decomposes effectively on a landfill.	54%	17%	8%	21%	38%	
Today's plastic bags use significantly less plastic than 20 years ago to manufacture.	64%	8%	28%	0%	36%	
Namibian manufactured plastic carrier bags are 100% recyclable.	60%	16%	24%	0%	36%	
Plastic packaging is carcinogenic and thus has the potential to cause cancer.	55%	14%	32%	0%	23%	
Plastic bags are the primary components of landfills and garbage.	54%	42%	4%	0%	13%	
Paper grocery bags are a better environmental choice than plastic bags.	40%	32%	20%	8%	8%	<ul style="list-style-type: none"> The greatest level of uncertainty was observed on these questions. More information is thus required. <ul style="list-style-type: none"> Are plastic bags really the primary components of landfills and garbage? Are paper grocery bags really a better environmental choice than plastic bags? Are plastic bags energy-efficient to produce? Does paper use much less non-renewable resources to manufacture than plastic?
Plastic bags are energy-efficient to produce.	36%	16%	44%	4%	8%	
Paper uses much less non-renewable resources to manufacture than plastic.	24%	24%	32%	20%	8%	

Fact or Myth Statements	Other Comments
It's not a plastics problem, it's a people problem. Plastic is recyclable, but people do not recycle.	<ul style="list-style-type: none"> 9% of participants indicated that the truth of this statement is dependent on whether plastic is in fact recyclable: "Give them a fully recyclable bag then we can make it a people problem."
Paper decomposes effectively on a landfill.	<ul style="list-style-type: none"> 21% of participants pointed out that the efficiency with which paper decomposes on a landfill is dependent on certain factors, for example, whether is it "exposed to air". A comment was also made that some types of paper decompose more effectively than others.
Paper grocery bags are a better environmental choice than plastic bags.	<ul style="list-style-type: none"> 8% of participants noted that paper grocery bags also have "both pros and cons" to the environment that need to be considered. Again, different types of paper are thought to have different environmental impact.
Plastic bags are energy-efficient to produce.	<ul style="list-style-type: none"> 4% of participants felt this statement only to be true in relative terms: "They're more energy-efficient than paper bags."
Paper uses much less non-renewable resources to manufacture than plastic.	<ul style="list-style-type: none"> 20% of participants noted that the truth of this statement is dependent on where the paper is sourced, for example, "plantations" aimed at paper production or invader bush vs indigenous trees.

3. PLASTIC MANAGEMENT IN NAMIBIA

3.1. RESPONSIBLE DISPOSAL

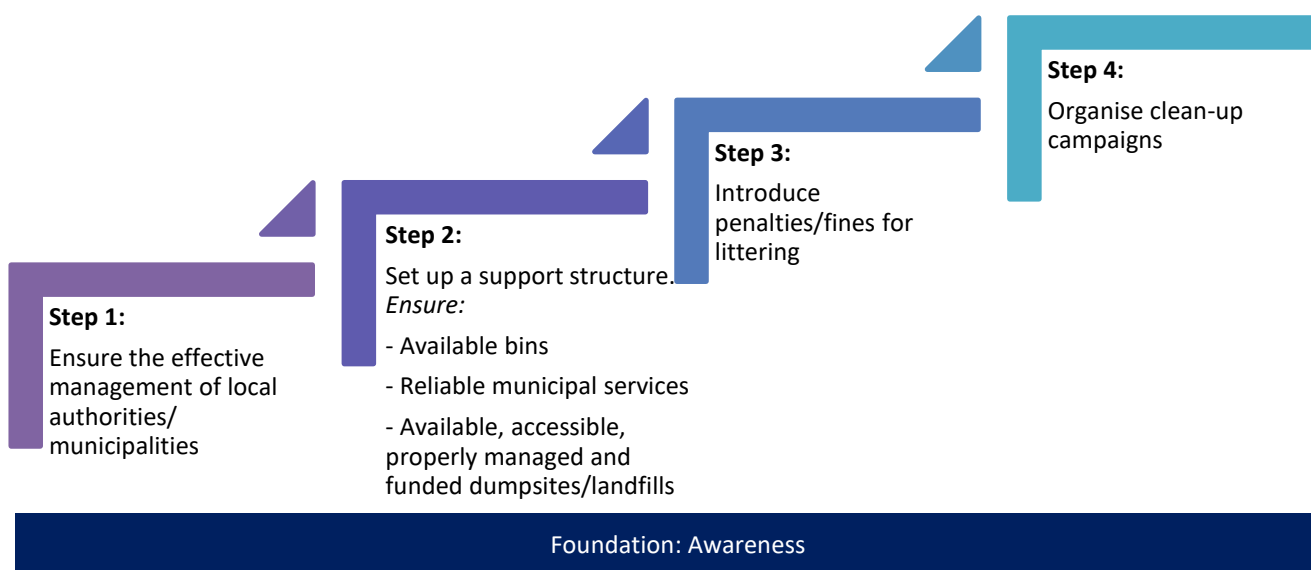
A. CURRENT STATUS

- A score out of ten for the believed effectiveness with which plastic is responsibly disposed of in Namibia cannot be provided, as the theme Responsible disposal emerged from the data. As such, an effectiveness score was not directly probed during the interviews.
- However, it is safe to deduce from the discussions under the headings Overall Perception of Plastic and National Plastic Management Goals that littering is a great concern in Namibia, which warrants the placement of this responsible waste management R in the red zone.
- Conclusion: Current activities are insufficient and ineffective to ensure optimal responsible disposal of plastic.

B. CURRENT ACTIVITIES

Theme	Findings
Role of Local Authorities/ Municipalities	<ul style="list-style-type: none"> • Participants mentioned the provision of municipal services and the management of landfills as current activities undertaken in the drive towards responsible disposal. Municipalities were described as: “The nominated source to take rubbish from homes and put it in the landfill”. • At the same time, municipalities were described as the “single biggest enforcer not coming to the party”.
Clean-up Drives	<ul style="list-style-type: none"> • Manufacturers, Re-users and Consumer groups remarked positively on Namibia’s clean-up drive initiatives, especially the recent “national clean-up day” that the resident spearheaded. • Littering occurs because of the inefficiencies experienced in the functioning of local authorities and the “throw away” culture believed to be prevalent in Namibia. Clean-up drives are thus seen as after-the-fact initiatives aimed at responsible disposal. • Generally, it appears that clean-up drives “create awareness” and have an immediate positive impact on the area targeted. However, some participants suggested that these initiatives are too “sporadic” and need to take place more often, as “it is not something that is going to keep the country clean. For that, it needs to be something that is ongoing”.

C. BEST PRACTICE



Theme	Findings
Awareness Campaigns	<p>Foundation:</p> <ul style="list-style-type: none"> • Participants hold that creating awareness serves as the foundation for the successful implementation of all 5 Rs namely, Responsible disposal, Reduce, Re-use, Recycle and Recover. • Best practice concerning awareness campaigns is discussed under the heading Stakeholder Engagement.
Role of Local Authorities/Municipalities	<p>Six out of the seven stakeholder clusters interviewed highlighted the important role that municipalities plays when it comes to ensuring responsible disposal. The six stakeholder clusters are Manufacturers, Importers, Re-users, Consumers, Trade Associations and Environmental Groups.</p> <p><u>Step 1: Ensure the Effective Management of Local Authorities/Municipalities:</u></p> <ul style="list-style-type: none"> • In the absence of effective management, strategic planning and execution will also prove unsuccessful. • Participants believe that municipalities are “badly run”, full of “corruption”, lacking in “awareness to tackle the (waste management) problem efficiently” and in need of “resources” to operate effectively. • Until this core issue is resolved, the municipalities cannot fulfil their roles effectively. <p><u>Step 2: Set Up a Support Structure</u></p> <p>Available Bins:</p> <ul style="list-style-type: none"> • <i>Availability</i> <ul style="list-style-type: none"> - A Trade Association participant stated: “I find in Namibia, people want to do the right thing, but we also need to enable people to do the right thing”. If there are no bins available, people will be forced to litter, as there is “no alternative”. - Most stakeholder clusters were in agreement that more bins must be made available to the public: “Make sure there are systems in place and there are dustbins at all the places and towns, townships and everywhere”, especially in “traffic places, like the corner of the Grove where all the taxis stand”. • <i>Link with reliable municipal services</i> <ul style="list-style-type: none"> - Furthermore, the management of these bins should be a priority and care should be taken to empty them on a regular basis. <p>Reliable Municipal Services:</p> <ul style="list-style-type: none"> • Waste should be collected regularly and timeously in all neighbourhoods, villages, towns and cities. • <i>City vs smaller communities:</i> <ul style="list-style-type: none"> - Positive comments were reserved for the City of Windhoek only. An Importer pointed out: “I am pleasantly surprised how reliable our garbage system is. Come rain or shine, public holidays, 1st of January they don’t care, they are there. Half an hour early, half an hour late, they are there. That is a big compliment to City of Windhoek”. - Concerns were raised regarding the “smaller communities”, where the local municipalities need to do much more in terms of providing reliable “municipal services”. As a result, despite the best intentions of individuals within the community, garbage will be disposed of irresponsibly: “Even if someone wants to dispose responsibly, maybe their municipal service isn’t there, the collection isn’t there”. <p>Dumpsites/Landfills:</p> <ul style="list-style-type: none"> • <i>Availability:</i> <ul style="list-style-type: none"> - Participants recommended that more dedicated formal dumping sites be instituted throughout the country to ensure that the public has the means to commit to proper waste management, especially within the smaller towns and villages: “There are certain towns in Namibia that I know do not have a dedicated waste area”.

	<ul style="list-style-type: none"> - In the cities such as Windhoek, stakeholders suggested that dumpsites be central and accessible to the public: “And obviously if you have a central point where everything goes, it is easier to manage it, logistical and cost effective”. • <i>Accessibility:</i> <ul style="list-style-type: none"> - Even where there are landfills available, these are not always accessible to the general public, especially to those without suitable transport. - It is recommended that skips be placed on selected street corners, where it is “easy to take a wheelbarrow down the street and dump it in a big skip”. The contents of these skips should then be collected and taken to the dumpsite. • <i>Proper Management:</i> <ul style="list-style-type: none"> - The proper management of dumpsites were also emphasised. This related to the current poor state of some dumpsites, which are not properly fenced in: “They go and throw everything away there, but as soon as the wind comes up, it picks up everything there”. • <i>National Solid Waste Management Plan:</i> <ul style="list-style-type: none"> - According to a Re-user, the concern of accessible and properly managed dumpsites has already been flagged in the “National Solid Waste Plan by the Ministry of Environment”, where it is currently part of a ten-year plan “to make sure that each town and village gets a dedicated refuse dumpsite according to set standards”. - Instead of embarking on a new, separate initiative, it is recommended that this ten-year strategic government plan be studied and ways of contributing to its success identified. • <i>Proper Funding:</i> <ul style="list-style-type: none"> - A barrier to smaller communities affording an accessible and well-run dumpsite/landfill is that: “There isn’t enough people paying rates and taxes to fund a proper waste management strategy”. It is proposed that if a levy were to be introduced on plastic carrier bags, the funds should be “invested in providing dumpsites to little towns and villages”. - It remains uncertain whether this suggestion forms part of the National Solid Waste Management Plan. <p><u>Step 3: Introduce Penalties/Fines:</u></p> <ul style="list-style-type: none"> • As soon as the above support structure is in place, Manufacturers and Consumer groups proposed that penalties and/or fines be implemented as a means of ensuring responsible disposal. One Manufacturer indicated: “It sort of needs to be made a crime to litter. It should not be tolerated”. • Some participants pointed out that penalties and fines will only be implemented successfully if an authority, such as local municipalities, enforces it. One Manufacturer shared: “They are an absolute key element to making it work”. • It was also suggested that everyone should be well informed of the penalties for littering to encourage compliance.
<p>Clean-up Drives</p>	<p><u>Step 4: Sweep-up</u></p> <ul style="list-style-type: none"> • Clean-up drives should not be seen as the primary solution to responsible disposal. Rather, it should be viewed as a final sweep-up in instances where the value chain has failed. The value chain should be set up in such a manner that resultant responsible disposal ultimately renders clean-up drives obsolete. • However, for the time being, a more “systematic approach” is recommended, where clean-up drives are implemented more regularly. • Awareness campaigns should also be launched on a wider scale to attract more assistance and to encourage a consistent process. • The success of the national clean-up day was also largely attributed to the visible support of our country’s business and government leaders. An Importer said: “I think the president can organise more cleaning up exercises like the last one”.

3.2. REDUCE

A. CURRENT STATUS

Participants were asked to rate the effectiveness with which plastic usage is reduced in Namibia on a scale from one to ten. The findings are reflected below:

How effectively is plastic usage being reduced in Namibia?	
Average score out of 10	2
I don't know	38%

- 38% of the participants commented that they do not have enough information to rate the effectiveness with which plastic usage is being reduced in the country. This clearly indicates an information need.
- The current status of plastic usage reduction in Namibia achieved a low red-zone mean score of 2 out of 10. Participants rating this question clearly do not believe that enough is being done in Namibia to reduce the usage of plastic. Considering the high level of unawareness observed on the topic, the question is raised whether this score is based on sufficient information. Regardless, however, of whether this negative opinion is based on fact or mere perception, the latter remains a reality and should be addressed.

B. CURRENT ACTIVITIES

Theme	Findings
Reduced Plastic Usage in the Plastic Manufacturing Process	<p>Optimisation of the Plastic Manufacturing Process:</p> <ul style="list-style-type: none"> • How is plastic usage reduced in the plastic manufacturing process? A Plastic Manufacturer referred to it as “light weighting”, a process whereby the same product is made using less plastic. What is currently being done in this regard? <ul style="list-style-type: none"> - One Trade Association participant noted that after multiple talks and visits to Polyoak Packaging and Plastic Packaging, he was “totally impressed” by the manner in which plastic usage is being reduced within the Namibian plastic manufacturing process. - An Importer also praised Plastic Packaging for providing plastic grocery bags that use less plastic: “The micron in that bag in comparison to the South African grocery shopping bag, there is a major difference. They (South Africa) definitely use more plastic, it is a much thicker bag”. • It was however noted that “people don’t know what’s being done”. This statement is confirmed by the low awareness levels detected amongst participants.
Reduced Plastic Usage in the Market	<p>Optimisation of Plastic Usage:</p> <ul style="list-style-type: none"> • Within industries, down packaging can typically be employed as a means of reducing plastic usage. What is being done in this regard? <ul style="list-style-type: none"> - Importers and Consumers were unaware of the concept of down packaging when initially probed during the interview. Once explained, they did list some down packaging initiatives. The “effective use” of plastic within their own operations has a notable cost benefit and therefore drives behaviour. For instance: <ul style="list-style-type: none"> ▪ Importers agreed that “Plastic is not for free, so you must be cost effective. You won’t use 2 metres of plastic wrap if you can get away with 1 metre”. ▪ “From a retailer’s point of view, we’re obviously trying to use as little as possible because it is a dead expense for us. We try to educate our packers and staff to pack in such a way that it is as economic as possible”. ▪ Within the tourism industry, Gondwana was noted for supplying “stainless steel bottles for their guests and then water dispensers at all the lodges instead of providing plastic bottles”.

	<ul style="list-style-type: none"> - Due to the concept being relatively unfamiliar, it is however believed that additional down packaging methods can be employed that are not currently known. - Plastic Packaging has started with a down packaging awareness creation initiative. Part of their “strategic plan” is to “give customers good advice” on how they can reduce their plastic usage. They plan on employing a Product Engineer tasked with “focussing on product optimisation right through the value chain of plastic packaging”. For example, by providing advice to fishing companies on their production process and identifying ways of reducing plastic usage. - More wide-scale awareness creation is however deemed a necessity. Effective stakeholder engagement is crucial to the success of plastic usage reduction endeavours. Please refer to Stakeholder Engagement under heading 4. <p>Alternatives to Plastic Usage:</p> <ul style="list-style-type: none"> • Some consumers noted that there has been a reduction in plastic carrier bag usage due to the introduction of material bags, such as the “Woolies bag and the Pick n Pay material bag”. • The impact is however believed to be “small” due to the fact that plastic bags are still provided for free at check-out points. “It is just about one out of 50 or two out of 100 that will do that (use a material bag)”. It is also thought to be your “higher LSM levels” that will make use of a material bag. On a large scale however, remembering to bring a material bag is not part of the routine for the masses. <p>Banning of Plastic Usage:</p> <ul style="list-style-type: none"> • A Government participant noted that the Ministry of Environment and Tourism recently “banned plastic bags in the conservancies, in the parks”. The result being that “95% of Namibia is plastic free”. This was regarded as a positive initiative and one that should be continued.
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C. BEST PRACTICE

Themes	Findings
Awareness Campaigns	<p>Foundation:</p> <ul style="list-style-type: none"> • Participants highlighted that awareness creation would serve as the foundation for the successful implementation of all 5Rs namely, Responsible disposal; Reduce; Re-use; Recycle; and Recover. • Best practice regarding awareness campaigns is discussed under the heading ‘Stakeholder Engagement’.
Plastic Carrier Bag Levy	<p>Possible Outcomes of the Levy:</p> <p>The question of whether a plastic carrier bag levy should be introduced as best practice to reduce plastic usage in Namibia remains unresolved, as is clearly illustrated in the discussion to follow. A number of concerns that need to be taken into consideration in the decision-making process were highlighted.</p> <p><u>Foreseen Positive Outcomes:</u></p> <ul style="list-style-type: none"> • <i>Accumulated Funds Will Be Used to Promote Environmental Goals</i> <ul style="list-style-type: none"> - All stakeholder clusters agreed that they will support the introduction of a levy on plastic carrier bags, provided the funds collected will be used to endorse “environmental goals”. - What “environmental goals” were referred to? <ul style="list-style-type: none"> ▪ As a first priority, “education” and “awareness creation” of the 5Rs of responsible plastic management in an effort to “change the mindset and behaviour of people”. ▪ Setting up infrastructure that will support the successful implementation of the 5Rs. For example, by providing more waste and recycling bins, setting up new and/or expanding current recycling stations, erecting deposit machines for

returnable plastic products, and formalising the dumpsites “of little towns and villages”.

- “Research and development” aimed at identifying viable plastic alternatives.
- “Environmental projects” such as “clean-up campaigns”.

- *The Levy Will Encourage Positive Behavioural Change*

- Stakeholder clusters debated amongst themselves and one another whether the levy will, in fact, result in long-term positive behavioural change.
- On the positive side, it was argued that the levy will place a “value” on plastic carrier bags, as such:
 - *Reduce*: Consumers will be encouraged to reduce their plastic usage: “Consumers will think twice before packing two things into two different bags”, or “bring their own re-usable bag”.
 - *Re-use*: Consumers will re-use the bag instead of “just disposing of it”.
 - *Recycle*: An incentive for returning plastic carrier bags can be implemented – encouraging recycling.
- The levy is also expected to draw attention to the issue of responsible plastic management, opening the door for awareness creation and public discussion.

Foreseen negative outcomes:

- *Accumulated Funds Will Form Part of the Government Revenue Stream*

- All stakeholder clusters, except for Government, communicated a concern that funds collected from a levy will “be redirected to the Ministry of Finance”, where it will be used to “prop up other problem areas” instead of promoting environmental goals.
- The Government cluster confirmed this concern, stating that the levy will be redirected to Treasury: “There is no way you will get the whole funding to the EIF, that argument you will never win”. It was explained that only a percentage, e.g. “25%”, of the full levy collected will be “earmarked” to go to the EIF for promoting environmental goals. This is common practice and if an exception is to be made, other industries will object: “If you don’t do it this way, the Ministry of Industrialisation will stand up and tell you that: ‘OK, all the royalties that come from our diamonds and our uranium, please give them back to us. Don’t give them to Treasury. Give them to the Energy Fund, who will know what to do with it”.

- *Positive Behavioural Change Will Not Be Encouraged*

- Stakeholder clusters debated amongst themselves and one another whether the proposed levy will, in fact, result in long-term positive behavioural change.
- Two perceived failed cases were cited:
 - Firstly, the levy on plastic bags is believed to have failed in permanently changing the behaviour of South African consumers: “At first you would make sure you remember your own bag, but that only held up for a couple of months”. The reason provided being, “It’s all relative, if you’re buying groceries for a R1000 and you have to pay 10c for a plastic bag, well, why wouldn’t you? What else can you buy for 10c? You pay for the convenience”.
 - Secondly, Coca-Cola has a “N\$1 return deposit fee on our bottles”. Despite this incentive “people still don’t return the bottles”.
 - The question is, at what price will a change in behaviour take effect?
- The levy was described as being a “lazy solution”. What is needed is “a change in culture”, which requires intensive awareness creation and education initiatives. Effective stakeholder engagement is therefore needed. Please refer to Stakeholder Engagement under heading 4.

- *Increased Financial Pressure on the Poor*

- Since permanent behavioural change is doubted, the only envisaged outcome of issuing a levy is “more burden on poor people”. As stated by one Government participant: “It’s

	<p>not easy just to impose a levy on something without understanding how inequality affects your country and affordability issues of the person downstream. So, if you replace something with something that is more expensive you are negatively impacting the base of the pyramid in your society and that is also not good. Socially it can also lead to uncomfortable standards of living for some of us”.</p> <ul style="list-style-type: none"> ● <i>Mismanagement of Funds</i> <ul style="list-style-type: none"> - A concern was raised proposing that a levy collected by Government will result in similar mismanagement to what was observed in SA. Public financial reporting was requested to ensure “transparency” in terms of the allocation of funds. <p>Who Should Be Levied?</p> <ul style="list-style-type: none"> ● It was suggested that the levy should be “managed at source”. In other words, plastic manufacturers and plastic importers will pay the government-imposed levy over to the relevant body as per units sold or imported. At the end of the day, however, the end consumer will pay the levied amount: “The retailer will just channel that cost factor on to the consumer”. ● Although the above is considered the most practical way of implementing the levy, one Environmental Group participant believes that by merely “passing the cost on to the consumer defeats the purpose of the behavioural change sought”. The opinion is held that the “entire value chain” should carry the cost. <p>Who Should Collect and Manage the Levy?</p> <p>Opinions relating to the best-suited candidate for collecting the plastic carrier bag levy are divided. Some suggestions are shared below:</p> <ul style="list-style-type: none"> ● <i>Preferred Recommendation:</i> <ul style="list-style-type: none"> - A general Government body was proposed, since the levy should be imposed by “a higher authority” to ensure compliance. - Within the Government specifically, the Ministry of Environment and Tourism was proposed for collection of the levy through the Environmental Investment Fund (EIF). - The EIF is viewed as the most effective candidate, in the sense that “there is enough environmentalist and private sector input”. - Additionally, the EIF is already in place and has received the “mandate to manage, drive and promote investments in the environmental sector”. ● <i>Other Recommendations:</i> <ul style="list-style-type: none"> - A private company, NGO or Plastic Association should be set up to collect and manage the levy. These bodies are expected to have a greater “capacity to manage that (the levy)” and will be more “diligent” and “transparent” in their reporting. <p>How Much Should the Levy Be?</p> <ul style="list-style-type: none"> ● Opinions were divided with suggested amounts ranging from 10 cents to N\$1 per bag. ● It was however agreed that more research is needed to find the balance point between “affordability” and imposing a levy that will encourage permanent behaviour change. A suggestion was proposed that observations from other countries that implemented a levy on plastic carrier bags should be considered.
<p>Thinner Plastic Bags as Best Practice</p>	<ul style="list-style-type: none"> ● As stated by one Plastic Manufacturer, technology has resulted in thinner plastic bags being able to carry more weight than in the past – reducing the number of microns required in the manufacturing of a plastic carrier bag. ● Producing thinner plastic carrier bags is also regarded as best practice in the sense that: “The thinner the bag, the friendlier the carbon footprint and the easier it will break down into little particles in UV Radiation”. ● Thinner plastic bags are also said to be “more recyclable”.

<p>Optimise the Plastic Manufacturing Process</p>	<p>Introduce New Technology to Reduce Plastic Usage in Production</p> <ul style="list-style-type: none"> It is considered best practice to stay abreast of new technology that will decrease the usage of plastic in the manufacturing of products, while retaining its strength and durability: “We need to invest in some technology, which is also under way”. <p>Introduce Environmental Management and Product Standards</p> <ul style="list-style-type: none"> The following best practice was mentioned by one of the Plastic Manufacturers interviewed: “We should be driven by top quality standards in Namibia and having ISO standards would be a solution, and product standards as well. Companies need to be top notch”. It was however noted that although seen as best practice, “standards are voluntary” and as such “it would be against the SACU Agreement and a lot of International Trade Barriers” to enforce compliance amongst local plastic manufacturers and companies importing plastic into Namibia. Standards such as the ISO 14001, an environmental management system aimed at controlling the aspects of a business that significantly impact the environment, cannot be enforced; they carry “voluntary conformance”. It is only when a legislative proposal is brought to parliament in the form of a Bill, that it can be turned into an Act if passed by Parliament. A standard can only be considered compulsory, and become subject to regulation by authorities, once it is confirmed as law. Until such time, the Namibia Standards Institute can only “encourage companies to make use of best practices as highlighted in the standards”. Furthermore, the public should be made aware of ISO standards and be encouraged to look for the mark of ISO compliance on products in order to guide responsible buying decisions. <p>Introduce More Knowledge and Skills</p> <ul style="list-style-type: none"> For new and improved plastic manufacturing practices to be employed, it is essential to have appropriately skilled employees. Currently, the belief is held that the industry lacks specialists in the field of plastic. At best, specialists are being brought in from South Africa or other countries. Locally, it is however an “area that is wholly and entirely being neglected”. It is therefore proposed as best practice to increase the focus on plastic manufacturing as a chosen field of study and ensuing career path, in an effort to bring more knowledge and skill into the industry; ensuring development as an additional goal.
<p>Increase Down Packaging Efforts</p>	<ul style="list-style-type: none"> Down packaging is reducing “unnecessary multi-layer packaging” on the same product. An example provided by one Plastic Manufacturer explains as follows: “There is no reason why you should buy a pre-pack coming all the way from South Africa packed in a box, packed in another bigger box to contain these boxes, packed in a shrink to contain that, packed onto a pallet and then wrapped in some more plastic”. Employing down packaging methods is considered best practice by all stakeholder clusters. However, it is cautioned that down packaging should be done “within limits” as there are important factors to consider. Stakeholders appreciate the fact that “there’s a lot of reasoning behind certain forms and layers of packaging”, whether it is product protection, consumer health and safety and/or more effective product storage, transportation or display. Before removing packaging layers, a cost-benefit analysis needs to be done and viable alternatives identified where needed. An Environmental Group participant urged: “One needs to be pragmatic, one can’t be purist and unrealistic about this”.
<p>Introduce Alternatives to Plastic</p>	<ul style="list-style-type: none"> Plastic usage will decrease if viable alternatives are introduced. As illustrated in the report, more research and development is required in this regard. Current viable alternatives, such as material shopping bags, require more awareness creation and education initiatives for it to become more widely used and play a significant role in plastic reduction in Namibia.

3.3. RE-USE

A. CURRENT STATUS

Participants were asked to rate the effectiveness with which plastic is re-used in Namibia on a scale from one to ten. The following was found:

How effectively is plastic being re-used in Namibia?	
Average score out of 10	4.1
I don't know	25%

- A low mean score of 4.1 out of 10 was obtained for the current status of re-using plastic in Namibia.
- The general lack of awareness of what is done in Namibia to re-use plastic has a major impact on this low mean score. This is evident in that 25% of the participants commented that they do not have enough information to rate the effectiveness with which plastic is re-used in the country. More information is evidently required.

B. CURRENT ACTIVITIES

Themes	Findings
Nothing/little	<ul style="list-style-type: none"> • According to some Plastic Manufacturers, Consumers and Government cluster groups, not much is currently being done in Namibia to re-use plastic. • These clusters believe that customers use most plastics only once before discarding it. This supports the “throw-away” culture that is perceived to be prevalent in Namibia. • Re-using plastic was also viewed as a short-term solution to the plastic problem. Participants explained that plastic either accumulates in people’s houses or are used a few times, but eventually it is thrown away and ends up back in the environment. One participant shared: “Like I said, everybody uses their plastic bags and plastic bottles over and over again, but then as I said at the end of the day, in my opinion, it’s just a delay. You can only use it so much anyway. Plastic is plastic. You re-use it for a while, but eventually you will throw it away and it will become an environmental issue.”
Individual Re-uses	<ul style="list-style-type: none"> • Some Plastic Manufacturers, Importers, Consumers, Trade Associations and Environmental groups noted that it is households that primarily re-use plastic. These participants shared the following: <ul style="list-style-type: none"> - Re-using plastic carrier bags proves popular, with bags also doubling as bin liners and trash bags or used to store shoes or food. As plastic is water resistance, people in the north even use plastic carrier bags to cover schoolbooks; - Participants also mentioned re-using plastic bottles a number of times, especially water bottles that can be refilled. Some, however, pointed out the limited number of times a plastic bottle can be re-used. One Consumer stated: “You can use it once or twice, then you need to get rid of it because there is some of the chemicals that go into the water”; and - Some participants also commented on the re-use of plastic containers, such as yoghurt or margarine containers used to store food. • It is a general belief that the re-use of plastics is a more common practice within the poorer communities and amongst the older generation. This perception is, however, thought to be a barrier to encouraging the more wide-spread re-use of plastic.
Secondary Life-cycle Market	<ul style="list-style-type: none"> • Unaware: <ul style="list-style-type: none"> - Participants in the Importer and Consumer clusters stated that they are unaware of any larger scale re-use of plastic.

	<ul style="list-style-type: none"> ● Craft Industry: <ul style="list-style-type: none"> - Some participants mentioned plastic being re-used to make crafts, such as plastic woven carpets, bags, purses, table runners or baskets. Mammadu Trust was cited specifically as an organisation that engages in this type of re-use. - Importers, Re-users, Consumers, Trade Associations and Environmental groups that are aware of the re-use of plastic as a craft industry shared mixed feelings on the subject. <ul style="list-style-type: none"> ▪ Positive associations with this industry included the fact that the plastic is taken out of the environment, the endeavour creates employment and that the plastic is transformed into quality products that will last longer than in its original form. One participant stated: "Informal settlements where woman braid the plastic bags and sell them to tourists, that is good, definitely, because we take it out of the environment and make it into a useful article you can use over and over again". ▪ However, participants were unanimous in voicing their scepticism regarding the endeavour's inability to attain "economies of scale", which entails that the craft industry will not make a significant "impact" on the current plastic problem. As such, "it's not sustainable, it's a tourist gimmick, it creates a little bit of employment, so you should encourage it, but it's not a long-term solution to the problem". ● Furniture: <ul style="list-style-type: none"> - The Trade Association cluster group commented on plastic being used to make furniture: "Katya's Creations. She takes old banners, these company banners, and she makes the most amazing furniture of it. You must see the poofs and stuff and benches and beanbags that she makes from an OUTsurance banner or a Bank Windhoek banner. That's creating new items with old plastics". ● Informal Housing or Energy: <ul style="list-style-type: none"> - The Consumer cluster mentioned that people in poorer communities re-use plastic to insulate their homes: "Plastic, if it's not a big sheet of plastic that they use, but they use it for a specific reason. They either construct a house or sheltering for them."
Awareness Campaign	<ul style="list-style-type: none"> ● The Trade Associations group also reported that there have been initiatives such as competitions to prompt the public to suggest creative ideas to transform plastic products into re-usable items. ● The "Trash to Treasure competition" was mentioned specifically. This competition encouraged children to come up with creative ways to re-use plastic. "One kid actually made this foosball with little men. Kids think with bright minds".

C. BEST PRACTICE

Themes	Findings
Awareness Campaigns	Foundation: <ul style="list-style-type: none"> ● Participants highlighted that awareness creation would serve as the foundation for the successful implementation of all 5 Rs namely, Responsible disposal, Reduce, Re-use, Recycle and Recover. ● Best practice regarding awareness campaigns is discussed under the heading Stakeholder Engagement.
Individual Re-uses	<ul style="list-style-type: none"> ● Participants believe that a market for used plastic exists: "If you talk to Mrs Housewife, they are 95% re-using their plastic bags for something". Participants highlighted a number of re-use purposes for plastic products, especially for carrier bags. As such, if carrier bags are to be banned, households will have to seek alternatives, for example, black refuse bags as bin liners. In light of these alternatives, the question was raised whether it would be best practice to ban plastic carrier bags. ● It is a general belief that the re-use of plastic products is a more common practice within the poorer communities. An Environmental group participant thus suggested "not to ban plastic bags

	<p>immediately”, rather allow communities to obtain the plastic carrier bags for free or at a minimal charge at the store, re-use it until it is no longer re-usable and then return it for a returnable deposit.</p>
<p>Thicker Carrier Bags</p>	<p>There was a divide in opinion within and between stakeholder clusters on the question of whether plastic carrier bags should be made thicker to encourage re-use. It should, however, be noted that the majority of arguments were against introducing thicker carrier bags. It is thus crucial that these arguments should be weighed for best practice before a decision is taken.</p> <p>Arguments For:</p> <ul style="list-style-type: none"> • Some participants argued that “the re-use of carrier bags will be encouraged if they were made thicker” in that “the quality will remain longer”. • Other participants pointed out that thicker bags are better for recycling purposes. “Namibian plastic bags, I mean if you break it down it becomes almost like a dust. So, the thicker one you can then put back into the recycle system”. It is important to investigate this claim for accuracy. <p>Arguments Against:</p> <ul style="list-style-type: none"> • <i>Will Not Reduce Namibia’s Carbon Footprint</i> <ul style="list-style-type: none"> - Some participants argued that thicker carrier bags will not reduce Namibia’s carbon footprint, as thicker plastic is heavier and takes up more space, thus increasing transport requirements. - If the aim is to reduce the amount of plastic in the environment, using more plastic in order to produce a thicker plastic carrier bag “is making the problem worse in my opinion. You use more plastic. How does that reduce your carbon footprint”? - Producing a thicker plastic carrier bag will also “add to manufacturing costs”, which means that it will inevitably up the carbon footprint of manufacturers. - Participants feel that thicker plastic will be “more difficult to decompose”. Without first cultivating a culture of responsible disposal, reduced usage, re-use and recycling of plastic in Namibia, thicker plastic carrier bags will consequently have a greater negative impact on the environment. - Participants thus argued that best practice would be to steer clear of the introduction of a thicker plastic carrier bag and rather opt for the use of alternative re-usable bags, such as material bags. • <i>Will Not Encourage Behaviour Change (Re-use and Reduce)</i> <ul style="list-style-type: none"> - All stakeholder clusters agreed that while the Namibian people is stuck in a “throw-away culture”, carrier bags, regardless of whether they are thick or thin, will “end up in the environment in any case”. - Participants believe that there will be no significant change in collective behaviour just because the plastic carrier bag is thicker. - They therefore hold that best practice would entail introducing intensive awareness and education campaigns to facilitate large-scale behavioural change: “The problem needs to be dealt with at a foundational level”. • <i>Consider Recyclability and Strength Combined</i> <ul style="list-style-type: none"> - Since Calcium Carbonate (CaCO₃) is often used as a filler to make the plastic carrier bags thicker, Manufacturers and Environmental groups warned that thicker plastic bags are either less recyclable or not at all. The danger is then that even if thicker plastic carrier bags were to encourage re-use, it would end up being disposed of eventually, where the thicker bag would then not be fit for recycling. - Should it be decided that best practice going forward would entail thicker carrier bags, Manufacturers suggested that the product should not exceed 20 microns: “South African legislation forced them to a minimum of 25 micron and then they started CaCO₃ to fill it

	<p>up. Twenty microns is sufficient to manufacture a bag capable of doing four to five life cycles”.</p> <p>Price:</p> <ul style="list-style-type: none"> • <i>Should There Be a Charge?</i> <ul style="list-style-type: none"> - The main contested issue pertained to whether a thicker carrier bag should be introduced. The question regarding whether charging for plastic bags would result in a behaviour change was, however, also heavily disputed. <ul style="list-style-type: none"> ▪ On the one hand, participants believe that if consumers pay for something, they will start to realise that there is a “value to it”. “I think that would also make them more aware of not disposing of it anyhow. You treat something that you get for free, you don't actually appreciate it. But something that has a cost thereon, I think it is appreciated”. The practice of charging for carrier bags in itself will, however, not be sufficient to motivate behaviour change. Awareness and education campaigns should also be introduced. ▪ On the other hand, participants argued that a price tag will not encourage long-term behaviour change, as was evident in other countries. “We've done that exercise and if you look at the trend, it's got a short-term gain and then after that people just default and they [get] use to paying the 50 cents like in South Africa”. ▪ Furthermore, since there is a market for used plastic carrier bags, participants felt that consumers would actually pay for carrier bags if they were forced to do so. The bottom line is that it will not discourage the use of plastic bags: “If people have no choice but to pay, they would”. • <i>Recommended Price</i> <ul style="list-style-type: none"> - More research is required to find the balance between a “reasonable price” and one that is “too expensive” to encourage behaviour change while ensuring buy-in and support from consumers. - Manufacturer and Customer cluster participants suggested that thicker carrier bags should be charged at roughly 30 to 50 cents per bag. Alternatively, the price should be benchmarked against the prices charged in countries like South Africa. <p>Education Required:</p> <ul style="list-style-type: none"> • Participants agreed that thicker bags at a price require an educated public to facilitate large-scale behaviour change underpinned by responsible disposal, reduced usage, re-use and recycling. This approach will also avoid “resistance” to change. “If we educate our people, people have got an understanding of the effect. Then we can now move to the thicker one. Than just to start with the thicker one without education to our Namibians, it won't really help anything”.
<p>Secondary Life-cycle Market</p>	<ul style="list-style-type: none"> • Although participants described the secondary lifecycle market as “small” and therefore “without major impact”, they felt that there might be “growth potential” if it were to be “encouraged” on a larger scale. For example, by positioning craft products made from re-used plastic as a “Proudly Namibian” product, would increase its appeal in the local and international markets. • The more market demand there is for re-used plastic products such as crafts or furniture, the more innovative ideas will likely be stimulated and vice versa. Platforms for sharing creative ideas and products should also be created to connect these new alternative industries with the market.

3.4. RECYCLE

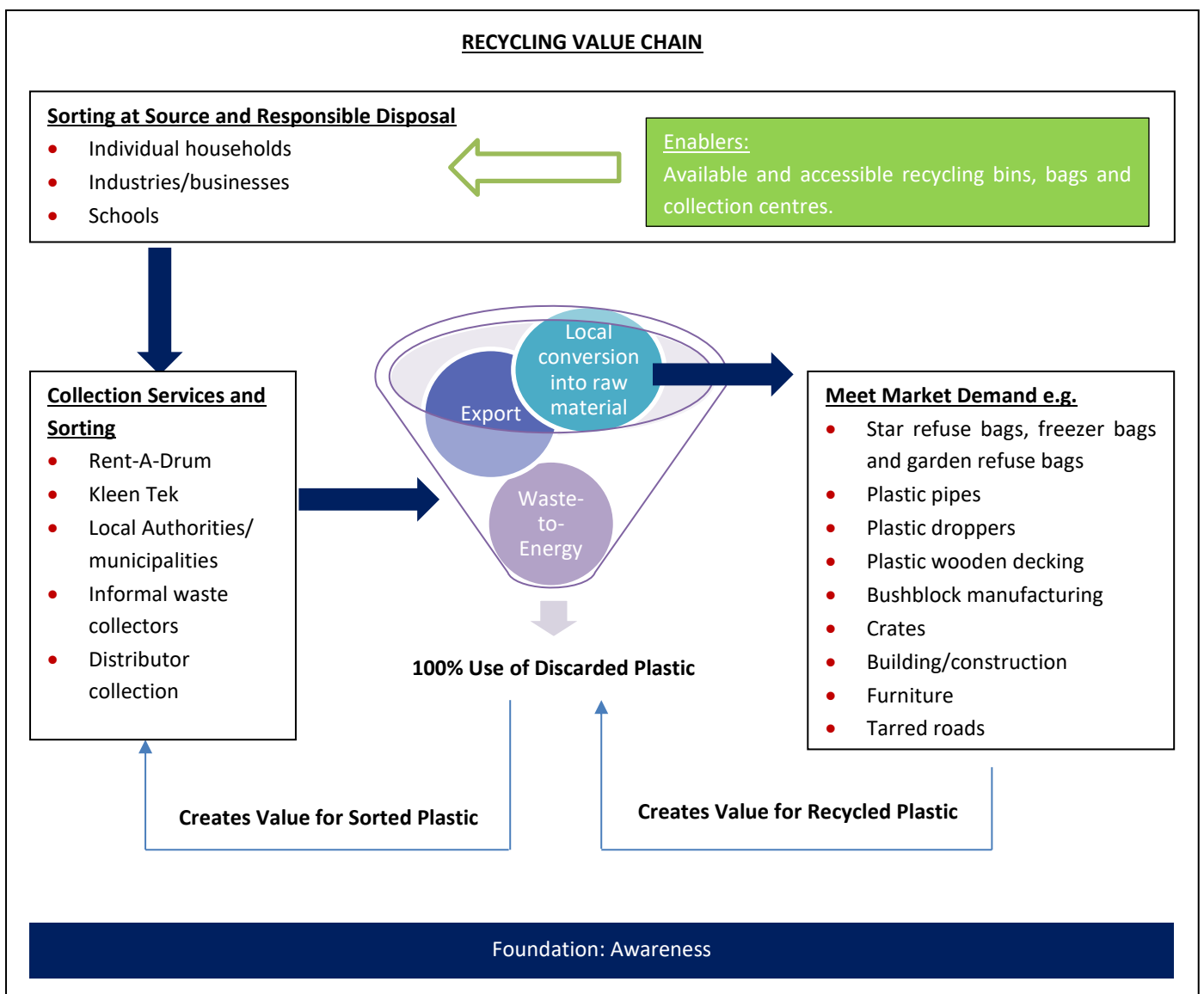
A. CURRENT STATUS

Participants were asked to rate the effectiveness with which plastic is recycled in Namibia on a scale from one to ten. The findings are discussed below.

How effectively is plastic being recycled in Namibia?	
Average score out of 10	3.9
I don't know	9%

- Participants were relatively more aware of recycling initiatives in Namibia than they are of efforts to reduce, re-use or recover plastic. Only 9% of participants indicated that their level of awareness of current recycling initiatives is too low to offer an opinion as to the effectiveness of recycling in the country.
- However, the respondents who offered their opinion on the effectiveness of current recycling initiatives in Namibia provided a concerning average score of 3.9 out of 10. This score places recycling in the red zone.

B. CURRENT ACTIVITIES



Theme	Findings
Sorting at Source and Responsible Disposal	<p>Individual Households</p> <ul style="list-style-type: none"> • Effective household sorting is perceived to “create a stream of recyclables” that feed into the recycling process. It is thus the starting point in an effective recycling value chain. • Participants view it as imperative that households realise that “we need to do our part”. • The habit of sorting in individual households is, however, still regarded as “very small”. It is done more frequently in Windhoek and particularly at the coast. Still, “the percentage is low”. <p>Industries/Businesses</p> <ul style="list-style-type: none"> • Over the past “two to three years” businesses are believed to have grown more aware of their carbon footprint and have set internal environmental goals accordingly. For instance: <ul style="list-style-type: none"> - Coca-Cola has chosen its new slogan to advocate “A World without Waste”. The company has consequently set up projects “where we say every bottle we put in the environment, we’ll bring back”. However, participants think it is still too early to measure the success of this endeavour; - Talks of joint efforts between Namibia Breweries, Namibia Dairies, Coca-Cola and Recycle Forum Namibia are also said to be in motion whereby “a strategy is being put in place on how much of the product that we put out there that we can recover”; and - Pick n Pay set a companywide goal of “a 20% reduction of carbon footprint by 2019”. - The Spar Group has a plastic campaign: “No to Plastic”. • Importers and Consumers confirmed that they are currently doing recycling on site. Organisations such as Rent-A-Drum are contracted to remove recycled material for further processing. • How widespread this move is amongst the business community is however unknown. <p>Schools</p> <ul style="list-style-type: none"> • Some schools were also noted as having recycling bins, which allow children and their parents to deposit sorted waste. • Schools are also said to compete as a means of “incentivising” their recycling efforts. The number of schools involved in this recycling competition is, however, uncertain.
Enablers – Recycling Bins, Bags and Collection Centres	<p>The availability and accessibility of recycling bins, bags and collection centres enable recycling.</p> <ul style="list-style-type: none"> • <i>Recycling bins:</i> <ul style="list-style-type: none"> - Rent-A-Drum is seen as instrumental to promote sorting at individual households in Windhoek “over the past three or four years”. The company provides two drums, “one for recycling and one for non-recyclables”. - It was also noted that there used to be recycling bins at the Academia shopping centre, however they have since been removed. • <i>Recycling bags:</i> <ul style="list-style-type: none"> - It was noted by an Importer that “four or five years again, you received a clear bag for recyclables, but now you need to pay for it, I think. I think that is also when people stopped recycling”. - Another Importer confirmed the shortage of recycling bags by saying that: “I also stopped recycling, because the one day they put out a bag and then they don’t put out a bag. One day they collect and the next day they don’t collect”. - A Consumer noted that due to the above, “only 10% of the Namibian households have the opportunity to recycle at the moment”. It is then no surprise that recycling is believed to fall in the red zone. • <i>Collection centres:</i> <ul style="list-style-type: none"> - A participant mentioned a joint effort between Plastic Packaging, Rent-A-Drum, Ohlthaver & List and Coca-Cola: “We are opening mobile collection centres. We have two collection centres already. We’re planning to open another five. It’s an expensive process. Also, we’re identifying waste collectors, assisting them with what we have”.

	<ul style="list-style-type: none"> • A conclusion was reached that the availability of support structures that promote recycling are not widespread enough across the country and formalised as of yet.
Collection Services and Sorting	<p>Rent-A-Drum</p> <ul style="list-style-type: none"> • Five of the seven stakeholder clusters mentioned Rent-A-Drum for its involvement in the collection and sorting of waste. Rent-A-Drum was described as “having the value chain, to take it from the collectables into the sorting plant into either a recycling stream, or the balance into waste-to-energy and the rest of it into landfill”. • Some participants highlighted Rent-A-Drum as the only recycler in Namibia, “a stand-alone beacon of hope”. Awareness of other recyclers such as Kleen Tek is limited. • Rent-A-Drum is seen to be doing a “tremendous job”. However, as a “profit driven company”, its operations are limited to the “central region” and the coast, despite “60% of our population living up north”. “Vast distances” and a small population make it difficult to achieve “economies of scale”. Without it, expanding Rent-A-Drum’s operations on a national level becomes “economically unviable”. • As the “biggest brand in Namibia for recycling”, Rent-A-Drum’s reach is assumed to be the furthest. <p>Kleen Tek</p> <ul style="list-style-type: none"> • Two out of the seven stakeholder clusters mentioned Kleen Tek. • The brand is less top of mind than Rent-A-Drum. However, participants noted that Kleen Tek is doing a “great job”. • The company’s reach is assumed to be less than Rent-A-Drum’s. <p>Local Authorities/ Municipalities</p> <ul style="list-style-type: none"> • It was noted earlier that participants believe municipalities are not fulfilling their role in terms of landfill management sufficiently. If this baseline role is not fulfilled, there is little chance of recycling occurring on landfills. It was, however, noted that in some instances, presumably limited to the central area, “the local authority, the town councils, are now becoming involved by giving the dumpsite to a specific company and say you are responsible and in return, they do not pay anything for the town council, but in return they then do their recycling process on the premises of the dumpsites”. • This system is perceived to be working. An example was given of the Kupferberg dumpsite: “The management at Kupferberg dumpsite in Windhoek that is also putting a lot of emphasis on recycling at the dumpsite self”. <p>Informal Waste Collectors</p> <ul style="list-style-type: none"> • Informal waste collectors have seen a “business opportunity” in collecting sorted waste. They receive a monetary incentive when depositing the load to formal waste collectors. Participants shared two success stories: <ul style="list-style-type: none"> - "I've identified a waste collector in Katutura, Sam Smith. People collect for him and he pays about N\$2 for a plastic bag of PET. There is a lady that collects for him, and the woman said to him, 'You know what, everybody around here now knows that I give 50 cents or a dollar for PET. So, they bring it to me.' If I pay this lady N\$10 tonight she can buy half a loaf of brown bread and a <i>smeerwors</i>, meaning the kids can eat"; and - "In Aranos there's this lady, she's a farmer. She has an informal collection centre. I think she has a little shop or she has a relationship with this little shop. So, bring your recyclables, she gives you a voucher and you can go and buy anything at this little shop with your voucher. That little town is crispy clean, crispy, crispy clean”. • It is impossible to say at this stage how widespread informal waste collectors’ operations are.

	<p>Distributors collection</p> <ul style="list-style-type: none"> It was noted that on a small scale, distributors to some lodges specifically are assisting with waste collection: “So, if a truck goes and delivers and then they pick up the dry waste – just like the plastic bottles and the empties – and then they bring it back to someone like Rent-A-Drum on their way back for the recycling. We do it at the moment, some of our members are doing it. It needs to be implemented on a larger scale”. <p>It is evident from the above that collection and sorting initiatives in the country are not widespread enough to make a significant impact. In some cases, the initiatives are still ad-hoc.</p>
<p>Market for Sorted Plastic</p>	<p>Step 1: Local Conversion into Raw Material</p> <ul style="list-style-type: none"> <i>Namibia Polymer Recyclers</i> <ul style="list-style-type: none"> After plastic has been sorted, participants noted that a local company, namely Namibia Polymer Recyclers (NPR) buys it to convert into raw material. NPR is located in Okahandja and belongs to Plastic Packaging. NPR’s operations were described as follows: “They buy post-consumable waste from the recycling collectors, like Rent-A-Drum and Kleen Tek and many others. And then they commercially make it into a new raw material, which is then sold again”. NPR “creates value” to waste collectors and sorters such as Rent-A-Drum in that they provide them with “a market”. The capacity of NPR was, however, disputed. <ul style="list-style-type: none"> On the one hand, a Manufacturer said that the demand for “regrind” was perceived to exceed the supply: “They phoned us up two weeks ago and asked us, ‘Have you got any regrind, because we haven’t got enough’”. NPR is therefore believed to have the capacity to meet market demand, on the condition that more plastic is fed into the recycling value chain instead of being disposed of irresponsibly. On the other hand, a Re-user noted that: “Due to the size of their (NPR’s) set-up, they are only able to take a certain amount of tonnage monthly or bi-monthly. So, the volumes being generated and being recycled, there is not sufficient off-set for that at the moment”. Either way, growth potential is seen to exist in the industry. Currently, NPR is the only such initiative operating in this particular sphere. NPR’s operations were described as “fairly developed”, “10 out of 10”. NPR enjoys brand awareness in that six out of the seven stakeholder groups mentioned them top of mind. <i>Polyoak Packaging</i> <ul style="list-style-type: none"> PET in general has been described as a “very difficult material” to recycle in that it is “very hard”. Participants do, however, believe that Polyoak Packaging is recycling HT at present: “HT is easy for us. It's what we make those milk bottles in. We use a 100% of it here. It makes a top and tail. We've got a conveyer that regrinds it and it gets re-used. Then we make our bottles 70/30 in terms of regrind and virgin. Nothing goes out in terms of wastage. We do what we can.” <p>Step 2: Export Market</p> <ul style="list-style-type: none"> Whatever NPR cannot use is reportedly exported to South Africa for conversion into raw material. South African recycling companies are therefore also creating value for waste collectors in Namibia in that they provide a market.


	<p>Step 3: Waste-to-energy</p> <ul style="list-style-type: none"> Waste-to-energy is the last step in the conversion value chain. A Re-user shared: “Plastic is recycled by Namibia Polymer Recyclers. What they can't use is sent to South Africa, where it's being re-used the same as they're doing here. And what we can't export, or we haven't got a market for or that is contaminated, we use as fuel. We can use 100% of all plastics”. Waste-to-energy is discussed under Heading 3.5: Recover. <p>There is the potential for 100% of all sorted plastic products to be used in the recycling process. However, the actual percentage of all plastic waste being converted into raw material locally, exported to SA or recovered as waste-to-energy versus how much ends up on the landfills or littered remains unknown.</p>
<p>Market for Recycled Plastic</p>	<ul style="list-style-type: none"> After sorted plastic has been converted into “a new raw material”, it requires a market to give it “value”. NPR’s primary market is thought to be: “Plastic Packaging”, “Namibia Polymer Converters”, “Namibia Plastic Converters” and “three/four other pipe manufacturing companies”. Participants mentioned the following products produced from locally recycled plastic: <ul style="list-style-type: none"> Star refuse bags, freezer bags and garden refuse bags produced by Plastic Packaging; Plastic pipes and droppers; and Crates. Participants also mentioned a number of products produced from imported recycled plastic. Please note that these products introduce growth potential in the local recycling industry: <ul style="list-style-type: none"> Plastic wooden decking manufactured in Swakopmund; Building/construction: A Trade Association participant mentioned the following gaps in the market: <ul style="list-style-type: none"> "I was disturbed when I was in Swakopmund and I by chance bumped into a lady who sells prefabricated houses that are made from plastic. Plastic and some sort of wood combination. Of course, I immediately asked her: ‘Where do you get your plastics from?’ and she said to me ‘South Africa’. Certain components of plastics which we do not have here, or which we do not have enough of. But it saddens me that there is a company in Swakopmund manufacturing these sheets that makes affordable housing, that it needs to be brought from South Africa. There is a gap, but now it is difficult to say, I don’t know how you can fill it if your volumes are not there”; "At habitat centre...that whole building is made with tyres and waste material. I see there is a lodge in Sossusvlei that is going to be very upmarket, made totally out of recyclables. Now if that would have been built in town they would have been facing building regulations. Why are we not allowing this? Why are we (rather) allowing people to stay in a shack that is not insulated? We have a problem with low cost housing. This could be a solution”; "In South Africa there is a big movement with the Eco bricks. They use 2 litre plastic bottles and they fill it with plastic. So why can't we also do it"? and "Cape Cross is the first where the whole walkway has been made from recycled plastic. So, I immediately checked the logo, so lo and behold, a South African company”. PET: Polyoak Packaging “buys what we call R-PET. They have got a 50% component of recycling material in. It has certain uses. We can put it in fruit juice and so forth, but we just can’t put it in water, because it’s got a slightly yellow tinge”. Bushblock manufacturing: “Bushblock is a product that they use to make a braai and it contains quite a bit of polyethylene”. Tarred roads: “I've also read an article that they can use plastic again for the recycler to use it in tarred roads”.

Awareness Campaigns	<ul style="list-style-type: none"> • Participants mentioned the following awareness campaigns/initiatives: <ul style="list-style-type: none"> - Recycle Namibia Forum’s schools recycling project; - Mammadu Trust hosts a “magnificent theatre once a year, always about recycling”; - Plastic Packaging has a radio advertisement, informing the public of its Star product, which is made from 100% recyclable material; and - Retailers such as Spar and Pick n Pay are seen to put the “recycling sign” on their plastic carrier bags. • No large-scale, national awareness campaign was, however, mentioned. Awareness creation is largely engaged in on an ad-hoc, individual basis.
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C. BEST PRACTICE

Theme	Findings
Control Plastic Products in the Market	<p>Control Imports – All Plastic Imports Must Be Recyclable</p> <ul style="list-style-type: none"> • <i>Best Practice Proposed:</i> <ul style="list-style-type: none"> - All stakeholder clusters agreed that it is best practice for Namibia “not to import plastic products that are non-recyclable, especially if there is a recyclable version available. Imported plastic products need to be checked so that we have 100% polymers that can be recycled and re-used again”. • <i>Reasoning:</i> <ul style="list-style-type: none"> - Environmental benefit: <ul style="list-style-type: none"> ▪ Non-recyclable products are believed to be typically more harmful to the environment as they are considered less bio-degradable. - Socio-economic benefit: <ul style="list-style-type: none"> ▪ If a non-recyclable product is in fact recycled, “it produces a poor-quality polymer, affecting the downward stream of products being produced, such as pipes”. This will have an eventual negative impact on consumers. ▪ Currently, local Plastic Manufacturers produce 100% recyclable products, often at a higher input cost than their international counterparts who, for example, use fillers in their production processes. By instituting a ban or duty on non-recyclable plastic products entering the market, local Plastic Manufacturers will be “rewarded for providing responsible packaging” and will enjoy a more “even playing ground”. As stated by one Trade Association participant: “Competition is good, but it must conform to the same standard”. The result is envisaged to be favourable socio-economic “spin-offs” such as local industry growth, employment and increased tax revenue to Government. • <i>Implementation:</i> <ul style="list-style-type: none"> - <i>Ban vs Import Duty:</i> Imports can be managed employing either of the following methods: Instituting an outright ban on all non-recyclable plastic products entering the market or charging a duty on non-recyclable products as a deterrent. - <i>Regulation:</i> <ul style="list-style-type: none"> ▪ It was noted by a Consumer that “95% of our products are being imported”. An import ban or duty therefore has the potential to carry great impact. ▪ In order to ensure a significant impact, however, the proposed ban or duty should be uniformly applied to all non-recyclable products across all industries. ▪ Yet, for uniform implementation to occur, this proposed best practice standard needs to be put into law before it can be regulated without infringing on various trade agreements. - <i>Unrestricted Return Export:</i> If a ban or duty cannot be implemented, a Re-user requested that non-recyclable imported plastic products should at least be exported back to the country of origin without the cost of “permits” or “certificates”. “They (South Africa) just send everything here without any stoppages and then we are not allowed to send it back.

	<p>For me that is like dumping”. One of the Consumers interviewed agrees: “There's a lot of countries, for example, China and India where they can bring in stuff which is not recyclable, which will end up in our country. It will become our problem”.</p> <p>Control Locally Manufactured Plastic – All Locally Manufactured Plastic Must Be Recyclable</p> <ul style="list-style-type: none"> • All stakeholders agree that the same standard should be applied to local manufacturers and importers, rendering all plastic products in our market recyclable. • As stated by a Government participant: “You cannot just decide to ban importations without clear regulations. You need a clear legal framework, otherwise you can be accused of putting up barriers to trade or that we are discriminating. The same regulations must apply to the importers and local people that are manufacturing. The field must be well levelled for everyone in business”. <p>Types of Plastic That Should Be Controlled for Recyclability:</p> <p>Note: As stated above, it is important that the same standard applies to the local and import market.</p> <ul style="list-style-type: none"> • <i>Plastic Products Containing CaCO3:</i> <ul style="list-style-type: none"> - CaCO3 is often used as a filler to make plastic carrier bags thicker. However, it renders these products unrecyclable. - When discarded, the CaCO3 also renders the plastic carrier bag less biodegradable and causes it to sink when landing up in a body of water – with dire consequences to marine life. • <i>Printed Shrink:</i> <ul style="list-style-type: none"> - It was noted that: “Printed shrink is not recyclable if the amount of print exceeds a certain percentage”. - According to a Re-user, the value of shrink therefore decreases when the amount of printing on it increases as it costs more to “weigh that (printing) out with chemicals”. - Participants varied greatly in their opinion as to the maximum level of printing that should be allowed, ranging from “3%”to “40%”, “50%” and even “70%”. - More research is evidently required to establish the permissible printing percentage that will ensure a product is recyclable, yet allows for a sufficient “branding” area, as well as the “minimum information requirements” to appear on the product itself. • <i>Coloured PET:</i> <ul style="list-style-type: none"> - It is noted of coloured PET that “It is not as recyclable as clear PET. When recycled, the dye stains your next product”. • <i>Combination Products:</i> <ul style="list-style-type: none"> - Some products are said to contain a combination of recyclable and non-recyclable material. For example, the bottle is recyclable, but the label and/or cap cannot be recycled. It was argued by a Trade Association participant that, as a minimum standard, “all components on a product must be fully recyclable”. • <i>Polypropylene</i> • <i>Polystyrene Containers</i>
<p>Influence Buying Behaviour</p>	<p>Product Recyclability Rating System</p> <p>Participants were asked to consider whether consumer behaviour will be altered if a product recyclability rating system was introduced. For example, a product rating of five indicates that it is ‘fully recyclable’, three represents ‘50% recyclability’ and zero means it is ‘non-recyclable’. The following was brought forward:</p> <ul style="list-style-type: none"> • A mixed response was received. • Some participants believe that consumers are becoming more aware of their carbon footprint and that a rating system will “definitely” result in more responsible buying behaviour. • Others however believe that the Namibian market is still predominantly “price sensitive”, especially considering that “80% of our population is LSM six and under”. The estimated success rate is therefore marginal.

	<ul style="list-style-type: none"> • It was proposed that if a product rated as ‘more recyclable’ has a returnable deposit included in the price, it might encourage buying behaviour, since the more price-sensitive buyer will be able to recover the additional cost incurred. The practicality of this suggestion needs to be investigated. • Participants however agreed that establishing a foundation of awareness and education was a prerequisite for a rating system to work. • A Re-user shared their opinion that a rating system should effectively be irrelevant in light of the fact that non-recyclable products should not even be allowed to enter the market – bringing us back to the first best practice point discussed: Controlling plastic products in the market. <p>Plastic Codes</p> <ul style="list-style-type: none"> • Within each chasing arrows triangle featured on products containing plastic appears a number which ranges from one to seven. The purpose of the number is to identify the type of plastic used for the product, and not all plastics are recyclable or even re-usable. There are numerous plastic-based products that cannot break down and cannot be recycled. • It was however noted that “people don’t know that (what) this signage necessarily means”. The plastic code is also not displayed visibly on all plastic products. It is therefore ineffective in guiding purchasing decisions. More awareness creation is required. • As best practice, it was proposed that retailers play a bigger role in clearly identifying whether a product is recyclable or not on their displays. <div style="text-align: center;">  </div>
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<p>Optimise the Recycling Value Chain</p>	<p>Two factors are thought to optimise the recycling value chain: Demand and supply</p> <ul style="list-style-type: none"> • <i>Demand – Establishing a Market:</i> <ul style="list-style-type: none"> - Market demand will always drive investment, expansion, development and effort. Is there however a viable market for recycled plastic raw material in Namibia? - As illustrated under the previous heading, 3.5B, the local market for recycled plastic raw material is perceived as underutilised. The fact that sorted plastic is exported to South Africa and “finished raw material imported again” is seen as proof of the above-mentioned perception. Market demand is therefore believed to exceed local supply, necessitating the import of raw plastic material. - Some participants question whether Namibia has the volumes to warrant large-scale recycling operations. It was, however, argued that Namibia must not always blame a lack of “volumes” for stunted development. The export market for recycled plastic raw material should also be considered. - Market demand gives value to recycled plastic raw material. Once the exact market size is established through a feasibility study, local sorting, collection and recycling initiatives can be expanded and new developments sought accordingly – optimising the recycling value chain. • <i>Supply:</i> <ul style="list-style-type: none"> - It is argued that the recycling value chain is in place, but that “we just need to feed into it more and that starts with the end consumer”. The recycling value chain has the potential to utilise 100% of all discarded plastic through local conversion into raw material, export of sorted plastic waste and recovery through waste-to-energy. However, if plastic does not enter the recycling value chain, it will end up polluting the environment. National buy-in and support is required to effectively feed into the recycling value chain. - Sorting of waste for the purposes of recycling at households, businesses and schools was highlighted as best practice: “The best way to recycle is not to let a product enter the landfill and then (be) recycled. It should be separated at source. That there is the key”.
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Implementation:

Encourage Nation-wide Recycling

1. Awareness Campaigns:

- Participants believe that awareness creation will serve as the foundation for the successful implementation of all 5Rs namely, Responsible disposal; Reduce; Re-use; Recycle; and Recover. Best practice concerning awareness campaigns is discussed under heading 3.
- On the recycled plastic demand side, it is agreed that there isn't widespread awareness of the fact that a market for sorted and recycled plastic exists in Namibia. For this reason, people are unaware of the value of recycled plastic and can easily call for it to be banned completely. If the full extent of the market is understood, market needs can be met more effectively, and it is argued that people will be more encouraged to feed into the recycling value chain.
- On the recycled plastic supply side, sorting for the purpose of recycling is not seen as "part of our culture as Namibians". Furthermore, "it's very difficult to change consumer behaviour. It's not going to happen overnight". Intensive nationwide awareness and education campaigns are required.

2. Incentivise Recycling:

- Best Practice:
 - Stakeholders across all clusters shared the opinion that "we need to put a value on recyclables, that there is a tangible benefit for collecting and recycling".
 - A monetary incentive to recycling is expected to encourage wider scale recycling amongst individuals as well as promote the rise of more informal waste collectors.
- Current Concerns and Proposed Solutions:
 - Concern 1: Low and Variable Rates:
 - The current value of sorted plastic is "very low" and "rates vary". It is therefore difficult to use compensation as an incentive to recycle at present.
 - As summarised by a Plastic Manufacturer: "The lowest grade waste plastic at this point, has got a value of perhaps 80c to a kg. Whereas in the past two, three years at its peak times went over R2 a kilo just in corporate, so it is a variable. For the guy on the street, he must collect a humongous amount. For such as small amount, people will not go through the trouble".

Proposed Solutions:

- Use the free market system:
 - Stimulate a demand for sorted and recycled plastic. Examples include increasing waste-to-energy operations in Namibia, the country becoming an exporter of recycled plastic raw material or supporting businesses already operating in this sphere (Refer to headings 3.4B and 3.5B).
 - An increase in demand will result in an increase in value, making it more lucrative and therefore attractive to suppliers. As summarised by a Plastic Manufacturer: "I think if there's a bigger offset, more industries or manufacturers wanting that material, supply and demand might go up and the value of polymers may rise and then you can sort of incentivise someone in the beginning. The sky is the limit".
- Funded by consumers:
 - Recycling could be funded by charging a "returnable deposit" on, for example, plastic water bottles. The deposit is then reimbursed when the plastic product is returned.
- Subsidisation:
 - The proposed carrier bag levy or import duty on plastic products can be used to incentivise recycling. Money collected will be used to pay

informal collectors. For example, “If there is legislation where government can say that you need to pay N\$0.30 for a bag but when the bag is returned, you’ll receive N\$0.10 or N\$0.20”.

- Should the value of recycled plastic drop, a Plastic Manufacturer and Re-user suggested that “we need to subsidise the poor guys who are actually collecting”. This was also noted as best practice in Europe: “If you go to Europe and you put this bottle back into the vending machine you often get ten times more of what is the value of that, but it’s been subsidised, so government pays a little bit, local authorities pay a little bit, there’s a levy on top of that”.
- *Concern 2: Insufficient Collection Methods Proposed:*
 - “Automated machines” in which plastic is deposited and either a “coupon” or “cash” is returned were proposed. This infrastructure will however be costly to install across Namibia.
 - Formal waste collectors compensating for plastic received “per kilogram”. However, the informal waste collector or individual will need to have “transport” and “infrastructure to bale” collected plastic in order to effectively make use of this option.
 - The returning of plastic products for deposit to retailers is also not a viable option, as is illustrated by this Consumer’s statement: “The store is not geared for coping with that amount of plastic”.
 - More cost effective and feasible collection methods should be identified.

Proposed Solutions:

- Setting up more widely accessible mobile collection centres that are equipped with scales and baling infrastructure. However, the value of recycled plastic must justify this expense.
- An additional recommendation by a Plastic Manufacturer suggested that the mobile collection centres be used as a means of creating employment: “Sponsors for the stations need to be found so that the entrepreneurs who are going to do the work on boots level, don’t have the capital layout. You can tell him if you get this you need to collect and sell and that there is no down payment, there is no capital layout, then it’s got a chance of survival. And if he can’t do it then we can say as Industry, let’s take this station away and put this with someone else who will be happy to do the job. It falls into the Harambee plan as it will create jobs”.

3. *Create an Emotional Motivation for Recycling:*

- Certain participants felt that monetary incentives should not be the sole driver or focal point of recycling. Instead, creating an internal sense of “recycling because it is the right thing to do” should drive this positive behaviour.
- The most successful driver to positive, long-lasting behavioural change is an emotional connection with the topic. If knowledge and understanding stirs the heart, behavioural change will result. Three triggers to establish an emotional connection with the topic of responsible plastic management in general were identified under heading 3 – Stakeholder Engagement – namely, sharing good news stories, stirring a sense of patriotism and communicating the consequences of inaction.

4. *Introduce Penalties/Fines:*

- A ‘quick fix’ is proposed, in which knowledge creation and emotional triggers do not play a role, yet behavioural change is still achieved by enforcing responsible plastic management through legislation and imposing penalties or fines on non-compliance.

- For example, an Environmental Group participant sited Switzerland as a reference scenario: “Basically, it is more expensive to dispose of non-recyclable material. So, when you buy, you have to buy what is recyclable. Because there's no way to dispose of it otherwise, because you have a penalty”.
- As long as the cost of recycling is lower than the cost of dumping, companies will be encouraged to recycle on site.

Set up Recycling Support Structure/Enablers

1. **Recycling Bins, Bags and Collection Centres:**

- **Target:**
 - There must be sufficient recycling bins, bags and collection centres available and accessible to the public to enable effective recycling across Namibia – including all cities, neighbourhoods, towns and villages.
- **Establish a Nation-wide Rollout Plan:**
 - As illustrated under heading 3.5B, some initiatives are already in motion, but it must be done “in a more coordinated manner” and “on a larger scale”. A nationwide plan therefore needs to be drafted and industry and government participation secured in order to reach the above target effectively.
 - Research must be conducted to identify the optimal locations and number of recycling bins, bags and collection centres that needs to be established country-wide. The estimated cost implication should also be calculated, and the responsible parties identified. Finally, a rollout plan and timeline should be agreed upon.
 - Such a large-scale intervention will require significant funds. A suggestion was posed that, in the event of a plastic carrier bag levy or plastic import tax being introduced, the ensuing funds should be applied towards achieving the above target.

2. **Collection Services and Sorting:**

- **Recycling at dump sites:** Recycling efforts on dumpsites across the country should be established. A best practice recommendation was made, suggesting that this function should be outsourced to private companies. Close cooperation with local recyclers was also suggested.
- **Expand operations of current recyclers:** It is recommended that current recyclers, such as Rent-A-Drum and Kleen Tek “increase their operations”. It was rightly noted that: “They're economically driven by actually making money in terms of collecting waste. Unless there's a potential for it to become economically viable, they're a business, they're not going to do this for free. That's a barrier”. How can this barrier be addressed?
 - **Establish Creative Ways of Collecting Waste:**
 - The “vast distance” between cities, towns and villages in Namibia pose a great “logistical” and “operational cost” challenge to waste collectors and sorters such as Rent-A-Drum and Kleen Tek. Expanding their operations beyond the larger urban centres such as Windhoek, Swakopmund, Walvisbay and Oshakati is therefore deemed as “economically unviable”.
 - Re-users and Consumers consequently suggested that more creative ways of collecting waste should be explored. For example, by agreeing with retailers, distributors and transporters across Namibia that “no truck runs empty in Namibia”. This is starting to happen on a small scale, however it should be developed into common practice: “As part of their social responsibility, we need distributors to bring back what they put out”.
 - Service level agreements need to be set up in this regard.
 - **Government Subsidies/Incentives:**
 - A Consumer proposed that a levy or duty collected on plastic should partially be used to expand current recycling operations in Namibia.

	<ul style="list-style-type: none"> ▪ The following statement by a Government participant stands in agreement: “So, it's a matter of saying: 'We impose a levy on the industry' and you and others could come in, make an application from the Environmental Investment Fund to say, 'If you give us 2 million we are going to recycle 'x'-amount'. You know, so a subsidy that drives the expansions of certain recyclers in the country, perhaps that sort of model can be looked at”. ▪ Another Government participant suggested that if more space is needed to expand recycling operations, the government can look at offering the land at “a little bit of a low price” as an incentive. <p>- <u>Establish More Recycling Plants in Namibia (Converting Plastic Waste into Raw Material):</u></p> <ul style="list-style-type: none"> ▪ Currently, recyclers are exporting sorted waste to South Africa at great expense. With more local recycling plants in operation, the cost of exporting sorted waste to South Africa can be avoided, making local recycling operations more lucrative. ▪ The exposure of local recyclers to the fluctuation in the South African market will then also be reduced, rendering them in a better position to expand local operations. ▪ The question is, however whether there is a viable market for more recycling plants operating in Namibia, which brings us to the next point. <p>3. <u>Recycling Plants (Converting Plastic Waste into Raw Material):</u></p> <ul style="list-style-type: none"> • <i>Conduct a feasibility study:</i> Further investigation is required to quantify the market size, required financial investment and to establish “economies of scale”. The exact “volumes” of plastic raw material being both imported and utilised locally therefore need to be established and a formal feasibility study conducted to support investment activity in this area. The opportunity cost involved in expanding into the plastic raw material export market must also be considered. • <i>Establish an industry growth plan:</i> It was noted that: “There is a growth opportunity here, absolutely, but it cannot be implemented over night”. By looking at other countries with established manufacturing industries that were built up over time – where “processes were refined” and “a lot of money invested” – an industry growth plan needs to be put in place.
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3.5. RECOVER (WASTE TO ENERGY)


A. CURRENT STATUS

- A score out of ten for the believed effectiveness with which plastic is recovered in Namibia can unfortunately not be provided, since the theme Recover emerged from the data. As such, an effectiveness score was not directly probed during the interviews.
- Under the heading Fact or Myth, 4% of participants indicated that turning plastic into energy is a myth, while 17% said they are uncertain whether it is possible.
- The discussion below serves as further indication that even if there is an awareness that plastic can indeed be turned into energy, few in Namibia know the specifics regarding waste-to-energy activities.
- On a more optimistic note, participants who revealed a greater level of awareness of the waste-to-energy activities at Ohorongo Cement spoke positively about it.
- In conclusion, participants require more awareness of the current waste-to-energy activities in Namibia in order to evaluate the effectiveness of the fifth responsible plastic management R, namely Recover. For this reason, the current status is classified as uncertain.

B. CURRENT ACTIVITIES

Themes	Findings
Waste to Energy Awareness	<p>Unaware</p> <ul style="list-style-type: none"> • Importer, Consumer and Environmental groups are mostly unaware of the current waste-to-energy activities in Namibia. • Furthermore, the Consumer and Environmental groups raised concerns regarding pollution to the environment that result from plastic being turned into energy. More awareness and information are required on the process followed and the environmental impact thereof. <p>Aware</p> <ul style="list-style-type: none"> • Participants from the Manufacturer, Re-user, Government and Trade Association clusters seem to be more aware of waste-to-energy activities in Namibia. • The refuse-derived plant of Rent-A-Drum was constructed following an agreement with Ohorongo Cement for the supply and delivery of non-recyclable material for use during conversion into energy and using that energy in the cement manufacturing process. • The value chain is seen to operate as follows: <ul style="list-style-type: none"> - Sorted plastic is sent to NPR for recycling; - Plastic that NPR cannot recycle, or use is exported to South Africa; and - Plastic that “we can’t export”, that “we haven’t got a market for”, that is “contaminated” or “non-recyclable” is sent to Ohorongo Cement to be converted into energy. <p>In this manner, participants believe that “we can use 100% of all plastic”.</p> • A Trade Association participant said that: “The refuse-derived plant is one the first in Africa... which puts Namibia really at the forefront”. The plant was described as “the most brilliant thing”, “the best news” and “a move in the right direction”.

C. BEST PRACTICE

Themes	Findings
<p>Awareness Campaigns</p>	<p>Foundation</p> <ul style="list-style-type: none"> • Participants believe that awareness creation will serve as the foundation for the successful implementation of all 5 Rs namely, Responsible disposal, Reduce, Re-use, Recycle and Recover. • Best practice concerning awareness campaigns is discussed under the heading Stakeholder Engagement.
<p>Waste to Energy Implementation</p>	<p>All stakeholder clusters provided suggestions concerning possible best practice in terms of waste-to-energy within Namibia.</p> <p>Balance the Supply and Demand of Plastic Waste</p> <div style="border: 1px solid green; padding: 5px; margin-bottom: 20px;"> <p><u>Requirements:</u></p> <ol style="list-style-type: none"> 1) Large-scale responsible disposal and successful recycling in Namibia; 2) Import plastic waste to create economies of scale; 3) Address concerns of air pollution; and 4) Ensure proper funding to support required infrastructure. </div> <div style="border: 1px solid blue; padding: 10px; text-align: center;"> <p>Balance the Supply and Demand of Plastic Waste</p>  </div> <div style="border: 1px solid green; padding: 5px;"> <p><u>Benefits:</u></p> <ol style="list-style-type: none"> 1) “Keep the entire country clean”; 2) Reduce dependency on imported energy; and 3) Position Namibia as an exporter of energy in the region. </div> <p>• <i>Create a Constant Supply of Plastic Waste</i></p> <ul style="list-style-type: none"> - Currently, the demand for plastic waste required for the waste-to-energy process is believed to be greater than the supply. One Manufacturer noted: "What I've heard about Ohorongo is that we don't have enough plastic in Namibia to burn". This means that even if all the plastic waste in Namibia is recovered, there will still be a demand for more. This introduces two opportunities: <ul style="list-style-type: none"> ▪ Waste-to-energy has the potential to “keep the entire country clean”. This, however, requires large-scale responsible disposal and successful recycling in Namibia to feed into the value chain, supplying the input required for waste-to-energy production. If done effectively, it is believed that 100% of the country’s plastic waste can be repurposed; ▪ Once the national plastic waste problem is addressed, it was proposed that Namibia considers becoming an importer of waste in order to add greater economies of scale to the value chain. This will not only render Namibia less dependent on energy imports, but also position the country as an exporter of energy in the region: “We can make this even a bigger thing in Namibia... So, we can be an energy supplier to our region and not only to our country”. ▪ Sweden was proposed as a possible case study. A Manufacturer noted: “Sweden has got this process refined to probably the top level of the world. They're in a position where they consume all household waste into either recycling or into waste-to-energy and they even import waste to feed their incineration plants for the production of electricity”.

- *Expand Current Operations*
 - At present, Ohorongo cement still utilises “non-renewable resources like coal” in its process. The demand for plastic waste at Ohorongo Cement can therefore be enhanced if the burning of non-renewable resources is replaced entirely with plastic waste.
 - It was further suggested that current energy producers should come up with even more innovative ideas to transform waste to energy, not limiting activities to Ohorongo Cement: "I think that Ohlthaver & List, I've seen they also have plant for creating energy, but it's the wood chips and I think they can be more creative in burning not only wood chips, but plastics as well. Because it's got a lot of energy as well".
- *Address Concerns of Air Pollution*
 - Although stakeholders appreciated the potential benefits to be derived from waste-to-energy initiatives, concerns were raised that this would entail swapping one environmental problem for another, namely air pollution.
 - While five out of the seven stakeholder groups noted that air pollution is a concern and that “we must get the correct data to make the right decision”, a Re-user commented that: “According to me there's no pollution. Ohorongo Cement is part of the grouping in Germany where it's about eight of them. These factories are sitting in towns or next to a town or a kilometre from town. You go to Ohorongo Cement, there's no smoke coming out. There's no pollution”.
 - It is evident that more information is required to evaluate the environmental impact of waste-to-energy initiatives. As summarised by one Consumer: “We need to do research to see what the environmental impact is on burning plastic before we start making this operation so big where we start importing waste”.
 - Once empirical “energy studies” have been reviewed, the Government cluster suggested that the environmental impact should be “controlled” as far as possible. The cost to the environment and the benefits to the socio-economy of Namibia should be determined before deciding on the way forward: “And since we are very low as a country in terms of emissions, perhaps maybe utilising the plastic through such energy conversions would also not really lead to a lot of emissions for the country. So, you'll be forced to make a compromise. To say: ‘Look, I really need to get rid of these things (plastic) while I'm gradually replacing it’, but the angle is an opportunity to use it also for another industry’s energy needs. Namibia’s energy for industrial production in the region is probably the highest, so therefore (the) industry is looking for ways to reduce their electricity tariffs in whatever way they can”.
- *Ensure Proper Funding for Required Infrastructure*
 - The Consumer and Re-user clusters noted that growing the waste-to-energy sector in Namibia will require significant infrastructure development that will also ensure “environmentally friendly” and “cost-efficient” operations.
 - It was suggested that feasibility studies be conducted to support capital investment.
 - Furthermore, if a plastic levy or sin tax is to be introduced, it was recommended that a subsidy be provided to those intending to expand or erect waste-to-energy operations.

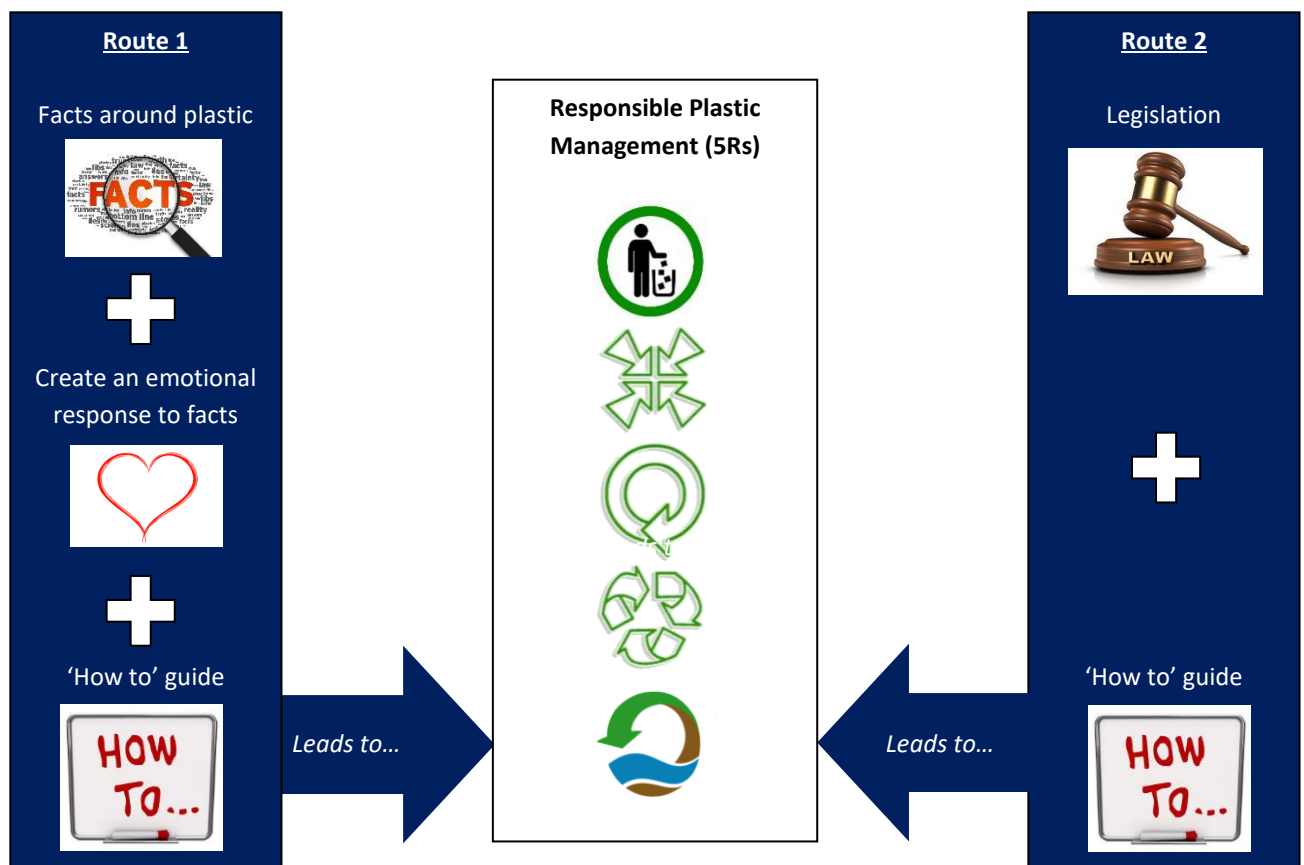
4. STAKEHOLDER ENGAGEMENT

4.1. REACHING THE GENERAL PUBLIC

A. MESSAGING

Two routes to reaching the general public with the message of responsible plastic management were identified. Please refer to the image below.

- **Route 1** was to firstly clarify the facts around the topic of plastic in general and the management thereof. Secondly, to create an emotional response to the facts shared with the intent of triggering positive, long-lasting behavioural change. Lastly, to equip the general public with a 'how to' guide, enabling them to responsibly manage their plastic waste. It is proposed that the communication campaign be focused progressively around the 5Rs of Responsible Plastic Management, starting with Responsible Disposal.
- **Route 2** was to provide a 'quick fix' in which knowledge creation and emotional triggers do not play a role, yet the desired behavioural change is still achieved by enforcing responsible plastic management through legislation. A 'how to' guide is however still required, equipping the general public to comply with legislation.



Theme	Findings
Facts Around Plastic	<p>The first step towards creating positive, long-lasting behavioural change is to ensure that the public has accurate information regarding the topic of plastic and the responsible management thereof. Misinformation leads to inaccurate beliefs being shaped, and results in inappropriate corrective action being taken.</p> <p>Clarify Truth Versus Myth:</p> <ul style="list-style-type: none"> • It was noted that many are misled by incorrect information about plastic, which is sometimes “unintentionally” shared. Social media is believed to be a major culprit of false information. As part of the messages to the public, the facts around plastic from various viewpoints should therefore be shared. • Once the root problems are correctly identified, the factual information, together with the most effective solutions can be shared with the public.
Create an Emotional Response to Facts	<p>The most successful driver to positive, long-lasting behavioural change is an emotional connection with the topic. If knowledge and understanding stirs the heart, behavioural change will result. Three triggers to creating an emotional connection with the topic of Responsible Plastic Management were identified: Sharing good news, stirring a sense of patriotism and communicating the consequences of inaction.</p> <p>“The Good News”:</p> <ul style="list-style-type: none"> • Participants are of the belief that positive messaging will have a significant impact on the public, “people love good news stories”. One way of marketing best practices concerning plastic management is to share the initiatives that are already in place within Namibia. • Furthermore, the perception is held that people don’t just want to hear about success stories, they want to be part of it. Messaging should therefore invite the general public to participate: “Have you done your part”? <p>Patriotism:</p> <ul style="list-style-type: none"> • Participants believe that messaging to the public will be effective if a sense of “patriotism” is stirred when it comes to the responsible management of plastic, communicating that “it’s my duty as a Namibian”. • A sense of “comradery” should also be imparted to the public, whereby Namibians should inherently live by the motto of “Namibians don’t litter. Ever.” This also means that one should lead others who litter by correcting them. • This sense of “pride” should become part of the Namibian culture, acting as a driving force behind national behavioural change when it comes to the responsible management of plastic. <p>Consequences of Inaction:</p> <ul style="list-style-type: none"> • A belief is held that the public will not follow best plastic management practices if they do not see the value thereof: “What it is and why it is important”. <ul style="list-style-type: none"> - Emphasise the devastating effects of having a dysfunctional plastic management system in terms of the 5Rs (Responsible disposal; Reduction; Recycling; Re-use; and Recovery) in such a manner that an emotional response is triggered, for instance by showing a “little animal that suffocated in plastic”. The mismanagement of plastic should be the culprit that is highlighted. - Caution: It is imperative that the information shared is consistent with the facts around the topic of plastic and that an emotional response is not triggered using myths. - Evidently, education plays a significant role in explaining the reasons behind the 5Rs of Responsible Plastic Management. The approach should be “straight forward, not at a high scientific level. You should tell them five pointers, give them a reason, with pictures”.

<p>'How to' Guide</p>	<p>Once people understand that “my waste is my responsibility”, they need to be shown how to manage their plastic waste responsibly.</p> <p>Responsible Disposal – Do Not Litter:</p> <ul style="list-style-type: none"> • In order to actualise a best practice for plastic management as a whole, the basics should be imparted on the public, starting with the first ‘R’ – Responsible disposal. • A general ‘no litter’ movement should be cultivated first, something that is thought to be severely lacking in Namibia: “Firstly, like I said, my first issue is that people are not even doing the basic things of putting the stuff in waste bins or in skips, does not matter. They are not disposing of it in the proper way. And if we can't even get that part right, then it would be a struggle to even go look at the recycling side. You need to crawl before you can walk”. <p>Reduce:</p> <ul style="list-style-type: none"> • Without realising it, the public is overusing plastic. The use of plastic has reached an automated process, whereby unnecessary packaging goes unnoticed. For instance: “I know if it is two or three things that I can carry in my hand, I should not take a bag, but out of nature, the people at the till give you a bag. It is a mindset that needs to be taught”. • The first step will be to create awareness of overuse and to show consumers and retailers how they can effectively down package. <p>Re-use:</p> <ul style="list-style-type: none"> • At first, the concept of re-using plastic was limited to household usage, such as re-using water bottles. However, there are creative ways of re-using plastic items and a platform or initiative should be implemented whereby people can share these creative re-use ideas. • This platform can also provide some awareness among the public of existing, small companies that re-use plastic by transforming it into creative items to create support for such initiatives. <p>Recycle:</p> <ul style="list-style-type: none"> • <i>Encourage the buying of recyclable products:</i> Consumers need to be made aware of which products are recyclable and which are not, and to encourage buying behaviour accordingly. This is expected to pose a challenge in the sense that the public is deemed as price sensitive – considering price above the recyclability of a product. • <i>The process of recycling:</i> Since recycling is not viewed as part of the Namibian culture, it is assumed that the public will have to be taught how to recycle; “what is recyclable and what is not”. It is therefore suggested: “Don't make it too complicated at first. I think we should start slowly. We say glass bottles, cans, plastic bottles and plastics is (are) recyclable, so pick that up, put it in the clear bag and the other things goes into the rest. Then everything is still cleaning, but we are starting the recycling process and people are starting to know what to recycle”. • <i>Incentives for recycling:</i> It was suggested that incentives be implemented to encourage recycling among the public, especially within the rural areas where recycling can lead to employment, or deposits on returned bottles can lead to some form of income. If such incentives are introduced, awareness thereof needs to be created.
<p>Legislation Driving Behaviour</p>	<ul style="list-style-type: none"> • A ‘quick fix’ whereby knowledge creation and emotional triggers are avoided yet behavioural change is still achieved, is enforcing Responsible Plastic Management through legislation. • This requires awareness initiatives of such legislation by government, in which “a uniform message is important”. • The ‘how to’ guide to Responsible Plastic Management still needs to be shared, assisting implementation.

B. PREFERRED MEDIUM

Theme	Findings
Mediums to Reach the General Public	<p>Multi-media Approach:</p> <ul style="list-style-type: none"> • To target the public in general, a multi-medium approach can be followed where the strategy is to convey the message through “various angles”. • Persistence is key to the success of the initiative, as well as using the chosen mediums “constantly”. • This approach involves proper strategizing, after which a uniform message should be communicated to avoid creating confusion. <p>Social Media:</p> <ul style="list-style-type: none"> • The general perception is that social media is most frequently used by young and old. • Within the Namibian context, one should however keep the intended geographical area in mind as some rural areas will probably not have access to internet facilities. • Snippets of information and statistics are thought to be shared on this platform effectively. Images can also aid the emotional connection to information shared. • The social media channels mentioned included: News platforms (e.g. News24), Facebook, Twitter, LinkedIn and websites. <p>Radio:</p> <ul style="list-style-type: none"> • Whereas social media might not reach everyone in Namibia, a mutual feeling is that radio will be successful in that regard. • Another major attribute is that different radio channels offer different local vernaculars, meaning everyone can fully comprehend the message behind the advertisement: “Radio gets to about 90-something percent of the people in his country and in their local language”. <p>Television:</p> <ul style="list-style-type: none"> • Television is another major medium with the potential to reach the general population. • This medium can effectively trigger emotions in the sense that the consequences of irresponsible plastic management can be displayed visually. • A down-side of television advertising is that it can be expensive. <p>Newspaper:</p> <ul style="list-style-type: none"> • Newspaper advertising seems to have an obvious advantage in the sense that they can be found in most geographical areas within Namibia. • Although thought to be widely read, it is not perceived to be as effective as radio in reaching the masses. <p>Expos/Trade Shows/Public Talks:</p> <ul style="list-style-type: none"> • This is an ideal medium for companies to “showcase their stuff”. Those involved in the recycling value chain, for example companies selling crafts made from recycled plastic, can effectively share information using this platform. • It is also an excellent platform to share more detailed and interactive information regarding the importance of Responsible Plastic Management. <p>Post:</p> <ul style="list-style-type: none"> • Distributing leaflets through the post poses the same danger as newspapers – possibly even more so – namely contributing to the issue of littering. On the positive side, it is an inexpensive option that can be well distributed within target areas: “The one institution in Namibia that has the best infrastructure is the Post Office. They’ve got post boxes all over”.

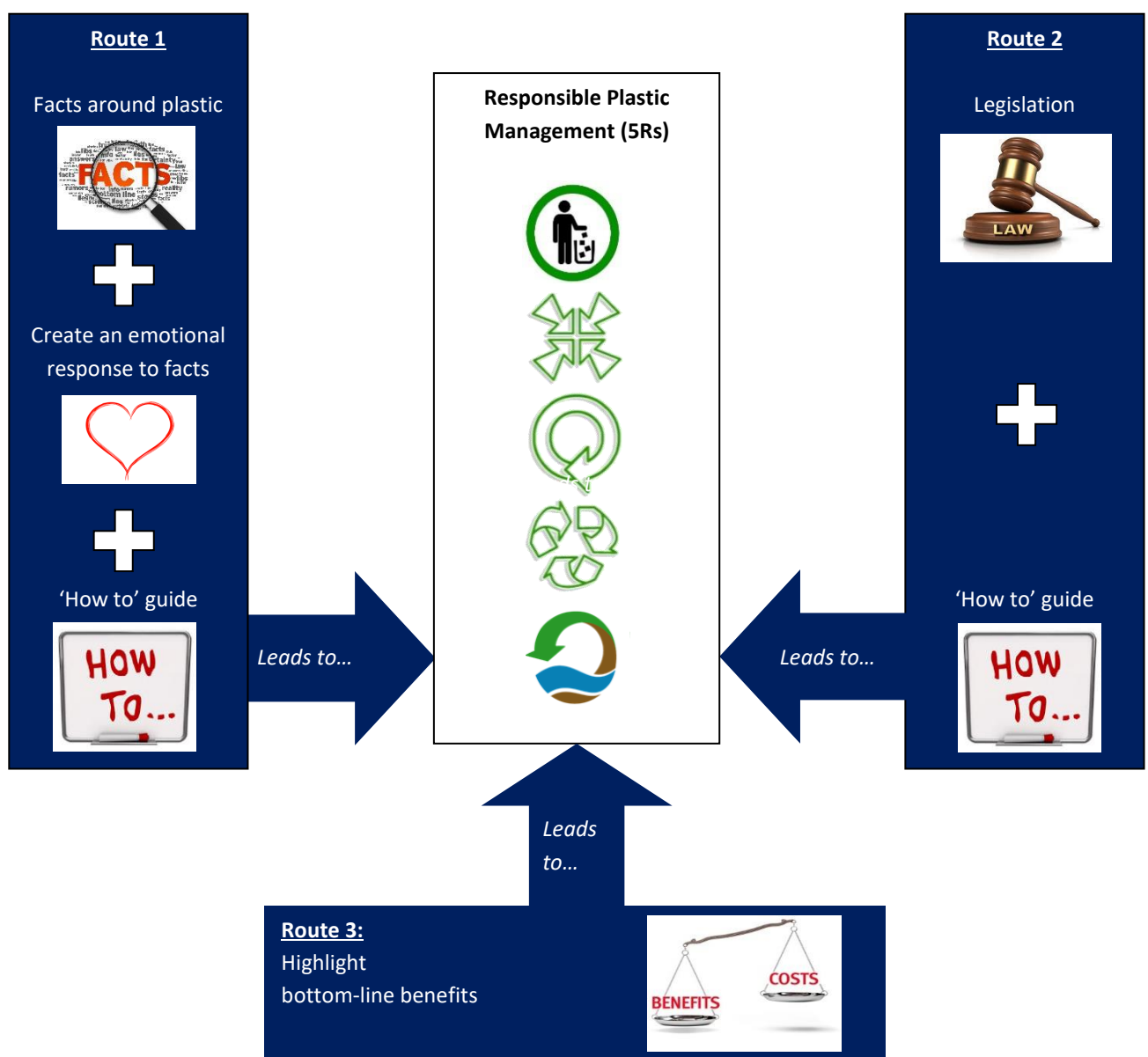
<p>Younger Generation Specific Mediums</p>	<p>Education/School System:</p> <ul style="list-style-type: none"> • A widely shared view is that educational programmes pertaining to proper plastic management should be implemented within schools. • Instilling a culture of proper waste disposal within the youth is vital. The ideal is that they will carry such a culture out as they get older and continue to instil the culture in their children. • It is believed that this initiative should be launched on a grand scale and include both “private” and “state” schools. • Creative ways should be employed to pique the interest of children, fostering an emotional connection with the topic and resulting in life-long positive behaviour. <p>Podcasts/YouTube Videos:</p> <ul style="list-style-type: none"> • Podcasts and YouTube videos can be especially influential among adolescents. As with television, visuals can be effectively used to create an emotional connection with the content being shared. In contrast with television, however, these mediums allow for more cost-effective broadcasting.
<p>Public Participation Activities and Draw-cards</p>	<p>Clean-up Campaigns/Recycling Drives:</p> <ul style="list-style-type: none"> • Stakeholders agreed that these initiatives should instil a sense of teamwork and patriotism within participants. <p>Ambassadors:</p> <ul style="list-style-type: none"> • An advertising campaign is believed to have the potential for success if it’s linked to a name and a face, creating a “brand leader”. • Appointing ambassadors can also be targeted at specific groups, such as a popular musician for younger people. <p>Recycling Plant Site Visits:</p> <ul style="list-style-type: none"> • Recycling plant visits will be based on educating the visitor groups by demonstrating the processes behind responsible disposal of plastic to them. • This initiative should be open to the public but would certainly be most effective for companies and schools aiming to create awareness and implement ‘green’ initiatives. <p>Competitions:</p> <ul style="list-style-type: none"> • By arranging competitions, organisers create incentives for Responsible Waste Management among the intended target group(s). • As with recycling plant site visits, competitions will be fully actualised within companies and schools aiming to implement ‘green’ initiatives. • Ideas for competitions include creative ways of re-using or recycling plastic, as well as inter-business, inter-school or inter-town competitions. <p>Recycling Plays:</p> <ul style="list-style-type: none"> • Plays were highlighted as an effective and creative means of communicating the importance of effective plastic management, especially to children.

4.2. REACHING THE BUSINESS COMMUNITY

A. MESSAGING

Similar to the messaging directed at the general public, the following routes to reaching the business community with the message of responsible plastic management were identified. Please refer to the image below.

- **Route 1** was to firstly clarify the facts surrounding the topic of plastic in general and the management thereof. Secondly, to create an emotional response to the facts shared with the intent of triggering positive, long-lasting behavioural change. Lastly, to equip the general public with a 'how to' guide enabling them to responsibly manage their plastic waste.
- **Route 2** was to provide a 'quick fix' in which knowledge creation and emotional triggers do not play a role, yet the desired behavioural change is still achieved by enforcing responsible plastic management through legislation. A 'how to' guide is however still required, equipping the general public to comply with legislation.
- **Route 3** was an additional option identified in the process of reaching the business community, namely highlighting the bottom-line benefits of responsible plastic management.



Theme	Findings
Facts Around Plastic	<p>Truth Versus Myth:</p> <ul style="list-style-type: none"> • Similar to the situation perceived among the general public, the business community is likewise believed to harbour “misconceptions” surrounding plastic. • If organisations are empowered with the truth, their plastic waste management initiatives are likely to address core issues more effectively. <p>National and Organisational Polymer Balance Sheet and National Plastic Management Goals:</p> <ul style="list-style-type: none"> • What is the polymer balance sheet? It is the total tonnage of plastic waste being produced locally and imported into Namibia vs the tonnage of plastic waste collected, recycled, recovered as waste-to-energy and/or exported. Presumably, the rest is irresponsibly disposed of through illegal dumping or littering. The goal is to have a “positive polymer balance sheet” whereby zero irresponsible plastic disposal occurs. • Participants are of the opinion that the business community would like to know what the polymer balance sheet and goals in Namibia are so as to guide their own waste management goals and resultant strategies. In this manner they are able to “benchmark” and “measure” their own activities against national standards. • As summarised by a Re-user: “More companies are going the green route and are thinking about recyclables and wanting to get figures”. For this reason, recyclers currently provide “monthly reports” to their clients, giving account of their total waste figures, the amount recycled and “what is going to the landfill”. Such reporting should preferably be done on a larger scale.
Create an Emotional Response to Facts	<p>Patriotism:</p> <ul style="list-style-type: none"> • As with the general public, it was agreed that awareness creation should also be employed to appeal to the patriotic side of Namibian businesses, driving the belief that the Namibian business community cares and does not litter. • The approach would be to attract companies by marketing good corporate citizenship. • Patriotism could be enhanced by launching inter-company competitions with regards to best waste management practices, for example, by identifying the ‘green company of the year’.
Highlight Bottom-line Benefits	<ul style="list-style-type: none"> • Currently, most of the recycling initiatives within Namibia are offered at a marginal cost or none at all. Additional “cost savings” will therefore result if dumping is replaced with recycling, as explained by a Re-user: “The less that goes to a landfill site, they pay less for waste management and dumping fees because we’re collecting at this stage recyclables free of charge where we can. So that’s the saving that they will have”. Companies, especially those that utilise considerable amounts of plastic (or other recyclable products), should take advantage of this current situation. • Down packaging similarly has a cost-saving element – a benefit which can be employed in communication to encourage the reduction of plastic usage. • Appealing to businesses cost saving side, is probably one of the most effective marketing approaches as “money talks”.
‘How to’ Guide	<p>Businesses must be made aware of how they can tap into responsible plastic management cost saving practices. Examples are provided below:</p> <p>Down Packaging:</p> <ul style="list-style-type: none"> • It was established that the concept of down packaging was relatively unknown among participants, illustrating that the business community needs to be educated on down packaging methods that can be employed effectively within their business context. <p>Current and Upcoming Plastic Management Initiatives:</p> <ul style="list-style-type: none"> • Under the next heading –Reaching the Opinion Leaders Interviewed – participants indicated their need to be informed of all the current and upcoming plastic management initiatives to incorporate them in their own waste management strategies. Although this subtheme did not surface in the business community discussions, it is believed the topic will be equally valid here.

Legislation Driving Behaviour	<ul style="list-style-type: none"> • The understanding shared is that responsible organisations will adhere to waste management legislation if it was put in place: “We will only be able to see change if it is required by law, but it is still about awareness, enforcement and education”. • Once finalised, it is crucial to communicate waste management legislation properly in order to aid compliance. • It was also requested that government’s stance on plastic waste be communicated well in advance, enabling companies to plan their waste management strategy accordingly instead of being caught off guard.
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B. PREFERRED MEDIUM

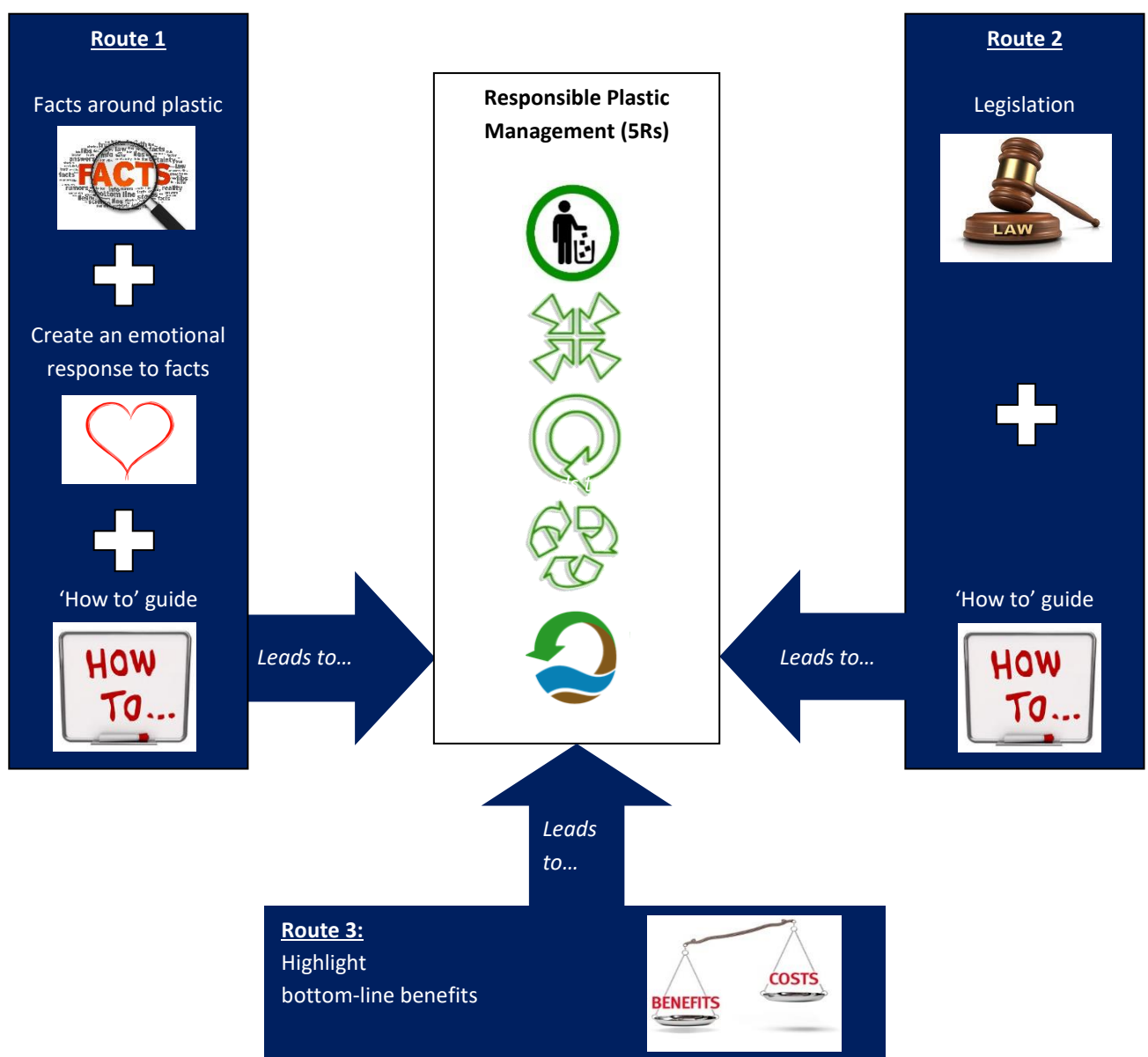
Theme	Findings
Similar to Public Campaign	<ul style="list-style-type: none"> • The belief is that public campaigns will also reach businesses: “General public initiatives will spill over into the business community”.
Conferences/ Presentations	<ul style="list-style-type: none"> • Organisations that are interested in best practices for plastic management or waste disposal could benefit from “information sessions” by attending conferences. • It is imperative that such conferences are held by “experts in the field” sharing “the same message” relating to the “hard facts of plastic”, ensuring that “then there is no confusion about what is true or not, what is being done or not”. • Conferences/presentations should also incorporate Q&A sessions, allowing for “deliberate dialogues, and discussions”.
Associations	<ul style="list-style-type: none"> • Being affiliated with “sectoral associations” is an excellent way of staying informed. • Information is shared in a “centralised” and “democratic fashion”, meaning that the same information is distributed among all members affiliated with a specific association. Due to this targeted communication, the goal of reaching the “critical mass” of the business community is attainable: “You have a database of your stakeholders, so you can reach them”. • It also creates a platform whereby businesses linked to a specific association can familiarise themselves with other companies within the industry and aids in identifying ways of contributing to shared goals.
Email	<ul style="list-style-type: none"> • Email is a relatively easy and inexpensive medium to share waste management information among businesses. • Information overload can also result in Emails not being read. If the sender has clout with the recipient, the likelihood of the Email being read increases. For example, if the email is distributed through an industry association.
Staff Training	<ul style="list-style-type: none"> • Providing employee training on the subject of responsible disposal is another interactive medium that can be utilised. • This is an especially vital medium for companies that deal with plastic directly and on a large scale (e.g. plastic manufacturers, retailers, recyclers, etc).
Brochure with Municipal Bill	<ul style="list-style-type: none"> • Sending out a brochure on responsible plastic management with the company’s municipal bill is an easy means of distributing information. • Risks tied to this medium include the fact that it might not have the desired impact or reach the right employees. Also, brochures could add to irresponsible waste management.
Business Community Participation Activities and Draw-cards	<p>Competitions:</p> <ul style="list-style-type: none"> • Launching competitions within an organisation or among organisations create general awareness concerning responsible plastic management. • Competitions are a great “marketing tool” for developing a pro-active attitude in the business community, although caution should be taken that competitions might not have the desired long-term effect and that organisations could fall back into historical waste management patterns. • Inter-business competitions also provide companies with the recognition of being “responsible corporate citizens”, positively influencing their public image.

4.3. REACHING THE OPINION LEADERS INTERVIEWED

A. MESSAGING

Similar to the messaging directed at the general public and the business community, the following routes were identified to reach the opinion leaders interviewed with the message of responsible plastic management. Please refer to the image below.

- **Route 1** was to firstly clarify the facts surrounding the topic of plastic in general and the management thereof. Secondly, to create an emotional response to the facts shared with the intent of triggering positive, long-lasting behavioural change. Lastly, to equip the general public with a 'how to' guide enabling them to responsibly manage their plastic waste.
- **Route 2** was to provide a 'quick fix' in which knowledge creation and emotional triggers do not play a role yet the desired behavioural change is still achieved by enforcing responsible plastic management through legislation. A 'how to' guide is however still required, equipping the general public to comply with legislation.
- **Route 3** entails highlighting the bottom-line benefits of responsible plastic management.



Theme	Findings
Facts Around Plastic	<p>Truth Versus Myth:</p> <ul style="list-style-type: none"> • As illustrated under heading 2.4, there is a varying degree of uncertainty amongst participants interviewed across all stakeholder groups when asked to consider the validity of statements about plastic. It is important to clarify the facts before decisions are made. • It was requested that in considering truth vs myth, “empirical evidence is needed, not just from one point of view, but from a well-rounded view point”. Currently, the perception is that “very light arguments” are presented from both sides. Accurate assessment will require the following: “To know the facts about plastic, the pros and the cons, and not just from the view of the manufacturers, all stakeholders must give their research so that we can have all the information from all the angles”. • An additional request entails that “the entire value chain involved in the manufacture and recycling of plastic” is explained and the effect thereof considered. • Plastic Manufacturers also want to know what the level of awareness and understanding amongst consumers are to guide their own marketing and communication efforts: “What does the consumer understand and perhaps more important, what they don’t understand”. <p>National and Organisational Polymer Balance Sheet and National Plastic Management Goals:</p> <ul style="list-style-type: none"> • What is the polymer balance sheet? It is the total tonnage of plastic waste being produced locally and imported into Namibia (virgin and recycled) vs the tonnage of plastic waste collected, recycled, recovered as waste-to-energy and/or exported. Presumably, the rest is irresponsibly disposed of through illegal dumping or littering. The goal is to have a “positive polymer balance sheet” whereby zero irresponsible plastic disposal occurs. • Opinion leaders across all stakeholder clusters would like to know what the polymer balance sheet and goals in Namibia are. <ul style="list-style-type: none"> - They would like to receive this information in the form of “statistics” and “graphs”, mapping performance over time. - Information should preferably be presented on a national scale, according to industry, and should include country comparisons, especially in the SADC region. - For many, such as Plastic Manufacturers, Importers, Re-users and Consumers, this information is requested as guide for their own waste management goals and resultant strategies. Furthermore, they want to “measure” and “compare” their own performance statistics against others in similar industries and to the national standard: “I’d just like to know as a Namibian citizen, that we are fine, that we are not adding to the problem”. - For others, such as Government, it is to guide national decision making when considering “how we (Namibia) are faring in our achievement of national goals and targets”. - Trade Associations and Environmental Groups require this information to best inform and represent the interests of their members.
‘How to’ Guide	<p>Current and Upcoming Plastic Management Initiatives:</p> <ul style="list-style-type: none"> • Participants expressed the need to be informed of all the current initiatives that are in place concerning responsible plastic management in Namibia. In this manner they are able to support current initiatives and incorporate them in their own waste management strategies. Throughout the report, awareness levels were reportedly low, supporting this finding. • Opinion leaders want to remain abreast of new developments or planned expansions, such as the opening of “a new recycling plant”, since it will also affect their own action planning. • Reports were requested on the application of funds received by the Environmental Investment Fund in terms of introducing or expanding plastic management initiatives in Namibia. Should a levy, sin tax or duty be introduced, a similar report on its application is required. • Although this subtheme did not arise from the opinion leader discussions, it is believed the topic will be equally valid amongst this stakeholder group.

<p>Create an Emotional Response to Facts</p>	<p>Patriotism and Success Stories:</p> <ul style="list-style-type: none"> • Corresponding to the general public and business community, opinion leaders shared a need to hear the success stories. In knowing the “status of how Namibia is doing, what type of efforts, and what type of successes are here that can inform the global community” a sense of national pride is stirred, resulting in a desire to contribute to a growing success story.
<p>Highlight Bottom-line Benefits</p>	<ul style="list-style-type: none"> • Many of the participants interviewed also form part of the business community, namely Plastic Manufacturers, Importers, Consumers and Re-users. The same bottom-line benefits that can be derived from recycling and down packaging efforts, as described under heading 4.2A, will therefore drive responsible plastic management behaviour amongst opinion leaders.
<p>Legislation Driving Behaviour</p>	<ul style="list-style-type: none"> • Parallel to the need expressed by the business community, it was requested by all stakeholder clusters interviewed that the government’s stance on plastic waste should be communicated. At the moment, the government’s position is perceived as unclear: “Government’s lead is vital. We need to understand their vision and their plan”. • Reference was made to Namibia having a Waste Management and Pollution Bill that was apparently passed. It is, however uncertain whether it was passed as an Act through parliament or whether a waste management strategy with resultant targets have been formally drafted, approved and communicated. • Once finalised, it is crucial to communicate waste management legislation properly in order to aid compliance.

B. PREFERRED MEDIUM

The following communication mediums was proposed by the opinion leaders interviewed as the best means for them to receive information regarding plastic and plastic management in Namibia:

- Email;
- Newspaper;
- Social Media;
- Newsletters;
- Trade Associations;
- Conferences/Presentations; and
- Reports on:
 - National polymer balance sheet and performance on national plastic management goals;
 - Organisational polymer balance sheet; and
 - Reports on application of funds from, for example, the Environmental Investment Fund and if a levy, sin tax or duty were to be introduced, a similar report on its application is required.

5. PLASTIC MANAGEMENT GOALS, 3-YEAR TARGETS AND ACTION PLAN PROPOSED

5.1. NATIONAL PLASTIC MANAGEMENT GOALS

Participants were first asked to consider six proposed plastic management goals for Namibia. They were subsequently requested to gauge Namibia's performance for each of these proposed goals on a scale from 1 to 10, where 1 reflects an extremely low achievement of the goal, 5 a moderate achievement and 10 equates to achieving the goal fully. Participants were then asked whether they agree with the proposed goals and if there are any suggested amendments thereto.

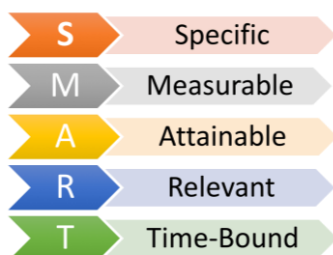
A. CURRENT ACHIEVEMENT

Proposed National Plastic Management Goals	Performance Assessment
1) Zero marine litter.	3.2
2) Protection of all water sources, including aquifers.	4.5
3) Protection of fauna, flora, landscapes and heritage.	4.3
4) Zero waste to landfill.	3.0
5) Lowest possible carbon footprint.	4.0
6) Lowest possible impact on non-renewable resources.	3.7
Overall Performance Assessment	3.8

- Participants scored a mean of 3.8 out of 10 on the overall performance on the proposal national plastic management goals. This low mean score indicates that the current state of plastic management in Namibia is perceived as an area of great concern, thus placing it in the red zone.
- Red zone means falling well below 5 out of 10 were scored on all the proposed individual plastic management goals. These scores highlight an extremely low level of perceived achievement for each proposed goal.
- It is evident that more must be done in terms of the 5 Rs of plastic management: Responsible disposal, Reduction, Re-use, Recycling and Recovery. Each R is believed to contribute to the achievement of the proposed goals listed in the table above.
- Current activity, strengths, shortcomings and proposed best practices as they relate to each 'R' are discussed under headings 3.1 through 3.5.

B. AGREEMENT WITH PROPOSED GOALS

- **Overall Agreement:**
 - All stakeholder clusters agreed that the proposed goals are "good goals for Namibia" and that "at the end of the day, that's where we want to be".
- **Amendments Suggested:**
 - *Convert them into SMART goals:*
 - Some concerns were raised that the stated goals are "too high". "It's like saying I am going to lose 50kg in a month". It was therefore proposed that the goals be broken down into specific targets to "make it a bit more manageable".
 - Measurable targets should be placed next to each goal: "Put percentages or numbers next to each".
 - An action plan, including timelines and deadlines, should also be communicated. This will increase the buy-in and support of the stated goals as that they will be perceived as more attainable. Moreover, a "sense of urgency" will be created so that "we won't be sitting here in five years' time again".



- **Additions Suggested:**
 - *A positive polymer balance sheet:* What is the polymer balance sheet? It is the total tonnage of plastic waste being produced locally and imported into Namibia vs the tonnage of plastic waste collected, recycled, recovered as waste-to-energy and/or exported. The rest is presumed to be irresponsibly disposed of either through illegal dumping or littering. The goal is to have a “positive polymer balance sheet” whereby there is zero irresponsible plastic disposal and whereby Namibia is “using more second life-cycle polymers than importing virgin polymer”.
 - *Education/awareness creation goals:* Participants believe that education/awareness creation will serve as the foundation for the successful implementation of all 5 Rs of plastic waste management. In its absence, the required national mind-shift necessary to support responsible disposal, plastic reduction, re-use, recycling and recovery efforts will not take place. Since “education is a big part of it”, it was proposed that a SMART goal be set accordingly.
- **Alignment with Existing Plans:**
 - Before the plastic waste management goals are finalised and the consequent action plan communicated, it was suggested that the local and international policies and plans be reviewed so as to pinpoint means of alignment and cooperation. Participants indicated that a more unified approach will have greater impact.

5.2. THREE-YEAR TARGETS AND ACTION PLAN

Upon agreement on the proposed national plastic management goals, the subsequent step is setting targets and formulating an action plan. In conclusion, participants were asked to consider everything discussed in the interview and to propose the plastic management targets and action plan for the next three years.

Target	Actions
Target 1: Identify and Empower a Coordinating Body	<ul style="list-style-type: none"> ● A coordinating body needs to be identified and empowered to roll out the proposed action plan. This body will also be responsible for ensuring the set targets and goals are met. ● What is expected of a coordinating body? <ul style="list-style-type: none"> - Effectively coordinating the collection of industry data, as well as generating and distributing consolidated performance statistics and reports on a “quarterly” and “annual” basis, is essential to monitor and drive progress towards set plastic management goals and targets. The body should therefore possess the authority to require the disclosure of relevant information. - Additionally, the body should be able to “efficiently pull (all stakeholders) together to have a coordinated approach”. This poses a challenge in the sense that the body should be able to manage diverse opinions. - It mustn’t be a “toothless tiger”; instead it must have a “mandate”, “plan”, “funded personnel and the “capability of making decisions”. - The body must be “dynamic” and able to “act fast”. ● The majority of stakeholders are of the opinion that a government body is best suited to the above criteria. The Ministry of Environment and Tourism (MET), in particular, is recommended as the appropriate government department for the following reasons: <ul style="list-style-type: none"> - MET has already been appointed as “the custodian of the environment”. - The Sustainable Development Advisory Council (SDAC) already forms part of the MET. Instead of “duplicating efforts” or “creating new things”, it is suggested that the SDAC be empowered to effectively act in this capacity: <p style="margin-left: 40px;"><i>“In the Ministry of Environment, you have the Sustainable Development Advisory Council (SDAC), which is a council that is set up through the Environmental Management Act of 2007, which is currently being amended. I would want certain powers and certain directives, such as plastic, solid waste management and the like to be housed within the Secretariat of the SDAC to enable them to become more proactive. They can compel industry to draw</i></p>

	<p><i>information together and their mandate is to ensure that they look across pervasive issues that have sectoral interest, and that they are the chief advisor to the Minister of Environment and Tourism. Another need is that the whole industry sits around the same table and to talk and discuss so that we can come to a common standard and 'this is who Namibia is and the way forward'. That should also be the role of SDAC. It's just that since its establishment, it's been a little bit in limbo in terms of really pushing for this cross-sectoral alignment, but they are the perfect institution to do this work". (Government participant)</i></p> <ul style="list-style-type: none"> - Furthermore, if a levy were to be charged on plastic carrier bags and/or a plastic import duty imposed, the MET was also proposed as the best suited candidate to collect the levy and/or duty through the Environmental Investment Fund (EIF). The fact that the EIF is already in place and has received the "mandate to manage, drive and promote investments in the environmental sector" is supportive of this proposal.
<p>Target 2: Conduct Research and Stakeholder Consultations</p>	<p><u>Need for Research:</u></p> <ul style="list-style-type: none"> • Stakeholders agreed that decisions regarding the setting of industry and product standards as well as ensuing laws and regulations must not be a "knee jerk" reaction, based on "too little information and consultation". It is essential for the process to be "well considered" and thoroughly thought through. • Stakeholders shared a concern that there is a "lack in data" influencing the decision-making process. The question was posed: "How can we make decisions without data"? <p><u>Research Required:</u></p> <div> </div> <p><u>International Best Thinking and Practices:</u></p> <p><u>Information Gaps Identified:</u></p> <ul style="list-style-type: none"> • Concurring facts around plastic, drawing on the global body of knowledge. Currently, there is thought to be misinformation on the topic, negatively impacting decision-making. • A means of alignment and cooperation with international thinking and practices should be established. As stated by a Government participant: "As a country we can benchmark with other countries, then come up with something that we can use. We are trying to swim into the same direction as the globe, while catering for national interests". <p><u>Recommended Information Sources:</u></p> <ul style="list-style-type: none"> • <i>Existing Research:</i> The following sources were referred to specifically: <ul style="list-style-type: none"> - Research documents available from International Recycling Organisations. - United Nations Environmental Protection Agency research papers and best practices. - Best practice documents on the South African Plastic Recycling Organisation's website. - Research done by the Institute of Waste Management of South Africa, the Plastic Federation of South Africa and the South African PET Recycling Company (PETCO). • <i>Existing International Plans:</i> <ul style="list-style-type: none"> - UN Global Compact Sustainable Development Goals, since they refer to waste management. - Waste management policies, strategies, standards and regulations of other governments, particularly that of our neighbouring countries and those operating in our waters.

Local Input and Statistics:

Information Gaps Identified:

- “Consolidated data” on the following is lacking:
 - Current performance on proposed national plastic management goals.
 - Namibia’s polymer balance sheet:
 - Total tonnage of plastic being produced locally and imported into Namibia.
 - Compared to tonnage of plastic waste collected, recycled, recovered as waste-to-energy and/or exported.
- Stakeholder input on industry and product standards impacting plastic management in Namibia.

Recommended Information Sources:

• *Local Statistics:*

- Information Gathering “Catalysts” or “Facilitators” Were Proposed:

▪ *Ministry of Industrialisation, Trade and SME development (MIT):*

- Since all businesses are required to register with MIT, it is assumed that there will be a “database” of all registered businesses within an industry.
- Employing such a database, plastic management statistics can be requested on a “monthly” or “quarterly” basis from all registered businesses and fed into the national plastic management goals and polymer balance sheet.

▪ *Namibia Statistics Agency (NSA):*

- Through an Act of Parliament (Statistics Act No. 9 of 2011), the NSA has already been mandated to gather, consolidate, manage, report and advise on national data. Including an “additional criteria” of tracking the polymer balance in Namibia should therefore “not be a problem”.
- The NSA can make use of MIT’s business registration database to gather the required information and generate reports accordingly.

- Why Forums/Associations Are Not Suited to the Task:

- Some participants feel that local forums or associations, such as the Namibia Manufacturers Association, Recycle Namibia Forum, Team Namibia, NCCI and Namibia Chamber of Environment are in a position to gather information regarding the plastic management of their members.
- It should however be noted that membership to these organisations are “voluntary”. The fragmented information gathered can therefore not be assumed to represent an industry in its entirety or the country at large.
- The disclosure of information by members can also not be mandated as these forums/associations do not have regulatory authority.
- For the above reasons – while being identified as ideal mediums through which to communicate with the business community – forums/associations cannot be expected to prepare consolidated plastic management reports.

• *Stakeholder Consultations:*

- It was proposed that a “technical committee” comprising a wide range of stakeholders, for example, government, regulators, environmental groups, economists, plastic manufacturers, plastic importers, plastic re-users, relevant associations/forums, trade unions, retailers, manufacturers, relevant industry suppliers and private citizens be established. “It’s very much a pulling together of all the stakeholders. Let everyone play a part in generating the information and coming to a set of common standards that we would like in Namibia, to say, ‘this is us’”.
- The Namibian Standards Institution (NSI) indicated that they are currently in the process of setting up such a committee. A coordinated approach is however recommended. It is therefore suggested that if the Ministry of Environment and Tourism is selected as the coordinating body, the efforts of the NSI should either be taken over by or feed into this governmental department.

Understanding the Namibian Government's Current Position:

Information Gaps Identified:

- It is essential to understand what standards, laws and regulations currently guide plastic management in Namibia in order for them to be developed or revised where needed. It is vital to avoid duplication or counterproductive efforts.
- Individual participants referred to existing government documents that are already operational in guiding Namibian plastic management, specifically the National Solid Waste Management Strategy.
- The majority of interviews reflected however that at large, stakeholders are uncertain of government's current position on the topic of plastic management in Namibia.
- There is a dominant perception that plastic management policy, standards, regulations and strategies still need to be developed. One Government participant even indicated that "we don't have anything in place". It was suggested to: "Get the solid waste management policy in place, then get the Act done by next year, and then set up a comprehensive, nationally endorsed implementation plan".
- It is unclear which of the following cause the uncertainty surrounding government's position on the topic:
 - A lack of awareness of current government documents that are already in place;
 - A lack of stakeholder consultation in the drafting of these government documents;
 - The operational government documents not being relevant to guide plastic management in Namibia specifically; or
 - The implementation of relevant strategies not having commenced yet.

Recommended Information Sources:

Upon conducting some desktop research, **FISHER CONSULTING** identified the following documents for referral when setting the way forward in terms of plastic management in Namibia:

- *Relevant Development Framework Documents:*
 - *Namibia's Green Plan*
 - Emphasises the reciprocal relationship between environmental health and living standards as well as the link between the state of the economy and the state of the environment. (*Tarr & Figueira, 1999; Namibia's Environmental Assessment framework*)
 - *Vision 2030*
 - The vision's rationale is to provide long-term policy scenarios on the future course of development in Namibia at different points in time, up until the target year of 2030. It regards the sequential five-year National Development Plans (NDPs) as the main vehicles for achieving its long-term objectives.
 - NDP2: 2001/2 – 2005/6
 - NDP3: 2007/8 – 2011/2
 - NDP4: 2012/3 – 2016/7
 - **National Solid Waste Management Strategy**
 - To strengthen the institutional, organisational and legal framework for solid waste management, including capacity development.
 - To install a widespread culture of waste minimisation and to expand recycling systems.
 - To implement formalised solid waste collection and management systems in all populated areas.
 - To enforce improvements in municipal waste disposal standards.

	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> ▪ To plan and implement feasible options for hazardous waste management. ▪ Public awareness of environmental responsibilities. • Acts: <ul style="list-style-type: none"> - <i>Environmental Management Act (No.7 of 2007)</i> <ul style="list-style-type: none"> ▪ The purpose of this Act is to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment; to establish the Sustainable Development Advisory Council; to provide for the appointment of the Environmental Commissioner and environmental officers; to provide for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters. ▪ <u>Relevant Sections:</u> <ul style="list-style-type: none"> - Principles of environmental management (Part II; p.7); - Powers of Minister in respect of waste (Part III; p.8); - Objects of environmental plans (Part VI; p.18); and - Environmental assessment (Part VII; p.20). - <i>Environmental Investment Fund of Namibia Act (No.13 of 2001)</i> <ul style="list-style-type: none"> ▪ The purpose of this Act is to provide for the establishment of an Environmental Investment Fund for Namibia, in support of sustainable environmental and natural resources management in the country; to constitute the Board to manage and control the Fund and to define its powers and functions; and to provide for incidental matters. ▪ <u>Relevant Sections:</u> <ul style="list-style-type: none"> - Environmental Investment Fund of Namibia (Part II; p.3-4); and - Allocation of moneys (Part IV; p.11). - <i>Public and Environmental Health Act (No.1 of 2015)</i> <ul style="list-style-type: none"> ▪ The purpose of this Act is to provide a framework for a structured, uniform public and environmental health system in Namibia; and to provide for incidental matters. ▪ <u>Relevant Sections:</u> <ul style="list-style-type: none"> - Integrated waste management (Part 9; p.36-38) • Regulations: <ul style="list-style-type: none"> - <i>Waste Management Regulations: Local Authorities Act (No.23 of 1992)</i> <ul style="list-style-type: none"> ▪ <u>Relevant Sections:</u> <ul style="list-style-type: none"> - Chapter 2: Powers and Responsibilities; - Chapter 3: Provisions relating to the storage, collection, transportation, treatment and disposal of waste; - Chapter 4: Selling and recycling of waste (No.43); and - Chapter 7: Enforcement.
<p>Target 3: Finalise SMART Goals and Targets</p>	<ul style="list-style-type: none"> • Based on the secondary data collected and via the stakeholder consultations process, the proposed goals need to be converted into SMART goals and targets. • The finalised SMART goals and targets should carry stakeholder agreement, buy-in and support to ensure efforts are driven towards the attainment thereof. • For example, Namibia is currently at 'X' amount of waste to landfill. 'X' amount of waste is being recycled. The goal is to attain 'X' amount of waste to landfill within three years, five years and ten years respectively, with the ultimate goal being 'zero waste to landfill'. In order to achieve these goals, recycling must increase with 'X' percentage year-on-year. This percentage can be broken down, for example, per region and municipal area.

<p>Target 4: Finalise Industry and Product Standards</p>	<ul style="list-style-type: none"> • Building on the research and stakeholder consultation, and considering the finalised SMART goals and targets set, a document stipulating the agreed industry and product standards for plastic in Namibia should be formulated. “If we can get one document that says ‘this is us’, these are the rules that we subscribe to, I think it will help us to align our interests. We won’t have different stakeholders pulling in different directions. We will know exactly what to do”. • Compliance with product and industry standards is, however, voluntary until they are confirmed into law. Only once a proposed standard is approved as law, it can be considered compulsory and regulated by authorities. This requires a legislative proposal based on the agreed industry and product standards being brought to parliament in the form of a Bill. If Parliament passes the Bill, it can be turned into an Act. • All recommended standards that impact imports will have to be confirmed into law to avoid contravening any international trade agreements. • For the above reasons it is recommended that Target 5 be prioritised into the first three years’ planning.
<p>Target 5: Establish Government’s Position</p>	<ul style="list-style-type: none"> • Based on the review of current relevant national development plans, laws and regulations; and considering the agreed SMART goals, targets, and product and industry standards proposed for plastic management in Namibia – existing laws and regulations need to be amended and/or supplemented where necessary. • It was agreed that: “We will only be able to see change if it is required by law”. Until then, efforts will be “fragmented”, “desperate” and lacking “national impact”. • Structures ensuring that laws are “monitored” and “enforced” have to be put in place. For example, the information that all businesses will be required to submit on a monthly basis to the MET can serve as a means of auditing compliance. • “Penalties” and “fines” should be introduced for non-compliance. • Regulations proposed for consideration: (Please refer to the relevant sections in the report) <ul style="list-style-type: none"> - Non-recyclable plastic ban; - Plastic import duty on non-recyclable plastic; and - Levy on plastic carrier bags.
<p>Target 6: Devise an Implementation Strategy</p>	<ul style="list-style-type: none"> • An implementation strategy or “working plan” needs to be formulated and approved, based on the SMART goals and targets set, and considering the standards and laws put in place to guide and regulate plastic management in Namibia. • The first two proposed implementation steps are: <ul style="list-style-type: none"> - <u>Setting Up a Nationwide Awareness Campaign:</u> <ul style="list-style-type: none"> ▪ It is essential that a common goal and strategy is implemented first, in order for a “simple, uniform and consistent message” to be communicated effectively. As stated by a Government participant: “First, decide what the way forward is, and then go tell the public”. Awareness creation therefore makes part of Target 6. ▪ We need to create a “culture” of responsible plastic management in Namibia amongst the general public, businesses, industries and law makers. This immense task will require ongoing, long-term planning and provision. ▪ Proposed campaign funding sources: <ul style="list-style-type: none"> - As part of government’s budget; - Income generated from a levy on plastic carrier bags and/or a plastic import duty; and/or - Industry-wide contribution as, for example, a percentage of turnover. ▪ The coordinating body, i.e. MET, should “appoint a company with the necessary expertise” to run the nation-wide campaign.

	<ul style="list-style-type: none">- <u><i>Setting Up Plastic Management Support Structures:</i></u> People need to be empowered to do the right thing. It is futile to create the motivation towards responsible plastic management without providing the necessary support structures. The first steps proposed for consideration are:<ul style="list-style-type: none">▪ Setting up and formalising dumpsites/landfills for each town and village (following the National Solid Waste Strategy).▪ Ensure the availability and accessibility of waste bins.▪ Ensure the availability and accessibility of recycling bins, bags and collection centres.▪ Conduct a feasibility study into the increasing and expanding recycling plants in Namibia.▪ Conduct a feasibility study into the expanding waste-to-energy initiatives in Namibia. <p>The above will run beyond the three-year period under discussion.</p>
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APPENDIX: SUPPORTING PARTICIPANT QUOTES

1. OVERALL PERCEPTION OF PLASTIC

1.1. ARGUMENTS AGAINST PLASTIC

Environmental Impact

Biodegradability

Importers

- "You look at the process in plastics, I mean plastics is a convenience but not that biodegradable." (Importers 1)
- "Plastic takes 500 or 1000 years to decompose." (Importer 2)

Re-users

- "Due to the long time it takes to disintegrate and all that, which makes it an issue. But like I said, not a lot people know that it takes twenty of fifty years to degrade. So, if people understand it better and the impact that it really has, I think people would start using it wisely." (Re-user 2)

Consumer

- "Bad for the environment, doesn't disintegrate." (Consumer 3)

Environmental Group

- "I think that valid arguments against the use of plastic are, one: Most of the materials being used for plastic is not biodegradable. And then, because they are not biodegradable, they compromise the quality of the soil or of the earth and then the productivity thereafter." (Environmental Group 1)
- "These things are not simple. Paper bags come from trees and do we need to cut down trees, it degrades more quickly. So, from a longer-term environmental impact, plastic lies in the environment for hundreds and sometimes thousands of years, depending where in the environment it is. Paper will be gone in months or in a year or so and it doesn't leave a polluting legacy behind it, plastics do." (Environmental Group 2)

Government

- "As far as I know there are non-biodegradable items in terms of the plastic when they're scattered all over, around the ground." (Government 2)
- "We are talking about plastics. There are plastics that can decay. There are those that cannot decay. They cannot easily decay. They are all plastic. There are different classes of plastics." (Government 3)
- "Most of the African countries are disposal sites, which is not good so what we do we just ... burning and bury some that do not decay." (Government 3)
- "Than the plastic? With paper or carton, it rains, it's gone. You see. Plastic stays. The plastic hangs on a tree and we say (it lasts) even for a man's lifespan. You die and it's still there. So, if you leave it while it's friendly, it's okay. If it's not friendly, it's bad for the future of your own children." (Government 3)

Carbon Footprint

Use of non-renewable resources

Importers

- "The more we litter and not recycle, the more we need to manufacture, the more irresponsible we are with oil." (Importer 3)
- "But producing plastic comes from polypropylene which is a by-product of petrol production. Which is used from coal, which is a non-renewable energy source. So actually, just saying plastic is already a Zero on carbon footprint." (Importer 3)

Environmental Group

- "Plastic bags come from petrol chemical compounds and those processes of constituting plastic takes a lot of energy. You've got to pump the... if you look at the whole process, you can't just look at the part of the bag. You got to pump the oils, crude oil out of the ground, you've got to transport that crude oil somewhere, you've got to put it through a process. You produce your fuels and your (inaudible) and all your different parts of it and from that you produce your plastic bag. So, if you add the whole process together, it's actually energy... it's a high energy system." (Environmental Group 2)
- "If the plastic producers are talking about this, they often just talk about the end bit of taking something and converting it into plastic and then distributing it, they don't talk about the whole process of off-shore, pumping the crude oil and servicing the ships out there and getting it on shore and pumping it out in your big container tanks and all of that. If you look at the whole process it's high energy." (Environmental Group 2)

Dysfunctional Waste Management (5 Rs)

Responsible disposal

Littering/Dumping

Behaviour problem

Plastic Manufacturers

- "There's a lot of argument against it in the sense that it's being disposed indiscriminately."
- "The bad thing is that the end consumer is actually putting a bad name on plastic in itself due to littering." (Manufacturer 2)
- "The littering, that is basically the biggest problem." (Manufacturer 3)
- "It is not as if it's disposed of 20/40km from my home it's disposed across the fence- just tossed." (Manufacturer 5)

- "We did a little mini survey between Swakop and Walvis on the beaches. A lot of the PET bottles are foreign and then you've got to go back in terms of the shipping trawlers and that sort of thing. Also, what profile of individual is on that trawlers worldwide because plastics is a worldwide problem. The bigger part of it comes from Asia - just saying. What is it for them to finish a bottle of water and toss it over? Or the bait straps once they have their bait the packaging strapping it's disastrous for marine life. The education is massive, it's worldwide." (Manufacturer 5)
- "Our problem sits with once it's in the consumers' hands that's where the problem is being created, tossed out of a window, dumped at a beach. Education, collection, enforceability none of that is in place to ensure there is awareness." (Manufacturer 5)

Importers

- "The Chinese looks after that (marine litter), the Chinese vessels. I don't know is it really within our control? My perception is that most pollution, you know Marine Pollution, is cause by the vessels on the sea. How do you control that?" (Importer 3)
- "It's (water sources) fairly polluted. I don't think we are doing too well on that. It's a culture, people litter. They don't put stuff in dustbins. (Importer 3)

Re-users

- "I think the biggest problem is people see them in the trees, flying around and that's the biggest problem. It's in the eye of the people." (Re-user 1)
- "Mainly I think it is the fact that you can see it everywhere." (Re-user 2)
- "Which comes back to what I initially said about the end consumer. They are the people responsible for not disposing of and keeping the stuff in your car until you get to a service station or you get home and you put it in the dust bin there. Not to throw it out the window." ((Re-user 2)
- "Firstly, like I said, my first issue is that people are not even doing the basic things of putting the stuff in waste bins or in skips, does not matter. They are not disposing of it in the proper way. And if we can't even get that part right, then it would be a struggle to even go look at the recycling side. You need to crawl before you can walk." (Re-user 2)

Consumer

- "From a Namibian's point of view is the environment and the fact that you can go anywhere in Namibia, wherever you go there's always a plastic bag whether it's a Shoprite or Pick n Pay bag it doesn't matter. It is littering." (Consumer 1)
- "But from the environmental point of view it is obviously a bad thing, the irresponsible way that it is being disposed of and with that the recycling and with that point of view a worry for every Namibian." (Consumer 1)
- "From the environmental point of view, it is the irresponsible disposing of the plastic bags that is a question of they see points everywhere and everybody adheres to it and we find a way of getting everybody to put it in a single space or point whatever you want to do, then it is a different thing. People litter." (Consumer 1)
- "It's a people problem, we don't dispose properly. We litter with it." (Consumer 2)
- "Plastic gets wasted, people don't care about it, it's easy to litter." (Consumer 2)
- "I would say, and I'm involved in the beach clean-up for the last five years. I have noticed along the Coast, as you know our coast-line is quite littered. A lot of plastic comes from the boats, ships, fishing vessels although a lot of people also do throw plastic out of the cars or leave them when they're camping." (Consumer 2)
- "On a negative side I would say, obviously it's a big problem. Being at my age, travelling the world, seeing Namibia again last week up north – towns like Uburundi has got a major, major problem, which is plastic. My big problem with plastic is, obviously we know the consequences, where it ends up and all those kinds of things. We always joke it's the Namibian flowers, because where you drive, all over the country, you see it (plastic) stuck in the trees and everything." (Consumer 5)
- "I would focus mainly on school activities – mainly on education. Because whatever we neglect today will actually catch up with us in the future. What worries me, is that if you look at our major roads – and as I said to you, I do travel a lot – is the amount of trash that's been thrown out of the car windows all over the country. And it seems to me there is a lack of understanding, a lack of... 'I don't care' or just a situation of 'Let's get rid of what is in our cars'." (Consumer 5)
- "The littering is a big problem." (Consumer 5)
- "I think we need to up recycling. Yes, we do recycle in Windhoek, which I think is a great thing. But if you go to our dumpsites and everything around Windhoek... OK, luckily the people still use the dumpsites – whoever uses it. But for those who just dump in the bushes and that sort of thing – there is a major problem there. Because it's out of sight, out of mind, that sort of thing, but it becomes somebody else's problem." (Consumer 5)
- "I think they must start giving fines for people that litter. How you going to implement it? If people still litter you can... and that why I said, you can go into informal areas and villages, and you see how many bottles and tins and broken glass and plastic. It's just that people litter and they are not educated to keep their environment clean." (Consumer 6)

Trade Associations

- "I don't think it's so much against the use of plastic, I think it's against the misuse of plastic." (Trade Associations 1)
- "Difficult to control, because what they have picked up at the coast, I understand is mostly litter from the shipping vessels and not so much that comes from inland. But added to that, our rivers don't flow often. Which might have an influence in that one." (Trade Associations 1)
- "I don't think so, but I also don't think it's an inland problem. It's from within the waters itself. So, I don't know how Namibia itself can control that." (Trade Associations 1)
- "I am not exactly a Water Engineer, but I read a lot and I can see that there are many people that have their concerns, especially with Windhoek's aquifers. Where suburbs are built over aquifers. On the other hand, I also know what our municipality does to ensure that whatever goes to our landfill, which is also quite close to the aquifers, that it doesn't contaminate the groundwater. So, on the one hand I am aware of efforts that are being done, but on the other hand there is a little bit of concern that building, and construction is taking place where our aquifers are. So maybe that can be improved on, not that I am an Engineer, it's just what I read from what's available." (Trade Associations 1)
- "And it is a very light type of material. And people don't necessarily take it to the dumping sites or they don't necessarily recycle the right way, or they don't treat it the right way. They just throw it away, and because of that, it's all over, in places where you don't want plastic at the end of the day. So, it's detrimental – perceived to be detrimental to the environment." (Trade Association 2)
- "The problem lies with the consumer. I think it's the biggest problem – the consumer that does not treat plastic with the care that should be taken and (it) should be treated with because we live in a throw-away community. And, yes, people don't worry about plastic." (Trade Associations 2)

Environmental Group

- "Our concern is with the plastics that are used once for a few minutes and then it's discarded, because that discarding process ends up with that plastic and in the environment. There are a couple of issues around that, one is that it just looks bad in the environment and creates a wrong impression of our country. The discipline of a country is reflected in it, in a messy environment. It projects a lack of caring and if a country has tourism as one of its most important economic drivers then driving around a country with plastic bags floating, lying in the trees, dumpsites which are not properly fenced and managed and plastic all over the country side, really doesn't create a good impression of the country and what we are marketing here, in addition to wildlife, is ready landscapes, open, pristine country side. And plastic, discarded plastic floating around doesn't do much good for that."
- "And when I'm talking about plastic here, I just want to emphasize, I'm talking about the discardable plastics. Not the things that go into your chair and into your handbag, to whatever. It's the discardable one, thrown away. So, the main thing is the discardable plastics that we are talking about are plastic bags, plastic drinks bottles, water bottles and soft drink bottles and so on which you just use once and then throw it away. Plastic utensils, like knives and forks and spoons, straws, the polystyrene things with fast foods in, those are the problems. We get that out of the way then essentially 90%, you've solved the problem. Now we've got some suggestions and recommendations for how that should be done." (Environmental Group 2)

Re-use

Importers

- "You can recycle plastic but who's going to use, I mean once you've recycled it you just don't have this quality anymore. I mean you can see why this bottle is attractive, because it's see through, it's clear. Once you start going into recycle I'm just not sure you can get it to this stage." (Importers 1)

Recycle

Direct to landfill -
no recycling
*Behaviour
problem*

Plastic Manufacturers

- "Way too much plastic going into landfills, not being recycled" (Manufacturer 1)
- "I'm talking more about the environmental impact from a customer point of view. We can do better." (Manufacturer 2)
- "Obviously, the argument against the plastic is the recycling issue. People do not recycle." (Manufacturer 3)
- "People do not recycle. We actually don't have the market to recycle, you see when you dispose plastic, when plastic is actually disposed it is just disposed, it is not recycled completely." (Manufacturer 3)

Importers

- "I think that the focus should be on recycling. There is a lot, they must make sure that all plastic which is used that is recyclable. As far as I am concerned they can ban these grocery bags, people can use whatever material they want to. And the people must be educated. A lot of the pollution is because people don't care, they just throw the stuff away." (Importer 3)

Re-users

- "Just to give you an idea, we are sorting currently about 20 different commodities that we do take away from the sorting of which plastic alone is 11. Just to give you an idea." (Re-user 1)

- "But still I think Percentage wise the plastics are in the bigger picture, plastic makes up probably Forty, Fifty Percent of the waste being generated through all the product ranges. So, I still think there is a lot being left behind." (Re-user 2)
- "The second part that follows that is the disposal of it that is not being done correctly. If it is done correctly then percentage wise you can recycle more of it. If you recycle it, you are actually re-using it. It gets melted down to make a new bag, so you use it again. You do not have to purchase new virgin material in order to generate it. It comes back to the disposal of the product in the correct manner." (Re-user 2)

Consumer

- "But from the environmental point of view it is obviously a bad thing, the irresponsible way that it is being disposed of and with that the recycling and with that point of view a worry for every Namibian." (Consumer 1)
- "People then dispose it because they don't have any use for it anymore, they just throw it way. The environmental impact stems from that and that is my biggest concern about the use of plastic. I think one should educate people much more regarding the disposing of plastic; the responsibility and the impact on the environment." (Consumer 2)

Trade Associations

- "And it is a very light type of material. And people don't necessarily take it to the dumping sites or they don't necessarily recycle the right way, or they don't treat it the right way. They just throw it away, and because of that, it's all over, in places where you don't want plastic at the end of the day. So, it's detrimental – perceived to be detrimental to the environment." (Trade Association 2)
- "The problem lies with the consumer. I think it's the biggest problem – the consumer that does not treat plastic with the care that should be taken and (it) should be treated with because we live in a throw-away community. And, yes, people don't worry about plastic." (Trade Associations 2)

Environmental Group

- "And when I'm talking about plastic here, I just want to emphasise, I'm talking about the discardable plastics. Not the things that go into your chair and into your handbag, to whatever. It's the discardable one, thrown away. So, the main thing is the discardable plastics that we are talking about are plastic bags, plastic drinks bottles, water bottles and soft drink bottles and so on which you just use once and then throw it away. Plastic utensils, like knives and forks and spoons, straws, the polystyrene things with fast foods in, those are the problems. We get that out of the way then essentially 90%, you've solved the problem. Now we've got some suggestions and recommendations for how that should be done." (Environmental Group 2)

Government

- "No. that is completely no. When did we... if you ask Namibians about recycling plastics, they don't even know that. All what they know is that you buy a sweet, you have a paper, they give you another bag. All what we know you buy something which is as small as your finger, the rest is paper. And the way those papers are ending, is elsewhere, uncontrolled. We have not seen any company going deeply into the rural areas, semi-urban areas, urban areas, introducing the technology or the project of recycling plastic." (Government 3)

Not recyclable

Plastic Manufacturers

- "The pollution component, the recyclability component and potentially the damaging aspects of it if it is not managed in the field or on the beaches basically." (Manufacturer 5)
- Importers
- "Plastic is not as recyclable as glass or any other pack form, or cans. We've switched over to aluminium cans, which is fully recyclable. Glass is mostly now returnable bottles, so 80% of our products still sits in glass, actually 90%, 95% of our product." (Importers 1)

Trade Associations

- "Well, the arguments against is that plastic – because of the non-recyclability of plastic – or that's the perceived idea." (Trade Association 2)
- "If plastic is not manufactured in the right way, it will not be recyclable or 100% recyclable. And that is a problem for the environment – I can understand that. Because if it's blown all over, especially if it lands in water etcetera, it's lying near the roads – not even on dumpsites – it cannot be 100% recycled. And it will not deteriorate 100% because of the manufacturing process." (Trade Association 2)

Non-economical

Importers

- "Namibia is a vast Country. Your first challenge is, from my side, and this is my opinion, it's difficult to recover recyclable material because the cost doesn't justify the benefit. So suddenly you have somebody sitting in Opuwo, so to get a truck there or to get a Recycling Plant up there or people that at least just collects the recyclable material, becomes difficult. Because who's going to fund it at the end of the day." (Importers 1)

Result/Outcome

Pollution

Plastic Manufacturers

- "It is going into the environment, going into the ocean, going into other water resources. That is a problem. That is a major problem."

*Effect on fauna,
flora, water,
marine life etc.
Global concern -
not just local*

- "Obviously because people think it's waste, you know, it pollutes the environment where we live in, and I believe it does, I know it does. It lands in the oceans, the pollution of plastic is wrong, is not handled. I think that is the problem. We should address the pollution and not the manufacturer." (Manufacturer 4)
- "The pollution component, the recyclability component and potentially the damaging aspects of it if it is not managed in the field or on the beaches basically." (Manufacturer 5)
- "We're in the same games, but I think film plastics is got to be addressed. At the end of the day what we do is, it's a strange thing when you see a bottle on the beach it's a much better thing to see than no bottles. If some range of pollution is happening that means bottles are at the bottom of the ocean so there's limiting terms which is an additive. It's a carbon concentrate which bulks up the bottle, your bottle will sink." (Manufacturer 5)
- "We did a little mini survey between Swakop and Walvis on the beaches. A lot of the PET bottles are foreign and then you've got to go back in terms of the shipping trawlers and that sort of thing. Also, what profile of individual is on that trawler worldwide because plastics is a worldwide problem. The bigger part of it comes from Asia - just saying. What is it for them to finish a bottle of water and toss it over? Or the bait straps, once they have their bait the packaging strapping it's disastrous for marine life. The education is massive, it's worldwide." (Manufacturer 5)

Importers

- "The pollution I think is the biggest problem. I think nobody around this table likes it or is happy with the situation as it is. But like I have said, you know there is no obvious alternative at the moment for plastic." (Importer 3)
- "The Chinese looks after that (marine litter), the Chinese vessels. I don't know is it really within our control? My perception is that most pollution, you know Marine Pollution, is caused by the vessels on the sea. How do you control that?" (Importer 3)
- "It's (water sources) fairly polluted. I don't think we are doing too well on that. It's a culture, people litter. They don't put stuff in dustbins. (Importer 3)

Re-users

- "I think future wise and I know there is a lot of emphasis put on the plastic in the oceans as well, and it comes back to the end user again. The people who use the product and the person that needs to take responsibility, whether it is on a boat or on the beach, does not matter where. If you have purchased that product, make sure that it is disposed of in the right manner." (Re-user 2)

Consumer

- "I think in our department obviously the plastic bags. The carry bags are the biggest concern." (Consumer 1)
- "From a Namibian's point of view is the environment and the fact that you can go anywhere in Namibia, wherever you go there's always a plastic bag whether it's a Shoprite or Pick n Pay bag it doesn't matter. It is littering." (Consumer 1)
- "Ja, it's just damage to the environment." (Consumer 4)
- "I had the opportunity to basically stay on the banks of the Zambezi River and it's frightening, the bags that were actually floating down that river. It's uncontrolled, so... I think it's a situation where stuff gets dumped into the river, because it's out of sight, out of mind." (Consumer 5)
- "If you look at the coast - we've got major problems every year cleaning up at the coast, fishing... you know our beaches are littered everywhere so I think we're not doing well on that, yes." (Consumer 5)

Trade Associations

- "And it is a very light type of material. And people don't necessarily take it to the dumping sites or they don't necessarily recycle the right way, or they don't treat it the right way. They just throw it away, and because of that, it's all over, in places where you don't want plastic at the end of the day. So, it's detrimental - perceived to be detrimental to the environment." (Trade Association 2)
- "If plastic is not manufactured in the right way, it will not be recyclable or 100% recyclable. And that is a problem for the environment - I can understand that. Because if it's blown all over, especially if it lands in water etcetera, it's lying near the roads - not even on dumpsites - it cannot be 100% recycled. And it will not deteriorate 100% because of the manufacturing process." (Trade Association 2)

Environmental Group

- "Going beyond Windhoek, plastic and its impact for example on livestock, when they consume it and even eat it. And then a general one, they are just not pleasant. And then, obviously with plastic, most of the plastic end up in the sea, for example, whereby they compromise that (the ocean). So, there are many reasons 'Why not plastics'." (Environmental Group 1)
- "If you look at marine pollution for example. Previously I said most of the plastic actually end up in the sea. They are not biodegradable. And then when you look at the sea, the entire economy of the sea. What we use, how that sea sustains our lives - not just the current lives - so I think it's a clear case of why not (we shouldn't) use plastic." (Environmental Group 1)
- "Our concern is with the plastics that are used once for a few minutes and then it's discarded, because that discarding process ends up with that plastic and in the environment. There are a couple

of issues around that, one is that it just looks bad in the environment and creates a wrong impression of our country. The discipline of a country is reflected in it, in a messy environment. It projects a lack of caring and if a country has tourism as one of its most important economic drivers then driving around a country with plastic bags floating, lying in the trees, dumpsites which are not properly fenced and managed and plastic all over the country side, really doesn't create a good impression of the country and what we are marketing here, in addition to wildlife, is ready landscapes, open, pristine country side. And plastic, discarded plastic floating around doesn't do much good for that."

- "The second thing is that plastic is often, particularly in drought times, eaten by animals. Both domestic stock and wildlife. And many farmers in the North lose cattle and goats and donkeys to plastics, and that's a direct impact on people's livelihoods."
- "Thirdly, wildlife eats plastic as well and a lot of wildlife gets entrapped in plastic. Birds and mammals and so on get plastic wrapped around them."
- "A lot of the plastic ends up in landfills and there are chemical toxins in plastics, they reach out slowly over time and they get into ground-water which is a human health (issue)." (Environmental Group 2)
- "And then plastic also ends up in the sea. Now Namibia is not as bad as many countries, because we don't have rivers which carries plastic down out in the sea, in the same way as higher rainfall areas do. And we don't have a big human population on the coast. Many high rainfall countries have a lot of high density human population along the coast and then plastics getting into rivers and sea in that way. But it also gets into the sea through ships where they just throw their plastic over board. The rates of plastics, discardable plastics, that is entering the sea now is so high that by 2050 the weights of plastic in the sea will be greater of the weight of all the fish in the sea combined, and that's a real problem. So, there's a huge pollution issue there." (Environmental Group 2)
- "Now, that on its own wouldn't be such a problem, but it's what happens to the plastic when it is in the ocean. Smaller pieces of plastic are seen by fish, by dolphins, mammals, by turtles, reptiles and by sea-birds as jellyfish and squids, and they come, and they feed on it and it gets into their stomachs and it impacts on their stomachs and it either kills them or makes them feel full. They carry it back to their nests and they just regurgitate it as food to their nestlings. That kills the nestlings and so on." (Environmental Group 2)
- "More and more whales and more and more turtles are being found dead as a result of impact of plastics in the stomach. And we've got a situation where about 90% of all the sea birds, all the gulls, the albatrosses, the petrels, the cormorants and so on, you open their stomach, 90% of the birds have got plastics in their stomachs. So obviously that's a real problem." (Environmental Group 2)
- "But there's another aspect to it, which is only recently started to become better understood. When the plastics start to break down, physical action of the water and the sunlight on them and so on, they break down into small pieces and then those pieces are fed on, as above described, those pieces then break down into smaller sections, small little units or micro-beads and they are often fed on by filtering fish, and the micro-beads actually break down into even smaller little particles which are called nano-beads and they are just microns in size across. So minute little particles that you wouldn't see unless you put it under a microscope. And those little nano-beads actually are taken up by filter feeding organisms, both invertebrates as well as vertebrates and they get into the food chain, and they start collecting in the bodies, so small they get into the blood supply and they end up in the tissue and the muscle and so on of fish. And one fish eats another fish and it gets concentrated up the food chain and then you, perhaps as a fish-eating person, will eat a piece of fish, all these nano-beads and the same thing will happen to you. It'll go into you, it'll be absorbed through the stomach wall into the blood supply, that small, they get carried around and they get deposited into your organs. And if you are a regular sea-eater you can have up to 11 000 nano-beads coming into you every year. And they tend to concentrate in joints and that exacerbates the onset of arthritis and they get into all your muscles and your brain and so on, and they can form a little kernel around, you can get a tumour, or you have a clot and a stroke. So, heart attacks, strokes, tumours and so on are all exacerbated, and incidents are increased as a result of that." (Environmental Group 2)
- "So, plastic is both environmentally problematic substance as well as a human-health substance. As well a visual thing when it comes to tourism and the economics surrounding that." (Environmental Group 2)

Government

- "Well, it's pollution. That's a serious matter." (Government 1)
- "Definitely. Remember the issue around plastic is that it's almost becoming a global 'bad'. But plastic is continuously, increasingly polluting the global space that we have and even if you say that Namibia perhaps might not be a major polluter in terms of plastic, we are part of the global composite. So therefore, if something becomes a global 'bad' – even if you are minimally exposed to it in your production processes or in your utilisation processes downstream in the retail sector – you should be part of the global solution to remove that global 'bad' or find mitigation strategies around that global 'bad'." (Government 1)

- "Obviously, that's pollution already, some animal, mostly in the communal areas if they consume plastic, it causes some harm in terms of the animal, sickness and so forth, because of blockage inside and so forth." (Government 2)
- "I think the environmentalists is more concerned about keeping the environment clean and make sure they consider the impact of plastic on the ground for example, so which will give an effect to animals, and also diseases because you know it became a harbour of some insects and mosquitoes it is scattered somewhere around the waters. That's why they are more concerned about keeping the environment clean, especially the environmentalists. They are more even thinking of going paper than plastics. So that is my take on it." (Government 2)
- "As the head of public health, I see plastic as a nuisance. Listening to the Namibian people (over) the radio, looking at the environment, the general environment, we are seeing white flags all over." (Government 3)
- "We see that the plastic bags that we use for domestic shopping is all over the You go to the east, to the coast, you go to the interior, you go to the riverside, where you have the rivers, you go to up the rural, everywhere, anytime, anywhere." (Government 3)
- "So, what comes out of that? Pollution is there, environmental hygiene is disturbed. The image of the country is disturbed. We come to animals. Animals are using it as food. We still look at the global move, to the use of plastics. And the global move is (against) plastics that are now all over the world - under the sea, on top of the ground, and under the ground. Most of the African countries are disposal sites, which is not good so what we do we just ... burning and bury some that do not decay." (Government 3)
- "It's a world move. Even this plastic, we should never even think of we want to manoeuvre in any one way or the other, it's world move. Science has given us substantive information that what we are going is (causing) hazardous (to) the environment. It's hazardous to the environment. In Europe and Asia, all over, so we are a small component of the world, but we are in the same practice, so what do we do? Let's move with the world. We are talking about climate change; the issue of climate change is also...? You burn, you deplete. The environment is depleted. Quite bad of climate change. Unless we say no, like others who said no." (Government 3)
- "Plastic bags are made of toxic chemicals harmful to the environment." (Government 3)
- "Plastic bags are sources of various diseases and disorders in humans and animals" (Government 3)
- "Plastic bags can cause severe increases in cases of Malaria due to mosquitoes that live on flooded sewers." (Government 3)
- "Plastic bags pollute the soil and water." (Government 3)

Health problems

Environmental Group

- "A lot of the plastic ends up in landfills and there are chemical toxins in plastics, they reach out slowly over time and they get into ground-water which is a human health (issue)." (Environmental Group 2)
- "But there's another aspect to it, which is only recently started to become better understood. When the plastics start to break down, physical action of the water and the sunlight on them and so on, they break down into small pieces and then those pieces are fed on, as above described, those pieces then break down into smaller sections, small little units or micro-beads and they are often fed on by filtering fish, and the micro-beads actually break down into even smaller little particles which are called nano-beads and they are just microns in size across. So minute little particles that you wouldn't see unless you put it under a microscope. And those little nano-beads actually are taken up by filter feeding organisms, both invertebrates as well as vertebrates and they get into the food chain, and they start collecting in the bodies, so small they get into the blood supply and they end up in the tissue and the muscle and so on of fish. And one fish eats another fish and it gets concentrated up the food chain and then you, perhaps as a fish-eating person, will eat a piece of fish, all these nano-beads and the same thing will happen to you. It'll go into you, it'll be absorbed through the stomach wall into the blood supply, that small, they get carried around and they get deposited into your organs. And if you are a regular sea-eater you can have up to 11 000 nano-beads coming into you every year. And they tend to concentrate in joints and that exacerbates the onset of arthritis and they get into all your muscles and your brain and so on, and they can form a little kernel around, you can get a tumour, or you have a clot and a stroke. So, heart attacks, strokes, tumours and so on are all exacerbated, and incidents are increased as a result of that." (Environmental Group 2)
- "So, plastic is both environmentally problematic substance as well as a human-health substance. As well as a visual thing when it comes to tourism and the economics surrounding that." (Environmental Group 2)
- "That is true, it's not highly carcinogenic, but it is low level cost carcinogenic and if every single thing you do and touch and so on, has plastic in it bottles, your drinking water, your knife and fork, your wrapping, your... every single thing is just, plastic, plastic, plastic, it is part of the contributing factors towards increased cancers in society. There are many others, the cleaning fuel, the fluid one uses in the home, just our modern-, chemical-based life and all the rest of it increases risk of cancer's carcinogenic. But plastics are part of that." (Environmental Group 2)

Emotional Trigger

Plastic Manufacturers

- "I think definitely it's the century that we live in. I think people are becoming much more knowledgeable of what's going on in the world and we understand that resources are limited, and we've got the world we need to look after, and global warming and all of those aspects drive people to think more about the environment. So that in itself drives people to think about it more (the environment) and I think that's why it's such a hot topic nowadays." (Manufacturer 2)
- "I would say it's more about the current knowledge that people have and definitely the emotional component linked to it. Because if I see a picture of an animal that has a plastic bag wrapped around his neck, it's an emotional thing (and I think) 'poor animal' and I think that is the sort of thing that drives it. But we need a well-rounded few of all the facts." (Manufacturer 2)
- "All that I can see is the people see a plastic bag in a tree and it's bad to see and it's filthy and then they have a negative perception. So, it's again outweighed all the other positive aspects of plastic, for instance that it has a low carbon footprint. So, it doesn't matter whether it's a thick or physically better product or not, the emotional, visual thing drives the feeling." (Manufacturer 2)
- "And it's very difficult to introduce counter information. It's technical and difficult to understand. It's true because it goes over someone's head and 'all that I can see is a plastic bag in a tree', and I go along with that. And the masses are going to say 'yes' to that. They don't see the negative (implications) if you replace it. It's difficult to see – because you have to think about it a lot – the ripple effect on other markets and other industries." (Manufacturer 2)

Re-users

- "Plastic is an emotional thing. That is what I say. Everybody is hammering on plastic because of the fact that it is more visible. Because plastic can blow around and that, but if you drive, next to the road you will see glass bottles lying around and nobody is talking about that because it is small and low down. The grass is growing over it, so you cannot see it." (Re-user 2)
- "So, I think it is unfair that the people are just hammering on the plastic issue, because it is, I am pretty sure with the clean-up day that we have tomorrow people will have a much clearer idea of volume wise what is also lying around and not just everybody going on about plastic. They will see there is a lot of cans and plastic bottles and glass bottles." (Re-user 2)
- "I think the biggest problem is people see them in the trees, flying around and that's the biggest problem. It's in the eye of the people." (Re-user 1)

Consumer

- "Poor kids will live with problems we are creating for them today." (Consumer 3)

Trade Associations

- "I think people are just emotive about this whole issue. And I think the fact that the world wide, there is a campaign against plastic influence heavily, the photographs are there, the explicit, it drives the message home. It's very effective. And I think in many cases people unknowingly and uninformed just jump on the band wagon." (Trade Association 1)
- "Emotions are driving these deliberate misrepresentations. I think so." (Trade Associations 1)
- "Somehow it's a bandwagon everyone is getting on to. And I think if you are a small environmental organisation just to hang your hat up on that one, you can see making a lot of noise without actually having the facts and knowledge. They just play with the emotions, not the facts." (Trade Associations 1)

Environmental Group

- "Our concern is with the plastics that are used once for a few minutes and then it's discarded, because that discarding process ends up with that plastic and in the environment. There are a couple of issues around that, one is that it just looks bad in the environment and creates a wrong impression of our country. The discipline of a country is reflected in it, in a messy environment. It projects a lack of caring and if a country has tourism as one of its most important economic drivers then driving around a country with plastic bags floating, lying in the trees, dumpsites which are not properly fenced and managed and plastic all over the country side, really doesn't create a good impression of the country and what we are marketing here, in addition to wildlife, is ready landscapes, open, pristine country side. And plastic, discarded plastic floating around doesn't do much good for that."
- "So, plastic is both environmentally problematic substance as well as a human-health substance. As well a visual thing when it comes to tourism and the economics surrounding that." (Environmental Group 2)

1.2. ARGUMENTS FOR PLASTIC

Established manufacturing process

Low cost

Plastic Manufacturers

- "Polymers in themselves are low in terms of value, so if you talk about the value that a plastic pipe can bring to transporting water from one end to the other end and you're talking about the value that you pay for that specific product, I see it's good value for money and there's no substitute for that. And we need polymers in our lives. According to me, we've got PVC and polymers to manufacture pipes. Obviously, there's metal, but compare metal to polymers, you will see the metal outweighs the price tremendously. So, without polymers, it's going to be quite expensive to transport water from one end to another end." (Manufacturer 2)
- "You know, plastic is something that is cheap, plastic is something that is relatively cheap, so if one needs to replace it then obviously the costs even in the economy would then it would really have an effect." (Manufacturer 3)
- "Yes, except for the pricing and it's the convenience as well. Plastic it is something that is so convenient." (Manufacturer 3)
- "Availability, convenience, pricing, variation of forms it can take. Lots of good points as well." (IM)
- "It is the affordability." (Manufacturer 5)

Importers

- "So, if, like I told you in the beginning, if it is possible I would move over, it's not an issue. Price wise it's also important, because at the end of the day the price goes back to the consumer. So, it must be workable for us as the producer, but also workable for the price range for the customer." (Importer 2)
- "Cost and marketing wise as well. A nice flashy product." (Importer 3)

Consumer

- "I can't think of too many except for the fact that it is something easy to give to the customer and it's cheap to give to the customer and a way of servicing the customer." (Consumer 1)

Government

- "Well, I think efficiency of utilising it. Readiness, I mean it's readily available, so I think it has gone through a standard production cycle across the past decade so therefore it's easily affordable, it's easily available, it's easily accessible. Those are the desirable qualities around plastic." (Government 1)

Efficiency

Importers

- "It's still easy to manufacture." (Importers 1)

Availability

Government

- "Well, I think efficiency of utilising it. Readiness, I mean it's readily available, so I think it has gone through a standard production cycle across the past decade so therefore it's easily affordable, it's easily available, it's easily accessible. Those are the desirable qualities around plastic." (Government 1)

Usage

Multiple uses

Plastic Manufacturers

- "Plastic is one of those products that is part of our everyday life that we cannot do without anymore" (Manufacturer 1)
- "It's very difficult even for us to entertain the thought I would say. Because, and I'm not talking just about Coca-Cola, I'm talking about a consumer as well. Because if I talk plastics I'm not just talking about just a plastic bottle, I'm talking plastic bag, I'm talking about a yoghurt tub, I'm talking about butter cup that butter comes in, I'm talking about that little plastic wrap your meat comes in. It's going to have a humongous effect on the Economy, because all of a sudden everybody, everything that is being brought into Namibia should have to re-looked at and whether we like it or not, 98 % of the products we consume in this Country is imported. It's brought if from other countries, irrespective from where." (Manufacturer 4)
- "You don't have to go very far to have a look how widespread it is-the usage. You can walk into any retail outlet." (Manufacturer 5)

Importers

- "I think for one, plastic is versatile, there is many applications for plastic." (Importer 3)

Re-users

- "Firstly, it has got a big variety of ways that you can use it." (Re-user 2)

Consumer

- "Plastic is one of those things that we use every day in our lives. It has so many uses." (Consumer 2)
- "Well, I need to be quite honest there's about 80% or more of everything that is manufactured-look at this computer this is plastic. Most things are made of plastic or have some plastic in it." (Consumer 2)
- "Although plastic bags play an important role in everyday life. People carry groceries, food and whatever needs to be carried in it." (Consumer 2)

Environmental Group

- "It can be moulded and turned into all sorts of things." (Environmental Group 2)

Convenience

Plastic Manufacturers

- "Availability, convenience, pricing, variation of forms it can take. Lots of good points as well." (IM)
- "In a sense that it is easy to use, it is light. You know it is something you can carry around. Plastic is something that is light in most senses instead of having the metal or the glass, the sensitivity there of and all those things." (Manufacturer 3)
- "Yes, except for the pricing and it's the convenience as well. Plastic it is something that is so convenient." (Manufacturer 3)

Importers

- "Plastics are a convenience." (Importers 1)
- "Plastic containers, well it's still a convenience pack." (Importers 1)
- "What's your next level, maybe we need to put it in a glass bottle. But imagine you as a consumer, how would you now just go and have this in a glass bottle where you put it in your car without it breaking. So, the plastic bottle is easy, you finish it and you throw it in the back seat and when you get home you just throw it in the bin." (Importers 1)

Consumer

- "From a retailer's point of view, in Namibia it is a question that. I think it is just a service that we render to the customer for convenience of carrying their shopping." (Consumer 1)
- "I can't think of too many except for the fact that it is something easy to give to the customer and it's cheap to give to the customer and a way of servicing the customer." (Consumer 1)
- "But there will be solutions to it at the end of the day but if I'm honest with you, apart from the fact that is an easy thing to take 5 or 6 bags when I do shopping I can't think of too many arguments for it." (Consumer 1)
- "If you take a grocery bag, currently. I can put whatever amount of e.g. Cool drink bottles in it and it's easier to carry with one hand. I can carry two, three or four bags in one hand. If you take a paper bag. For yourself. You need to hug the bag. I don't think that's going to be a viable option." (Consumer 2)
- "It's convenient." (Consumer 3)
- "It's part of our lives, it's convenient." (Consumer 6)

Environmental Group

- "But there are a few advantages, I would say. The first one, I think it's because it's a behaviour practice. It's convenient because everybody is familiar with it, everybody can carry it. But there are other views, for example many people who say they use plastics as bags to carry their stuff or to store their stuff." (Environmental Group 1)

Government

- "It's just something you are used to. We are used get our food and go back home." (Government 3)

Safe and secure packaging

Food

preservation

Plastic Manufacturers

- "But with the amount of people on planet earth we cannot do without plastics as a means to preserve foodstuffs. And that is the essence, all the rest we can build around, but that part is not possible anymore if we don't have plastics we will have starvation". (Manufacturer 1)
- "It's got the lowest possible carbon footprint for preserving foodstuffs and for transporting product."
- "It will have a serious impact because if you look at it from an agricultural point of view for example we deal with plastic pipes, the cost there on as well, if you replace it, what would you replace it with metal? What would the cost be there on? So, there is a certain industry that you just don't even want to think of replacing it. Because imagine the water-tanks, I've seen the metal, the plastic silos, how do you replace all that, the rusting and things like that. And you know those are food packaging stuff. It doesn't make sense replacing, let's say for example a glass, how do you have fibre glass tanks all around villages and stuff like that. I really feel there are certain things that you just cannot think of getting off with it." (Manufacturer 3)
- "Presentability you know the stable products in terms of manufacturers get reasonable shelf life out of it depending on which one they're using." (Manufacturer 5)

Importers

- "Ja, like I said, in different industries different things are possible, but not always. There's a line you must follow. Let's say jam and you put it in a plastic bottle, you can move over to glass, same with cold drink, but not necessarily with meat. There's a very fine line that you need to follow."
- "I think all plastic must be recyclable and if you can move totally away from plastic, if it's possible, it will be a good thing to go back to paper bags and stuff like that or glass, but then in the food industry that also contains different risks and open up different fields of risk. So, if possible, yes, I will say move away, use plastics that can be recycled."
- "In our industry, you can't really pack it in anything else, it's a perishable product. The packaging material needs to be compatible with medical temperatures, don't crack or break or stuff like that, because some of our product is fresh product and most of our range is frozen products. So, the packaging material needs to hold at least -18 degrees Celsius without any issues and then the mishandling in the market of our product needs to be, the packaging material needs to be robust." (Importer 2)

	<ul style="list-style-type: none"> • "And in the food industry, virgin plastic is much more favourable for us to use than recycled things due to safety and health issues. That's why I said there's always different risks that you need to have a look at." (Importer 2) • "If it's secondary packaging material, not primary, not in contact with your product, yes you can go for recycling, but the second it is primary packaging, it touches your product, you must go for virgin (<i>plastic</i>)." (Importer 2) • "And something that I think we should always consider in Namibia is that in some rural areas a plastic bag is impermeable to water. So, the product inside has a longer shelf life than a paper product which might get damaged by water and the product inside will easily become damaged as well. There are many benefits to using plastic instead of paper." (Importer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "If I look at myself plastic has its place in society, in life. In the meat industry, how will they safely do their packaging for meat products? It is a health hazard for human consumption if not done properly." (Consumer 2) • "Positively, I think it's looking at the health aspect – let's call it – of food packaging. That's obviously something that we need to address, which we need to look at. Because obviously that's got its own sort of unique – let's call it – processing to guarantee food safety and all that sort of thing." (Consumer 5) • "How can those in the FMCG market keep products safe, and keep it clean, and keep it fresh as long as possible? Because it's something that haunts us the most – basically the expiry date on that product. Obviously, some of these products only have a shelf-life of 1 day or 2 days or 3 days at maximum. You know, when you look at fresh food, and that sort of thing. Now how do you display that?" (Consumer 5) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "How do you want to keep items fresh if you do not do it in plastic? An element of reality must also kick in." (Trade Associations 1)
Poisonous substances	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • There is a lot of insecticides and poison that need to be stored in plastic, you can't use tin or aluminium as they take a lot longer to 'dissolve'. Plastic is there to stay, plastic should be, but it should be controlled more. (Consumer 2)
Transport	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "It's easy to handle and easy to dispose if you put it to be recycled. So, it's not a bulky product. It's easy to handle, <i>ja</i>." (Consumer 4) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "How do you want to export anything? Be realistic." (Trade Associations 1)
Durable	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "Also, the strength. The product quality and strength. Because we are sitting in a situation where people carry the product more by hand. And re-using the product, and redistributing the products, so yes strength." (Importer 3) • "And strength. If you think, people, we don't live in Europe where people walk to the shop and buy their groceries for tonight, here is my paper bag I am going to make chicken and vegetables. Inside this bag is chicken and vegetables, I carry it home and I make it. We do monthly grocery shopping, big grocery shopping, or at least weekly grocery shopping. So, its bulk produce that you need to carry, sometimes you need to carry it upstairs, some people don't have cars and need to carry it to their houses. How practical is it for those people to then use a paper bag instead of a plastic bag?" (Importer 3) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "Well I mean, plastic is a very useful product for people. It's very durable, which is part of the problem that gets into the environment. It's waterproof so you can hold things and contain things in there. It doesn't transfer heat through it so it's useful in that way." (Environmental Group 2)
Enables merchandising, branding and marketing	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Presentability you know the stable products in terms of manufacturers get reasonable shelf life out of it depending on which one they're using." (Manufacturer 5) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "Cost and marketing wise as well. A nice flashy product." (Importer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "From a retailer's point of view a lot of years ago it was a marketing tool and it probably still is. It is a question of it is your name." (Consumer 1) • "But as I said – in a, let's call it an FMCG (Fast Moving Consumer Goods) market – which we are one of the major players in, how do you actually, how can I say, display a product?" (Consumer 5)
Environmental Impact	
Low carbon footprint	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "There is no alternative to that at this point that is even remotely close in terms of carbon footprint." (Manufacturer 1) • "I cannot see that we can do without polymers. I understand that we can do better to reduce the carbon footprint of plastics, although plastic has a low carbon footprint already. I don't know if you have gone into the studies, but it has a lower carbon footprint." (Manufacturer 2)

Importers

- "The transport thereof is cheap; I mean you blow up these bottles. We have a cold packer who does this for us. We buy, because this is the pack for water this is the pack form." (Importers 1)
- "It's convenient, also I mean to bring in a bottle you reduce, you cut some footprint benefits as well, because you bring in a small capsule like this which you blow up." (Importers 1)
- "Yes, most of the guys has got a blower, so he brings in a capsule, it's about this size, and he puts it in his blower and he blow up the bottle." (Importers 1)

Trade Associations

- "The public is also not aware. Because I have done a lot of research and I have actually compiled articles also to show people that in the end plastic has the smallest carbon footprint." (Trade Associations 1)
- "People forget that when you transport 10 000 plastic bags, compared to 10 000 paper bags you would need 2 or 3 or 4 trucks. And those are the things that people are not aware of. If you think by yourself, 50 re-usable shopping bags will be this height, but 50 plastic bags are only this. So, the ripple effect of plastic is often I think people are just not aware. Now in my work of course I have done a little bit of reading up. I check stats and, and I find it interesting. And I find it frustrating that people know so little." (Trade Associations 1)

Waste Management

Recycle

Recyclable

Plastic Manufacturers

- "I don't want to go into chemistry, but polymers can be used over and over again" (Jaco)

Market for recycled plastic

Plastic Manufacturers

- "A by-product – I'm going to bore you with the details – of a plastic bag that is littered is recycled by Namibia Polymer Recyclers. Now I can buy that polymer at half of a virgin product price – that recycled product – and the quality is actually quite close to a virgin material. And that allows me to have a low-input cost in the manufacturing of agriculture pipes. So, I need polymers in the process, I need plastics bags, I need recyclables in my business to feed into the process." (Manufacturer 2)

Re-users

- "Obviously there is a lot of re-use purposes that you can use it for. And the fact that you can melt it down again and make new products out of it. It is very versatile." (Re-user 2)
- "I think people have said that plastic can't be re-used. They don't know about the recycling process. That it's actually got that value." (Re-user 1)
- "People must understand the process and what is the value that we get out of it. If you treat your waste as the waste we used to grow up you haven't got any value out of it, there's a value. If you do proper recycling, and I'm not talking about plastic, but if you do proper recycling you can at least recycle up to over 90%. Thanks to the refuse-derived fuel plant, everything can be recycled at this stage except wet waste and nappies and protective clothes and that sort of stuff but more than 90% can be recycled. People must just take responsibility and do on source separation. Community and business must also get on board. Your waste is your problem, everyone's own problem." (Re-user 1)
- "With boxes and such, the uses are very limited. Where with plastic the uses are unlimited. You can use it and melt it and mould into any object and size and use it as you need for that purpose." (Re-user 2)

Economic Impact

Government

- "But advantageous if you manage is okay, because we need carrying bags to carry our food at home, I think it's quite okay and at the same time the other advantages are throughout when you are producing or manufacturing plastic you obviously, as I have mentioned, you give jobs to people. It's quite good for our economy and also when it comes to where we buy the raw materials, not only Namibia, we are talking about trading around the globe, so obviously where you are buying the material you're also supporting on the other side giving job on the other side across the borders. So those are some of the advantages I can say." (Government 2)

1.3. CONSIDERING THE REPLACEMENT OF PLASTIC

A. ARGUMENTS FOR THE REPLACEMENT OF PLASTIC

Arguments for Replacement

Overall

Short term plan
Ban discardable plastic e.g. carrier bags, plastic bottles, straws, plastic utensils etc.

Importers

- "Look at plastic carrier bags." (Importer 2)
- "I am against plastics that can be discarded like bags and bottles, and straws, but plastics like chairs and crates, that's a much better option." (Importer 2)
- "Because most of the plastic that we're talking about is mostly shopping bags and those kind of stuff, bottles... discardable plastic. So, if we can replace that..." (Importer 2)
- "I think that the focus should be on recycling. There is a lot, they must make sure that all plastic which is used that is recyclable. As far as I am concerned they can ban these grocery bags, people can use whatever material they want to. And the people must be educated. A lot of the pollution is because people don't care, they just throw the stuff away." (Importer 3)

Re-users

- "First start with re-use, the main thing in plastic for me is carry bags and secondly it is plastic bottles. If the carry bag can be replaced with a re-usable bag, then the people need to change their culture to make sure that they always have the re-usable bag with them when they go shopping. The only way to do this there shouldn't even be an option to take a plastic bag at the grocer. That is the only way you can force the people that they know when they go there, there is not going to be back up bags or small bags available they are going to have to start remembering their bags. Once again that is an extreme way of implementing it. But if you only have one option you have to use that option. That will force people to do that." (Re-user 2)

Consumer

- "It is a question of if we need to find alternatives we will. If we have no choice, alternatives will be found." (Consumer 1)
- "It is a question of if I sit here and say I am going to save the environment of Namibia from plastic then that will be the way to go - to ban plastic (carrier bags). It's drastic but if you want to tackle this, obviously you'll have to be drastic. But as I said, that's taking the economic view and the emotion and everything that is involved out of the equation." (Consumer 1)

Trade Associations

- "Remember the first days when it wasn't called Metro, what was it called then, Trade Centre, when they didn't provide bags, and we all had to have this box in the car to put your stuff in. Why not go back to that?" (Trade Associations 1)

Environmental Group

- "And when I'm talking about plastic here, I just want to emphasise, I'm talking about the discardable plastics. Not the things that go into your chair and into your handbag, to whatever. It's the discardable one, thrown away. So, the main thing is the discardable plastics that we are talking about are plastic bags, plastic drinks bottles, water bottles and soft drink bottles and so on which you just use once and then throw it away. Plastic utensils, like knives and forks and spoons, straws, the polystyrene things with fast foods in, those are the problems. We get that out of the way then essentially 90%, you've solved the problem. Now we've got some suggestions and recommendations for how that should be done." (Environmental Group 2)
- "There's lots of alternatives, many alternatives. Plastic bags, many countries have banned the use of plastic bags and many countries have put a charge on the use of plastic bags." (Environmental Group 2)
- "Some countries in Africa have just banned them out right. Kenya for example, Uganda, Rwanda, they banned plastic bags, from one day to the next their gone, bye. And you see the country side cleaned up immediately." (Environmental Group 2)
- "So, it's that once-off used plastic we've got to get out of the system, but not impacting on the useful, long-term, long-life plastics that are used for useful things." (Environmental Group 2)

Government

- "My take on that I think if we can use anything that is more biodegradable that can decompose within a shorter period of time it will be much more effective rather than just keep on using plastics and so forth." (Government 2)
- "In Namibia, particularly us in the health sector proposed the ban on plastic bags three years ago and I have information there, there are pictures you will see we are in the process." (Government 3)
- "We need to replace it with something that is environmentally friendly, something that can decay and decompose, so it helps with the cycle, other than hinder the cycle. So, in our discussion we ended up saying that we will go to Uganda, I think, Uganda, they are not using plastics and benchmark with Uganda and discuss the issue. So, we come and implement and thereafter, I have been working up until now but to say the truth I am going to take off the health sector, with or without them because for us we take care of health. We are not taking care of the other things, that other sea (?). We are talking about health, the earlier the better..." (Government 3)

Longer-term plan
Alternatives need
to be found and
plastic phased
out on a larger
scale

Importers

- "Yes, I would definitely say alternatives need to be considered." (Importers 1)
- "In the long-term, that's definitely the right direction to go." (Importers 1)
- "I think all plastic must be recyclable and if you can move totally away from plastic, if it's possible, it will be a good thing to go back to paper bags and stuff like that or glass, but then in the food industry that also contains different risks and open up different fields of risk. So, if possible, yes, I will say move away, use plastics that can be recycled. Alternatives need to be found."

Consumer

- "I think for the future, yes most definitely, a replacement needs to be found. It is a question that we can't go on the way we are. I travel extensively through Namibia, and if you take a look at some places in the north and that type of thing, it can't go on like this forever." (Consumer 1)
- "If there is an alternative, and a safer and better alternative, most definitely." (Consumer 1)
- "Although it's bad for our environment, unfortunately it's part of our lives and it's convenient, and I'm not sure we're going to get rid of it in the near future. But if you start now, in 20 years' time you can make a goal. The longer you take to get some measurements in place, the longer you will sit with the problem. It will just escalate." (Consumer 6)

Environmental Group

- "I think if we are talking about the advantages and disadvantages of using plastic, then there are many disadvantages that for now, even in our current generation, requires us to think about alternative options. Even if, in a scenario where now – in this current generation – we don't foresee or suffer much damage from the current use. The future generations will." (Environmental Group 1)
- "No, OK, I cannot say tomorrow there is no more plastic. As any changes, I think there are many stages and some of those stages have happened. For example, there is actually a policy now to try to change, to replace plastic and other materials that are not environmentally friendly so that there is a deliberate and systematic way of phasing them out. You know when you are phasing something out, you don't just say 'today, or tomorrow there is no... (more)'. But you follow a systematic approach on how you are going to phase out a product because of A, B, C – then you have phases – Phase 1, Phase 2, Phase 3, and by this date – completely." (Environmental Group 1)
- "I think we should start thinking about it and introduce it in a phased approach. Yes, we need to phase it out. At a certain point we should be able to say: 'Because of A, B, C we are going to introduce A, B, C and by which year or by which whatever we want to phase them out'. And this goes along with a public campaign, an awareness campaign, and education. So that it does not come as a shock. It will still come as a shock, but maybe to not have a major economic impact." (Environmental Group 1)
- "You have to have the right incentives in place. You know, this is a serious misconception in the world. They think that every problem can be addressed by environmental education. Well I can tell you, you can have people with PhDs in environmental lurking around, they will still do the wrong thing if the economic incentives are not right. People with no education at all, if the economic incentives are driving things in a certain direction, they will go in that direction. So, information and education are important, but far more important is getting your incentive packages right and what we're doing here, is we're not saying, 'Plastic is bad and ban all plastic', we're saying 'These elements of plastic are bad, they become a public nuisance and they become a public threat and they become an environmental threat, and society is then burdened with the costs of dealing with that. Therefore, we have to put incentives in place so that doesn't happen.' And the incentives are a deposit on bottles, a charge, tax, a levy on plastic bags, ultimately in five years' time leading to abandoning plastic bags altogether and getting them out the system, and these other things, straws gone and so on." (Environmental Group 2)
- "Well I think in some poorer communities, people use plastic bags and they wrap their food in it and various things like that, and I think people use some plastic bottles to store water and to carry water and so on. And that's why we're suggesting don't ban plastic bags immediately rather have an orientation period of five years or so where they charge, the people can still buy a bag and use it. But there's not that much scope for re-using these things too much. And the same with a plastic bottle. We buy a water or a coke or whatever, you've got your plastic bottle, you pay your 20c. You don't want to get your 20c back, you keep that bottle and re-use it for water, that's fine, that's up to you, but at least it's not being thrown out in the veld. So that's not an environmental problem if it gets re-used." (Environmental Group 2)

Government

- "So therefore, we should look at alternative ways to promote the gradual – and I think we should emphasise the 'gradual' – replacement of plastic as a packaging material. We still need to investigate viable alternatives" (Government 1)
- "But eventually as we go, because we are moving, the evolution is taking place, at one point maybe if it happened that it is the right time then we can migrate from plastic to papers, but it shouldn't be something that need to be done just like an accident, like that just happened that we need to close down the discontinuing of the manufacturing of plastic. It will come at one point but for now management is the one that we need." (Government 2)
- "That is what public health operates. Public health, we don't impose. Stop the plastic, just like that. We will say stop smoking because of A, B, C, stop the plastic because of A, B, C. so that project proposal can then get a chance for people to discuss. It is our collective responsibility to ensure our health. We

are a leading ministry, we are scientists, and we tell people science is for them, so we don't always impose, 'just don't do this'. No. We tell people, 'Look, if you do this, this results in this.' And we don't expect an abrupt change. We teach, we influence on good health, tips until people understand."
(Government 3)

Possible replacements

Material

Plastic Manufacturers

- "People get into, it's the higher LSM levels that get into look I'll bring a Woolies bag or material bag when I do my shopping because then I can save. Your immediate reduction would be if you pay for the bag you're not gonna walk out with too many bags. There will be a reaction." (Manufacturer 5)

Importers

- "Ja, force the population to bring their own bag." (Importer 2)

Re-users

- "First start with re-use, the main thing in plastic for me is carry bags and secondly it is plastic bottles. If the carry bag can be replaced with a re-usable bag, then the people need to change their culture to make sure that they always have the re-usable bag with them when they go shopping. The only way to do this there shouldn't even be an option to take a plastic bag at the grocer. That is the only way you can force the people that they know when they go there, there is not going to be back up bags or small bags available they are going to have to start remembering their bags. Once again that is an extreme way of implementing it. But if you only have one option you have to use that option. That will force people to do that." (Re-user 2)

Consumer

- "The material type of bags and that type of thing but once again it is a mindset thing, taking your bag with you to the supermarket. In a situation where we force people to do it they will probably start doing it. May need to force people for them to start doing it." (Consumer 1)
- "I would say rather than go to what we do, and we do promote it as a company, as an OK franchise, you know, where we have these bags that are re-usable, it's like a cloth-type of (material). Obviously, we tried it in the past, we've tried it for every, you know so long – obviously we have a bit of advertising on its side, but I think the Namibians are still in a mindset of: 'Yes, I want my carry bag and I want to go, you know, I don't care.' " (Consumer 5)

Environmental Group

- "Be it the woollen bags, which can be re-used." (Environmental Group 1)
- "There are a few bags that have been introduced already in the local market – they are not necessarily the best because they follow a certain standard – but there are other types of bags as well. They can be woollen bags... Going to my gym, I don't bring a bag, I actually bring my recycled bags that I use for shopping, but I also use for carrying my gym clothes. Because they are durable, and they are pleasant to look at. Nobody will think I'm doing shopping, but with the other ones that are available in the market – if I put my gym clothes there (in it), it's like 'You are doing shopping'. Because they are clearly for shopping purposes only. They are not actually bags that you can multi use. Be it shopping or what have you." (Environmental Group 1)
- "In the UK, the charging went with a little bit of public information and so on, and when you get to the counter there, they say to you, 'Do you want a plastic bag?', and if you say yes then they'll ring it up and then they'll put it there and put your groceries in, but most people bring their own material canvas bags along to the shop. So, there's an immediate solution there." (Environmental Group 2)
- "On the other hand, paper is derived from trees which requires cutting down trees and the process of producing and often dying the bag and so on. So, the best thing really is not to replace plastic bags with paper bags, but to replace them with long-term re-usable products. Paper bags often may break, you use them once and then they break, and so on. But a canvas or a cotton bag, something like that is what you can keep and re-use, in your car and backwards and forwards that lasts." (Environmental Group 2)

Paper

Plastic Manufacturers

- "I think we need to categorize this in terms of plastics - it's very wide. In terms of film plastics and e.g. retail shopping bags there is a replaceable medium there potentially if the viability shows that paper bags are more... there is that conversation and counties that have already acted on it." (Manufacturer 5)

Importers

- "I think all plastic must be recyclable and if you can move totally away from plastic, if it's possible, it will be a good thing to go back to paper bags and stuff like that or glass, but then in the food industry that also contains different risks and open up different fields of risk. So, if possible, yes, I will say move away, use plastics that can be recycled."
- "Or a paper bag. Like I know the German Spar here uses paper bags." (Importer 2)
- "I would say you must go and look at the market that's using it most. Is it the public, let's say the Shoprite or Checkers or those guys and put in, like I said, paper bags? It's good for the environment." (Importer 2)
- "And you can get a type of a wax paper instead of plastic sheeting... "
- "In general, I think I will prefer a paper bag, but then you must also re-use it." (Importer 3)

	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Paper bags, I don't know the effect of that on the environment." (Consumer 1) • "I think I've seen a few models overseas with regards to more packaging, and I'm not talking about packaging material, of once again the old ways, the brown paper bag that you have for eating and that type of thing." (Consumer 1) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "Be it some recycled material like paper bags, which are very well mounted, but they are for longer uses." (Environmental Group 1) • "The only advantage of a paper bag is that it degrades, and it doesn't leave toxins it its wake, but it is not as strong and re-usable." (Environmental Group 2) • "On the other hand, paper is derived from trees which requires cutting down trees and the process of producing and often dying the bag and so on. So, the best thing really is not to replace plastic bags with paper bags, but to replace them with long-term re-usable products. Paper bags often may break, you use them once and then they break, and so on. But a canvas or a cotton bag, something like that is what you can keep and re-use, in your car and backwards and forwards that lasts." (Environmental Group 2) <p><u>Government</u></p> <ul style="list-style-type: none"> • "There are various solutions being offered. You can look at paper products. You can look at 'what can we do with the invader bush – part of it', because the good thing is that's a renewable opportunity we have. If you harvest, if you cut those trees in a format that will allow you to regrow every seven years, you are able to utilise that resource I think probably for the next 300 years or so." (Government 1) • "And I am impressed on the KFC for example, and Nando's they are more using the papers that can be decomposed very easily." (Government 2) • "You said, did I not answer your question on alternatives correctly. As I said it must still be investigated. We see now Pick n Pay was showing a plastic bag in Swakopmund ...which is carton. What do we call this? Carton. That can decay quickly and save the environment" (Government 3) • "Than the plastic? With paper or carton, it rains, it's gone. You see. Plastic stays. The plastic hangs on a tree and we say (it lasts) even for a man's lifespan. You die and it's still there. So, if you leave it while it's friendly, it's okay, if it's not friendly, it's bad for the future of your own children." (Government 3) • "Use biodegradable alternatives such as paper bags." (Government 3)
More environmentally friendly plastic	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "The only way forward is to still use the bag but use environmental friendly products, substances in the bag. The composition of the bag. I would think ultimately plastic will stay but it will be a different grade or composition of different materials which is more environmentally friendly. Plastic bags like those can be very strong and if not in sunlight it'll last 50 years. If it is exposed to sunlight for five hours then it should be biodegradable, that's what I see for plastic."(Consumer 2) • "More research should go into the manufacturing side. Back to my point where the composites that use in the plastic should be to such an extent where the plastic bag will then just disappear or be more biodegradable for the environment." (Consumer 2)
Boxes	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "But you can use some boxes. I know some guys still use a lot of boxes." (Consumer 4)
Glass	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "I think all plastic must be recyclable and if you can move totally away from plastic, if it's possible, it will be a good thing to go back to paper bags and stuff like that or glass, but then in the food industry that also contains different risks and open up different fields of risk. So, if possible, yes, I will say move away, use plastics that can be recycled."
Hemp	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "And then if you can go to manufacturers like let's say, Nam Dairy for instance or Coca-Cola, let them use stuff that's not plastic orientated and can be recycled and...There is also a plastic being manufactured, also made from hemp, that is totally recyclable, or not recyclable, decomposable. It decomposes into the soil in three or four months, where plastic takes 500 or a 1000 year to decompose. " (Importer 2)
Impact on the economy of replacing plastic	
Positive affect on Industries	
Should not be priority concern	<p><u>Government</u></p> <ul style="list-style-type: none"> • "Because when they were here, they were talking about employment... people will be unemployed, if this happens and all these kinds of things. We must start changing that language. Because if you have identified the health hazards and you are talking about the employment, even yourself as a manager you will die there. It's a health hazard. Even money... you are going. There are times when money cannot help you. We tell you don't smoke and you smoke, and then you have cancer. You come to the hospital (at) this time, then you want us, you need us. We tell you this has been wrong. Although you heard that you should have done this, so how about the... who do not even have the money, exposing the things to them?" (Government 3)

Alternative industries arising

Consumer

- "Whether it's from a manufacturing point of view or from a retailer point of view, you need to make a very cold, calculated decision for the environment and then you need to enforce it. I get the feeling we always first look after the economy and what the impact of that is and then we decide for the environment and it should probably be the other way around. Ja, and people are adaptable, businesses are adaptable. If you need to find a solution we will find one." (Consumer 1)

Environmental Group

- "How can we service humanity's needs in the long-term, the best way? Than just looking at the interest of particular interest groups. How can you service humanity's long-term needs?"

Importers

- "The pollution I think is the biggest problem. I think nobody around this table likes it or is happy with the situation as it is. But like I have said, you know there is no obvious alternative at the moment for plastic." (Importer 3)

Trade Associations

- "So, I think there is a brand-new Economy that needs to be developed here. I think it will still be small, it might not be economically viable, but the trend towards greener products is definitely there." (Trade Associations 1)

Environmental Group

- "The alternatives that are available – I think there are very good alternative options, but those alternative options have to be backed up with awareness generation, employment generation as well as local content development. Local content, for example, there are many small/ medium enterprises who can produce or manufacture alternative materials that can be used in the Namibian market." (Environmental Group 1)
- "If these local enterprises or entrepreneurs within the enterprises are given better options – preferred procurement so that they procure for the local shops here, be it the Spar, Pick n Pay, what have you. I'm sure there are so many benefits and so many alternatives." (Environmental Group 1)
- "Now the alternatives are limited because I think there's a narrow view about it – that they will not be readily available. They may be seen as too expensive to produce, but then when you think about re-using the same bag – I don't know, for whatever many years, then obviously the production costs (are) outweighed by the benefits. An alternative is to generate employment, local content – which is already reducing our carbon emissions. Instead of transporting lots of plastics from wherever – be it South Africa coming to Namibia, then going into the shops and then somebody buying in the shops. So, there are many, many benefits which you cannot quantify like, by talking to you. But in the value chain, there will be local employment, there will be generation of awareness to change behaviour at practices, which will be beneficial for those who may be engaging the business. But it will be beneficial for the future generations as they grow." (Environmental Group 1)
- "So, if it's done deliberately, following a methodological approach, as many products have happened before – phasing out many dangerous and harmful products. The impact on the economy itself will not be that major, if it's done the right way. But on the other positive side, there will be local content development, generation of employment. Right now, we have a high degree of unemployment, be it the youth at 38%. 34% unemployment for women. All these unemployed (persons) could easily start businesses, if they are not already in that area. And then start replacing or producing for the Namibian market." (Environmental Group 1)
- "But I also strongly believe that our new entries, opportunities – especially for micro/small/medium enterprises – the high unemployment of the youth (could benefit from new opportunities). Because I believe they (new initiatives) would require more manpower than necessarily the plastic (industry) – you normally use more machines to manufacture (plastic) – but the other (initiatives) you may require creativity, the cultural aspect of decorations and all those things." (Environmental Group 1)

Current industries adapting

Consumer

- "From a job creation point of view or from the manufacturer's, that type of thing, obviously it is going to have an effect from a manufacturer's point of view, of course it will have an effect but once again as is the same with any other industry in the world, they need to adapt." (Consumer 1)
- "It is a question that, if we go that route and there's legislation with regards to that and I do believe this thing is coming for a long time, we all expect legislation in some or other form then even the manufacturer's need to be mindful and cognisant of that and find an alternative of what we're going to do and how we're going to handle it and adapt their business. It is a question that if we expect this so if we are awake and if we are flexible then it shouldn't have that big of an effect, as far as I can see."

Environmental Group

- "The industry could be new in the sense that everybody going into it is new. It could be new in the sense that it's an opportunity for change from harmful business to a newer environmentally friendly (operation). It doesn't mean all the entry (input) will be new, but the system will be new. Be it now currently producing plastic but converting to other ones. Yes." (Environmental Group 1)
- "The plastic manufacturers in Namibia – should they change their focus then to alternatives think they need to do their market analyses and then based on their market analyses – obviously they will make their choices. But as an environmentally friendly person, I wouldn't see any reason why they should not consider it an option." (Environmental Group 1)

B. ARGUMENTS AGAINST THE REPLACEMENT OF PLASTIC

Arguments Against Replacement

Overall - plastic is not the problem, the 5 Rs are the problem

Plastic Manufacturers

- "It is more about managing what we're working with than looking for a replacement. I think there is certain things that you can look at and aspects that are unnecessary in plastic. E.g. there is suddenly a lot of momentum against straws, there potentially there's a win of sorts coming." (Manufacturer 5)
- "Well at the moment I haven't seen it even if you look at Tetra at the moment which is supposedly manufactured from wood, it is probably as bad in terms of having a foil lining, wax coating, no recyclability there's a lot that can be done with plastics if it gets returned to be processed. That's where the challenge lies." (Manufacturer 5)
- "Our problem sits with once it's in the consumers' hands that's where the problem is being created, tossed out of a window, dumped at a beach. Education, collection, enforceability none of that is in place to ensure there is awareness." (Manufacturer 5)
- "Problem is the consumer that is not recycling." (Manufacturer 5)
- "It is not about the product that is about the management of the product." (Manufacturer 1)

Importers

- "I don't think you can totally replace plastic, but on the environmental side it will be great always, doesn't matter where in the world you are. Economical wise, if they can put up a nice, decent, let's say, world-class recycle plant that will also be good for the economy, it will create work, extra work and stuff like that. Rather look to recycling first." (Importer 2)
- "People must take responsibility. At the end of the day, it must start with yourself, I think, because if it starts with yourself it's like a ring that will move out, but *ja*." (Importer 2)

Re-users

- "I think the main issue, from my point of view, is the end user is responsible for the situation and not the people who produce the products." (Re-user 2)
- "As soon as you go to a store and you buy which ever products if it is a plastic of a box or whatever, especially the plastic bags are the main issue people have and they are trying to get rid of it from the market. But as soon as you purchase something from the store it is your responsibility to handle the product correctly. To put it in a bin and not just throw it on the floor." (Re-user 2)
- "I think that is the main issue or the culprit is the people and not the product." (Re-user 2)
- "I personally think there is more to the plus for than the negatives, but once again it for me it comes back again to the end user. The people must take responsibility each individual needs to take responsibility. As soon as they use plastic, either if it is a product they use or if it is a bag carrying the stuff in, they have to take responsibility to dispose of it in the proper manner." (Re-user 2)

Consumer

- "From my point of view, how can we manage it? Obviously, we need to manage it, I think smartly. First of all, I think we need to up recycling." (Consumer 5)
- "At the moment there are not really any alternatives for plastic. So, plastics will be here with us to stay, we just need to a) see if we can recycle or re-use them better and b) we can reduce the amount of plastic use and try find alternatives for some form of plastic use that is currently not necessarily needed." (Consumer 3)
- "No, the only thing is, you must manage it. You must keep it out of the oceans and deserts... and recycling." (Consumer 4)
- "They don't have to replace it, they must just manage it better." (Consumer 4)
- "Actually, it's part of our life so we have to adapt to the use of plastic and control it."
- "It's bad for the environment, but again if you control the recycling of it hopefully you can make the situation better than it currently is."
- "*Ja* I think so, because if you teach people how to use it effectively and recycle effectively we won't have that many problems." (Consumer 6)
- "I think currently it's difficult, because if there is no alternative product... you have to start with an alternative to replace the plastic container or whatever. So, and again, if you start teaching people and educate people then it's maybe not necessary to reduce the production then you can carry on like this and it's a controlled environment. But I think for us in Namibia, because we don't have many manufacturing of food stuff so, 95% is being imported." (Consumer 6)

Trade Associations

- "No. I'm emphatic about that. I think plastic should be handled with the right care." (Trade Association 2)
- "I don't want plastics to be replaced, but I think there should be much more focus and maybe even communication to the consumer out there on how to consume or how to (re)use plastics once they have used it." (Trade Association 2)
- "Locally manufactured plastic is 100% recyclable. So, it's not a problem. Plastic is not a problem." (Trade Association)

Environmental Group

- "So, we've got no problem with plastic as plastic, and there are many uses for plastic which are good. It's the disposable elements to it and the waste element to it. It's how it gets into the environment and so on that what we've got a problem with." (Environmental Group 2)

Government

- "From my side I think I can say the good thing of plastic as we have mentioned we need to manage them. Plastic is not really a big issue if you manage it. Management is the issue. If you don't manage, obviously it became a problem." (Government 2)

No viable alternatives available

Overall

Plastic Manufacturers

- "There is no alternative, there is no alternative"
- "I don't know, it's difficult to imagine not having any plastic around, it's very difficult." (IM)
- "It's going to be practically a bit impossible to get rid or replace it, but we can manage it better." (Manufacturer 4)
- "One has to look back in the terms of replacement of plastic. I would imagine that if there was an economical and a more beneficial replacement option, covering all aspects of the business, element then that would be in play by the guys that are already distributing the containers. I think is an argument if there is a replicable medium or component to package that isn't. Or we haven't seen yet." (Manufacturer 5)
- "If there is a replacement that is viable to plastic you think then you'll obviously move over to that but there isn't one so what do you do? Exactly. Example if bamboo containers was the way forward to stay relevant in our industry is not plastic as much as it is packaging, and we would be in bamboo containers, no doubt. But there isn't. Worldwide I have attended big manufacturing conferences and shows it doesn't seem to be that substitute." (Manufacturer 5)
- "It's got a lot of benefits, it's got a negative but that's a big negative it's got fewer negatives but huge in terms of environmental impact. Commercially its stands head and shoulders above anything else." (Manufacturer 5)

Importers

- "The pollution I think is the biggest problem. I think nobody around this table likes it or is happy with the situation as it is. But like I have said, you know there is no obvious alternative at the moment for plastic." (Importer 3)
- "I think it's a combination. Plastic itself should be managed because it's a long way until we probably have a feasible complete alternative. So, until that happens, if it ever happens, the management of plastics should be better." (Importer 3)

Re-users

- "All of us does shopping and grocery shopping and even if you use the trolley at the store and you do not get bags, if you get home it will be an issue when you get home to off load fifty or sixty products at your house. So there needs to be a better idea of, not just saying this is the problem, but you need to look at solutions as well in order to make sure that that it is something that is replaceable and re-usable. Is there such an alternative to plastic?" (Re-user 2)
- "That is why I say everybody must have a more open mind about just criticizing it and look at what the solutions might be. I am pretty sure that there is a lot of clever, open minded people that can have a solution for this. I am talking about things that might not even be part of my industry but taking things into consideration the situation as a whole, not just looking at the product saying plastic is a problem. What do we do?"

Consumer

- "There is currently no alternative to plastic, not that we know of. There's a lot of alternatives but if it's viable is a different ball game." (Consumer 1)
- "A viable option for plastic bags at this stage, no. Not that I know of." (Consumer 1)
- "Plastic is there to stay, plastic should be, but it should be controlled more. (Consumer 2)
- "The same as the guys with the placards screaming ban the plastics. But you know how good plastic is? What do you want to replace plastic with?" (Trade Associations 1)
- "At the moment there are not really any alternatives for plastic. So, plastics will be here with us to stay, we just need to a) see if we can recycle or re-use them better and b) we can reduce the amount of plastic use and try find alternatives for some form of plastic use that is currently not necessarily needed." (Consumer 3)
- "I think to find an alternative is actually very difficult. It's not easy, because obviously you look at something that's biodegradable, you know quickly biodegradable." (Consumer 5)
- "I think there is, but certain products unfortunately you can't. It's just part of our lives."
- "I think currently it's difficult, because if there is no alternative product... you have to start with an alternative to replace the plastic container or whatever. So, and again, if you start teaching people and educate people then it's maybe not necessary to reduce the production then you can carry on like this and it's a controlled environment. But I think for us in Namibia, because we don't have many manufacturing of food stuff so, 95% is being imported." (Consumer 6)

Economic viability	<p><u>Government</u></p> <ul style="list-style-type: none"> • "I think it is all about managing, managing the plastic, rather than saying that we can discontinue the manufacturing of plastic. A viable alternative need to be found first, more research is needed, for now the management of plastic is the focus point." (Government 2) <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "From my current understanding of plastics and the value that it can add, it overshadows positively over the negative side, because from my point of view I can see the positive effects it has and the value it brings to the economy." (Manufacturer 1) • "Polymers in themselves are low in terms of value, so if you talk about the value that a plastic pipe can bring to transporting water from one end to the other end and you're talking about the value that you pay for that specific product, I see it's good value for money and there's no substitute for that. And we need polymers in our lives. According to me, we've got PVC and polymers to manufacture pipes. Obviously, there's metal, but compare metal to polymers, you will see the metal outweighs the price tremendously. So, without polymers, it's going to be quite expensive to transport water from one end to another end." (Manufacturer 2) • "Not do away with plastic and not do a silly thing that can cause harm to an entire country because packaging itself is, like I said, it's part of every person in this country and by just taking that away and replacing it with an alternative that cost more, you're going to create more harm." (Manufacturer 2) • "It will have a serious impact because if you look at it from an agricultural point of view for example we deal with plastic pipes, the cost there on as well, if you replace it, what would you replace it with metal? What would the cost be there on? So, there is a certain industry that you just don't even want to think of replacing it. Because imagine the water-tanks, I've seen the metal, the plastic silos, how do you replace all that, the rusting and things like that. And you know those are food packaging stuff. It doesn't make sense replacing, let's say for example a glass, how do you have fibre glass tanks all around villages and stuff like that. I really feel there are certain things that you just cannot think of getting off with it." (Manufacturer 3) • "You know, plastic is something that is cheap, plastic is something that is relatively cheap, so if one needs to replace it then obviously the costs even in the economy would then it would really have an effect." (Manufacturer 3) • "I think it comes down to Economy, it comes down to availability. You can replace it, you'll have to use an alternative method which is more expensive, so it will cost the consumer money at the end of the day. Or limit availability, so it's a negative." (IM) • "I think there's a replacement, but it's expensive, it's expensive, it's going to cost the consumer more because in the end it's going to cost the manufacturer more to do that." (Manufacturer 4) • "We're in the container business and it's very difficult to have an economical replacement to what we make. Film plastics is a lot that can be reviewed. Container plastics and PET and buckets that sort of thing we're off in terms of an actual retail replacement." (Manufacturer 5) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Then they must rather use boxes or other ways of packaging, but it will be more expensive. The only reason they use plastic is cause it's cheap, that's all." (Consumer 4) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "But at the end of the day you'll take a dip and then the Economy, if our Economy is strong enough it will recover from that and Industries will be converted to make up for that. Now is not the time. Not where our economy is sitting at the moment. If the Industry, if the Economy stabilises and start to pick up again, then you can make a change like that because then the Industry will have to change as well." (Importers 1) <p><u>Government</u></p> <ul style="list-style-type: none"> • "Yes, exactly, we need to investigate viable alternatives. You're also dealing with countries that have socio-economic statuses that are not that easy – it's not easy just to impose a levy on something without understanding how inequality affects your country and affordability issues of the person downstream. So, if you replace something with something that is more expensive you are negatively impacting the base of the pyramid in your society and that is also not good. Socially it can also lead to uncomfortable standards of living for some of us." (Government 1)
Environmental viability	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "If you really consider it carefully. If you wanted to replace for example some parts of plastic with paper the impact on the environment is perhaps even worse, that needs to be scientifically studied" (Manufacturer 1) • "There is no alternative to that at this point that is even remotely close in terms of carbon footprint." (Manufacturer 1) • "Well at the moment I haven't seen it even if you look at Tetra at the moment which is supposedly manufactured from wood, it is probably as bad in terms of having a foil lining, wax coating, no recyclability there's a lot that can be done with plastics if it gets returned to be processed. That's where the challenge lies." (Manufacturer 5) • "Is the answer banning plastic and putting everything into paper bags - then you're chopping down forests. Lots to think about." (Manufacturer 5)

Practical alternatives

Importers

- "So, your cost, I mean who's going to carry the cost if we now suddenly don't have plastic bags, but we need to have paper bags, it's off course more expensive because we do not have trees that we can harvest for paper." (Importers 1)
- "I think it depends, what are you going to replace plastic with? Because if you replace it with paper, then you need to cut off more trees. So, which one evil is worse?" (Importer 3)
- "Then you need to cut down trees. So, I don't know what the, I am not schooled enough to judge the impact of this, and the impact of that." (Importer 3)

Consumer

- "If we use the paper bags they're going to end up in the environment as well." (Consumer 1)
- "What the effect of paper is on the environment with that and how long it takes to dissolve I have no idea." (Consumer 1)

Trade Associations

- "If you do it with paper, I read, I do not know if it's true, again misconception possible, that there are not enough trees in the world." (Trade Association 1)
- "People forget that when you transport 10 000 plastic bags, compared to 10 000 paper bags you would need 2 or 3 or 4 trucks. And those are the things that people are not aware of. If you think by yourself, 50 re-usable shopping bags will be this height, but 50 plastic bags are only this. So, the ripple effect of plastic is often I think people are just not aware. Now in my work of course I have done a little bit of reading up. I check stats and, and I find it interesting. And I find it frustrating that people know so little." (Trade Associations 1)
- "No. I must just emphasise – it all depends on that paper and bags that you referred to – what they are made of. So, people must be really careful what they want to replace plastic with." (Trade Association 2)

Environmental Group

- "But obviously you are putting the question of how that paper was produced. Yes. Because there are also paper – the way it is produced, the way it is manufactured – maybe even more (harmful) than (plastic)." (Environmental Group 1)
- "On the other hand, paper is derived from trees which requires cutting down trees and the process of producing and often dying the bag and so on. So, the best thing really is not to replace plastic bags with paper bags, but to replace them with long-term re-usable products. Paper bags often may break, you use them once and then they break, and so on. But a canvas or a cotton bag, something like that is what you can keep and re-use, in your car and backwards and forwards that lasts." (Environmental Group 2)

Plastic Manufacturers

- "I don't think that (replacing plastic) would be practical. In a sense that there are certain things that you really within the plastic, especially with the packaging and stuff like that. Imagine having things that are in plastic, like water for example, how do you carry water in a glass all the time, you know? You might drop it and it breaks, you know how you just walk around in the gym with the glass or the plastic bottle and so forth." (Manufacturer 3)
- "It will have a serious impact because if you look at it from an agricultural point of view for example we deal with plastic pipes, the cost there on as well, if you replace it, what would you replace it with metal? What would the cost be there on? So, there is a certain industry that you just don't even want to think of replacing it. Because imagine the water-tanks, I've seen the metal, the plastic silos, how do you replace all that, the rusting and things like that. And you know those are food packaging stuff. It doesn't make sense replacing, let's say for example a glass, how do you have fibre glass tanks all around villages and stuff like that. I really feel there are certain things that you just cannot think of getting off with it." (Manufacturer 3)

Importers

- "I think you need to take cognisant that plastic is not just one item. It's not just a bag. If you think of Namib Mills where we use plastic, these water bottles its plastic, the bags that we use are plastic, the shrink or the balers that we use is plastic, the pallets, the wrapping around is plastic, the sheeting that we put on top of the pallet is also plastic. So, it's not a single item that we can replace it throughout the entire production and logistic proses that plastic is used. So, I think it's difficult to say we are going to replace plastic, because like Frans says, "What are you going to replace it with?" Now what do you wrap a pallet with if you can't wrap it with plastic? You can't wrap it with paper. There are certain inherent characteristics to plastics that another item material doesn't have. So, you know, that is the big questions. And that will have the impact on how many jobs will actually be affected. Because it's not only the bag that the product comes in it's the entire process and the logistics around it. So, it's a bit more complicated." (Importer 3)
- "And strength. If you think, people, we don't live in Europe where people walk to the shop and buy their groceries for tonight, here is my paper bag I am going to make chicken and vegetables. Inside this bag is chicken and vegetables, I carry it home and I make it. We do monthly grocery shopping, big grocery shopping, or at least weekly grocery shopping. So, its bulk produce that you need to carry, sometimes you need to carry it upstairs, some people don't have cars and need to carry it to their houses. How practical is it for those people to then use a paper bag instead of a plastic bag?" (Importer 3)

Re-users

- "So, my main thing is still manufacturers are still responsible for that, but what other way is there to transport things as with pallets? And if you do not transport in the pallets how are you going to do your packaging with different materials and different variety of products? You cannot stack in on a pallet 10 or 20 different sizes boxes and then you cannot pallet really. What is the other solution? From there you have to go to the loading of the pallets that they fit exactly onto the trailers. But if you use another type of, like cabinet or cage, you would not be able to put the same number of products into that cage or onto that cage because the sizes of the boxes differ and there is a lot of thing why." (Re-user 2)

Consumer

- "If you look at from a bad point of view you can't replace all plastic bags with cloth or any other materials currently available in the market. There are no alternatives that work as well." (Consumer 2)
- "If you take a grocery bag, currently. I can put whatever amount of e.g. Cool drink bottles in it and it's easier to carry with one hand. I can carry two, three or four bags in one hand. If you take a paper bag. For yourself. You need to hug the bag. I don't think that's going to be a viable option." (Consumer 2)
- "We can do the test and see, if you take that away how would you... What root will be packaging go? You can't use paper, you can't use cloth it will need to be plastic, but it needs to be a recyclable plastic, a cheaper plastic. If you look at shrinkage or shrink wraps it plays a very important role in getting a product to the consumer. I don't think there is any other easier way to replace it will be very difficult." (Consumer 2)
- "Because we need it. Unfortunately, certain examples like carrier bags can be replaced by some products, but some products that are packed in plastic and as we use pallet wraps and so, unfortunately, there's no alternative for us." (Consumer 6)

Trade Associations

- "I don't even know what they want to use as the solution. I follow quite a number of Zero waste, on Facebook there is a number of them, and I take my hat off for these ladies, they don't use cling wrap, they use beeswax wrappers. Now I challenge you to find beeswax wrappers in Namibia." (Trade Associations 1)

Environmental Group

- "Paper? Yes, that's exactly the thing. There should be an... 'Do you want plastic as opposed to...' If you want plastic, it's 50 (cents), if you don't want, it's nothing. Just look at it – our public transport system is not that good already. It's easy for a person who has a car to say: 'Fine, I will just reverse and take my stock and put it in the car'. People who have to get cabs, or even go to the municipality bus, they don't have that option. So, they need to have an alternative." (Environmental Group 1)

Impact on the economy of replacing plastic

Negative affect on local industries

Overall Plastic Manufacturers

- "They don't see the negative (implications) if you replace it. It's difficult to see – because you have to think about it a lot – the ripple effect on other markets and other industries. There are no practical alternatives." (Manufacturer 2)

Trade Associations

- "It will have a massive negative impact on the Namibian economy." (Trade Associations 1)

Increased input costs

Plastic Manufacturers

- "It will have a serious impact because if you look at it from an agricultural point of view for example we deal with plastic pipes, the cost there on as well, if you replace it, what would you replace it with metal? What would the cost be there on? So, there is a certain industry that you just don't even want to think of replacing it. Because imagine the water-tanks, I've seen the metal, the plastic silos, how do you replace all that, the rusting and things like that. And you know those are food packaging stuff. It doesn't make sense replacing, let's say for example a glass, how do you have fibre glass tanks all around villages and stuff like that. I really feel there are certain things that you just cannot think of getting off with it." (Manufacturer 3)

Importers

- "But again, then you must also look at the cost side of it. It doesn't help if it costs three times the... let's say the sheet, because that price is just going to the customer. It must be favourable to everybody..."
- "You must weigh up what's the cost to the environment, what's the cost to your customer."

Decreased competitiveness

Plastic Manufacturers

- "And the other thing is in terms of competition. If the whole Industry doesn't decide that they will reduce plastic and convert to glass for example, paper or whatever, then the guy who keeps plastic has the competitive advantage because of pricing." (IM)

Consumer

- "From a retailer point of view, it's very difficult for one retailer to take a stand on plastic bags and we're in a very competitive environment, tomorrow morning your position as advertising come to us we have free plastic bags. It must be made legislation." (Consumer 1)

	<ul style="list-style-type: none"> • "We've discussed it a lot as a company, but I think there needs to be legislation to have a level playing field. To get these things done, will a consumer pay for it, if it's legislation or if I charge it, absolutely." (Consumer 1)
<i>Loss of initial investments</i>	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "It's definitely going to have an impact because you've got two big Industries, I mean, to what extend are you going to ban it. Coke got a significant investment in the PET plant." (Importers 1) <p><u>Government</u></p> <ul style="list-style-type: none"> • "You'll have impact on dividends that are currently paid to the owners of those businesses." (Government 1)
<i>Capital outlay required</i>	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "I just want to say one last thing. You know the processes; everything is designed to make use of plastics. So, what I am trying to say is that, I mean the plastic plant, if we now have to switch now to paper you can just imagine that process for yourself. And it's basically all over the same." (Importer 3) • "Then also you will have to replace machinery which would have an impact of millions of investments on the companies to replace existing equipment with new ones. Possible, not just in production, but possible the product handling from production to warehouse, to truck, to in the shop, that might have to be rethought as well. Maybe with investments as well." (Importer 3) • "I think you need to take cognisant that plastic is not just one item. It's not just a bag. If you think of Namib Mills where we use plastic, these water bottles its plastic, the bags that we use are plastic, the shrink or the balers that we use is plastic, the pallets, the wrapping around is plastic, the sheeting that we put on top of the pallet is also plastic. So, it's not a single item that we can replace it throughout the entire production and logistic proses that plastic is used. So, I think it's difficult to say we are going to replace plastic, because like Frans says, "What are you going to replace it with?" Now what do you wrap a pallet with if you can't wrap it with plastic? You can't wrap it with paper. There are certain inherent characteristics to plastics that another item material doesn't have. So, you know, that is the big questions. And that will have the impact on how many jobs will actually be affected. Because it's not only the bag that the product comes in it's the entire process and the logistics around it. So, it's a bit more complicated." (Importer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "From a manufacturer's point of view obviously that would have a definite effect and they will have a direct insight into the cost that they will have to incur to adapt." (Consumer 1)
<i>Job Losses</i>	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "Plastic Packaging, massive Industry, focussing on plastic and they do recycle plastics as well." (Importers 1) • "You've got Namibia Plastics Converters putting up a massive plant in Brakwater, so these guys do actually create additional work in the economy." (Importers 1) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "I don't think I have that answer because I'm not in that business of buying plastic. At our side, at the recycling part it will definitely reduce jobs, because part of our recycling process, there's a lot of people who work on the plant doing recycling separation." (Re-user 1) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "To be quite honest, I don't think that's a viable option because plastic manufacturing in Namibia creates a lot of jobs. You can't just stop manufacturing of plastics. It will be a lot of job losses." (Consumer 2) • "It will be bad for the plastic industry." (Consumer 4) • "For the retailer you will have a lot of complaints from customers. On the other side, the manufacturing people will maybe sit with retrenchments, because if you stop producing carrier bags. So, there's jobs involved. So that's why I said, if you can control it then I think we can live with it." (Consumer 6) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Well, currently, we have several plastic manufacturers in Namibia. The newest one is Namibia Plastics, which has made a huge investment in their factory. There is about – currently we haven't got the statistics 100% because there is no data available, but it creates a lot of job opportunities in the plastic industry. Thumb sucking, I would say it's about between 800 and 1 200 jobs. That is not taking into account... It is jobs for people that manufacture the plastics that is in (included), it's not the peripherals of the families and whatever or the people that these, say 1 000 people, are looking after. So, it will have a huge effect at the end of the day. And we have got a current problem of unemployment in Namibia. Do we want, at the end of the day, to close down sub-sectors in the manufacturing industry, which we all know is one of the key pillars of NDP4 (4th National Development Plan) and NDP5 (5th National Development Plan)? Even in the Harambee Project of His Excellency the President. Do we want to create more unemployment? Emphatically, my answer is 'no'." (Trade Association 2) <p><u>Government</u></p> <ul style="list-style-type: none"> • "If you go to that extent of banning it immediately, then you will have impact on jobs that are being created in the current plastic industry." (Government 1) • "You must always consider various aspects – the two sides of the coin – when you approach things. We live in a country that has a high unemployment rate. Now, imagine, the 50 or I don't know how many

odd employees that are sitting at (the) plastic industry loses their job(s), because of an outright ban. For everyone employee, roughly five people are affected. So, you're talking of roughly maybe 200 people or so, or beyond. That's school fees not being paid anymore, that's support to the extended families. We are an African nation. Every salary that I get supports another five people. Plus, my own kids and my own wife. So, we are extended family based. We are not (a) nuclear-family based society and therefore the socio-economic impact of our decisions should always guard how we intervene in market set-ups. So, I would respectfully disagree that we should prioritise the environment above the concerns of people and still vouch for a balance and gradual approach to the eradication of plastics in our society." (Government 1)

- "Remember we talk about job creations, the moment when you shut down the manufacturer that's producing the plastics obviously you also cut on the job provision. So, the management of plastic is all what we need and at least create awareness to our people around, what are the effects of scattering around the plastic on the environment, the effect of having plastic lying around." (Government 2)

Industry closure Government

- "So, I think the creation of awareness is much more better than closing down the Industry." (Government 2)

Re-users

- "Yes, for me as a recycler and waste handler it is very difficult to go into that direction. We've got a market for plastic and we're actually looking for plastic because we started a contract with Ohorongo Cement, where plastic can convert into alternative fuel instead of using coal and importing it. So, we can use our own product from Namibia and produce energy." (Re-user 1)
- "Ja, previously plastics was a problem because there wasn't always a market that ends up at the landfill sites or dumpsites. Nowadays, we've got a market for plastic and we actually need plastic, because it has a value that has been high which we need for our processes." (Re-user 1)
- "From my point of view Namibia has done a lot in recycling but we can still move forward. I believe Namibia can and will get there. People believe in it and I can see the difference, and there is opportunities and we've got the market at the end of the day. That's the most important thing, you always want to do something, but you haven't got a market with the offset there's no point to it, but we've got a solution to that." (Re-user 1)
- "I think Industry wise, looking at other Companies and taking that into consideration as well, especially plastic places like Plastic Packaging, who are manufacturers of these bags, what needs to be taken in considerations what type of impact that will have on the Industry and Economy as well. That is a very important part of, well everybody, like I said, it forms a crucial part." (Re-user 2)

Importers

- "I think that, and in my house for instance, and other people I don't know if it's the same, but the plastic bags are re-used. Not necessarily for going again to the grocery store but it might be re-used for other purposes. So, will a paper bag be better because now what, now you need to take a black bag to use instead of the plastic bag that I am currently using. So, you won't necessarily solve 100% the plastic problem, you are just going to substitute something else for it." (Importer 3)

Plastic Manufacturers

- "Well there are a number of plants that would be probably shut down if they haven't found an alternative mechanism. With that said I think if everyone sees we would be one of the first corporates to see that there is a replacement and we'd obviously look at that too to do it. To stay relevant, you could potentially survive but if there comes someone tomorrow saying there is no more plastics that would have a fairly significant impact on a fair number of players here." (Manufacturer 5)
- "They've banned it in Kenya. Do you know what is the impact on that? They're now threatening people and chasing them and police and finding a plastic bag. I mean seriously." (Manufacturer 4)
- "If you ban plastic carrier bags, people are going to find illegal ways of bringing it in anyway and then it is not regulated."

Restrictions on export Government

- "You'll also have impact on our exports. Our plastic is also exported to Angola, I believe, some of them. And perhaps also, since Namibia is quite a re-export transit in SADC, there could be plastic that comes through and then it is re-exported in the rest of SADC – that's also a business opportunity that you are losing." (Government 1)

Restrictions on import Plastic Manufacturers

- "It's very difficult even for us to entertain the thought I would say. Because, and I'm not talking just about Coca-Cola, I'm talking about a consumer as well. Because if I talk plastics I'm not just talking about just a plastic bottle, I'm talking plastic bag, I'm talking about a yoghurt tub, I'm talking about butter cup that butter comes in, I'm talking about that little plastic wrap your meat comes in. It's going to have a humongous effect on the Economy, because all of a sudden everybody, everything that is being brought into Namibia should have to re-looked at and whether we like it or not, 98 % of the products we consume in this Country is imported. It's brought if from other countries, irrespective from where." (Manufacturer 4)

- "How're we going to dictate them and say we please need our yoghurt in a glass tub and now for a yoghurt that you pay \$ 13 for you now have to pay \$ 30 for to compensate because it comes in a nice glass jar. It's not practical. It's absolutely not practical to get rid of plastics." (Manufacturer 4)

Importers

- "But again, I think the manufacturer needs to give the information. I think the biggest issue in Namibia is we don't have a lot of manufacturers in Namibia itself. I want to say a 100% of our stuff gets imported. So, there's always an in-between guy who is also not educated and you tell the subcontractors and the lead how they can recycle it and stuff like that." (Importer 2)

• Consumer

- "I think currently it's difficult, because if there is no alternative product... you have to start with an alternative to replace the plastic container or whatever. So, and again, if you start teaching people and educate people then it's maybe not necessary to reduce the production then you can carry on like this and it's a controlled environment. But I think for us in Namibia, because we don't have many manufacturing of food stuff so, 95% is being imported." (Consumer 6)

Inflation Plastic Manufacturers

- "Huge. Every person – no matter in what industry or what group of people – has plastic needs every day. You know, if you go and buy a hamburger at an outlet, there will be plastic around it. So, every person will be influenced by an alternative. Alternatives currently, like I said, I cannot see that you can get a similar product with the same value proposition that it brings to that specific product, with the same price. So, you're going to pay a lot more for a substitute product. So that guy that wants to buy his hamburger, is not going to pay N\$10, he's going to pay N\$11, because of a decision to take plastics away. That's why I have a big issue with that, because every person is going to (experience) negative consequences." (Manufacturer 2)
- "I think it comes down to Economy, it comes down to availability. You can replace it. You'll have to use an alternative method which is more expensive, so it will cost the consumer money at the end of the day. Or limit availability, so it's a negative." (IM)
- "I think there's a replacement, but it's expensive, it's going to cost the consumer more because in the end it's going to cost the manufacturer more to do that." (Manufacturer 4)
- "It is in terms of one can remove it or replace it and that sort of thing but with the same heat of argument be present if the replacement container pushed up product on shelf by 50% there would be a very different kind of outcry." (Manufacturer 5)

Importers

- "Suddenly you have all these guys' needs to convert to glass or cans and then the products become more expensive. Both your soft drinks, your water and bottled water. Also keeping in mind your bottled water is, I mean that's mostly in the segment that people are not that price sensitive. If everybody goes up by 5 cents, 30 cents to accommodate a new pack size they'll pay for it because they want bottled water. Your lower end of the market which is very price sensitive, I'm not saying your upper end is not price sensitive, they're still going in and buying the cheaper product. But your lower end does not even buy bottled water, so he opens the tap and he gets his water." (Importers 1)
- "But again, then you must also look at the cost side of it. It doesn't help if it costs three times the... let's say the sheet, because that price is just going to the customer. It must be favourable to everybody... "

Reduced government revenue

Government

- "You'll have an impact on taxes, government revenues that we are getting." (Government 1)

Economic depression

Government

- So therefore, the immediate losses could be quite substantial, could quite lead to economic depression – not really on a major scale – but... So therefore, that's why I was emphasising on (a) gradual approach to these matters." (Government 1)

1.4. PLASTIC FACTS AND MYTHS

Other myths

Island of plastic in the sea

Plastic Manufacturers

- "Well the so-called Island of plastic in the sea is a myth, it doesn't exist. If there was an Island I am sure that the plastic manufacturers would scramble to go, there and collect and do something with it because it's got a value. There is a lot of plastic in the sea, but it is not an island it's submerged. As far as myths are concerned I think that is the last one." (Manufacturer 1)
- "I think the thing that there's a plastic continent somewhere in the ocean, I don't think that is true. Sorry, I cannot think of anything now." (Manufacturer 2)

Consumer

- "We've got a plastic island in the Pacific. That's not true at all. There's lots of it going into the ocean." (Consumer 3)

Trade Associations

- "There is a very disturbing photograph on the front page of the National Geographic, where it looks like an iceberg, but then in fact it's a plastic bag, that is hanging in the water. To depict an iceberg that shows the size of the magnitude of the problem of plastic. And I think that is more misconceptions. A lot of misconceptions." (Trade Associations 1)

Environmental Group

- "When I had a first meeting with Plastic Packaging here, they tried to rubbish that international information that by 2050 there would be more weight of plastics than there are fish in the sea and that's been tested, and tested, and proven and shown. But they don't like that bit of information because it doesn't really align with their product and their process. So, they're trying to rubbish it and we were very clear to them to say 'Listen, don't go into areas where you really are not experts and stick to your making of plastics, and don't try and dispense...'" (Environmental Group 2)

Plastic is non-degradable

Consumer

- "We do a beach clean-up every year at the coast and a lot of people say that it will take plastic 10-15 years to degrade or to break down. There's certain type of plastic that we picked up that soon as it's lying in the sun for a while then it becomes brittle and it easily 'disappears'. There's two ways, a lot of people say plastic will stay for 50 years in the environment, but I also notice that once plastic is covered out of the sun and elements then they do last a long time. I can always use the example about 10 years ago I was with a friend and he told me that in the dunes behind Swoop... due to the shifting winds the dunes also shift. It was quite a windy day a week or two before and they took a drive. He picked up a little Simba packet with still the cost and I'm not sure, but I think the packet cost N\$0.15. The 30g packet looked like new, it was just buried for a very long time underneath the sand. I was quite impressed and then I realized that when plastic is covered out of the elements then it will last way, way longer. Again, there is a myth that people say plastic can last for many years there is truth to it but also if plastic lie in the sun for a while- month or two they become brittle. Decompose quickly. " (Consumer 2)
- "Again, different type of plastic, you get think plastic, thinner plastic and then the different compositions of plastic. You have to consider all of that. All plastic is not the same." (Consumer 2)

Plastic is non-re-usable

Re-users

- "I think people have said that plastic can't be re-used. They don't know about the recycling process. That it's actually got that value." (Re-user 1)
- "People must understand the process and what is the value that we get out of it. If you treat your waste as the waste we used to grow up you haven't got any value out of it, there's a value. If you do proper recycling, and I'm not talking about plastic, but if you do proper recycling you can at least recycle up to over 90%. Thanks to the refuse-derived fuel plant, everything can be recycled at this stage except wet waste and nappies and protective clothes and that sort of stuff but more than 90% can be recycled. People must just take responsibility and do on source separation. Community and business must also get on board. Your waste is your problem, everyone's own problem." (Re-user 1)

2. PLASTIC MANAGEMENT IN NAMIBIA

2.1. RESPONSIBLE DISPOSAL

A. CURRENT ACTIVITIES

Municipal services/ Landfill Management	<ul style="list-style-type: none">• <u>Importers</u>• "As reliable as our garbage system, I am pleasantly surprised how reliable our garbage system is. Come rain or shine, public holidays, 1st of January they don't care they are there. Half an hour early, half an hour late they are there. That is a big compliment to COW."(Importer 3)• "I must say, in South Africa we had often 2 or 3 weeks that they don't come to pick up, so I think that really is. Yes, then the municipality didn't pay the bill and the truck is broken, then they need to borrow the truck to the town next door."(Importer 3)• <u>Consumer</u>• "If you go into the smaller communities, into the smaller towns and not specifically mentioning anything bad, go north. I think there's less recycling there and there's less, let's call it, municipality services are not up to date – it's a major problem there. I think that's also a major contributor to the littering out there." (Consumer 5)• "So even if someone wants to dispose responsibly, maybe their municipal service isn't there, the collection isn't there." (Consumer 5)• "Yes, that's a one that is debatable, you know that sort of thing. If you look at what's being disposed every week or every day, in and around Windhoek on the dumpsites, I think we're doing fairly well. I think it's being fairly maintained, that sort of thing, and I think it's just a matter of getting it there. And then from there we can process it." (Consumer 5)
Clean-up drives	<ul style="list-style-type: none">• <u>Plastic Manufacturers</u>• "The national clean-up drive"• "When you see it there's obviously the cleaning mechanisms on the beaches and that's in place. There's still too many on the beach and you've also got to think." (Manufacturer 5)• <u>Re-users</u>• "With the awareness of the clean-up campaign launched by our president I think it can definitely make a difference." (Re-user 1)• "National clean-up day." (Re-user 2)• <u>Consumer</u>• "There are some good clean-up drives" (Consumer 1)• "Clean-up drives are important but its sporadic stuff. Somebody gets a clean-up day that type of thing, it obviously helps there's no question about it, but it is not something that is going to keep the country clean, for that it needs to be something that is ongoing. At the moment it is sporadic, so you can't really count it. We need a systematic approach." (Customer 1)• "We just recently had this clean-up campaign last week I'm also involved in that. It extended to the coast. The Spar Beach Clean-up campaign has been running since 2013." (Consumer 2)

B. BEST PRACTICE

Awareness campaigns <i>(Refer to Stakeholder Engagement & Targets)</i>	
Penalties/fines	<ul style="list-style-type: none">• <u>Plastic Manufacturers</u>• "There's people that needs to be reprimanded for littering. You know, it sorts of needs to be made a crime to litter. It should not be tolerated and once that is done, there will be fewer plastic lying around in the environment, and it's a win-win combination." (Manufacturer 2)• "Ultimately, any initiative is only that unless there is buy in by all the parties and in terms of the municipalities ultimately each e.g. depo where you are going to have that. That will be a municipal dumpsite, it's their place. They are an absolute key element to making it work, also enforcement. They must be seeing where the people are dumping the stuff they must be educated, or fines issued, largely education, initiatives in place and potentially reward; job creation in terms of sorting etcetera. " (Manufacturer 5)• "I think the problem is local authorities, including municipalities. I think if you want to actually add a portion more blame is what have they done? They're they guys that every time they go pick up somebody else's mess because it hasn't been put in the bin and just tossed across the fence in a field. It's an additional cost, maybe it's got more momentum or more noise in the last five years

**Municipalities
role**

*Formal
landfills,
availability of
bins, municipal
services*

but these guys that have managed dumpsites for three decades, four decades. They can't not be aware of all the elements even if there wasn't a point of collection, if they were looking after their town properly it would be in a much better space. If that means punitive measures, I saw you littering this is your litter, you through it over the fence, you're getting a fine don't do it again. There's enforceability and there's encouragement in terms of it and there's redemption in terms of handing stuff back because there's a levy." (Manufacturer 5)

- Consumer
- "There must be penalties put in place, and incentives, for companies on how they dispose of their waste." (Manufacturer 5)
- "I think they must start giving fines for people that litter. How you going to implement it? If people still litter you can... and that why I said, you can go into informal areas and villages, and you see how many bottles and tins and broken glass and plastic. It's just that people litter and they are not educated to keep their environment clean." (Consumer 6)
- Plastic Manufacturers
- "The single biggest enforcer not coming to the party is local municipalities cause that's their town nothing's been done in terms of waste management, it's all over the place. Not enough is being done, they need to be far more involved." (Manufacturer 5)
- "Well I think so many of the local municipalities are badly run, you look at the newspaper every week there's corruption etcetera. I don't think they have the awareness to tackle the problem efficiently or potentially resource but it's critical." (Manufacturer 5)
- "Ultimately, any initiative is only that unless there is buy in by all the parties and in terms of the municipalities ultimately each e.g. depo where you are going to have that. That will be a municipal dumpsite, it's their place. They are an absolute key element to making it work, also enforcement. They must be seeing where the people are dumping the stuff they must be educated, or fines issued, largely education, initiatives in place and potentially reward; job creation in terms of sorting etcetera. " (Manufacturer 5)
- "I think the problem is local authorities, including municipalities. I think if you want to actually add a portion more blame is what have they done? They're they guys that every time they go pick up somebody else's mess because it hasn't been put in the bin and just tossed across the fence in a field. It's an additional cost, maybe it's got more momentum or more noise in the last five years but these guys that have managed dumpsites for three decades, four decades. They can't not be aware of all the elements even if there wasn't a point of collection, if they were looking after their town properly it would be in a much better space. If that means punitive measures, I saw you littering this is your litter, you through it over the fence, you're getting a fine don't do it again. There's enforceability and there's encouragement in terms of it and there's redemption in terms of handing stuff back because there's a levy." (Manufacturer 5)
- "I think certain guys because of their links they might think it's tech... It's all commercially driven at the end of the day so much is about actioning it. Effectively if there wasn't a problem with the waste we have now, we're talking about it because it's on the streets the municipalities were always the nominated source to take rubbish from home and put it in the landfill that's what they did. That responsibility doesn't go away it's a sad side because it's operating like it used to everything to landfill but it's not even reaching the landfill. Not plastics; car batteries, everything. There's not a mechanism to get it there, remember that most of the people don't have the transport to make the effort to dump it. You would say that you gave them points to dump it in town that they would walk to dump it as supposed to dump it over the fence. The most accountability in getting this process is local authorities. Otherwise it's just a levy that will be passed on to the consumer, it'll be costing more for the consumer to get water for him to throw it in the street or a plastic bag." (Manufacturer 5)
- Importers
- "And provide garbage cans at the well traffic places. Even if they are informal traffic places, like the corner of the Gove where all the Taxi's stand for the people to go home, provide garbage cans."(Importer 3)
- "Even if you want to, you don't see anything (bins) within in 20 minutes I am just going to drop it instead of carrying, carrying, carrying, walking, walking, walking."(Importer 3)
- "What might also help, not just for plastic but for garbage in general, is those big skips for the guy that doesn't have a *bakkie*, that does not have the means to rent a *bakkie* or a truck, to get that heap of something away, it's easy to take the wheelbarrow down the street and dump it in a big skip. That I think is a really good initiative." (Importer 3)
- Re-users
- "The municipalities and the local authorities they must also come bit more to the party because they are also everywhere. They are really everywhere. Definitely because overall in Namibia waste management and recycling is not really high on the agenda of any council. But I think it will be changed with the new waste management act when it comes into play, they will be forced to do it. So, I think definitely in the next 5 to 10 years you'll see a big difference in Namibia." (Re-user 1)
- "The management at Kupferberg dumpsite in Windhoek that is also putting a lot of emphasis on recycling at the dumpsite self. I personally feel that is the best place to do it, due to the fact that it

is a central place that everybody delivers their waste to. That includes us and City of Windhoek, Rent-A-Drum, all the other subcontractors of City of Windhoek as well. And obviously if you have a central point where everything goes it is easier to manage it, logistical and cost effective than driving around to every individual you have vehicles to take into consideration and labour. Where now everything you have at the logistical side is already in place and you have to all the parties that are taking part in this. So, it is all going to a central point. If you put a lot of emphasis on the dumpsite." (Re-user 2)

- "Make sure there is systems in place and there are dust bins at all the places and towns, townships and everywhere." (Re-user 2)
- "The impact of all the different industries where plastic is being used correctly and for the right purpose but the disposal of it is where the problem still lies. Even if it is in Manufacturing they send materials to Oshakati to the Pick n Pay there, they do not have a waste removal company there. What do they do with it? There are certain towns in Namibia that I know do not have a dedicated waste area. We have Kuperberg dumpsite. But certain towns do not even have a dumpsite, or the dumpsite in Okahandja is not fenced off. They go and throw everything away there but as soon as the wind comes up it picks up everything there. I know this is being addressed in the National Solid Waste Plan by the Ministry of Environment. Last year we sat with a lot of people and certain towns to council and with NET included so there is a 10-year plan included to make sure that each town and village and everyone gets a dedicated refuse dumpsite that is also according to standards. That is a start, people need that first before they can know where they can take their waste. And then after that the sorting can start to take place. If it is an open dumpsite and you throw everything there or even some places do not have a dumpsite then you have no place to take it to. So once again there needs to be certain structure in place to do this." (Re-user 2)
- "The other thing is the infrastructure needs to be there. If you live where the workers live. There is no infrastructure there, there is a skip for a block of 500 or 600 houses and some people have to walk 100m or 200m to throw away a wrapper. They have to make it accessible for the people to make it easier for them to do the right thing." (Re-user 2)
- "It does, for us and there is lot of people living in an area where there is not a disposable landfill site, so they dispose of their product in the veld or they burn it. That is why it is crucial for the Manufacturers to create a product that is much more biodegradable. That would also help that even if they do not have that infrastructure they are able to dispose of it and you know that in 2 or 3 years it has degraded." (Re-user 2)
- Consumer
- "Start with the municipalities and in the towns. *Ja*, it's bad, very bad. *Ja* it's very bad, it's dirty. It used to be the cleanest city but not anymore." (Consumer 4)
- "All landfills across the country must be properly managed. I think it's a matter of, the area has been allocated and it has been used as a dumpsite, but obviously like know now, we've got east winds in Swakopmund – it's a major problem Not that they're not doing a great job, but I think it's... You know, we're fortunate, we have hills and everything around Windhoek, so obviously we can cover that sort of thing, with sand and everything, we have less, how can I say, distribution by wind and water and all those kinds of things, but where you've got open things (areas) like specifically Otjiwarongo, I did mention Swakopmund, I'm quite familiar with that one. If you're going up north, basically it just gets thrashed out, you know at a certain area – they call it the dump area and from there whatever, you know." (Consumer 5)
- "With the littering I can also focus on, whenever you stop at that little tree along the road...those bins are normally filled to the brim. You know, it's either not being cleaned on a regular basis, not being emptied on a regular basis, which I think also hugely contributes to that kind of littering."
- Trade Associations
- "I find in Namibia people want to do the right thing and often we don't give them the opportunity to do the right thing. I attend a number of clean-ups where our members sponsored, and then when the clean-up is done you can do another clean-up, because there are no bins available to put, especially the recyclables in, there is no awareness on if you have finished your little *brotchen* and your cooldrink, please there goes the recyclables and there goes the waste. So, we also need to enable people to do the right thing."(Trade Associations 1)
- Environmental Group
- "There are Best Practices whereby for example in the public space – you have big bins designated clearly – this is for what. Because my experience in Namibia – if there is no alternative – it's easy for the next person to throw away plastics and what have you, because they don't visibly see where to put their rubbish in." (Environmental Group 1)
- "And this here, this money that's collected from the sales of plastic bags, hopefully that money will go down over time, because people will get more and more of these bags and they'll be fewer and fewer of those sold, but what you do with that money, that money you use to start investing, in what is currently dumpsites of little towns and villages around Namibia. Those little towns and villages don't have enough people in them to develop a proper waste... to fund a proper waste management strategy. There's not enough people paying rates and taxes to fund a proper waste management strategy." (Environmental Group 2)

2.2. REDUCE

A. CURRENT ACTIVITIES

How effectively is plastic being reduced in Namibia?	
Average score out of 10	2
I don't know	38%

Unaware	<u>Plastic Manufacturers</u>
	<ul style="list-style-type: none"> "What we do in Namibia to reduce? I don't know. I cannot think that we are good at it. I cannot think of something." (Manufacturer 2)
Nothing/little	<u>Government</u>
	<ul style="list-style-type: none"> "On the reduction side I'm not really sure the activities that are in place to reduce the plastics on the environment, but I believe from the manufacturer side is where you can get more insight on what is really happening." (Government 2)
Optimisation of plastic manufacturing process	<u>Importers</u>
	<ul style="list-style-type: none"> "Nothing." (Importers 1) "Very little." (Importer 2)
	<u>Re-users</u>
	<ul style="list-style-type: none"> "Not a lot." (Re-user 1)
Optimisation of plastic usage	<u>Consumer</u>
	<ul style="list-style-type: none"> "Nothing. Nothing being done." (Consumer 3) "We're not moving forward." (Consumer 4) "Well, I think not much at the moment." (Consumer 5) "I think zero at this stage. That I know of." (Consumer 6)
	<u>Plastic Manufacturers</u>
	<ul style="list-style-type: none"> "From my own perspective, light weighting programmes. So, doing the same bottle with less plastic." (Manufacturer 4) "Ja, it's thinner plastic bottle, it's a much thinner plastic, basically 60 % of what is in this bottle at the moment." (IM) "For the caps for example as well, the caps' weight had also reduced." (IM)
Optimisation of plastic usage	<u>Importers</u>
	<ul style="list-style-type: none"> "That I don't know, but what I think is worth mentioning is; if you compare the Namibian plastic grocery bag, the micron in that bag in comparison to the South African grocery shopping bag there is a major difference. So, the definitely use more plastic in the South African grocery bag than they are doing in the Namibia bag, it a much thicker bag. So, that's maybe something worth mentioning, don't know if it's good or bad, but obviously there is less plastic used to manufacture that bag." (Importer 3)
	<u>Trade Associations</u>
	<ul style="list-style-type: none"> "Yes. And that is one of the frustrations, and it wasn't until I together with one of our members that we said let's really look at plastics. People are screaming and yelling, and we don't know a thing. And that's how John Pallet of the South African Institute of Environmental Assessment. He's based here in Windhoek and he and I every second week has a meeting with Jaco, and I enjoyed it so much and then they organised a visit to Polyoak and I was totally impressed. I never knew. And that again brings you down to we don't know. We don't know what's been done. All we know about Plastic Packaging is they make bags, and bags litter, and bags should be banned, and let's just be negative about it, but all the good that goes with it I think people don't know" (Trade Associations 1)
Optimisation of plastic usage	<u>Environmental Group</u>
	<ul style="list-style-type: none"> "No, manufacturers are doing nothing to reduce plastic." (Environmental Group 2)
Optimisation of plastic usage	<u>Plastic Manufacturers</u>
	<ul style="list-style-type: none"> "There's a lot of noise and nothing really happening. There is an active effort from our side to actually give our customers good advice. That is part of our strategic plan now. We're going to actually put someone in place who'll be focussing on that, on the optimisation of it. So, we will be going into for example, the fishing companies' production process and we'll try and give them advice with the hat on of the reduction of plastics whilst gaining some marketing insight for the company. So, that's one of the things we are working on." (Manufacturer 1) "Well I'm actually going to employ that person. I have had interviews last week. It's a person that we call a Product Engineer. His job will be optimisation. He will be looking into product optimisation right through the value chain of plastic packaging." (Manufacturer 1) So, we've done a lot of that. Using less shrink wrap to put around the bottles, we've reduced that probably by 50 % or more already." (IM)

- "I can only compare it to what we've done ourselves within the Company. I can't say against all standards, but on average I'd say we'd probably over the last three years must have reduced by 30%. Roundabout, it's a very rough estimate but it is something that is consciously being done and it will continue as well." (Manufacturer 4)

Importers

- "We measure, and we analyse where we can reduce waste." (Importer 3)
- "Plastic is not for free. So, like she said you must be cost effective, you won't use 2 meters of plastic wrap if you can get away with 1 meter. It's a sort of an automatic process that is taking place. It makes business sense to reduce." (Importer 3)

Consumer

- "From a retailer's point of view, we're obviously trying to use as little as possible because it is a dead expense for us. It is not something that can recover through and put a one or two cent on my margin to cover a plastic bag. As I said it's a very competitive market out there so it's a dead expense for us, so it just makes sense from a retailer's point of view to use as little as possible to make the expense smaller and smaller. And from that we have initiatives at stores how to pack a bag and that type of thing.
- "We try and educate our packers and staff to pack in such a way that it is as economic as possible." (Consumer 1)
- "The less we use the better for us, as I said it is absolutely a dead expense." (Consumer 1)

Environmental Group

- "Some of the lodges and private sector companies are trying to reduce. The Gondwana Collection, for example, they are starting to provide metal, stainless steel bottles for their guests and then water dispensers at all the lodges. So, instead of going to buy a plastic bottle, you've got your dispenser with the Gondwana logo on it and you keep that for the rest of your life and you go to the lodges as you go around, and you fill it up with nice clean water, and so you don't have a plastic bottle. And they try and reduce all the plastics in the system and so on. So, there's lots of, and like that talk last night was packed, there was a 160 people there and people in their private lives are looking at ways of trying to reduce their use of plastics. But I'm talking here again about those once-off, disposable plastics, not the plastics that you use." (Environmental Group 2)

Material shopping bags

Plastic Manufacturers

- "There are alternatives like the shopping bags, I know some people have shopping bags but like I said it's a process. Take somebody that has really, you don't really want to walk around with plastic bags and stuff, so you rather put them in a bag, but it is 1 out of 50 or 2 out of a 100 that will do that, as long as it's for free then they would." (Manufacturer 3)
- "People get into, it's the higher LSM levels that get into look I'll bring a Woolies bag or material bag when I do my shopping because then I can save. Your immediate reduction would be if you pay for the bag you're not gonna walk out with too many bags. There will be a reaction." (Manufacturer 5)

Importers

- "I think the material bag was a big hit in South Africa a while ago, the Woolies bags and the Pick n Pay bags. And it was also just at the beginning of the initiatives, now people are still paying to get bags, plastic bags. So, material bags were, yes people are not always having bags in your car when they get to the shop, so the re-using (inaudible)." (Importer 3)

Re-users

- "I know they would like to introduce these cloth bags and so on in shopping centres instead of using plastic bags, but I mean that is such a small number that it's not making much of a difference so." (Re-user 1)

Consumer

- "I've never seen security target people that bring their own material bags. We don't search customers at the door, as far as I know. They may ask a slip at some instances, but we don't search. I can't see that as an obstacle." (Consumer 1)

Environmental Group

- "I think we are doing – as I said – we are introducing alternative shopping bags, for example in markets, like grocery markets. At least there you can see there's an attempt to try to reduce. There are efforts of awareness creation and generation." (Environmental Group 1)

Banned in national parks

Government

- "Of recent you heard the Ministry of Environment, where they say no more plastic bags in the conservancies, in the parks. I was very happy because these are the same people who were saying 'no'. Very much happy that if all the conservancies are plastic free then I can tell you 95% of Namibia is plastic free." (Government 3)

B. BEST PRACTICE

Awareness Campaigns

(Refer to Stakeholder Engagement and Targets)

Carrier bag levy

Possible outcomes of a levy

Positive

Used to promote environmental goals

Plastic Manufacturers

- "If the levy is going to be used as a method to raise funding for the purpose of education and recycling then we'll agree to it. If it is going to be sensible and done with the hat on of recycling or environmental plan, sure, then I think we can support it and live with it." (Manufacturer 1)
- "Yes. It's about the education, not about the levy. We want to teach people to do it better." (Manufacturer 1)
- "I don't know where that levy is going to go. If it is used for the environment – yes – if it is for an additional revenue stream – no." (Manufacturer 2)
- "And maybe Government can give them environmental projects, because they have the financing to do that. So, they can (provide) better management." (Manufacturer 2)
- "If I see as an end consumer that, 'OK, but this levy that I'm paying – these other bins in the town are put up for me throw away – that I can see something happening with that levy that I'm going to pay." (Manufacturer 2)
- "No, it should be used for the purpose, let's say, like I said to then help with the recycling process." (Manufacturer 3)
- "Awareness creation, putting up machines and deposit machines. So, projects related to recycling plastics" (Manufacturer 3)
- "The key thing with this collection is what is done with the cash, that'll be a huge mechanism to fund reclamation and all that." (Manufacturer 5)

Importers

- "That levy should then go into recycling. We need stations where we can gather recyclable material." (Importers 1)
- "Definitely. If it goes where it belongs, and it gets used for the right reasons for what you pay for it. The reason that you pay for it, then *ja*, and then they can get some use out of it, good use, and for education or whatever." (Importer 2)
- "As well as where those funds are available there would be a much bigger drive towards recycling and you can educate the people around it." (Importer 2)

Re-users

- "The main thing for me is if the levy is put into place, by all means it is good and the idea behind it is to minimize the number of bags that goes out but if there is a levy being taken for a plastic bag what it is being used for?"
- "I think, personal opinion, it should not be collected by anyone. It should be used to do research on what we can use, or what can be put in place of the plastic bags. Then you are using it for the purpose of why you are implementing it, to get rid of the plastics. So, that has to go into research and development according to my opinion to look at other methods or other products or other ways of replacing the carry bags. You can give out crates, or use baskets or whatever, but not everybody has a car to put the crates in or walk with crates to their home. There is a lot of things in the industry to take into consideration. Not just thinking about your own personal setup." (Re-user 2)

Consumer

- "I don't care which department collects it at the end of the day as long as we can see that they use that for the right reason, and the right reason will be to look after the environment. Whether it's collecting, whether it's recycling, it doesn't matter. But if we sell it as an environmental levy then that money should go to the environment." (Consumer 1)
- "I would put a charge on plastic bags, use that money to do education or clean-up campaigns to change the mindsets of people. Once you do that it will become instinct for people not to litter. Littering in itself... the emphasis will be to not litter. That will change things for everything not just plastic." (Consumer 2)
- "They will get all these thousands of dollars and they will then spear head a campaign either cleaning campaigns because there is funds available. From there those funds can be used for either cleaning, awareness and to educate the consumer." (Consumer 2)

Trade Associations

- "But the levy must be used for environmental purposes. Not for anything else. It shouldn't be redirected to the Minister of Finance to prop up other problem areas. It must go to the environmental (issues). And maybe that money can be used to inform the consumer better." (Trade Association 2)

Environmental Group

- "In Namibia the feeling is that poor people still use plastic bags, so what we're suggesting is that, introduce a charge of 50c or a dollar, preferably, per plastic bag and that money goes into an environmental recycling pot. It doesn't go to central government, it doesn't go into the treasury, because it'll be used to fund a minister's car or something. It goes into a ring-fenced, recycling environmental pot. Probably into the environmental investment fund held by them." (Environmental Group 2)
- "And this here, this money that's collected from the sales of plastic bags, hopefully that money will go down over time, because people will get more and more of these bags and they'll be fewer and fewer of those sold, but what you do with that money, that money you use to start investing, in what is currently dumpsites of little towns and villages around Namibia. Those little towns and villages don't have enough people in them to develop a proper waste... to fund a proper waste management strategy. There's not enough people paying rates and taxes to fund a proper waste management strategy." (Environmental Group 2)

Government

- "Well, perhaps one needs to understand, because the incentives regimes are trying to promote industrialisation. The incentive that Recycle Forum will perhaps need is not necessarily an incentive, but perhaps it's a subsidy that comes through the environmental levy that is under discussion. So, it's a matter of saying: 'We impose a levy on the industry' and you and others could come in, make an application from the Environmental Investment Fund to say, 'If you give us 2 million we are going to recycle 'x'-amount'. You know, so subsidy that drives the expansions of certain recyclers in the country, perhaps that sort of model can be looked at, but just to give an incentive municipal break to a private player operator just because they are recycling waste, it will be a hard sell in the beginning. So, go ahead with the environmental levy that is being discussed around the plastic and then find the appropriate model on how this funding is, how is this money that will be collected, going to be utilised to further ensure the reduction of plastic in the country, or recycling or whatever." (Government 1)
- "That levy would perhaps go through the Ministry of Finance, but for this I think the levy should go to the Ministry of Environment, so it will go to that. If the plastic is being used then they can use the levy to clean up the environment." (Government 5)

*Will encourage
behaviour change (re-
use and reduce)*

Plastic Manufacturers

- "I know in South Africa you need to buy the plastic bags and here it's just in the shops given for free. So, I think it's also one of the disadvantages, how we disadvantage our community and our land. And it's something that I don't pay for, I just, even if it is packing two things into two different bags and I will just disposed at anyhow because I am not paying for it." (Manufacturer 3)
- "So, if you come with your own re-usable bag you got to be encouraged to do that. If I do that now they will just look at me like I'm an idiot. So, it's also so you have to introduce that fine in order just to address the first and to make people aware what we want to achieve." (Importers 1)
- "First thing, plastic bag manufacturers wouldn't be happy with it ultimately, but if you've been to a SA retailer recently, because you're paying for the bag, you're quite cognoscente, just fitting everything into one bag. You can buy 6 items here and walk away with 4 bags. Immediately if you are paying for that bag you're going to change. Immediately whatever that reduction is, is a positive thing." (Manufacturer 5)
- "People get into, it's the higher LSM levels that get into look I'll bring a Woolies bag or material bag when I do my shopping because then I can save. Your immediate reduction would be if you pay for the bag you're not goanna walk out with too many bags. There will be a reaction." (Manufacturer 5)

Consumer

- "I agree what they do in South Africa where you pay for a plastic bag. Some people say it had no effect if you look at the amount of plastic garbage in South Africa compared to Namibia, but I think once people start paying for plastic they will start thinking twice about just disposing of it." (Consumer 2)
- "Create a mindset- as soon as I pay for this cup I will not throw it away. I'm goanna re-use it until it's not re-usable anymore and if you do have re-usable plastic once the plastic cannot be re-used then it will not be a threat to the environment for recycling." (Consumer 2)
- "I am not in the mindset where I will take those bags and then go to a store and tell them, don't worry I've got my own bags. Once there's a law forcing the consumer to do that people will start keeping or looking after their bags. They'll put in in their handbag or pocket, go out buy bread- don't worry I've got my own bag. That bag is going to add another 10 or 20 cents to your cost. People definitely look at costs." (Consumer 2)
- "In terms of plastic bags, we can try and move to it being charged. Plastic bags should be made more expensive, so some kind of environmental tax." (Consumer 3)
- "Like a sin tax should be put in so that people become more aware of either using their own bag or that it may become cheaper to use paper bags." (Consumer 3)

- "Taxes or monetary incentives will encourage to use less." (Consumer 3)
- "Yes, definitely." (Consumer 4)

Trade Associations

- "Well, I think the myth is to a certain extent that plastic – a bag – has got no value. And 'yes', it's true, to a certain extent. But if Government looked at it in a different way and gave the plastic bag a value – in other words, do what the people did with glass bottles. Why can't Government – in order to confront the plastic problem – why can't they introduce a levy? But I must reiterate, it must be an affordable levy. If you pay for your plastic bag people will tend – and it was introduced in South Africa and they had huge successes, initially – people will then look at the plastic bag differently. Because now it's got a value. And they will re-use it. Either re-use it, or if – and this is 'if' – they can take it to an institution, and I'm talking off the top of my head. Say, like cans – if they can take it to an institution like say Rent-A-Drum and give the plastic per kilogram back to Rent-A-Drum to be recycled and get some amount of money for that." (Trade Association 2)

Environmental Group

- "So, in the UK, for example, Sweden, they brought this in a long time ago and they charge the equivalent of a, by the dollar per plastic bag in the shop and they've reduced the number of plastic bags by about 85 to 90%." (Environmental Group 2)

Government

- "I mean, it's easy for one to say: 'Let's get some money and see how to help the recycling or see how to utilise those funds to look for substitutes. But environmental taxes are not meant for looking for substitutes or for... it's meant to change behaviour. You induce behaviour within the polluters. So, your orientation as government or as a private sector who is fighting against these things, to say: 'I want to utilise the money to look for replacement'. That's not... you have to induce behaviour within the polluter, who will then start moving to other things. If the polluter decides to pay 25 cents extra to you and they continue making plastic, you haven't met your objective for environmental tax. It's about inducing behaviour, changing behaviour." (Government 1)
- "And experience taught me also when I visit some Countries in Africa, for example I think in South Africa you can find that at some places like retailers, they don't really offer plastic, you have to buy it. Even if it's a minimum price that you have to buy it, it's quite okay because you'll be forced to use your bags from home. You carry bag from home when you are going for shopping especially more in retailer supermarket, so that it can minimise the pollution on the environment. I think that's a little take on my side." (Government 2)
- "Yes, and the companies that make use of plastic of a large quantity, it will now be... they'll take it (levy) into account and be cautious of the usage of plastic. But on the other hand, those that are heavily dependent on plastic, it's their core business, they will also be a bit affected, for example, Plastic Packaging, it's their core, main business. So, I don't know, as a government we try to do this in favour of something, it will also have a negative side. So, it will now depend on how it will be applied." (Government 5)
- "Yes, the companies that are using plastic. Yes, that one I think will be easier, because they are getting them (plastic) from somewhere, so that would be the source." (Government 5)
- "If you are paying for the plastic, in Namibia I don't think the people will pay for plastic, even Shoprite, Checkers. Here when you pay for goods, they give you plastic, sometimes you can even take yourself. In South Africa it's not like that, you pay for it. If Namibia starts to charge additional for the plastic that we are using, I think it will motivate people to reuse what they have." (Government 5)

Negative

Government revenue stream

Plastic Manufacturers

- "If not and they want to do it like in South Africa where it just became another TAX then it's absolutely no."
- "I don't know where that levy is going to go. If it is used for the environment – yes – if it is for an additional revenue stream – no." (Manufacturer 2)
- "I'm against it if it goes to the Government and it's just because history has shown that a lot of state-owned enterprises sort of make losses. And once this is making losses, it's just sort of going to take money away from the end consumer and throwing it down a hole." (Manufacturer 2)
- "It will go to the revenue stream, it will go to whatever." (Manufacturer 4)
- "Does it get dropped into the pool and ends up building a road or somebody's pocket- whatever it is." (Manufacturer 5)

Re-users

- "To put a levy on carry bags or plastic bags doesn't matter where does that levy go to, is it going into a ministry or government or will it be used to encourage people to recycle. There is a difference, but if you go to any place, if I go to South Africa and I have to buy my 5c or 10c plastic bag, I'll pay it because I don't bring my bags with me so but where does that money end up, that's the biggest problem. But I'm against a levy rather than the government enforce

recycling and waste management. If they want to put a levy it mustn't go into the state office." (Re-user 1)

Consumer

- "If you paid a levy, me personally, would like to know what happens to those funds, where it goes and for what it is used. So, then I think no one would mind paying a levy, but if it's just another levy that's going to the government's pockets, I don't think the people would be happy with that, because if you have constructive control over it and if you can show what has been done with it, yes. Otherwise it's just reaching someone else's pockets." (Consumer 6)

Trade Associations

- "But the levy must be used for environmental purposes. Not for anything else. It shouldn't be redirected to the Minister of Finance to prop up other problem areas. It must go to the environmental (issues). And maybe that money can be used to inform the consumer better." (Trade Association 2)

Government

- "So, the levies that are collected, part of them will probably go to Treasury, because that's quite important and then an earmarked, say 25% can then go to the EIF to ensure that it drives and helps induce behavioural change in the plastic industry of Namibia. Yes, there's no way you will probably get the whole funding to EIF." (Government 1)
- "If you don't do it this way, the Ministry of Industrialisation will stand up and tell you that: 'OK, all the royalties that come from our diamonds and our uranium, please give them back to us. Don't give them to Treasury. Give them to the Energy Fund, who will know what to do with it. And here comes, I don't know, whatever industries: 'Oh, hang on, the taxes that we pay, should not go direct to Treasury. Please give them back to us, we will reinvest it in our sector. Is that what you want? So, earmarking is the way to go, because the environment is special. So, earmarking will allow, say 25%, say for park fees that we charge people to go into our parks. Twenty-five percent is meant to rehabilitate and build park fences and revitalise water points and stuff like that. So, at least you get something back, specifically for the environment. Or specifically for the plastic. But not a wholesale, 100% of that levies come...that argument you'll never win." (Government 1)

Will not encourage behaviour change (re-use and reduce)

Plastic Manufacturers

- "It's not working in South Africa. Everybody is still using plastic bags you know, and you get to the till and the first thing she asks is "plastic". And then you say *ja*, I mean, I'm not going to carry my things out of there. So, to me it's not working, not even a ban is working, because it's not working, people are now beginning to use these things *skelm*. Because it is for them something they cannot live without." (Manufacturer 4)
- "It's all relative. If you're buying groceries for a thousand dollars and you have to pay 10 cents extra for a plastic bag, well, why wouldn't you." (Manufacturer 4)
- "It going to be much more effective because a ban or a levy is really not going to work. I think it's just for a lazy country. A lazy solution. I really don't have time now to teach these kids, they will just pay. So, in the end for our generations and generations to survive let's educate and say this is supposed to be the norm." (Manufacturer 4)

Importers

- "I don't know. We look at our bottles. We've got a 1 dollar return deposit fee on our bottles. They don't even return the bottles. So, it's a difficult one and yes to deter someone to change his habits maybe yes, 20 cents, 50 cents could work." (Importers 1)
- "But I don't know if it will have an impact. No. I really don't think it has an impact. In the beginning everybody squealed about paying for a bag and now it's just being paid again and again, you are getting used to it. So, I don't think they brought the volumes down at all for paying for a bag. I will rather say, give people that which is good for the environment, because if they must pay for it, good then they must pay for it, but don't use plastic to pay for it and there's no good difference in the pollution of it." (Importer 2)
- "I don't think it will encourage anybody. It's just going to put more burden on the poor people. Because they put 10c on a bag and people don't care about it they just carry on. The guy that really doesn't have the money, he is going to bare the problem." (Importer 3)

Re-users

- "To put a levy on carry bags or plastic bags doesn't matter where does that levy go to, is it going into a ministry or government or will it be used to encourage people to recycle. There is a difference, but if you go to any place, if I go to South Africa and I have to buy my 5c or 10c plastic bag, I'll pay it because I don't bring my bags with me so but where does that money end up, that's the biggest problem. But I'm against a levy rather that the government enforce recycling and waste management. If they want to put a levy it mustn't go into the state office." (Re-user 1)
- "I stayed in South Africa when they put in the levy there for the bags and at first you would make sure you remember it because it is 20c or if you take 10 bags it is N\$2, but that only held up for a couple of months and then what else do you buy with 20c? Nothing, you might as well pay it for the convenience." (Re-user 2)

- "No, I do not think, for me I would not say so, but for the lower income market it might have an effect. Yes, there it would probably have an impact if they have to start paying N\$2, but my issue with the levy is way of punishing the people that do not dispose of it correctly. But if you are willing to pay that and still throw the bag on the floor it is up to your own discretion. It is the culture that we have currently." (Re-user 2)

Consumer

- "They're probably going to mind the first two or three times but at the end of the day 10 bags is going to cost you 5 bucks more on your grocery purchases and that is not a huge difference and over a period of 6 months you're probably going to be used to it and you take more and more because you're not going to feel the effect anymore. So, from that point of view I don't think it's a lasting solution." (Consumer 1)
- "Because it will make a bit of a difference short term but I'm not too sure if I listen to the stats and the companies in South Africa and Botswana that it's a long-term solution as I said people will get used to paying for it and then it's back to normal, apart from the fact that it's a recyclable bag." (Consumer 1)
- "You're not going to use less plastic cause people still buy and throw it away. It's a small drop, but then the price goes up so." (Consumer 4)

Trade Associations

- "I just think in our discussions you often hear, ok fine put a levy, and put impose taxes, and then these monies will be implied to environmental projects. Now South Africa hasn't proven a lot of success apparently with their levy on their bags. Because rich people just kept on paying for them." (Trade Associations 1)

Environmental Group

- "But there should also be some controlled way of introducing it, so that as a consumer I don't see it like: 'I'm going to pay for that'. There should be an entire value chain. Because the whole issue is not to just transfer the cost to the consumers – obviously that is what they see – and most businesses try to do that. 'No, government or whatever has introduced this', instead of looking at their value chain of how they can actually address this, then they pass it to consumers. But then that beats the purpose of the behaviour change." (Environmental Group 1)

Government

- "Other countries have been doing this, a levy on plastics. Yes, and where does the plastic end up? We don't care. It doesn't solve the problem." (Government 3)
- "You always put a levy on food. People buy food. They will adjust. They will definitely adapt to the situations. I am not saying that you will have more money to buy that expensive plastic, but you will see a plastic." (Government 3)
- "It doesn't solve the problem. If I have money, I'll buy a plastic and carry it. The way I'm going to put it, that is the problem. You will still see the same plastic. It will increase the cost. But we are still producing, and we are still putting this plastic in the environment, the same. This is the problem now." (Government 3)

Mismanagement of Funds

Plastic Manufacturers

- "Government's going to collect the levy, but there needs to be transparency in this regard. We're 6, 7 or 10 years down of paying for a bag in SA, nobody has ever seen what's happened to the money, in fact, questions have been asked." (Manufacturer 5)

Importers

- "I rather don't want to know. In South Africa, probably to the Guptas maybe? I have no idea." (Importer 2)

Trade Associations

- "In South Africa, the funds that were generated where not correctly applied. I think several billion went lost." (Trade Associations 1)
- "Even if they have different agencies that can collect it on their behalf. But again, then the financial side of it must be really looked after right (correctly)." (Trade Association 2)

Competitiveness

Environmental Group

- "Yes. Many years ago, we had Swakopmund trying to impose the levies from the shops in Swakopmund. And what happened there was that some of the shops imposed the levy on plastic bags, lost some customers to other shops who didn't impose a levy and they said in big, bold letters in the front of their shop, 'Free plastic bags here, come shop with us.' So, it's something that you can't do on a voluntary basis, it has to be everyone involved. And so that's why legislation is important to create a levy for plastic bags, legislation is important to make sure that everyone is doing it and if someone is cheating, then that person gets charged in the process." (Environmental Group 2)

	<p><u>Pressure on the poor</u></p> <p><u>Importers</u></p> <ul style="list-style-type: none"> • "I don't think it will encourage anybody. It's just going to put more burden on the poor people. Because they put 10c on a bag and people don't care about it they just carry on. The guy that really doesn't have the money, he is going to bare the problem." (Importer 3) <p><u>Government</u></p> <ul style="list-style-type: none"> • "It's not easy just to impose a levy on something without understanding how inequality affects your country and affordability issues of the person downstream." (Government 1) <p><u>Who should be levied?</u></p> <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "The easiest way to manage the levy is, end consumer is always the person paying, but to manage it is to levy it at source. So, that source means the manufacturer will pay the levy per amount sold or the importer will pay the levy as it comes into the Country, if it enters the borders." (Manufacturer 1) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "I think it needs to be collected at the store, the end consumer should pay for it, they must feel it." (Importers 1) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "There is going to be a law. Government is going to lay down the law- arguments sake 20 cents a bag. Whenever the store buys a bag from the manufacturer the store immediately going to pay the government's 20 cents to the manufacturer. Now the manufacturer can prove what was sold to the store e.g. 20 000 bags to Maerua Super Spar for the month. N\$20 000 times 20cents will be N\$4000.00 but ultimately the consumer is going to pay the levy." (Consumer 2) • "I don't think so, to be quite honest I'm not sure I don't think there is. There should be a body, it should not be the responsibility of the retailer to manage that. It must be the manufacturer the retailer will buy from the manufacturer, the retailer will just channel that cost factor to the consumer and it's easier to control five manufacturers in Namibia then five thousand retailers. E.g. system crash and no proof of the number of bags used but a manufacturer can prove that the Spar group for the month booth hundred thousand bags from me. That's the amount of money that the manufacturer needs to pay the body." (Consumer 2) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "There should also be some controlled way of introducing it, so that as a consumer I don't see it like: 'I'm going to pay for that'. There should be an entire value chain. Because the whole issue is not to just transfer the cost to the consumers – obviously that is what they see – and most businesses try to do that. 'No, government or whatever has introduced this', instead of looking at their value chain of how they can actually address this, then they pass it to consumers. But then that beats the purpose of the behaviour change." (Environmental Group 1) <p><u>Government</u></p> <ul style="list-style-type: none"> • "Well, as far as I know it will probably just be like, what you find in other countries, if you come into South Africa, you'll pay at the retailers, 5 cents or whatever." (Government 1) • "Retailers will pay the levy over. Yes, I guess then what happens is that irrespective of what you try to do, it gets pushed to the consumer." (Government 1) • "It should be the Ministry of Environment and Tourism that should implement the levy, but maybe the local authorities can also do that, because it will be very difficult. How do you impose on Windhoek, for example, it is the Ministry of Environment, perhaps the local authorities can do that? I don't know whether it's possible through... let's talk about the Municipality of Windhoek, it is much easier for the municipality to impose to the households, if you have a house, maybe they can put it on your water statement, but for the ministry, I think that will target more of the companies?"
<p><u>Who should collect the levy? (Same as coordinating body)</u></p> <p>Government</p> <p>Ministry of Environment and Tourism/Environmental Investment Fund</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "I think that would again come down to Government, you know when a shop says we have a levy then they will stop going to the shop but when it comes from a higher authority then things are otherwise." (Manufacturer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "I don't care which government department, it should be government in my opinion." (Consumer 1) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "The levy, surely, will go back to Government at the end of the day." (Trade Association 2) <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Well in Namibia there's a lot of talk on this. There's an environmental fund resorting under the Namibia Ministry of Environment and Tourism, and that's what they are talking about. In this fund there is enough environmentalist and private sector input as I'm told. If that is the case then we'll be happy with it, okay." (Manufacturer 1) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "It would be better if it went into an environmental fund where recycling... and it's untouched by political parties." (Importer 2)

	<p><u>Re-users</u></p> <ul style="list-style-type: none"> "I'm not sure how it works in the world but environment and tourism or a separate body or an organisation can manage that." (Re-user 1) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> "In Namibia the feeling is that poor people still use plastic bags, so what we're suggesting is that, introduce a charge of 50c or a dollar, preferably, per plastic bag and that money goes into an environmental recycling pot. It doesn't go to central government, it doesn't go into the treasury, because it'll be used to fund a minister's car or something. It goes into a ring-fenced, recycling environmental pot. Probably into the environmental investment fund held by them." (Environmental Group 2) <p><u>Government</u></p> <ul style="list-style-type: none"> "Well, as I said, we have an institution already. And that's why I said, this thing of repeating things doesn't help. You have the Environmental Investment Fund (EIF), which has the mandate to manage and drive and promote investments in the environmental sector." (Government 1) "It should be the Ministry of Environment and Tourism that should implement the levy, but maybe the local authorities can also do that, because it will be very difficult. How do you impose on Windhoek, for example, it is the Ministry of Environment, perhaps the local authorities can do that? I don't know whether it's possible through... let's talk about the Municipality of Windhoek, it is much easier for the municipality to impose to the households, if you have a house, maybe they can put it on your water statement, but for the ministry, I think that will target more of the companies?"
Private company	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "I don't think Government has the capacity to manage that. I think it should be some private company (that) should do that. It should be a thing that should be diligent, it should be visible for everyone. I'm talking about deal deliverance, so that everyone knows exactly where the money is going in terms of collecting that."
New Forum	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "The levy should go to the Plastic Association, that would also help. I think that would then be a great, great step in the carbon footprints and stuff like that. Because if knowledge is then being disseminated in that way then I think we have taken not even one step but three steps ahead of us." (Manufacturer 3) <p><u>Importers</u></p> <ul style="list-style-type: none"> "If it is collected by Government it would just go into the revenue stream of Government and it might not be applied for things like putting up more recycling stations, you know into the environment so if that is the end goal to improve our environment we" have to have another forum to collect it." (Importers 1)
NGO	<p><u>Consumer</u></p> <ul style="list-style-type: none"> "That's why I mentioned NGOs or an organisation that can be held accountable for the funds which should be audited every year or whatever the case may be." (Consumer 2)
How much	<p><u>Importers</u></p> <ul style="list-style-type: none"> "I don't know. We look at our bottles. We've got a 1-dollar return deposit fee on our bottles. They don't even return the bottles. So, it's a difficult one and yes to deter someone to change his habits maybe yes, 20 cents, 50 cents could work." (Importers 1) "If it goes to the right, to the right financial organisation, I don't know. I have no idea what they pay in South Africa these days, 25c, 50c?" "Let's say 80c to a dollar, but then like I said, only if it will make a difference. If not, I can't see what the use is for paying it." (Importer 2) "It must be substantial to make a difference in people's behaviour but then it will negatively affect the poor the most." (Importer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> "You need to investigate, if you say you'll refund someone for a bag then it should be worthwhile for someone to pick up their bags. Some investigation needs to be done. I would say at least 20 cents, nothing less." (Consumer 2) "When one goes to the shop e.g. I buy a tin and a packet of sweets; the woman asks me if I want a bag and I'll say no but someone else won't. A lot of people say yes, and they've got that little plastic bag and 10 metres from the door you chuck it away or into a bin. There should be an impact, you should shock people and say listen... Even if bag costs 30 cents then 35cents. I know some of your lower LSM people do need a bag to carry it long distances but those are the people that can pick-up a usable bag, re-use it and not pay 30 cents. Nothing less than 20 cents." (Consumer 2) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> "Well, that I can't say. We have to talk to all Stakeholders. At the end of the day – what is affordable for you and me may be different for the guy. But I think the Stakeholders will come to a really good incentive that is affordable at the end of the day." (Trade Association 2) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> "Introduce a charge of 50c or a dollar, preferably." (Environmental Group 2)

**Optimise
manufacturing process
Technology**

Government

"Ja, normally I think it's 50 cents per plastic or maybe to a dollar. It depends maybe on the larger the plastic, the bigger the amount, maybe one dollar, one dollar and 50 cents." (Government 5)

Plastic Manufacturers

- "We need to invest in some technology - which is also under way. To make the manufacturing of products like that easier. But I think there just focus, is what's needed." (Manufacturer 1)
- You know if it's a carrier bag, 20 Micron is enough to carry 5 kilograms for a kilometre. That is more or less the equation. If we do 15 Micron it can carry 5 kilograms up to your car and you can possibly get away with a second life cycle. But that is more or less the threshold. 25 Micron is too much because you don't need it. You need to find a balance there. As technology progress we need to revisit that. When we started with Plastic Packaging the first carrier bags manufactured was 50 Microns. And it reduced over the years because of the improved technology and the material, to the point where the average is now about 16, just in context. So, Engineering also plays a role." (Manufacturer 1)

Standards

Plastic Manufacturers

- "To enforce a standard or a required standard would be against the SACU Agreement, against a lot of the International Trade Barriers. But again, if we can educate the consumer, that if you look for the ISO 14001 mark, then you are actually supporting Best Practice. That would be the way to go." (Manufacturer 1)
- "We talked about white paper just now. There is only one brand of toilet paper on the Namibian market that's got the 14000 mark on it. And people should be aware of it. Because that specific company use as much recycle as they can get their hands on to manufacture a simple thing like toilet paper or kitchen towels of all your waste paper products." (Manufacturer 1)
- "We should be driven by top quality standards in Namibia – and I'm not always 100% for industry protection, maybe infant protection, but Namibian companies need to be competitive against all South African companies. Because if we have industry protection, we're not going to be effective. And having ISO standards would be a solution, and product standards as well, because if we feel that we don't want products that's overprinted with more than 50% – like we discussed – we need to have product standards." (Manufacturer 2)
- "So, standards – definitely. Companies need to be top notch." (Manufacturer 2)

Government

- "Well from NSI side you know we operate from the mandate. Our mandate is actually to ensure that we develop standards and we ensure the quality assurance, and also to ensure that there is a certain protection on the environment. Having said the protection on environment, obviously that is part of ensuring that there is no pollution on the environment. We have from the International point of view or from the Namibia point of view, we have standard that is an ISO 14001 which is announced ISO14001 which is a management system on environment which is now a guideline to guide the people that you should not pollute. And also, within that there is also references on the regulations that need to be in place for the Companies to make sure that when you pollute more you pay more for example. Those are just a guideline from us. It's not a compulsory standard yet, but I believe there should be some sort of regulations on the pollutions. I've learned from the Mining Companies, and Ministry of Mines and Energy I think is dealing with all the regulation, and also environment the Minister of Environment is also involved in terms of taking care of the environment. The impact of your productions, of a certain product, what is the impact in terms of pollution, air pollution, environment and so forth. From our side as NSI, we encourage people to use best practices and make use of the standards that are in place. And also, to get training from us more specifically on ISO 14001 which is a management system standard so that they can at least have a best understanding of how to reduce their pollution on the environment. What are the effect if they pollute, it means you have to pay penalty and so forth all those kinds of things I think need to be in place," (Government 2)
- "Standards are voluntary, they only became compulsory once we have incorporated it or used that as a basis in regulations. Then it became compulsory. But hence a minister himself, he can able to declare the standard compulsory if the need comes, especially when it has to do with the safety and consumer protection and all so forth, he can declare the standard to be in such a way. Our appeal, although it is a voluntary standard that are in place, is just for the people to make use of the best practices in their processes of producing plastics, but we can't enforce, that's not really in our mandate for now, until we have compulsory standards that says you need to do ABCD, that is the law. If the legal obligation comes in place obviously we can able to take that route but for now it's not in place." (Government 2)
- "There is a lot of things that you need to take into consideration. As you are moving from, the evolutions of things that are happening around, we need really to make peace with it for now to ensure that we don't just enforce, first you educate people, the effect of plastic, then the

<p>Skills</p>	<p>Manufacturer also, the effect in terms of the air pollutions, the effect chemicals that they are using it might have an effect on the human being and so forth. Education come, and we need to move step in step, move from one step to the other steps until we really get the solutions.” (Government 2)</p> <ul style="list-style-type: none"> • “Yes, no when it come to that I think we need to consider the EMS ISO 14001, which is an environmental management system standard, so that need to be in place for the people to ensure that they manage the environment when they are producing their products. So, I know there are some best practices, good manufacturing practices that need to be used by manufacture, I think they know it, best practice that they need to put in place to make sure they are really in adherence of the laws of the Country in terms of the environment and so forth.” (Government 2) <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "I know even careers in the plastic you don't find people that are interested in studying plastic if you have a speciality in plastic you will have to import that knowledge. If you look at the speciality industries you'll find people must import most of the people manufacturing, you know the specialists are South Africans or other nations. You don't find Namibians specialising in let say PVC or ACRO plastic. I think it's just an area that is wholly and entirely being neglected. Even the training in this area, a lot needs to be done.” (Manufacturer 3)
<p>Optimise raw material feeding into a secondary life cycle</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Myself I would like to have a stronger quality product, to reduce the thickness of a pipe. To have the same quality of pipe, but not a thick pipe. And then I'm reducing my resources in the industry. So, by having a better-quality product, I can reduce my thickness of my pipe and then I can make it cheaper as well. But then upstream, everything has to be good – in terms of Namibia Polymer Recyclers having a good polymer, are they receiving good recycling without a lot of ink on it, without CaCO3. So, I will be able to reduce, if I have a better polymer. Which I don't have – the current process is too filthy." (Manufacturer 2) • "My benefit will be passed on to an end consumer, like a farmer. I can produce him 100 metres with, say a N\$1000 of pipe for 10 metres. Now I can give him 20 metres or 50 metres for a N\$1000 of pipe, with the same quality of pipe. So, then again, the value of the product that I'm supplying is better. It's a win-win everywhere." (Manufacturer 2)
<p>Down packaging Awareness of term</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Yes" (Manufacturer 1) • "No" (Manufacturer 2) • "No" (Manufacturer 3) • "Yes" (Manufacturer 4) • "Yes. Awareness is already in South Africa you see very little of it filtering through here." (Manufacturer 5) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "No" (Importer 1) • "No idea." (Importer 2) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "No" (Consumer 1) • "No" (Consumer 2) • "It's new to me. I'm not familiar with that." (Consumer 5) • "No" (Consumer 6)
<p>Best practice</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • “Well the easiest way to sell a thing is the prepack, but it is also the worst way of selling it. Because if you want to do it right, why do we buy oranges packed four in a foam light tray with wrapping and a label. That is three unnecessary products. Three of them. Simple. • “The old method of buying your meat over the counter and putting it in a plastic bag is way the best or for handling fresh fruit of buying your veggies. There is no reason why you should buy it prepack or a prepack coming all the way from South Africa packed in a box, packed in another bigger box to contain these boxes, packed in a shrink to contain that, packed onto a pallet and then wrapped in some more plastic. You understand where I am coming from. It is exactly what is happening. You buy your processed veggies from the local green retailer that claims to do everything right. And it is exactly what they do. They bring it all the way from South Africa. There is no value addition in this country, that is packed and packed and packed and packed again and then it's sold in Namibia and then we ask ourselves where the hell does all the plastic come from. • "Think about veggies and buying it off the shelf and putting it into a little plastic bag is way better than putting it into a primary and secondary packaging with a label as a prepack. Way better.” (Manufacturer 1)

- "If you look at a lot of the things that we are doing in terms of packaging and packaged products that comes into the Country. It's mind boggling, the amount of waste that comes in here." (Manufacturer 1)
- "Down packaging needs to be made best practice, for sure. For sure. There needs to be awareness of that." (Manufacturer 1)
- Simple example, why do we need double material packaging? We don't need to have Nylon and Polyethylene onto the same product if it is going to be frozen. Then it doesn't make any sense. You don't need a Nylon when you need an oxygen barrier and for nothing else, so again, what is the context." (Manufacturer 1)
- "You must remember that the packaging companies – including Plastic Packaging, up sells. So, if you come to me and say okay, there is my requirement, the sales rep will very easy try and sell you three or four times what you need. And that is exactly the problem. It's not only here, it's an International problem. And that is what the Down Packing process in the UK, for example, tried to address. You don't need that many layers or that many packs or that many units into a pack. Very simple example, if you go into Germany for example, try and buy bubble-gum and you will see that their gum is available, but it's normally packed in a rigid pack in a type of a bulk pack. There are not these little wrappers where you have 10 wrappers for 10 pieces, or you have a foil pack with little pieces of foil breaking off, and the plastic laminated. You won't find it. It's been regulated, or it has been phased out because of the peoples' conscience." (Manufacturer 1)
- "Yes. It's (packaging) is overused. It needs to be reduced. I'm definitely not for packaging being overused. Why? Why packaging on packaging on packaging? So, if it can be reduced. I'm not for that (excessive packaging). So, if we can reduce it, there's a lot of creative ways and we need to be more creative to, sort of, reduce and spare the resources." (Manufacturer 2)
- "I understand. No that would also be an effective, to cut down on the waste." (Manufacturer 3)
- "All companies should follow this example" (Manufacturer 4)

Importers

- "Within limits." (Importer 3)

Consumer

- "It should make a difference. I take a look at how we receive cases, there's usually a box with wrapping around it and then there's wrapping around the product as well. That can make a difference, never thought about it that way." (Consumer 1)
- "We must look at different ways. Different packaging. All the big suppliers like Namib Mills they are using a lot of plastic. They could reduce the packaging." (Consumer 4)

Environmental Group

- "And we don't need them in our wrapping. Everything is over-wrapped." (Environmental Group 2)
- "And then you can also legislate about some of the unnecessary types of plastic packaging. You don't have to have layers and layers and layers of plastic. You can also legislate to make it compulsory for outlets, retailers, to make available unpackaged goods. You always have some people who like their things packaged. What they think is hygienic, but they don't realise that the guy who put it in that plastic bag wiped his nose with the back side of... then they put the apples in a plastic bag over it. So, it looks like it's nice and clean, but underneath it has the same handling as everything else. So, there's no reason why government can't legislate that outlets have to make things like milk and various other things available on tap and you can bring your bottle, put out meat there in your jar and put the meat... no they can legislate for people who want to, not to take packaging." (Environmental Group 2)

Application

Awareness creation

Wholesalers and
Retailers

Plastic Manufacturers

- "So, for that reason I think there is a lot of sensitising work to be done for Industry to actually get everybody to understand this. If you take a typical commodity product you will have most of the times find that it's been packed five or six times before it gets to the end consumer. Take it from the pallet backwards towards the small product. We need to think about this and start working on alternatives." (Manufacturer 1)
- "More upstream or affluence type of retailers like Woolworths etc, they are very aware. It's part of the 'come to us' we've got a milk bottle which has got green elements- decomposes. That's already in play but not here. It starts with the packets if nobody is going to care you can dish out as many packets as you want, why would you think about taking cling wrap off two avos and Styrofoam try on it -doesn't need that at all." (Manufacturer 5)
- "Even from a kind of an economical point of view that a retailer would say to a shop packer, 'why did you put it in twelve packets?' We are paying, and they are paying at this stage if you can fit it in four then go for it, but it's ridiculous." (Manufacturer 5)

Importers

- "Ja and enforcing the companies like a Shoprite or a Checkers to, instead of using one type of bag for every type of product, that you can put a lot of different products into one bag, that

wouldn't contaminate, because every product is packaged on its own already. Now you want to repackage it again separately from the other products." (Importer 2)

- "And also, in the outlet self, if you buy 10 items you get 10 bags. You know maybe make it less, pack more products in a bag. You know there is ways that they can minimise it." (Importer 3)
- "Don't wrap it 5 times, wrap it twice. Like there was once this short you tube video I saw. You have the papaya inside this net, foaming thingy, package inside a plastic, another papaya inside a box in a plastic. You can take at least 2 out of there." (Importer 3)

Re-users

- "The stores also needs to be trained. There is an education side that goes before the bag is handed out. If you take a cold drink in a bag you throw away the bag because you start drinking it, if you are lucky it will go in the bin, or it will go where ever in the street." (Re-user 2)

Consumer

- "It should make a difference. I take a look at how we receive cases, there's usually a box with wrapping around it and then there's wrapping around the product as well. That can make a difference, never thought about it that way." (Consumer 1)

Environmental Group

- "When I go to the shop, I go to Super Spar, if you're behind me at the counter, you won't be very happy, because I go to the counter with my goods and I've got my bag there and I take the cabbage which is wrapped, and I take the plastic bag of the cabbage and I say, 'You can have that' and I put it in there. And I take the plastic bag covers of this and I say, 'You keep that' and I put it in my bag. It makes everyone feel uncomfortable, but if it was part of their production line, it was available to people, more and more people would do that. *Ja*, you go pick your apples and you pack it in your little bag and you have it weighed, and you don't put them in a plastic bag, you put them in your little carry bag. And you put a sticker on your carry bag and so on. And that's how you do it. It's not difficult and it doesn't take too much time. At the moment it takes a little time because you have to fight with the till lady every time and she says, 'No you mustn't take that off' and I say, 'Well, you put it through the till, you know how much it costs. There's your plastic bag, I haven't paid for that, I just paid for the cabbage.'"
- "And then you can also legislate about some of the unnecessary types of plastic packaging. You don't have to have layers and layers and layers of plastic. You can also legislate to make it compulsory for outlets, retailers, to make available unpackaged goods. You always have some people who like their things packaged. What they think is hygienic, but they don't realise that the guy who put it in that plastic bag wiped his nose with the back side of... then they put the apples in a plastic bag over it. So, it looks like it's nice and clean, but underneath it has the same handling as everything else. So, there's no reason why government can't legislate that outlets have to make things like milk and various other things available on tap and you can bring your bottle, put out meat there in your jar and put the meat... no they can legislate for people who want to, not to take packaging." (Environmental Group 2)
- "If they had a system and a back where you have rows, where you just collect unpackaged things or minimally packaged things, that would work fine." (Environmental Group 2)
- "But where things come in big pallets and they're there and the shops pack them into these little things with lots and lots of plastic, that they could have... they could offer an unpacked version for you and a packed version for those who still wants. And over a period of time, the unpacked people will be so superior to the packed people that the packed people will be embarrassed to go take a packed item and they'll start going to the unpacked section. You'll have a whole natural movement, people will take time to be able to live a whole life with that (points to the glass) much waste at the end of the year." (Environmental Group 2)

Individuals Plastic Manufacturers

- "We can start with the example I've used about selling product pre-packed or selling product loose. There should be some focus group working on that. And there should be some consciousness to the Mrs Housewife, to the Schooling system, perhaps in education about what is better. If you talk to the typical millennium kid they're not going to know or understand that you can buy these oranges in a big bag or loose and that that will be the cheapest possible and best for the planet. We need to get some form of education in place to tell people what this is. You talk to educated housewives you find very often they have no idea of what's better or in terms of what is better product either. There's a massive education thing that needs to happen in this country." (Manufacturer 1)
- "You've got kind of a peer pressure with Social Media if you see two avocado pairs in the Styrofoam dish and cling wrap don't buy it. The retailers mustn't package it like that. Let them take one and even that you can put the sticker on from the scale onto a butternut, you don't have to put it in a packet. You probably haven't seen much of that talk here." (Manufacturer 5)

Importers

- "And they need to enforce the public to use less plastic, because they just keep giving bags, they don't care, but force the public to use as little as possible bags and then try to motivate or encourage people to use these big braided bags or whatever as they do in South Africa. You buy the big bag there and you use that." (Importer 2)

Importers Plastic Manufacturers

- "And I would say down packaging – in the terminology – would also be one of those standards that should be set in Namibia. So, 'Listen, South Africa, if you want to supply products here, you need to sort of, reduce your carbon footprint. You need to reduce the material that you use.' It's not going to be easy. I know there are so many aspects to look at and there's some down packaging required in some of the products. So, I wouldn't touch on that now, because it's too complicated." (Manufacturer 2)

Businesses Trade Associations

- "I don't think we're doing enough. I think we need more options. *Ja*, if you just think again, the Tourism Industry is a good example, you can firstly imagine the number of plastic bottles on a Tour Bus which is why we are mobilising them also to say put a container on the bus and give your guests the use of flasks. But now a guest wants to hear the, tick, it sounds fresh. So, *ja*, there are challenges. Ideas like this should be shared and awareness created as to why we are doing it so that people will buy into it." (Trade Associations 1)
- "Then another thing that was interesting is the lunch packs. Guests get lunch packs that are put in Styrofoam and they're wrapped in plastic so we're already double packaging there. And then the guest say I don't want to eat this, and then he stops along the road in small remote village and he says here, you can have the food, and of course they have it and they are so happy they're eating boiled eggs, and this is all very nice. Where does that Styrofoam go to?" (Trade Associations 1)

Alternatives Plastic Manufacturers

- "We need to think about this and start working on alternatives." (Manufacturer 1)
- "Yes, but the alternative, how effective and how it would be cost effective." (Manufacturer 3)

Re-users

- "I know we had discussion about getting rid of single use plastics, which is straws and cups etc, but it is the same as using toothpaste. You have tooth paste in the box and then you have the tube inside. But outside the tube it is still in a small box. What is the use? Because there is no re-use for the small little box, you throw it away immediately. Just like a straw, just like a cup. It is exactly the same principle, just made of something different. So, yes, the thin carton is more biodegradable than the other materials, but the principle is still why do we manufacture something that does not need to be there? For example, you can place the toothpaste in a stand and then you place all the tubes upside down in the stand. Just for display and then you can take all the small boxes away out of the packaging. But the small box is there in order to protect the tube, because if some things falls over and it bends, people don't buy something like this. There is a reason for why it is in place. They have to start to force the manufacturers to go more to the green side." (Re-user 2)

Consumer

- "There will probably be more damages there's a reason why they're doing it. So, once again alternatives to look at for the packaging and what they pack it in. But there must be an opportunity." (Consumer 1)
- "If we want to change we need to find a solution and an alternative. Definitely." (Consumer 1)
- "As much as possible. Yes. But it won't be introduced because down packaging if I understand you correctly is we use the example of Coke 340ml cans. You can buy it in a box of 24 and then inside the 24, they're shrinked in sixes, so that shrink in sixes is a down packaging. But because the sixes are also like a unit of sale, the manufacturers will very unlikely move away from it. It has a use. What will be the alternative?" (Consumer 3)
- "Then they must rather use boxes or other ways of packaging, but it will be more expensive. The only reason they use plastic is cause it's cheap, that's all." (Consumer 4)

Trade Associations

- "It boggles the mind, that a teabag should be in foil then in a little box and then in a plastic shrink wrapping. I can understand for packaging purposes it's necessary. You can imagine packing tooth paste if they are not in boxes, I mean you will have your hands full because nothing will stay stacked. So, there's a lot of reasoning behind some certain forms of packaging and toothpaste and teabags are now two good examples. What is the alternative?" (Trade Associations 1)

Identify optimal balance - benefits vs cost

Human health and safety and product integrity Plastic Manufacturers

- "There's a lot of examples there, but the thing is you can like in the South African example, and like many of the Namibian examples, use too much plastic for the purpose. I think that is what we need to avoid. We need to do just enough to do the work." (Manufacturer 1)

Importers

- "I mean my wife is looking into it sating she wants to open a store where there's no bags and everything and everybody comes with their own container, pick up his rice, you weigh, you charge it per kilo so that's our dream one day I'm still saying it's going to be a niche market, because if I go into a store now I see Jack and Gill that just come from the streets and go help them self to bread that is not in a bag or, there is the hygiene element. How are you going to

manage that? And should I now stop this person in front because he's a motor mechanic that's just comes in with his overalls and stop him there and say you're not allowed in my store. How will I deal with that?" (Importers 1)

- "Again, I will say it all depends on what manufacturing situation you look. I can say one thing, but the other guy will say something else. You must look at your value chain, your processes, there's a lot of things involved... safety wise, customers, outside contract customers' requirements, travel tests, there are a lot of things involved in that."
- "Ja, gravel roads. Definitely. That's why I said you must do travel tests. There's different things that you must look at. Not just, yes you can do it or no, you can't do it. You must make an assessment of it and look at the possibilities, at the risks around it for yourself and for the customers' sake."
- "I think it's worthwhile to note in Namibia, Namibia's landscape is much different than South African landscapes, product need to travel extremely far to get to their consumers. In South Africa the travel, the distance it travels and sometime the road travel might be better than the road it needs to travel here, so to make sure that your product gets to your consumer in a good condition and the package is still in a good condition, you need to protect that somehow. So, I think we just need to consider the landscape compared to other countries is much, much different."(Importer 3)
- "But that's part of the long distances. And you know the many time that you handle the product, we load it, and then off-loaded at the depo, loaded at the depo, off-loaded at the shop, put into the shelves."(Importer 3)

Re-users

- "Looking from a manufacturer's interest, all the stuff is there to protect the product. There is a reason why there is different packaging." (Re-user 2)

Consumer

- "Ja I think it is possible in certain products, but I think with other products it's not possible. If you look at our stack, you have to wrap the products with plastic wrapping otherwise it falls down, it's a risk. Somebody can get killed from a bag of 50kg of rice is dropping from the top. So, ja, with certain products it's possible, there's too much packaging around it." (Consumer 6)
- "Of course, always. It's a question that from a retailer's point of view, from a budget's point of view we obviously don't pack stuff and get the expense up without a reason. For safety's sake." (Consumer 1)
- "It's something that can work, but obviously you need... you know, if you look at the distribution of products, and which we've got up to Katima and Karasburg and Lüderitz... if you do down packaging, you'll sit with a lot more damages, which will have consequences on that side. So, obviously it will be for the supplier's expense. I won't be, how can I say, for it, you know, prefer it. I think that it won't work. It may be 1% or half a percent will contribute to the environment but it's not the solution." (Consumer 5)
- "But now you must understand in Namibia the distances that stock have to travel, it's not like in South Africa or other countries where it's a radius of 20 kilometres that stock is being handled. Here you are talking about 800 or 1000 kilometres. So, then you need more packaging to protect it." (Consumer 6)

Environmental Group

- "And then you can also legislate about some of the unnecessary types of plastic packaging. You don't have to have layers and layers and layers of plastic. You can also legislate to make it compulsory for outlets, retailers, to make available unpackaged goods. You always have some people who like their things packaged. What they think is hygienic, but they don't realise that the guy who put it in that plastic bag wiped his nose with the back side of... then they put the apples in a plastic bag over it. So, it looks like it's nice and clean, but underneath it has the same handling as everything else. So, there's no reason why government can't legislate that outlets have to make things like milk and various other things available on tap and you can bring your bottle, put out meat there in your jar and put the meat... no they can legislate for people who want to, not to take packaging." (Environmental Group 2)
- "A lot of it comes in bulk to the shops and the shop does the packaging. Where things need packaging, from long distance and so on, that's fine. One needs to be pragmatic, one can't be purist and unrealistic about this." (Environmental Group 2)

Pricing/cost cutting

Plastic Manufacturers

- "I think the only way we can do down packaging is when plastic prices, I think it's only the pricing that's would let then the retailer or the manufacturer cut down on his cost. Yes, I think the price policy will then come in there." (Manufacturer 3)

Thinner Plastic Bags Arguments for

Plastic Manufacturers

- "You know the thinner the bag the friendlier the carbon footprint. And there's a second angle to that. The thinner the bag, the easier it will break down into little particles in UV Radiation in the summer. So, there's the upside." (Manufacturer 1)

Material bags

- You know if it's a carrier bag, 20 Micron is enough to carry 5 kilograms for a kilometre. That is more or less the equation. If we do 15 Micron it can carry 5 kilograms up to your car and you can possibly get away with a second life cycle. But that is more or less the threshold. 25 Micron is too much because you don't need it. You need to find a balance there. As technology progress we need to revisit that. When we started with Plastic Packaging the first carrier bags manufactured was 50 Microns. And it reduced over the years because of the improved technology and the material, to the point where the average is now about 16, just in context. So, Engineering also plays a role." (Manufacturer 1)
- "It's sort of down gauging in terms of the thickness of plastic bags and that's why I think the thickness of the bags is actually counter-productive in terms of actually reducing. Reducing – I cannot see that reducing is a big thing." (Manufacturer 2)
- "The thing is the less plastic you use the more recyclable this product becomes and easier to recycle" (IM)

Environmental Group

- "There is no alternative to plastic at the till. Do you want plastic as opposed to what?" (Environmental Groups 1)
- "Secondly, when it comes to plastic bags the retail shops... if you take Super Spar for example in Maerua, they spend between N\$ 35 000 and N\$ 45 000 a month on providing plastic bags to the public. Now it doesn't cost them, they add that to the price of the food you buy, so they've internalised that and when you buy chicken then you are also buying your share of the plastic bag to carry it home. So, as the amount that they have to spend on plastic bags go down, they should be putting that money into a pot. They can either put into there (environmental investment fund) or they can put it into a fund which, and this is what we suggest is better, putting it into a fund, which is a mechanism that they run, which supports small SME's or women's' groups. And those women's' groups can be actually sitting at the front of the shop, making canvas bags which the shop can buy the material with their logo on it, whatever their logo is, give it to ladies there to do the sewing and they sell those and that whole process can be subsidised by the savings on bags. So, you're creating a little social business and employment. And the ladies once they've started, they've got their sewing machine and wool which is funded out of this, once they've got that, then they can go on to make school uniforms and other things that the shop can also sell. So, they can actually have some social development there. So, that's the plastic bags." (Environmental Group 2)

Government

- "I have learned from other Countries worldwide that when you get to the shop you have a bag where you carry your goods, material bags where you can now put your goods, when you buy for example your food or whatever you put in that bag, you get home, next time you do the same thing, rather than just concentrate more on going to the shop empty handed and get plastic and pileup the plastic in your house. So, to me I think those are some of the things." (Government 2)

2.3. RE-USE

A. CURRENT ACTIVITIES

How effectively is plastic being re-used in Namibia?	
Average score out of 10	4.1
I don't know	25%

Unaware	<p><u>Government</u></p> <ul style="list-style-type: none"> "I must admit – I'm a bit blind about that." (Government 1)
Nothing/little	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "Re-use of plastic very limited." (Manufacturer 1) "No, I don't think anything is being done." (Manufacturer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> "There's not too many indicatives that I know of." (Consumer 1) "Like I said everybody uses their plastic bags and plastic bottles over and over again, but then as I said at the end of the day, in my opinion, it's just a delay. You can only use it so much anyway. Plastic is plastic, you re-use it for a while, but eventually you will throw it away and it will become an environmental issue." (Consumer 1) "Very little is being done." (Consumer 2) "Nothing is being done." (Consumer 3) "I would say (in terms of) plastic packaging – I think it's basically nothing, because it's a (matter of) use once and get rid of it, you know sort of thing. Yes, I think that's how Namibia is at the moment." (Consumer 5) <p><u>Government</u></p> <ul style="list-style-type: none"> "I think from Namibia's point of view we don't really make use of the plastic that we get from the retailers for example. We go to the retailers empty handed, and we get another plastic and we accumulate it in our house. Most of the houses you find there is a lot plastic in the cupboards and so forth, and we are not really doing anything much on re-using of the plastic. Plastic pileup in our houses which I believe if we take the route of recycling, obviously now the household will have to give it to the recycle infrastructures for them to do their recycling. So, we are not doing much." (Government 2)
Individual re-uses	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "But it is being re-used, that said. A carrier bag is one of a few things that they now want to control or want to regulate, but if you talk to Mrs Housewife they are 95% re-using their plastic bags for something. It's either a bin liner in the bathroom or it's something. Little refuse bin in the car or packing the dirty shoes in your suitcase, there is always a use for a cheap plastic bag. Okay, if you go up North you'll find the poor people in the rural villages even using this to cover their schoolbooks when walking to school. So, it is something we've seen very often." (Manufacturer 1) "Everyone's re-using carry bags – that's secondary packaging. Primary packaging is un-re-usable. You need to just burn it. I'm talking (about packaging) that has physical contact with a product. There in itself I cannot see any opportunity for re-usability, but in secondary packaging like a bag, so forth, there definitely is. Of course, everyone re-uses a plastic bag, I'm sure." (Manufacturer 2) "Except for that that you just dispose anyhow, you really find somebody gathering plastic bags, carry bags to put something else in. We are re-using it two, three times especially when you, these big bags you find in Mr Price Home, you pack it and put their shoes there when they are travelling or so on." (Manufacturer 3) "I think everybody is re-using without you even thinking of it. If I take my mom for instance, she's 76, she doesn't even know what recycling means you know. Because we didn't grow up with recycle, we didn't recycle. We didn't even know what it means, we were not taught how to recycle anything, but if you take somebody, I'm now literally talking about ways people recycle and they don't even know that they're recycling. If you take the lady on the farm with chickens. And she sells eggs. There's hundreds of people collecting the egg cartons to send to the farm because they put the eggs in there and send it back and people sell it, you know." (Manufacturer 4) "These water bottles, you fill it up again at your house and put it in the fridge because your kids running around and their friends and if that heavy Tupperware thing you know, is just not working you know, so if they can just pull a bottle like this (a little bottle). That is re-using the products. If you take the milk, the 2 Litre milk thingy, that goes to the farms. That is what I see as re-use, that people don't even know they're doing." (Manufacturer 4) "So, it's being done, it's being done. It's part of how we grew up and we didn't even know then that it's going to become the thing to do. So, it's being done already." (Manufacturer 4) "I for instance keep the ice-cream container, you know, because my Tupperware, you know, if the kids come for lunch on a Sunday or friends, they take my Tupperware and you never get it back. So, I now keep the ice cream container and I say very nicely, people if you want to take food you're more than

welcome, in that cupboard I have tubs, take it from there and I said it to my daughters, keep it at your home so if you want to send something to mommy send it back in my used container. You hear what I'm saying?" (Manufacturer 4)

- "Shoes. Looking for your shoes in the morning. Normally you take out shoes at the bottom of the wardrobe and it's horrible to find them, you now, because you've gone through all the shoes and you can't find them. So, the shoebox, you put your shoes in the shoebox, so when you look for your shoes you just see oh, this is the pair that I'm looking, this is the pair I'm looking. You open the front here and you pack nicely in the shoe boxes and you just come and say, oh, I want the red ones, where's my red ones. Those are my red ones and you pull it out. Practical ways." (Manufacturer 4)
- "The way they are. You can fold them up into nice little *driehoekies* and you get a holder and it goes in there and you use it. I don't buy this meat bags any-more. You know, I don't. I pack my meat nicely, 6 stukkie in hierdie een, my plastieksak mooi uitgevee, my vleis is mooi gepak in my plastic bag." (Manufacturer 4)
- "There's consumer education. And you see it happening a lot here as supposed to someone buying a 5L water bottle each time rather than go to refill stations. That's had an impact on our business already in terms of people being more mindful in re-usability." (Manufacturer 5)

Importers

- "Except for packing your plastic bags in your drawer and using it later on for something else it's basically all I can think of; the others is fully recycling." (Importers 1)
- "Yes. So, for me it's we get home you pack all the plastic bags in a drawer and whenever you need a bag you just pull out one." (Importers 1)
- "I have no idea. We as a household use our plastic water bottles over and over until it cracks or break and then we throw it out, but I don't know how often... Maybe in your lower economical households, stuff will be re-used over and over and over, but again, I don't think recycling is very high in townships and stuff like that due to different factors." (Importer 2)
- "Well the shopping bags get re-used. For me it's for garbage and all kinds of stuff, sending stuff to other people, I find it hard to imagine my household without shopping bags." (Importer 3)
- "Yes, shopping bags, yogurt containers, ice bowls, everybody is doing it (re-using)." (Importer 3)

Consumer

- "Except for when a customer and maybe the consumer out there decides on his own listen I'm going to keep my bags and use it for something else." (Consumer 1)
- "I think most of us in our households use our carry bags again we keep them and use them for something else, but at the end of the day they land in the same space and place just at a delay." (Consumer 1)
- "Except for the one or two in his house like maybe yourself and me. All my bags that I've got I have a cupboard with a big bag with about 400 smaller bags, which I use for everything." (Consumer 2)
- "Cancer and disease-causing plastic bottles. There's a code under these bottles...you can use it once or twice then you need to get rid of it because there is some of the chemicals that go into the water." (Consumer 2)
- "And people use it in the households and so on? Yes, so that's quite big, but it's basically the only thing that's happening at the moment." (Consumer 4)"

Trade Associations

- "Everybody will tell you we all re-use our shopping bags. Whether as a dustbin liner whether to pick up dog stuff or have in your car. I think people are re-using it, but they also litter it." (Trade Associations 1)

Environmental Group

- "I think in rural areas they turn more to (the) re-use (of) plastic, because they use it as an alternative carrier material – not necessarily just for going to the shop and then you put your things (in it) –, but maybe they store something else or they use it to carry (something) from point A to B." (Environmental Group 1)
- "Well I think in some poorer communities, people use plastic bags and they wrap their food in it and various things like that, and I think people use some plastic bottles to store water and to carry water and so on. And that's why we're suggesting don't ban plastic bags immediately rather have an orientation period of five years or so where they charge, the people can still buy a bag and use it, but there's not that much scope for re-using these things too much. And the same with a plastic bottle. We buy a water or a coke or whatever, you've got your plastic bottle, you pay your 20c. You don't want to get your 20c back, you keep that bottle and re-use it for water, that's fine, that's up to you, but at least it's not being thrown out in the veld. So, that's not an environmental problem if it gets re-used." (Environmental Group 2)

Secondary life-cycle market

Unaware

Importers

- "So, it's more on the individual level that someone puts their shoes in the bag or a bin liner or whatever, but on a larger scale I am not aware of anything like Industries that make use of a bottle as it is or to a cut it up and make something so on, no" (Importers 1)

Consumer

- "So, not too much happening in that regard that I'm aware of. Maybe there is a lot of stuff happening that I don't know of." (Consumer 1)

Craft Industry

Importers

- "It will always be a craft space then. And your craft space never gives you the economies of scale. So, you can do it, but then the next guy goes to China Town and he finds something, spot this on there. I mean they've done these weaving, you see it on social media where people weave carpets with plastic bottles and all these types of things, but why would I do that if I can go China Town, just putting my consumers hat on, if I get it for half price anyway at China Town." (Importers 1)
- "Even if the industry is to pop up, it will not have a big impact because of the lack of economies of scale. Who are you going to develop it for, where is the need? Yes, I want to address a need in the market first. So, what need will I address with that." (Importers 1)
- "Informal settlements where woman braid the plastic bags and sell them to tourists, that is good, definitely, because we take it out of the environment and make it into a useful article you can use over and over again." (Importer 2)

Re-users

- "There are some people who are doing plastic bags, changing that into some baskets and that sort of stuff, but what they're doing will not make a difference in the volume." (Re-user 1)
- "You have to have a market to spend time and money on. So, based on the re-use of plastics in Namibia I would say probably the only people that are currently, based on a bigger scale, I know a lady that takes old plastic carry bags and she makes hand bags and table runs, but based on what I know about re-using here I can pretty much tell you that is all I know that is really happening on a smaller scale." (Re-user 2)

Consumer

- "It's not sustainable, it's a tourist gimmick and as such it creates a little bit of employment, so you should encourage it, but it's not a long-term solution to the problem." (Consumer 3)
- "That's a very good idea. Definitely." (Consumer 4)

Trade Associations

- "What also inspires me was, and I don't why I haven't thought of it yet. Is we've got one member who looks after kids. It's called Mammadu Trust. And I know that I linked Anfre up with them. For me, this is now the best news. Because the Mammadu Trust not only takes care of the poorest of the poor kids in Otjomuise and if you read their reports, they will very proudly say Benjamin can now brush his teeth and he ate his first carrots in his life. You know, so they are teaching the kids on many levels. Plus, they take them to school, they do the homework, they do the sport, they make the most magnificent theatre once a year, always about recycling, but she's empowered the mothers. To make the bags. They make the most amazing shopping bags from re-used plastic bags." (Trade Associations 1)
- "It is a wonderful Industry. They are so good, and we actually had them on our stand last year and I said to Anfre, let's get these ladies on the stand so people can see how you can re-use plastic bags. Because now they're turning old bags into a new product, which is a shopping bag, or a table runner. Those ladies are so creative they can actually design along the printed designs on the bags. They will make you a Spar one where every third block is the green block and you can recognise the Metro bags. So, that's the sort of inspirational thing I think also needs a bigger platform. Plastic is not always bad. Look what these ladies are doing, they're creating a new product out of your old shopping bags. Now another member – Document Warehouse – that scans documents, I don't know how many millions of documents go into the cloud, now she is also put on her Facebook guys if you have to many plastic bags bring it to Document Warehouse, we supply Mammadu with enough bags to keep these women employed and for them to earn some money. So, that's the sort of thing that needs support." (Trade Associations 1)

Environmental Group

- "I think it's those things like bags. OK, that's the only one we have. There are some creative ways of some micro-entrepreneurs – trying to do – they recycle the bags and then they create little purses. Not in a major, like production, but at least little things that they are doing. Those are some of the manner in which they are doing." (Environmental Group 1)

Furniture

Trade Associations

- "And you've got this lady in Olympia, don't know whether you've heard of her, I love it so much I actually put in on my car key, Katya's Creations, she takes old banners, these company banners, and she makes the most amazing furniture of it. You must see the poofs and stuff and benches and beanbags that she makes from an OUTsurance banner or a Bank Windhoek banner. That's creating new items with old plastics." (Trade Associations 1)

Informal Housing or Energy

Consumer

- "Carton boxes are used to make fire, to cook on, to start a fire at the coast it's used for housing, because zinc and metals rust. I threw away a big TV box in Henties, it was laying outside next to the wall. It was ten minutes and the box was gone because they take the box and use the carton for something. Plastic, if it's not a big sheet of plastic that they use, but they use it for a specific reason they either construct a house or sheltering for them. I think the biggest ones are the normal carry bags. You see very little of this wrapping stuff floating around, but bags and stuff-that's the problem." (Consumer 2)

Tourism

Trade Associations

- "I saw that in the Tourism Industry, what was that, more than twenty years ago, when we already started in the hotels at the time to use the amenities that your creams, and your lotions, and positions was in, had the recycling sticker on it which means this product is recyclable. And then we used to fill from containers into small bottles, where the guests of course could not see you because they still want to

	hear that sound of a new item. So, there are many ways people are doing a lot of things we just don't know about it." (Trade Association 1)
Positive result	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Job creation. Cause she's got 4 ladies employed there and she started by making handbags, but she bought, okay this is now not recycling, but it could well be, she bought t-shirt material. So, the ladies sit and weave the strips of t-shirt material and that she turns into handbags." (Trade Associations 1)
Awareness Campaigns	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Yes, you know what, and again I'm referring to the EIF, and I get furious that they do not inform me. So, last week of early this week they had a post. Calling all Namibians, do you have any recycling ideas? Now firstly I should have thought of that, so they're putting it on Facebook, let us have your recycling ideas. I would be interested to see what comes out of it. So, I will definitely chat to Mr Nafidi who is the Communication and Marketing Manager. I will speak to him again and say look this is the sort of thing that the Recycle Namibia Forum needs to get involved in. If I can show you what kids make, if they got this trash to treasure competitions, it's unbelievable. Creative minds, creative hands. Last year in Swakopmund they had – Walvisbay Municipality - had this big challenge for schools. And one actually made this Foosball with little <i>mannetjies</i> – die <i>mannetjies</i> was <i>wasgoedpennetjies</i>, it was unbelievable. The whole thing was made with old carton and then. It was just incredible what they did, so kids think with bright minds." (Trade Associations 1)

B. BEST PRACTICE

Awareness campaigns (Refer to Stakeholder Engagement and Targets)	
Thicker carrier bags	
Arguments for	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "For the simple reason we are still supplying supermarkets with the thinnest possible bag at the lowest possible cost which make it not very much re-usable." (Manufacturer 1) • "I think we need to make the bag slightly thicker to encourage more re-use" (Manufacturer 1) • "The re-use of carrier bags will be encouraged if they were made thicker. Yes, definitely." (Manufacturer 3) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "I think if the bag is thicker, it is something that can be re-used, and the quality will remain longer." (Importers 1) • "My feeling on Namibian plastic bags, I mean if you break it down it becomes almost like a dust. So, the thicker one you can then put back into the recycle system." (Importers 1) • "You might start to re-use it and take it back to the store again and use it again yes." (Importers 1) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "If you want to charge that levy and that levy is an environmental levy and not just an income stream for government then it should be thicker because then it should be recyclable. If we charge the consumer for something that we say we're going to save the environment or look after the environment, then we need to give them a product that we can look after the environment. And that's only with the thicker plastic bags that's a good reason to recycle." (Consumer 1) • "Once again, it's a bit more difficult to place more items in a carrier bag with a thinner bag and with a thicker bag you get a few more products in, but it's more expensive. So, it's a catch 22 from an expense point of view." (Consumer 1) • "It will encourage people to re-use bags, but there must be a levy/cost, so people see value to that bag. I don't think people see value in a plastic bag." (Consumer 2)
Arguments against	<p>Will not reduce our carbon footprint</p> <p><i>Increased transportation costs</i></p> <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Definitely. So, actually, my opinion, is by having a thicker bag, (you're) actually wasting resources. Because now you're using more resources, for the same purpose. The thicker bag. It's thicker in terms of transporting, so now where I could have transported a million bags with one truck, now I can only transport 500 bags. So, I'm going to use two trucks, to have the same amount of groceries carried from the till to the car. So, there you increase your carbon footprint. So, what do they want to achieve? Carbon footprint? Is it an emotional thing? It depends on what they want to achieve, but I don't think if I look at the environment in itself that it's a viable solution." (Manufacturer 2) <p><i>Increased use of plastic</i></p> <p><u>Importers</u></p> <ul style="list-style-type: none"> • "I agree the process to produce is too expensive, you use more plastic, making it thicker. You use the same number of bags so making it thicker will make the problem worse in my opinion." (Importer 3)

Will not encourage behaviour change (re-use and reduce) Whether thick or thin, people will behave as they always have

Consumer

- "Just bringing in a thicker bag is also got on the flip side a manufacturing cost to it. You use more plastic so how does that reduce your carbon footprint?" (Consumer 2)

Environmental Group

- "Why not just make the bags that it can be re-used? Why thicken the plastic instead of just doing the alternative bags?" (Environmental Group 1)

Government

- "If you make the thicker one without any education or awareness to the people, obviously that will be more difficult for the nature to decompose it for example. So, it's all about education. If we educate our people, people have got an understanding of the effect, then we can now move to the thicker one. Than just to start with the thicker one without education to our Namibians, it won't really help anything." (Government 2)

Plastic Manufacturers

- "I think that would be a process, because again we are going back to our culture. You know you are just going to a shop and you have to carry your shopping back, so you have to take a bag, you will pay for it and still just dispose of it, I think that is a challenge, that would be a challenge. That would have to be dealt with from a foundational point." (Manufacturer 3)
- "If I look at things, like a plastic bag is for me a simple example. I mean you go to the shop, you take your plastic bag with to put the things in that you buy, but how many people do you see going into the shops with plastic bags? I don't see any. I also forget mine half the time. It's a behaviour pattern problem." (IM)
- "To be honest I don't think so. A bag is a bag. Now you're going to pay for that bag. No, I don't know. Making it ticker? Why? I've heard the arguments but having a thicker bag's a bag. It's a carry bag. It's a secondary bag. Having a thicker bag is not going to make the guy not throw it away. If it's a thin bag, thick bag, they're going to throw it away. Although it's thicker, it might take a bit of stronger wind to pick it up, but it's going to blow in any case. And I mean, sometimes people, a lot of people use a carry bag once. Why do you want to use a thick bag to use it five times, you're not going to use it...? I'm talking about simple households. You're not going to throw something in it and throw it in the dustbin, you're going to throw the entire thing into the dustbin." (Manufacturer 2)
- "I don't know. I don't see the benefit. I don't see why it would drive the end consumer not to litter. I don't see that the thicker bag would bring us to a better polymer balance sheet. I cannot see that having a thicker bag will take the problem away." (Manufacturer 2)
- "I think it's all a convenience thing. Because it's thicker doesn't mean more people is going to use it again." (IM)
- Plastic bags are also being re-used and re-used and re-used already, it's not necessary." (Manufacturer 4)

Importers

- "We've done that exercise and if you look at the trend it's got a short-term gain and then after that people just default and they use to paying the 50 cents like in South Africa." (Importers 1)
- "I'm already re-using most of my plastic bags." (Importers 1)
- "I don't think people understand you can re-use it. For what do they re-use it? To go shopping again? I don't think so. If they haven't re-used it before, they won't start now." (Importer 2)
- "Not re-use to go back to the retailer to re-use, I don't think. Re-using in the household it won't make a difference." (Importer 3)
- "I am already re-suing, thicker won't make me do it more." (Importer 3)

Re-users

- "I don't think people's mind will change. For them plastic is plastic. That would just be a waste of more plastic. Ja, it makes the process more expensive, the thicker the plastic is." (Re-user 1)
- "But in our process, it doesn't matter if it's thin or thick. It doesn't matter." (Re-user 1)

Consumer

- "Is that even a solution? Thicker or thinner, the bags end up in the environment in any case." (Consumer 1)
- "People are just too lazy, it's not in their culture to re-use them at the moment, so I don't think that would change their behaviour." (Consumer 3)
- "We're going to have the same problem. People will just through them away anyway." (Consumer 5)
- "Irrespective. So, whether it's thinner or thicker, people are going to irresponsibly dispose in any case. It's going to end up somewhere in a tree or in a bush." (Consumer 5)
- "No. I think not a lot of people know about the different microns in the carry bags. People on the street, all they want is a strong enough carry bag to carry their stuff. So, I don't think they will mind if it's thicker or thinner." (Consumer 6)

Environmental Group

- "Well in South Africa that was the idea of adding calcium carbonate to them to make them thicker, but that hasn't stopped the pollution and things running around. So, a few people may use them a little bit longer if they were thicker, but the benefit of that is so far outweighed all the many levels of and layers of disadvantaged that it's not even worth going down that route." (Environmental Group 2)

	<p><u>Government</u></p> <ul style="list-style-type: none"> • "I don't think so. I don't buy into that argument." (Government 1)
Non-recyclable	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "CaCO₃. Definitely." (Manufacturer 2) • "The thing is you cannot make them thicker because the moment you mess with the little 3mm, that long word they say, polyethylene, then it becomes non-recyclable, you hear what I'm saying." (Manufacturer 4) • "It does make it less recyclable." (Manufacturer 4) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "Well in South Africa that was the idea of adding calcium carbonate to them to make them thicker, but that hasn't stopped the pollution and things running around. So, a few people may use them a little bit longer if they were thicker, but the benefit of that is so far outweighed all the many levels of and layers of disadvantaged that it's not even worth going down that route." (Environmental Group 2)
Thicker not necessarily stronger	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Because remember, a bag that is 14 microns is strong enough to carry 2 - 3 litres. Now you're making it 25 microns, so you're making it double the strength, but it doesn't need the strength, so you're diluting the strength by putting CaCO₃, because it's strong enough. So, by diluting the strength with CaCO₃ you're making a thicker bag, but it's sort of the same thing. There's a lot of strength to play with because (of) polymer's binding ability." (Manufacturer 2)
Caution: Ensure still recyclable	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "We need to ban the usage of for example CaCO₃ that goes into bags so that it is fully recyclable. So, it is slightly thicker and slightly stronger, then it will be re-usable and then people can make the choice to re-use it." (Manufacturer 1) • "South African legislation forced them to a minimum of 25 micron and then they started CaCO₃ to fill it up. They call it a filler as a matter of fact, but then it is not recyclable anymore, okay." (Manufacturer 1)
How thick?	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "I think 20 Micron is the usual. 20 Micron is sufficient to manufacture a bag capable of doing four to five life cycles and if we can manage that we will have a significant reduction." (Manufacturer 1)
Price	
Should there be a charge?	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "We need to probably charge for it. Get the Supermarkets to charge a fee and make sure the consumer understands that there is a value to it." (Manufacturer 1) • "If people have no choice, but to pay, they would." (Manufacturer 3) • "I think that would also make them more aware of not disposing of it anyhow. Like I said when you pay for something, and you don't pay, you treat them differently. You treat something that you get for free, you don't actually appreciate, but something you, that has a cost thereon, I think it is appreciated." (Manufacturer 3) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "There will be no behaviour change if they get them for free." (Importer 2) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Again, it needs to be linked with a cost factor where people need to pay for it." (Consumer 2) • "It will encourage people to re-use bags, but there must be a levy/cost, so people see value to that bag. I don't think people see value in a plastic bag." (Consumer 2) • "They're not prepared to pay for anything, but if it's part of a law, then they will." • "You need to pay for it then you will really use it." (Consumer 4)
Recommended price	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "No, it's difficult to gauge, it's difficult to say, but if it's again too expensive you will get a negative reaction from the lower part of the consumer. Then they don't want the bag and then you'll have a whole different set of problems. So, I would say 30 cents, 40 cents, 50 cents, in that range will probably be reasonable." (Manufacturer 1) • "As long as it remains coins. Something that doesn't move or shake their pockets. The small kind of change that they don't even think of. Let's say a dollar or 50 cents or something like, something that won't really affect them then I don't think they will mind." (Manufacturer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "They can start the same as SA, few cents." (Consumer 4)
Education required	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Swakop did something where they charge you for a bag and at first there's a resistance in paying for a bag. It needs to be done with ongoing education. It's easy for me to say recycle, recycle then for two three months we do nothing. It's needs to be an ongoing thing, it needs to get into your brain-almost brain washed. This is plastic and you're gonna pay for plastic." (Consumer 2) <p><u>Government</u></p> <ul style="list-style-type: none"> • "If you make the thicker one without any education or awareness to the people, obviously that will be more difficult for the nature to decompose it for example. So, it's all about education. If we educate our people, people have got an understanding of the effect, then we can now move to the thicker one."

Than just to start with the thicker one without education to our Namibians, it won't really help anything." (Government 2)

Secondary life-cycle market

Overall

Re-users

- "The main thing is it is manufactured for a certain purpose, it is difficult to find a different purpose for it. There is a specific reason certain plastic have a stronger micron than other because it has to carry a heavier weight. That is why I say it is difficult to have a second use." (Re-user 2)

Trade Associations

- "We should start thinking outside the box, so we could have new Industries. And the small volumes, we shouldn't always just blame this." (Trade Associations 1)

Craft industry

Importers

- "Re-use, something that works very well that simply can create a home industry, using those plastic bags to make shopping bags, to make carpets, that kind of industries. Those should be encouraged to get rid of the plastics in a not further polluting way." (Importer 3)
- "I think that Talia has a big point there's, because you can start small enterprises with re-using with this craft. I mean nowadays on social media you get so much great ideas. Don't put this on record, but I saw a nice idea to make a dog mat out of plastic bags. I took all my plastic bags; put it in a woven polybag and they just put a material bag over. So, now it's a nice bag for my dog to sleep on when he is in the house, but now a day you get nice ideas for mats, for welcome mats, front porch mats, the nicest ideas people are doing at home, but imagine starting small enterprises stimulating our economy." (Importer 3)
- "Nowadays we are doing proudly Namibia Leather, we are doing, there are so many things happening nowadays in Namibia with the stimulating of Economy. Using plastic will be a great initiative." (Importer 3)

Re-users

- "I'm not sure it will have a major impact, but I think it's always something different when we do some shows and things, people like to see it. That you make something out of a plastic bottle or something out of a plastic bag or something like that. *Ja*, there is a market for that, but I don't think that will solve the problem." (Re-user 1)
- "I think there is growth potential, but it is still very small." (Re-user 2)

Environmental Group

- "I suppose so, but it could be one of the alternatives. If, for example there is a, say, a five-year period to phase out plastics, what happens between now and then? So that, whatever we already have it's phased out, but not so phased out environmentally unfriendly, but in a friendly manner whereby you actually start already creating some other uses for that." (Environmental Group 1)
- "I think they should be encouraged – there are some... have you been to the craft market? That's where you'll find some of these little ones. Not on a major scale, but obviously they are starting off, but maybe they are testing the market as well – does it exist or not. So, if they are supported I believe they can make a living out." (Environmental Group 1)

2.4. RECYCLE

A. CURRENT ACTIVITIES

How effectively is plastic being re-used in Namibia?	
Average score out of 10	3.9
I don't know	9%

<p>Unaware</p>	<p><u>Government</u></p> <ul style="list-style-type: none"> • "Well I'm not fully hooked up with the information as far as the recycling of the plastic concern, I don't know really how we are doing at that aspect if I can just be honest to you. So, I think that one is more on the manufacturer, they might know better than I do." (Government 2) • "When they are put into ... perspective. To say, we have this project and we are doing it comprehensively, then (?)... So, what we are doing exactly to recycle plastics that I'm seeing all over, I don't know." (Government 3)
<p>Recycling Value Chain Local recyclable plastic manufacturers</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Imports can be managed. We can ask for a recyclable plastic, because what I know for sure at the moment is that for instance African Packing, Plastic Packaging, all plastics that they produced here is recyclable, all plastics. And many of the stores in Namibia already use that plastics. Like the Pick n Pay's use that plastic. But many of the stores that is South African chains like your Edgars, Dischem, those plastics are not recyclable. And they're here everywhere and we like to use them. We even fold them up nicely at home because when you travel you put your shoes in them." (Manufacturer 4) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "Yes, I think they are (recyclable). They are not laminated so, there is no lamination on that." (Importer 3) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "I think with production of bags in Namibia, we are really doing the right thing that is the friendliest to the environment. Yes" (Trade Associations 1) • "For me it's interesting that this specific company, Plastic Packaging, they produce it, they sell it, they recycle it and new products are made. I think that's the whole circle." (Trade Associations 1) • "Plastic Packaging for me why they tick all the boxes from there to there. I often use them as a reference point. They are responsible from the Polyoak right through to the Polymer" (Trade Associations 1) • "Well again, as I said before. I think the process – we should look at the process of how plastics is manufactured – in Namibia. And in Namibia it's manufactured that it is 100% recyclable. I know that, I saw the tests myself. We had this discussion with the Minister of Environment and Tourism, where the process was shown to them and demonstrated to them." (Trade Associations 2)
<p>Collection and sorting Rent-A-Drum</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Rent-A-Drum has got the value chain, to take it from the collectables into the sorting plant into either a recycling stream back to where the product can go, and the balance into Waste-to-Energy and the rest of it into landfill, so that got that sorted." (Manufacturer 1) • "I can only refer currently to Namibia Polymer Recyclers because they actually buy the polymers itself and they put it back into an original format of a pallet that can be used in any other process. And they are basically creating value to Rent-A-Drum to collect that (waste), to create jobs, to put it onto a truck and transport it and to get value for the things that people just throw out of their windows. So, in terms of recycling, Namibia Polymer Recyclers in conjunction with Rent-A-Drums are definitely the only ones that I can think of that collect, transport, recycle and sell it off again to other manufacturers. The entire value chain is important, with stakeholders like Rent-A-Drum in this process. So definitely with regards to Rent-A-Drum: A-OK, Namibia Polymer Recyclers: Also 10 out of 10. Other than that, I cannot see a lot of recycling happening in Namibia." (Manufacturer 2) • "If one would start thinking of starting recycling, obviously there are recycling businesses, I know there is Rent-A-Drum and a few." (Manufacturer 3) • "With regards to recycling the waste management companies." (Manufacturer 3) • "The only recycler that we have is Rent-A-Drum. And they only recycle those previously non-recyclables. The plant they have, do that. They take the previously non-recyclables, like

magazines, boxes or whatever, Styrofoam, yoghurt and then they *snipper* it up and send it, bale it and sent it to Ohorongo." (Manufacturer 4)

- "They have been doing a reasonable job - Rent-A-Drum, Kleen Tek." (Manufacturer 5)
- "They're economically driven by actually making money in terms of collecting waste. Unless there's a potential for it to become economically viable, they're a business they're not going to do this for free. That's a barrier. 60% of our population lives up north, it gets a bit fragmented and one could argue that you've got a very sophisticated waste collection mechanism in Windhoek. Three sites that you could manage and collect and it's close to Head Office an infrastructure than for e.g. Opuwo, Katima to get waste back 1400km." (Manufacturer 5)

Importers

- "I mean we've got Rent-A-Drum that's now started the whole recyclable material on the one side but that's covering the central region, so I don't know what they do in the other regions, but because again the big challenge is you need the economies of scale that is difficult with our vast distances. It doesn't make it economically viable." (Importer 1)
- "And then I think Rent-A-drum also has a recycling plant, big one. Just outside Windhoek on the Kupferberg road." (Importer 2)
- "And the same with the Rent-A-drum plant. Not one of those plants are older than five years." (Importer 2)
- "That's a far away from it. Maybe we are faring a little bit better in Windhoek than in Keetmanshoop or somewhere. I think Windhoek is faring a little bit better because we have Rent-A-Drum. We have everything here that is in Namibia." (Importer 3)
- "They (Rent-A-Drum) collect from households, they collect from us what is recyclable, they collect from us we have a kind of separation system. (Importer 3)

Consumer

- "I know Rent-A-Drum is recycling, as a company and they've got a business model. It is obviously profit driven as far as I know and understand but irrespective if it is profit driven or not, they're doing it. So, from that point of view, I know they've got collection points and what they can't recycle in Namibia they take to South Africa." (Consumer 1)
- "But they're a bit on their own as far as I can see it, standalone beacon of hope. They tackle this thing, they've seen it as a business opportunity obviously and they're doing good through that. But that's all what's being done as far as I know." (Consumer 1)
- "I do believe they're doing a lot of good with that." (Consumer 1)
- "I'm not an expert but if you look at Rent-A-Drum, Gys Louw, they do a tremendous job in recycling in Namibia. If they had more support from government side in the sense of legislation that will force people, ground level people to do their bit, their job will be easier. Those companies like Kleen Tek are doing a great job, they need more support from governments side." (Consumer 2)
- "We have Rent-A-Drum." (Consumer 3)
- "Rent-A-drum is picking up our waste. We don't do it ourselves, but we do work with them *ja*." (Consumer 4)
- "Well, we've got Rent-A-Drum, but I mean they're only Windhoek based. I've heard that they started in Swakopmund also and I had the privilege of visiting the site, I rode out to Daan Viljoen. Excellent. It's kept clean. You would expect it would look like (a) dump area, but I tell you, it's like a paperless area. Yes, it's an excellent idea, as I said, surely there must be incentives for these initiatives. At the moment they're making money out of it, which is fine, they're entrepreneurs, they see this as an opportunity and obviously they make use of it. But I think there's more out there and I think with the necessary financial support, we can establish the same sort of businesses right over the country." (Consumer 5)
- "Obviously as I said, as a businessman being in the business so long, I think we all have a financial restraint." (Consumer 5)
- "I think currently it's in independent companies' hands to recycle. I know there's a programme in conjunction with Rent-A-drum and the city of Windhoek. But I think currently, 80% of the contractors of owners, what do you call it, are on the independent recycling companies, for recycling." (Consumer 6)

Trade Associations

- "Rent-A-Drum – and they are maybe the icon or the biggest brand in Namibia for recycling. Not only plastic, but they have got these partnerships with Plastic Packaging, with Namib Plastics and many other Institutions, where they take the plastic." (Trade Association 2)
- "Of what I know – and I don't have the data – of what I know, I think we are faring really good. There is much more emphasis in the past 2 to 3 years, maybe even 5 years. If you look at the development that Rent-A-Drum did. The expansion that they did. The collection. They went in to the coast, they went to the north, they're in the south – collecting recyclables. I think we are really doing a great job, but I put it in inverted commas. We don't know how good it is because we don't know what is out there to be collected." (Trade Association 2)

Kleen Tek	<p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "There is Rent-A-Drum." (Environmental Group 1) • "The Rent-A-drum collection and then it goes to Okahandja, where there's a recycling plant... it's the only one in Namibia and so all the plastics from bottles and plastic bags and so on which are collected and come into the Rent-A-drum and collection system end up there. And they get broken down into little pellets and then those pellets are used to constitute plastic piping. So that is what we have in Namibia at the moment." (Environmental Group 2) <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Recycling collectors" (Manufacturer 1) • "They have been doing a reasonable job – Rent-A-Drum, Kleen Tek." (Manufacturer 5) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "I'm not an expert but if you look at Rent-A-Drum, Gys Louw, they do a tremendous job in recycling in Namibia. If they had more support from government side in the sense of legislation that will force people, ground level people to do their bit, their job will be easier. Those companies like Kleen Tek are doing a great job, they need more support from governments side." (Consumer 2)
Informal waste collectors	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "I know people are really becoming aware of recycling because now it has become a money making, it has become a business, especially with the people on the dumpsite they are told 'Ok give us a ton of plastic. We will give you this.'" So, you know the people with the lower income they are now becoming interested, so you see them picking up their plastic. Yes." (Manufacturer 3) • "There's a story I can tell you. I've identified as waste collector in Katutura, Sam Smith. People collect for him and he does it basically out of his own pocket. So, when he goes there he gets plastic bags full of PET. And he pays about N\$2 for a plastic bag of PET. And he asked the lady what she does with it, you know, the N\$2. When he gets there, there is a lot of bags. Because your plastic bag with PET weighs about 2 kilos, so he pays N\$2 for 2 kilos. And the woman said to him you know what, everybody around here now knows that, you know, I give 50 cents or a dollar for PET. So, they bring it to me, I pay them and if I pay this lady N\$10 tonight she can buy half a loaf of brown bread and a <i>smeerwors</i>, I don't know what you call <i>smeerwors</i> in English, meaning the kids can eat." (Manufacturer 4) • "In Aranos there's this lady, she's a farmer, she has an informal Collection Centre. I think she has a little shop or she have a relationship with this little shop. So, bring your recyclables, she gives you a voucher and you can go and buy anything at this little shop with your voucher. That little town is crispy clean, crispy, crispy clean." (Manufacturer 4)
Recycling bins/ bags/ collection centres	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "That's something we strongly believe as Coca-Cola and it's something that we have started to do. We've opening Collection Centres. We have two Collection Centres already. We're planning to open another five. We're getting there. It's an expensive process. Also, as I said we're identifying waste collector, assisting them with what we have, we can only do so much. And so, the process can begin. So, people can say, oh, I can pick up a bottle I can get money, bring it into a waste collector and I bring it to Collection Centres and I keep it clean." (Manufacturer 4) • "Pulling the Industry together and this is the solution we are looking at, this is the plan we have. I think on Friday the RNF will donate a Collection Centre to Hage Geingob, to the President. This Collection Centre has got a baler in, a scale and it's given to an Entrepreneur. So that guy is already empowered. He pays people. It's going to be stationed at a certain, he bales his product, it's been uploaded by Rent-A-Drum and he gets paid for it. So, it's a process that we know will work. If we had the millions we would have but. Plastic Packaging is currently, and Coca-Cola, actually we all are spearheading the whole process at the moment." (Manufacturer 4) • "We set up the two Collection Centres, African Packaging and Rent-A-Drum is now setting up the mobile one that they're going to name after the President. And so, you give. And I think O&L is negotiation for two or three that they are going to put up also. So, we sit down, we discuss this is what we do, this is how much we can bring to the table, all right guys, you go on, you concentrate on that region, we concentrate here. So, I think the Industry is working together very, very closely to address the problem in recycling." (Manufacturer 4) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "It will be a lot easier if people would take responsibility for their own recycling. In the First World Countries as well, but once again it goes back to education and people taking responsibility for what they buy. They have recycling units at dedicated areas, like for example in Windhoek, in Academia and the people take their own waste that is recyclable, and they put it there into the different cubicles." (Re-user 2)
Individual household recycling	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "OK, that has been excellent as well – with Rent-A-Drum again over the past three/four years of households thinking of having two drums – one for recycling and one for non-recyclables."

<p>Landfill management and recycling initiatives</p>	<p>Definitely, with creating that stream of recyclables, it's making it easier for Rent-A-Drum to sort it. So, I think we have backwards integrated it, where they normally just picked up everything on the dumpsites, now they can collect it from the households. And now the households are also thinking: 'Listen, we need to do our part. You know, teach our children.' Sorry, I was thinking just industry, but in terms of household – definitely – there's a major drive. It's good to see – over the last five years – good improvements.</p> <p><u>Importers</u></p> <ul style="list-style-type: none"> • "I know a low percentage of Windhoek is recycling. I know Swakopmund and Henties' percentages are much higher... recycling and they pick things up. And the population scale is actually in Windhoek." (Importer 2) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "They've got points all over, strategic points, at some houses, at some areas. Where they supply the recycle bags, but still it's very small." (Consumer 4) <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "What the waste management companies are now doing is that they are taking charge of the dumpsite and even the local authority, the town councils are now becoming involved by giving the dumpsite to a specific company and say you are responsible and in return, they do not pay anything for the town council, but in return they then do their recycling process on the premises of the dumpsites." (Manufacturer 3) • "We do measure things like what percentage of our waste goes in that, how much is recycled." (IM) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "The management at Kupferberg dumpsite in Windhoek that is also putting a lot of emphasis on recycling at the dumpsite self." (Re-user 2)
<p>Industry/Associations recovery and recycling initiatives and goals</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Excellent goals and it is goals that are being addressed by many of the institutions or groups. We currently have the Namibia Beverage Container Association, Recycle Forum. Their slogan is – Zero Waste-to Landfill. At Coke-Cola our new slogan is – World without waste – and those are projects that were launched two years ago, three years ago. Coca-Cola re-looked at our recycling project and re-launched it January this year. Where we say for every bottle or can we put in the environment we'll bring one back. So, we're working towards that and many other Institutions are working towards these goals. So, I'm quite happy to say it's there, we're working on it. I just don't know whether we can already determine a success rate. If somebody can really get up and say oh we're 5 % there or we are 10% there. For us we will only be able to say within maybe a years' time, maybe two years' time, whether our project is working, the impact it's having and how we see it." (Manufacturer 4) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "We've started discussions with Coke and Recycle Namibia and some of the other players in the market, Dairies, to look at what we can do over the next, as a strategy on how much of the product that we put out there that we want to recover. So not in terms just of having the returnable glass, but also making sure I put up on, I'm actively trying to collect the waste material that put out there. Because my six-pack can is glass, but it's got a plastic shrink around it, or my six pack bottles, it's a one-way glass and it's got a plastic shrink and a paper box, the paper box is biodegradable but now you sit with the plastic in between. The glass, you need to get the glass back, so we want to actively come up, exploring to find a solution where you can recover that." (Importers 1) • "We as a company recycle, yes, yes. We recycle our crates and then our plastic bags and boxes." (Importer 2) • "Like we said we have a recycle plant on the site. I don't know what they do with the plastic after they recycle it... make hangers or stuff like that, crates or... " • "They (Rent-A-Drum) collect from households, they collect from us what is recyclable, they collect from us we have a kind of separation system. (Importer 3) • "I think it's difficult because we don't produce a lot of plastic waste. The little that we do procure they (Rent-A-Drum) pick up. The product that we package goes out in plastic, so the impact is more there. But we don't produce a lot of wastages, yes. The little that we do goes out to be recycled." (Importer 3) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "It is a question that we've got a goal in the company group, a 20% reduction of carbon footprint until 2019 as far as I know, and it is one of our strategic pillars and decisions that we've taken years ago so as a company we are already busy with it and whether it's electricity or whether it's plastic bags. We're working quite hard on that. Every company should set similar goals and work towards them." (Consumer 1) • "We have a plastic campaign - No to plastic." (Consumer 2) • "Yes. We have separate bins in our waste disposal sites for every shop and Rent-A-drum comes and collects it according to the various items to recycle all the plastics and the cardboard boxes and the paper." (Consumer 3)

- "Rent-A-drum is picking up our waste. We don't do it ourselves, but we do work with them *ja*." (Consumer 4)
- "I know the shopping bags that we buy is coming from recyclable plastic." (Consumer 4)
- "Yes, we have a company that handles it for us. So, they do all the sorting and removal." (Consumer 6)

Trade Associations

- "The RNF has started on the single use plastic, so that's not referring to plastics. But the single use ones. The straw, just a small item, but if we just make 50 people consciously of saying no to the straw, and that can bring us back to single use plastics, whatever it is try and not use single use plastics." (Trade Associations 1)

Environmental Group

- "Because there are certain bins designated for recycling different types of waste, that is happening. Now, I cannot tell you how much is happening Namibia-wide, but again show you what we are doing here." (Environmental Group 1)
- "Yes. We have recycling bins at our premises. For plastics – whether it's bottles, it's paper, and then other things." (Environmental Group 1)

School recycling

Importers

- "I see at the school my kids go to, they also have the separation. The schools itself they have the bins there for plastics and other garbage. Every day they go and empty it. You as a parent you can do your own sorting at home and you can drop it off at school. They have incentives for schools, if you win first prize you get this and so forth. Every year they have incentives for schools to collect." (Importer 3)

Export Market

Plastic Manufacturers

- "What I know whatever is being recycling is being exported out. That is definitely, there is a market in export."
- "What surprises me is the export of sorted plastic is out and then they bring recycled material back. The HD bottles are taken out and then recycled; the finished product is being brought back. Why don't we just recycle here? The sorting is done here but they turn it back into raw material outside the country. Yes, it is done outside. That is actually what happens. I think that is where the gap is." (Manufacturer 3)
- "What they do with the recyclables, it's being sent to either South Africa, sold to South Africa, like PET, cans. It's sent and sold in South Africa." (Manufacturer 4)
- "You can also have a look what they're (Rent-A-Drum) doing with their waste. Some of the waste PET they send back to South Africa." (Manufacturer 5)

Importers

- "We've got the plant in Okahandja, I think it's Plastic Packaging, I think they got a plant in Okahandja, that basically do the plastic bags and these bins, and things that they do, plastic recycling bins. And the others send their stuff to South Africa, that's my understanding." (Importers 1)
- "But the guys that do the recycling, for them it makes sense because they at the end of the day send it back to South Africa or do their own recycling that ends up into a new product. That's got value at the end of the day." (Importers 1)
- "I have no idea actually. I know Rent-A-Drum, I don't know do they send it back to South Africa? Used again? I have no idea." (Importer 2)

Re-users

- "No, it's recycled by Namibia polymer recyclers. A lot of our plastic goes there. But that we can't use we send to South Africa where it's being re-used the same as they're doing. And what we can't export, or we haven't got a market, or it is contaminated we use as fuel. We can use 100% of all plastics." (Re-user 1)

Consumer

- "I know Rent-A-Drum is recycling, as a company and they've got a business model. It is obviously profit driven as far as I know and understand but irrespective if it is profit driven or not, they're doing it. So, from that point of view, I know they've got collection points and what they can't recycle in Namibia they take to South Africa." (Consumer 1)
- "*Ja* I think it's 80% in the hands of the recycling companies or refuse removal companies and all that collection has been exported to South Africa as far as I know. I don't think there is any other manufacturing that is in Namibia, might be, but I'm not sure. I think most of it is being sent back to South Africa." (Consumer 6)

Conversion into raw material

NPR

Plastic Manufacturers

- "There is a company in Okahandja that belongs to plastic packaging with the name of Namibia Polymer Recyclers, who buy post consumable waste from the recycling collectors people, in other words, like Rent-A-Drum and Kleen Tek and many others. And then they commercially make it into a new raw material, which is then sold to either Plastic Packaging for the manufacture of black refuse bags and a few other products, sold to Namibia Polymer

Converters, Namibia Plastic Converters in Okahandja for the manufacture of plastic pipe or to, there's three or four other pipe manufacturing companies who are all customers although at the recycling plants." (Manufacturer 1)

- "I can only refer currently to Namibia Polymer Recyclers because they actually buy the polymers itself and they put it back into an original format of a pallet that can be used in any other process. And they are basically creating value to Rent-A-Drum to collect that (waste), to create jobs, to put it onto a truck and transport it and to get value for the things that people just throw out of their windows. So, in terms of recycling, Namibia Polymer Recyclers in conjunction with Rent-A-Drums are definitely the only ones that I can think of that collect, transport, recycle and sell it off again to other manufacturers. The entire value chain is important, with stakeholders like Rent-A-Drum in this process. So definitely with regards to Rent-A-Drum: A-OK, Namibia Polymer Recyclers: Also 10 out of 10. Other than that, I cannot see a lot of recycling happening in Namibia." (Manufacturer 2)
- "I think we have one or two cases in Windhoek that tries, that have plants to recycle." (Manufacturer 3)
- "In terms of plastic components, there's Namibia Polymer Recyclers in Okahandja belonging to Plastic Packaging. They drop it in to purpose for farm fencing, water pipes and that, because it doesn't matter in terms of the food component. That's fairly developed." (Manufacturer 5)
- "If you have a chat to Namibia Polymer Recyclers in Okahandja - tonnage, if there is wastage that is built up due to machine or colour changes that you can't put back. They take it and they make things with it, just not PET. I'm not sure what they do with the... We're not involved with the film plastic, I've got no idea." (Manufacturer 5)
- "From our perspective, to know that this is starting to find a market in terms of resell ability and HD we're very comfortable with, but you need to get that out of the home, rinsed and back to NPR. The problem is, they're a big organization, they make quite a lot of stuff and that's... They phoned us about two weeks ago and asked us to have you go any regrind, have you got anything for us, because we haven't got enough. That tells you in terms of what our output is and what's on shelf from SA is not reaching the recycler because he's short of material. The value stream is there, but we need to feed into it. You can't tell me that everyone is buying milk bottles and ice-cream tubs and whatever comes in plastic as a consumer if they were returning it and it was finding its way to a source centre that they would be short of material. It's just too much of us... I don't know if you ever look at your drum on a Monday and look how full it is of packaging products. It's insane actually, everything is package." (Manufacturer 5)

Importers

- "We've got the plant in Okahandja, I think it's Plastic Packaging, I think they got a plant in Okahandja, that basically do the plastic bags and these bins, and things that they do, plastic recycling bins. And the others send their stuff to South Africa, that's my understanding." (Importers 1)
- "But the guys that do the recycling, for them it makes sense because they at the end of the day send it back to South Africa or do their own recycling that ends up into a new product. That's got value at the end of the day." (Importers 1)
- "There's a recycling plant in Okahandja... Okahandja Polymer Recyclers. We send a lot of our crates, used crates for recycling." (Importer 2)
- "Okahandja Polymer Recyclers they do the polymer granules for plastic crates again and then ja..."
- "Very low. The plant in Okahandja is quite a new plant to re-use..."
- "There is the Recycle Plant in Okahandja as well." (Importer 3)
- "At the coast also." (Importer 3)

Re-users

- "No, it's recycled by Namibia Polymer Recyclers. A lot of our plastic goes there. But that we can't use we send to South Africa where it's being re-used the same as they're doing. And what we can't export, or we haven't got a market, or it is contaminated we use as fuel. We can use 100% of all plastics." (Re-user 1)
- "And once again for us sitting in Namibia getting markets in order to, the recycling thing here works pretty much the same as in South Africa, but there are no factories here that really take it in. Plastic Packaging has Polymer Recyclers in Okahandja but due to the size of their set up they are only able to take a certain amount of tonnages monthly or bi-monthly.
- "Yes, they palletize it again and resell it for the people that make the tanks or whatever, but the problem is that they can only take a certain amount. So, the volumes being generated and being recycled there is not sufficient off set for that at the moment." (Re-user 2)

Consumer

- "The PET isn't recycled, the plastic bags aren't recycled, but some of the other plastic is recycled that is produced into pallets and then they are exported, and then somewhere in South Africa they're making chairs or other things of it and those things come back to us or they are flown into other parts of the world and they come back to us." (Consumer 3)

Trade Associations

- "Yes. And I think few people realise what is done in Namibia. I am proud of the fact that the factory in Okahandja is the only products recycle entity in Namibia. And a new product created, or products. So, I think that is good news that need to be highlighted."(Trade Associations 1)
- "Plastic Packaging for me why they tick all the boxes from there to there. I often use them as a reference point. They are responsible from the Polyoak right through to the Polymer" (Trade Associations 1)

Environmental Group

- "Then the people who're doing the recycling, the Rent-A-Drums and all of those people, they will send the plastic to Okahandja for re-formatting and producing the black pipes, the recycling centre there. They will send the glass somewhere, they will do this and that, they have the outlets on where it all goes." (Environmental Group 2)
- "That's fairly true. Once you've got the plastic bag, you break it down, you break it into little pellets and then you can melt the pellets and turn it into other plastics. You can't do that indefinitely, you can't keep recycling plastics. Once you've recycled plastics once, sometimes you can recycle it a second time, but after that they start getting brittle and you can't really recycle them anymore. So, renewables, you can't produce plastic bags from plastic bags from plastic bags. You can produce other things from plastic bags which are thicker and chunkier. So, in Namibia for example, they use the plastic bags and the bottles and all the rest of it to produce the black water piping that the farmers use. You couldn't turn that into another plastic bag and then turn that into another plastic bag, that doesn't work. So, you only got a little bit amount of recycling that you could do. So, taking it out of the disposable situation into a long-use situation is a sensible thing to do." (Environmental Group 2)
- "The Rent-A-drum collection and then it goes to Okahandja, where there's a recycling plant... it's the only one in Namibia and so all the plastics from bottles and plastic bags and so on which are collected and come into the Rent-A-drum and collection system end up there. And they get broken down into little pellets and then those pellets are used to constitute plastic piping. So that is what we have in Namibia at the moment." (Environmental Group 2)

PET Recycling

Plastic Manufacturers

- "We already had that conversation because only of recent years PET has become recyclable for remaking bottles. We buy what we call R-PET preforms, they have got a 50% component of recycling material in. It has certain uses, we can put it in fruit juice etc we just can't put it in water because it's got a slight yellow tinge and people think it can make the water look... Of course, there's a taste profile in it. Water has to be in its purest form. We have those conversations it's R-PET, it's this don't order blue because it can't be recycled. There is definitely in the last years a massive understanding of PET in particular. HT is too easy for us it's what we make those milk bottles in we use a 100% of it here, it makes a top and tail we've got a conveyer that regrinds it and it gets re-used then we make our bottles 70/30 in terms of regrind and virgin. Nothing goes out in terms of wastage. We do what we can." (Manufacturer 5)
- "Just awareness and that R-PETS have come online in terms of recyclable PET and that sort of stuff. PET was always lagging cause it's very difficult material, very hard material. You can't just grind it up and make pellets again and re-use it. You can do that with HT. At HT L- Low Density plastic can all go to Okahandja and be made in terms of industrial or agricultural products whereas this can't. It is very limited." (Manufacturer 5)

Recycled material customers - the market

Star refuse bags, Star freezer bags and Star garden refuse bags are manufactured using recycled material.

Plastic Manufacturers

- "There is a company in Okahandja that belongs to plastic packaging with the name of Namibia Polymer Recyclers, who buy post consumable waste from the recycling collectors people, in other words, like Rent-A-Drum and Kleen Tek and many others. And then they commercially make it into a new raw material, which is then sold to either Plastic Packaging for the manufacture of black refuse bags and a few other products, sold to Namibia Polymer Converters, Namibia Plastic Converters in Okahandja for the manufacture of plastic pipe or to, there's three or four other pipe manufacturing companies who are all customers although at the recycling plants." (Manufacturer 1)

Consumer

- "I know of the one that is manufactured in plastic packaging those are their bags as well and they also use recyclable plastic. The star ones, they indicate it on the bag itself. On our spar bags." (Consumer 2)
- "I think personally, yes, I've been involved in the process (of) that sort of thing, obviously we have local companies that are already focusing on recycling. You know, doing, OK let's call it (making) plastic bags from recycled plastic, but I think what worries me is the lifespan of how many times can you basically recycle or reproduce another, let's call it format, of a certain product. Which obviously will let us... we'll be stuck with something that... For instance, like –

	<p>a major thing, which is – a carry bag is a major problem, but a major thing that I think is more worrying is, let's focus on basically second-hand tyres, motorcar tyres." (Consumer 5)</p> <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "The Star refuse bags." (Trade Associations 1) • "So, I would like to hear what it is that's being, yes, I know that the Star refuse bags are made from recycled plastic, but who else does?" (Trade Associations 1) • "Why can't Namib Plastics have it? And again – and I know about it, because Plastic Packaging is my member – they've got a very good advertising campaign currently on the radio. Their brand – plastic – is 'Star' and they tell the people: 'If you look at the Star brand it's 100% recyclable'.
Plastic Pipes	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "There is a company in Okahandja that belongs to plastic packaging with the name of Namibia Polymer Recyclers, who buy post consumable waste from the recycling collectors people, in other words, like Rent-A-Drum and Kleen Tek and many others. And then they commercially make it into a new raw material, which is then sold to either Plastic Packaging for the manufacture of black refuse bags and a few other products, sold to Namibia Polymer Converters, Namibia Plastic Converters in Okahandja for the manufacture of plastic pipe or to, there's three or four other pipe manufacturing companies who are all customers although at the recycling plants." (Manufacturer 1) • "In terms of plastic components, there's Namibia Polymer Recyclers in Okahandja belonging to Plastic Packaging. They drop it in to purpose for farm fencing, water pipes and that, because it doesn't matter in terms of the food component. That's fairly developed." (Manufacturer 5) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "The piping that gets made." (Trade Associations 1) • "I kept on asking. I know that the last stats, what for me is fantastic, is to say that the plant in Okahandja, 12 000 kilometre of black garden pipe was manufactured. Then people stand, and they say "What!" Imagine 12 000 kilometre." (Trade Association 1) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "That's fairly true. Once you've got the plastic bag, you break it down, you break it into little pellets and then you can melt the pellets and turn it into other plastics. You can't do that indefinitely, you can't keep recycling plastics. Once you've recycled plastics once, sometimes you can recycle it a second time, but after that they start getting brittle and you can't really recycle them anymore. So, renewables, you can't produce plastic bags from plastic bags from plastic bags. You can produce other things from plastic bags which are thicker and chunkier. So, in Namibia for example, they use the plastic bags and the bottles and all the rest of it to produce the black water piping that the farmers use. You couldn't turn that into another plastic bag and then turn that into another plastic bag, that doesn't work. So, you only got a little bit amount of recycling that you could do. So, taking it out of the disposable situation into a long-use situation is a sensible thing to do." (Environmental Group 2)
Plastic droppers	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "There is a small guy in Prosperita making plastic droppers from recycled plastics." (Manufacturer 1)
Plastic wooden decking	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "There is a plastic wooden decking manufactured in Swakopmund. He is not a customer of NPR at present, but he will probably become one in due course as we refine and get closer to each other. That is also made from recycled plastics." (Manufacturer 1)
Bushblock Manufacturing	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Then there is a Company Bushblock Manufacturing. Bushblock is a product that they use to make a braai and it contains quite a bit of Polyethylene."
Crates	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Mpact which is a huge Recycling Plant in South Africa, they have a recycling plant in Walvisbay, Namibia where they make the crates, I think we get our crates from them." (Manufacturer 4) • "And you know what they use for the crates, <i>ons proppies, ek het dit nie geweet nie</i>. The caps. So, it's a total different type plastic that we use to make the crates" (Manufacturer 4)
Building/construction	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "I was disturbed when I was in Swakopmund and I by chance bumped into a lady, who sells prefabricated houses that are made from plastic. Plastic and some sort of wood combination. Of course, I immediately asked her: "Where do you get you plastics from?" and she said to me "South Africa". Certain components of plastics which we do not have here, or which we do not have enough of. But it saddens me that there is a company in Swakopmund manufacturing these sheets that makes affordable housing, that it needs to be brought from South Africa. There is a gap, but now it is difficult to say, I don't know how you can fill it if your volumes are not there."(Trade Associations 1) • "At habitat centre where, I think Nina Maritz was the architect, where she has done that whole thing building with tyres and using waste material. I see there is a lodge in Sossusvlei that is

	<p>going to be very upmarket made totally out of recyclables. The roofs are being made from old oil drums. And I saw the first photographs earlier this morning. Now if that would have been built in town they would have been facing building regulations. So, the green building counsel is also a member, but I really don't understand why we are so behind. That we are not allowing this, why are we allowing people to stay in a shack that is not insulated, that is affected by all temperatures if you think that you could use, say old tyres filled with sand. We have a problem with low cost housing, this could be a solution." (Trade Associations 1)</p> <ul style="list-style-type: none"> • "Yes. I mean, and you can, In South Africa there is a big movement with the Eco bricks. I don't know if you have read about it. They use 2litre plastic bottles and they fill it with plastic. So, people are feeling, o bring your eco bricks to us, and I don't know where they are going with it, I understand they are building structures with it. So why can't we also do it?"(Trade Associations 1) • "This new lodge, Sossus on the Canvas I think it's going to be called. Which is nearly totally built from recyclable materials or recycled materials. So, people need to become aware of this and support these people." (Trade Associations 1) • "Absolutely. Absolutely. You know when I went to Cape Cross, Cape Cross is one of the first, I think it is the first, where the whole walkway has been made from recycled plastic. So, I immediately checked the logo, so low and behold, a South African Company. He's creating playgrounds, it's commendable. He's got a wonderful selling market because nobody else can do it. And if they do it like this Company in Swakopmund they have to import." (Trade Associations 1)
Furniture	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Yes, for instance like the example that I said to you about the guy that wanted to make furniture. And he was even promising me school benches that he is going to sponsor for the school's competition. And then you get sad when he faces the reality of, you need a lot of capital. And you need a lot of time to make this viable, and many people don't have those resources. But there are many ways to do things. I just hope that they do get up and running." (Trade Association 1)
Coffee-cups	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Kramer Ice Cream, the first one with biodegradable Take-Away coffee-cups. The first in Namibia, so that's good news" (Trade Associations 1)
Tarred roads	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "Of course, recycling is always good, but I've also read an article that they can use plastic again for the recycler to use it in tar roads." (Importer 2)
Awareness Campaigns	<p><u>Re-users</u></p> <ul style="list-style-type: none"> • "Awareness. There's a little bit of awareness I think from our side and from plastic packaging side getting awareness to the people out there that it's got the value. Also, with the recycle Namibia forum that makes that process easier for people and the school's project. Schools recycling project." (Re-user 1) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "I think so. <i>Ja, ja</i>. Definitely. Even if they just start by incentivising them to pick up the rubbish. Like the cleaning campaign that we have." (Consumer 4) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "What also inspires me was, and I don't why I haven't thought of it yet. Is we've got one member who looks after kids. It's called Mammadu Trust. And I know that I linked Anfre up with them. For me, this is now the best news. Because the Mammadu Trust not only takes care of the poorest of the poor kids in Otjomuise and if you read their reports, they will very proudly say Benjamin can now brush his teeth and he ate his first carrots in his life. You know, so they are teaching the kids on many levels. Plus, they take them to school, they do the homework, they do the sport, they make the most magnificent theatre once a year, always about recycling. But she's empowered the mothers. To make the bags. They make the most amazing shopping bags from re-used plastic bags." (Trade Associations 1) • "Why can't Namib Plastics have it? And again – and I know about it, because Plastic Packaging is my member – they've got a very good advertising campaign currently on the radio. Their brand – plastic – is 'Star' and they tell the people: 'If you look at the Star brand it's 100% recyclable'.
Recycle sign	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "I must say I was impressed with, if you look at our bags nearly all of them have got a recycling message on it, whether it is SPAR whether it's Pick n Pay whether it's. They all have some reference to it. And I know the recycling sign is often on it. I like that idea and as I said, I was really challenged to find where on a product is the recycling sign. If one starts with that maybe that will already just create awareness for it. Somewhere it must be somewhere. But you see now how difficult it is to find it." (Trade Association 1)

B. BEST PRACTICE

Recycling Value Chain

Control of plastic products in the market

Control on imports

Plastic Manufacturers

Must be recyclable

- "Well I think it is a no-brainer that we should say two things here. The first is that whenever some products are available in recyclable format, then it should be recyclable, so we will not import products that's not recyclable if there is a recyclable version available." (Manufacturer 1)
- "The second part is that it should be a collective effort and by saying that it means that everybody who's in the business of distribution at wholesale, or product that's packed in plastic, needs to be involved in this whole stream of this whole process." (Manufacturer 1)
- "The bad thing about plastics that's imported is – what we've seen through the recycling process and because we buy from Namibia Polymer Recyclers – that it contains CaCO₃. What it (CaCO₃) does, is it's actually making it unrecyclable. And because it's unrecyclable and it lands up somewhere, it normally sinks, that's the thing about that. And a lot of bags – South African manufacturers – use it because it's half of the price of a polymer and it's a filler, it's just making up volume. Once they've put that into the bag to lower the cost it's making it unrecyclable because it sinks. It ends up in the ocean. It sinks. So, if they use that in the process and I use it in my pipes it's a poor-quality pipe. So definitely, the importation of plastic products in terms of carry bags needs to be regulated, it needs to be checked for that so that we have 100% polymers that can be recycled and re-used again. In other packaging, if the market can't supply then it can be imported. But I think definitely some protection to the local guys. My biggest concern with importation is that the playing field is not even for the plastic manufactures because their input cost is a lot lower using fillers." (Manufacturer 2)
- "Imports can be managed. We can ask for a recyclable plastic, because what I know for sure at the moment is that for instance African Packing, Plastic Packaging, all plastics that they produced here is recyclable, all plastics. And many of the stores in Namibia already use that plastics. Like the Pick n Pay's use that plastic. But many of the stores that is South African chains like your Edgars, Dischem, those plastics are not recyclable. And they're here everywhere and we like to use them. We even fold them up nicely at home because when you travel you put your shoes in them." (Manufacturer 4)
- "Because you can get the bottle, somebody produces a bottle that's zero percent recyclable or one that's 100 % recyclable. A body should regulate the materials used in manufacturing and the import as well." (IM)
- "Take something like that Styrofoam, what do you call it, what's the right name? That stuff is 0 % recyclable. I don't know why anybody is using it any-more." (IM)

Importers

- "Regulations should be put into place that if something is manufactured or imported it has to be recyclable. I would think so. It makes sense." (Importers 1)
- "There must be an obvious reason why they import this non-recyclable plastic. I think most likely it's because of the cost. So, it will have an implication. It will be ideal to do that (ban non-recyclable plastic) but you need to look at the spinoffs of doing that." (Importer 3)
- "Especially if you then permit products, finished products, to come in with more than X percent printing. That's kind of harming ourselves. We say the raw packaging may not come in with more than X percentage printing, and here comes, in my case, pasta, and here come the Italian guys with everything nice colours." (Importer 3)
- "But if you put a levy on let say the drastic like, all imported plastic needs to be x, y, z compliant. If not, then you pay this." (Importer 3)
- "Yes. Then the end consumer is going to get the hit, which is going to up the price. It might encourage to a certain degree to search for alternatives but as I said, with all the previous, if the competition isn't treated the same way, certain things are just the way they are they cannot be made recyclable then that cost has to go somewhere." (Importer 3)
- "If you say, for example, the Italian pasta comes in the country at it is so printed that it is non-recyclable, then you must say no, no you have to pay a penalty this is nor recyclable. But if you as a company package it in a responsible way, so you don't pay that penalty, so your competitors price will be higher on the shelves. To make it an even playing ground, to be rewarded for responsible packaging." (Importer 3)

Re-users

- "Ja definitely because stuff that comes from out of the country is not always recyclable and you need to look at what kind of product is coming into the country. It's best practice to put in some rules to what can come into the country to ensure that it is being recycled." (Re-user 1)
- "Ja, definitely ensure that everything is re-usable. It doesn't matter if you bring something in from abroad and you can't recycle it, what must you do with it? It must go back to the landfill site. So, we must get our best practice in place and know exactly what we can use in Namibia and get the best with regards to that." (Re-user 1)

- "Polyprop is mainly imported. Yes, that is correct. And it is mainly the clothing industry that produces that type of plastic. For example, they put one shirt into a bag and they have got forty (40) bags in one box. There is not a big recycling market for that." (Re-user 2)
- "Certain groups import their own carry bags into Namibia which is also non-recyclable due to certain chemicals that form part of that. So, you cannot mix it in with the current type of plastic." (Re-user 2)
- "Yes, based on that I think it should be banned from coming into Namibia. Plastic in the bigger picture is not the main issue, it is still the end user. But based on the manufacturers they also have to take responsibility to make sure the plastic bottle or whatever they are producing that has plastic is 100% recyclable. I think that would be a very good thing to implement. Then you know what is coming in and everything is re-usable and recyclable." (Re-user 2)
- "As I said, I know the options are there to change that and plastic can be used for other purposes I think the main thing is if we can cut out the non-recyclable. Anyone that manufactures non-recyclable material, to cut that out completely and they are not allowed to send to Namibia." (Re-user 2)
- "The other thing I have an issue with as well, and I had a discussion with the Ministry of Environment as well regarding that is, people sending, and that includes all the wholesalers, the packaging materials, the cans, food cans and the tomato sauce and whatever, they do all the packaging in South Africa. Then they send it over here but then we need to get permits in order to recycle it to send it back there. And at a certain stage there was more than permits we need to have certain certificates in order to be allowed to send it back, but they don't ask us for anything they send. They just send everything here without any stoppages and then we are not allowed to send it back. And for me that is like dumping as well, because for them to get their product here they need packaging and that, but they as manufacturers need to take responsibility back and say fine we send our product there in this packaging, so we are willing to take it back and recycle it at that side due to us not having the infrastructure or the factories to do that." (Re-user 2)
- "We can have a thousand recyclers in the country or in the world but if the product that is produced by the Manufacturers are not recyclable it doesn't matter how many people we have recycling because the product cannot be re-used." (Re-user 2)

Consumer

- "I would say the best thing for the environment and the country would be to ban plastic and the use of certain plastics, if it's not recyclable then it shouldn't be allowed either to be manufactured or to be imported." (Consumer 1)
- "Yes, that would be a very good start. There's a lot of countries e.g. China, India where they can bring in stuff which is not recyclable which will end up in our country. It will become our problem. One forces the world in that direction then it would be a great idea. Everyone can bring plastic, but it must be recyclable. Someone should be able to control it. Plastic test, concerning carbon content." (Consumer 2)
- "If they are thick enough and if they don't have too much colour on then they are recyclable, but the ones that are used for retail only have a lot of colour on and as such, they are not recyclable." (Consumer 3)
- "It's a possibility to ban non-recyclable imported carrier bags, but that is not the problem, I think only ten percent of the Namibian households have the opportunity to recycle at the moment. It needs to be imported on the municipal council level in terms of the waste disposal to make sure that the recycling is happening." (Consumer 3)
- "Possibly a little bit, but not really. I mean the perfect example of, in terms of the environment and plastic packaging is Namib Mills that is now trying to get away from their paper bag, the ten-kilo paper bag, to this poly... (polymer), which is also half plastic, half a non-decomposable item, etc. and that's the worst thing they can do." (Consumer 3)
- "It's better for their pocket, because there's less damages. That's why they introduced it. Not for the environment. Or did you see them marketing it as an environmental reason? If there would've been an environmental reason they would've utilised it to market as an environmental reason, but there is no environmental reason." (Consumer 3)
- "Yes, for sure. Put levies on not to encourage them to import more plastic." (Consumer 4)
- "But I think there are certain ways and means that we can look at it, obviously a certain – let's call it grade of plastic – if I can sort of do that." (Consumer 5)
- "I think currently it's difficult, because if there is no alternative product... you have to start with an alternative to replace the plastic container or whatever. So, and again, if you start teaching people and educate people then it's maybe not necessary to reduce the production then you can carry on like this and it's a controlled environment. But I think for us in Namibia, because we don't have many manufacturing of food stuff so, 95% is being imported." (Consumer 6)

Trade Associations

- "The packaging that comes into the country also, as per my discussions of course with the stakeholders, that needs serious attention. I actually feel like walking into one of those shops responsible for this and say to them; 'Why are you bringing this into our country?'. There is one

group, a very big retail group, that is bringing in non-recyclable plastics. This is definitely something that needs to be looked at." (Trade Associations 1)

- "Mention was made of the Edcon group that brings in this certain harder plastic that has got a certain element that makes it totally unrecyclable. Why are we allowing this? Why do we now sit with the problem? They make their money in Namibia. Surely, they should take responsibility for their products. Or even better buy in Namibia."(Trade Associations 1)
- "So, they are aware of it. Also, it's one of the controllable things that you can do. You can actually say to an Edgars or a Dischem you are not bringing in bags anymore. Either you purchase local or your bags adhere to the minimum standards. Which I know they are also now looking at. Which makes them recyclable but resilient as well."(Trade Associations 1)
- "Exactly, but then you know why we should buy French water that comes in via South Africa, I presume. Okay the blue bottle is pretty, but how good is it for the environment? And why are we not supporting local." (Trade Associations 1)
- "Because now they get plastic bags imported from South Africa, which is made of a different...and they call it the macron, whereby the plastic bag – the type of sand that is used to manufacture the plastic bag." (Trade Association 2)
- "Absolutely. Why must the local manufacturer be ISO 900 or 910 or whatever 901 registered, and the guy that import it... (is not)? And that's where the retailer can play a very big part. Because, who imports? The manufacturers from South Africa or the retailer doing business in Namibia? The retailer, which most of them – except one or two – their head office is in South Africa. So, who will they support when they buy plastic bags? Surely, they will support their local manufacturer in South Africa. But if the legislation in Namibia tells them: 'If you import that bag into Namibia, it must conform to the same standard as the local bag. And they conform to it, I haven't got a problem with that. Competition is good. But it must conform to the same standard. Is it currently the case? No. Emphatically, no. I'm not saying all bags are not conforming to our standard, but there's a lot of the bags – different weights of bags, different sizes of bags – that don't conform. Now, if we can get those retailers that buy their bags in South Africa to say: 'Guys, that bag is not allowed in Namibia anymore'. What will they do? For me, they will either say to their manufacturer in South Africa: 'We now have to conform to these standards'. Yes, which will have an increase in costs, because it all boils down to the macron – the size, the amount of sand that they use – because sand is the culprit. When you want to dispose of a bag, the sand is the culprit that does not make it 100% recyclable. On the one hand. Or they will say: 'You know, it's much more cost-effective to buy in Namibia, that type of bag. So, they will support that.'" (Trade Association 2)
- "Definitely. Anything that's got to do with plastic. Any type of plastic, whether it's your bag, whether it's the plastic that goes around... The people that make bricks – you know they put plastic around the bricks to keep them together or when they transport it – what is happening with that plastic? Who makes that plastic in any case? Does it conform to... (certain standards) ...? Can it be recycled? There are many different types of plastic in Namibia. We need to look at each and every one of those types of plastic and say: 'How do they fit...?' The bill being 100% recyclable." (Trade Association 2)

Environmental Group

- "We get some plastic from South Africa that has calcium carbonate in it and that then plastic doesn't sink in it, it's much more difficult to recycle that plastic. So, it needs to be pure plastic and there needs to be some regulations to stop the import of plastics that have calcium carbonate in it because that renders them less suitable for recycling." (Environmental Group 2)
- "Secondly, the other place where government can regulate is to stop the import of plastic bags with calcium carbonate. In fact, I would just stop the import of plastic bags from outside the country and let Namibian companies produce the bags." (Environmental Group 2)

Government

- "Well from the trading aspect, when you are trading you shouldn't really put up the obstacles not allowing people to import. If we have a good legal framework to block some of those plastic be it. But in the absence of the regulations it might be really difficult because we are trading. Namibia is member of WTO which are TBT which are trade on technical barrier on trade, non-tariff and so forth. You cannot just decide to ban the importations without clear regulations. But if we have legal framework that really stipulate that we can able to, obviously we need to have a reduction so that we can have control of those plastic that are coming in. But, otherwise for now is just a question on management. I'm not quite sure about the regulation in terms of the plastics. For now, it's more on management of those plastic, that's my personal view." (Government 2)
- "No, when you are talking about the trading, the imports and the local manufacturing, if you put up the protection for the local, obviously you need to do the same, you must put the play-field fairly, remember we talk about the WTO, TBT which is World Trade Organisation, technical barrier on trades, which is non-tariff, so non-tariff we mean the regulation that need to be in place. So, if you protect your local manufacturers you must do the same way to the other, that are exporting. Because you'll be caught at one point that you are discriminating, the exporters to export product to Namibia, which is against the Trade Organisations, which is from this book. So, we need to

adhere to that because the Country would put itself in troubles because of the obstacles, the barriers in trading that they are putting in. The protection can be there providing that we don't discriminate others to do business here." (Government 2)

- "Yes, provided there is a technical regulation that is really governing, for the importers to import here, they must adhere to certain requirements, for the exporters to send their product to Namibia they need to adhere to those requirements. Same apply to the importers, same apply to the local people that are manufacturing. The field must be well levelled for everyone for business. Rather than just to wake up and say we need to be protected. No, it doesn't work like that, because remember when we do business, at the NSI we have a notification point, inquiry point where you have also to communicate with other Organisations, be it National Standard bodies like NSI, at the World Trade Organisations, you need to report your technical regulations that you are putting in place for others to know, and also to give their objections and whatsoever they want to, and from there the field is levelled. Which actually means then we must comply with it and they must comply with it so that the playing field is level." (Government 2)
- "If we set a standard and that standard becomes regulation and we can level the playing field with import as well. Yes, that's how it works, but it currently we don't have it." (Government 2)

Control on locally
manufactured
plastic
Must be recyclable

Plastic Manufacturers

- "Because you can get the bottle, somebody produces a bottle that's zero percent recyclable or one that's 100 % recyclable. A body should regulate the materials used in manufacturing and the import as well." (IM)

Re-users

- "I think the first thing definitely that needs to be taken into account is to make sure that manufacturer manufacture plastic that is recyclable. That is a main issue as well." (Re-user 2)
- "Yes, I think it will. We should talk to the manufacturers. One thing should not be more recyclable than others because as soon as it is like that people will only start looking at price. Most people do. I am taking everybody into consideration, the lower income market, the high-income market, so as soon as that comes in they do not look at if it is more recyclable or not they just look at the price. So, it automatically just goes back to the Manufacturers and they are only allowed to manufacture stuff like plastic bottles that are recyclable and then there will be not choices to make and it is the only way we can faze it out. If we say it is more or less recyclable, then it is still not recyclable. So, the Manufacturers have to take responsibility there." (Re-user 2)
- "We can have a thousand recyclers in the country or in the world but if the product that is produced by the Manufacturers are not recyclable it doesn't matter how many people we have recycling because the product cannot be re-used." (Re-user 2)

Control types of plastic
Control printing

Plastic Manufacturers

- "Printed shrink is not recyclable if the amount of print exceeds a percentage of I think, perhaps of 70%. So, the recommendation – like they are doing in Europe – is to down pack so they are taking ink off the product. If you buy in some retails you will find some of the product is almost unreadable, that small they make the ink coverage onto the packaging because of this very same reason. The more ink the less recycling." (Manufacturer 1)
- "Well I think we should just be very blunt about it and say there's certain things we are not going to do. We are not going to allow printed shrink into the Country. I'm not talking against Plastic Packaging because we're wanting to manufacture printed shrink. If the fact is we want to do it right we should down with it – we should make shrink printed only a maximum of perhaps 3%, then it is recyclable. You can still do your branding, you can still achieve the same objective. But having a shrink printed like you see the picture of Mrs X drinking her beer on it, doesn't make any sense to the Industry because it is not conducive to environment." (Manufacturer 1)
- "No, printed shrink, if it becomes too printed, then it's also a poor-quality polymer that's put out because of the print itself. And it also affects the downward stream in my pipes – as a polymer that I buy from Namibia Polymer Recyclers, it's a poor-quality product and I know they have a lot of trouble with that as well. So definitely that as well (amount of printing on shrinks), if it can be reduced it will also help the process." (Manufacturer 2)
- "You can't get away with 'no print' – but that would be the ideal – because nowadays marketing is a big thing, and everyone wants to put their name on their product. So, I don't know how they're going to do it, but I think they can limit it to say, 'Listen, it's a standard. A Namibian standard. You don't overprint products by 50% or so. There you can have your name on and it can be recycled and it's a win-win combination. Don't overdo it.' And Namibia can do it. They can regulate it." (Manufacturer 2)
- "I don't know exactly what the allowable percentage (is), but I probably just think around 50% – allow someone to put their name on the product because it's marketing and we all know how competitive the world is. So, put it on, but don't allow (them) to go over it. Just say 'no, we don't import it. We don't use that in Namibia because we are patriotic about our country, about recycling, about using polymers again and again and reducing our carbon footprint, so we say no.'" (Manufacturer 2)

- "I am not sure what kind of plastic that is, but I have not heard or seen, I don't have much information on that. And I think that is also now, because even that one the toxic when it gets burnt, I think that is the one that mostly is causing a lot of problems, because it can't be re-used, it is not like a bag that can be re-used again, once it is used, it is once and then that's it." (Manufacturer 3)
- "No, it's not recyclable." (IM)
- "At the moment it's not recyclable but I also they are working vigorously to find a solution for that. And it's not just printed shrink, it's all shrink, shrink paper, it's all shrink paper. And we are looking into ways of finding a solution for it and whether there is a solution for it." (Manufacturer 4)
- "The clear one is recyclable, but the printed one is not. As soon as it has that ink." (IM)
- "So, it's the same thing again, now you've got branding. We don't have branding; another Company has branding. It's driven by marketing, it's driven by what the Company thinks the consumer wants, how to entice the consumer to buy. So, if you make a ruling in the Country, make it all nobody is allowed to do printed shrink, or 50 % and then you have to force the whole Industry to conform. Then it might work." (IM)
- "No, I don't know if it is. I don't know if shrink is a problem, I think. I don't really know, there are some plastics that you have to look at the recyclability. Definitely printed so these are fine cause the label comes off, but then you've got IML then it becomes more of a problem because the label is actually part of the product then recycling of inks and paper you'll have to take a closer look. Coloured PET is not as recyclable as clear PET, there's all that. If you recycle it you want it to be, you need it to be as close to virgin PET as possible if it has dye in it'll stain your next product. PET's benefit is it's see through, it's beautiful and clear you can see through you start getting Smokey and murky then it's going to be a problem. " (Manufacturer 5)
- "Regulations can be put on printing. *Ja*, definitely but you have to be careful about over complicating it because then the management becomes difficult." (Manufacturer 5)

Importers

- "My understanding is that everything on here (plastic water bottle) is recyclable. Reads recyclable." (Importers 1)
- "Yes, we could always look at that. But at the end of the day we will have to look at the combined minimum requirements on what we need to put on a bottle, there is regulations if you look at this and then I need to have the mineral contents, I must have the bar code, I must have whatever I need to put on here. So, what I put on make sense to me, otherwise I need to put it on a sticker which is also then got glue and everything attached to it. So, this is something I can just peel off." (Importers 1)
- "One thing that I learned in manufacturing is; very few printed plastics can be recycled, very few. Because when your printing is more than X percent it's unrecyclable, or the cost of recycling that outweigh the benefit. So, if you say ban, it means we are all going to buy something in that kind of packaging, with 5 words on it." (Importer 3)
- "A recycling expert will have to guide on that (percentage printing allowed)." (Importer 3)
- "Our Marketers won't be happy with that (limiting printing)" (Importer 3)
- "Especially if you then permit products, finished products, to come in with more than X percent printing. That's kind of harming ourselves. We say the raw packaging may not come in with more than X percentage printing, and here comes, in my case, pasta, and here come the Italian guys with everything nice colours." (Importer 3)

Re-users

- "The more printing on the labels, the more it's not recyclable, haven't got a good value. Because the ink on it is not good so it brings down the value of the shrink or the plastic." (Re-user 1)
- "Because you increase the value of the plastic, so the less the printing the more the value." (Re-user 1)
- "No, I think you have to investigate it but how do you know what is the percentage between bad plastic and good? Yeah, it's well anything around the 40% difference that you can find. So, if it's printed more than 40% then it goes down to the lower grade. So that could be the standard." (Re-user 1)
- "Yes, the shrink wrap, luckily we have found a market. The shrink wrap I know was also an issue, no one was taking that back. Also, again due to the fact of the type of plastic that it is. There is certain chemical and additives inside that makes it stretchable and makes it much harder to break down. Based on the recycling side we also we have to totally split that from normal plastic, so telling people to just recycle plastic or packaging plastic, they mix everything but as soon as it gets here we have to split it. If you do not split it and send it down like that you get a much decrease price for your product. And then once again based on the logistical cost you want to maximize what you can get for your load and you spend time here to make sure that it is sorted properly." (Re-user 2)
- "The printing is not such a bit issue, they normally weigh that out easily with chemicals and it is still recyclable, but based on the shrink wrap side, once again like I said earlier it is easier to say to

take it out because it is difficult to recycle, but what are we using in place of that? That is my main thing, people are easy to comment and say just take it out because it is bad but give another option. Just say how we are going to do it then. Because for me the way I always look at things are I know where we have problems in a lot of different areas, but it is always easy to talk about that this is a problem, and this is not working, and this is not right, but why don't we not give solutions as well and say this is not working, but why don't we try this or isn't there a better option to look at this." (Re-user 2)

Consumer

- "I have absolutely no idea whether it is recyclable or not." (Consumer 1)
- "In terms of a label on a bottle itself, then no, they are normally not recyclable because they are normally too thin and they're also a funny material that you can't necessarily recycle." (Consumer 3)
- "There are two ways of looking at it. The bottle, you can either put a shrink plastic around it or you can print on top of the bottle itself. If it's on top of the bottle itself, the bottle is no longer recyclable, then it's better to just have the shrink wrap around it that can be removed and at least still have a recyclable bottle." (Consumer 3)

Trade Associations

- "Not good. I think a lot of work needs to be done. It's again an interesting example and that's the shrink wrapping around the say for instance cooldrink. They are two very well-known products, the one has got no branding on the wrapping, the other one has. Now the one says you can see my product and you will recognise it so why do I need to print on the plastic? Which is very true. The other says this is branding, but that branding also makes it nearly unrecyclable because of the volume of print on it." (Trade Associations 1)
- "Yes, just be aware of what you do. What is the maximum printing that, at what point does it become unrecyclable, if we know this." (Trade Association 1)
- "Some of them are, some of them are not. And that's the biggest problem. So, the packaging, the way that it is packaged – even the plastic bag – the way that it is printed on the plastic bag – your name, your brand – that plays a role in whether it's 100% recyclable or not. The bag in itself can be 100% recyclable, but because there's printing on it – that printing, the way they do it – it makes it that it's not 100% recyclable." (Trade Association 2)
- "Surely there must be some legislation in place to control printed shrink. Without damaging the people that want to advertise their brand on that plastic bag. Because then you will have a very big kick back from the people and (they'll) say: 'Sorry'. I mean, we all want to have a very good brand. 'If I can't put my brand on a plastic bag because you say it's not recyclable, what are we going to do?' So, there must be a balance. But again, if somebody can do it. There are companies that do it. That do printing on bags and it's 100% recyclable. What do they do different from the other company? Surely every company that produces a plastic bag, a bottle, a cardboard box, a paper bag, whatever – they must take the responsibility to make sure that when this commodity is finished, and I put it in the market, it is recyclable. So, they must also put money where their mouths are. I'm not saying we must only look at Government to do it, but to the manufacturer. They've got a big role to play." (Trade Association 2)

Environmental Group

- "Not all the plastic that is out there and that gets collected, can be recycled. Some of it has too much ink on it and too much marking and so there needs to be some legislation and hopefully it'll come through here as well. That will limit the percentage of plastic that can be printed." (Environmental Group 2)
- "I think to a certain extent yes, but I think the point should be that manufacturers should not be permitted to make plastics unrecyclable by printing too much. So that's where it needs to be working at, not at the household level." (Environmental Group 2)
- "And thirdly, stop the printing on plastic above a certain area, percentage area of plastic that would make it less viable to recycle. So, stop that." (Environmental Group 2)

Re-users

- "I know a lot of people use a lot of Polyprop, but there is not a big demand for that after the first use. Polyprop is that cracking plastic you get around clothing and stuff like that. You will hear the difference if you have two different types of plastic. The normal plastic bag you know what it feels like and other one is a hard plastic. They put a lot of chemical into that stuff, so they make the quality and the recyclability of that product almost non-recyclable. Polyprop will be there but what do we do with it? It has to go to the landfill because there is no other option or other opportunity for it." (Re-user 2)

*Control
Polypropylene*

Environmental Group

- "Similarly, with polystyrene containers. Replace all polystyrene containers with cardboard containers which can be properly composted or recycled or whatever. Probably be composted if it's got a whole lot of gooey, like Kentucky Fried Chicken or other yucky stuff in it. So, you've got everything dealt with." (Environmental Group 2)

*Control polystyrene
containers*

<p><i>Control Combination of recyclable and non- recyclable plastic</i></p>	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "That's again where you just scratch your head and say; "Why are people even doing this?" I know there is one bottle that is manufactured here where the label, the bottle and the cap are all of the same material and thus fully recyclable. But how can we make recycling so difficult to put 2 different commodities onto one product. Like the label which has got total different components than the bottle does and then the cap is another thing entirely. And I wish one could hang it on the big screen or make a lot of noise about it, that there is one water bottle product where all 3 components are fully recyclable. You must know about it."(Trade Associations 1) • "The bottle, the label and the cap must all be recyclable." (Trade Associations 1) • "But that had me investigating things like a peanut butter jar, then I check the lid, then it's also two different components. That shouldn't be." (Trade Associations 1)
<p><i>Control single use plastic</i></p>	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Straws, if you need to have a straw make it a glass straw or an aluminium one. Look at hemp, which grows much faster than trees and bushes. There are options. But how viable they are to do here I'm not sure, again given this small population. But these are options and the trend are really growing." (Trade Associations 1) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "Straws, ban them outright. No more straws. We don't need them in this country." (Environmental Group 2) • "Plastic knives and forks, ban them outright. We don't need them. People can have a little bench outside, they want take-away, they use their fingers, they bring their own knives and forks, whatever." (Environmental Group 2)
<p><i>Influence buying behaviour</i></p>	<p><u>Rating system</u></p>
<p><i>Rating system</i></p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "I think there is a dire need for a good rating system. It will make the consumer aware of what he's buying. And what's best practise and what is not. I think that is very important." (Manufacturer 1) • "Very good. Definitely. It's again the mindset. It's how we think. We think before buying, what's the footprint, what's the recyclability, what's the energy consumed? We want to go lower on that. Everyone is bought into that nowadays. I'm saying everybody, but I'm talking about everyone that has a smart phone, that knows what's going on in the world. (They) will know that we're trying to reduce our carbon footprint, we're trying to spare resources. So, by choosing (between) one or two (the other), same price, same value – one is a lower carbon footprint, they'll definitely go for that." (Manufacturer 2) • "Recycling will be encouraged if consumers knew which plastic products are recyclable and which are not. Yes, it definitely would." (Manufacturer 3) • "It will work." (Manufacturer 4) • "No, in retail it just comes to price point at the end of the day. Once again, you've got to remember that about 80% of our population is LSM it's definitely under six. That kind of education. There's a lot easier wins then trying to achieve it through that. If you take 20% of our LSM 8-10's are in this country, it's a negligible component although because of the disposable income they buy a lot more packaging products. They are the guys that are aware already, if you go into their house they're separating their waste in their home. They're certainly not tossing it out of cars windows and over the fence- this is what you've got to educate and create the whole system for." (Manufacturer 5) • "In terms of rating bottles which I think was your question. In terms of creating awareness you can get a program going. There seems to be a lot of deliberation on this thing. Deliberation takes time, there's a lot of 'get to it' - get something going, create the awareness right now." (Manufacturer 5) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "One percent of your consumers will look at that." (Importers 1) • "At the end of the day the guys are price conscious, so I go in and I take the cheapest brand. So, it doesn't matter what it does to the environment, I want to feel I've got the most value at that time." (Importers 1) • "Without awareness and a motivation to want to do the responsible thing, this will not work for the bulk of the people." (Importers 1) • "No, price. When you are poor you go you can't afford to be picky." (Importer 3) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "It will definitely, because people's mind will be that you can recycle that." (Re-user 1) • "Yes, I think it will. We should talk to the manufacturers. One thing should not be more recyclable than others because as soon as it is like that people will only start looking at price. Most people do. I am taking everybody into consideration, the lower income market, the high-income market, so as soon as that comes in they do not look at if it is more recyclable or not they just look at the price. So, it automatically just goes back to the Manufacturers and they are only allowed to manufacture stuff like plastic bottles that are recyclable and then there will be not choices to

make and it is the only way we can face it out. If we say it is more or less recyclable, then it is still not recyclable. So, the Manufacturers have to take responsibility there." (Re-user 2)

Consumer

- "You will get a very small portion of the population who will care and that will look at something like that. From my perspective the larger part of them won't even look firstly and secondly, especially if there's a cost effect, will take the cheaper one. As I said there are people that really care about this, but I don't believe it's going to make a huge difference to the consumer and to how they consume." (Consumer 1)
- "I think it will help, I think so." (Consumer 2)

Trade Associations

- "Brilliant Idea! I love that." (Trade Associations 1)
- "Yes. I love that idea, I love that idea because you first educate the people, you alert them to the fact that this is good for your Country. And that might also put pressure on the retailers again to stock more recyclable and Namibian products." (Trade Associations 1)
- "It depends however, and I'm thinking about it from my point of view as a consumer. If I walk in there and '1' is the least recyclable bottle, '5' the most recyclable, but no '5' costs me couple amount of money (more) than '1' will cost – it all depends where you are price sensitive – you will go for the most affordable plastic bottle that you can afford. And then again, it's a problem. You know, if you give a consumer a choice, it's very good. But the consumer will go to the one that he can afford. Affordability plays a big, big role." (Trade Association 2)
- "And again, there it comes to... If I take that bottle, which is no '1' – it's not recyclable. But I can get that bottle and I can bring it back to somebody. I put in a levy for that bottle. Won't that help? Then maybe I would say: 'I'm not going to take no '1' because it's not recyclable, but if I take no '3' – which is 60 or 70% recyclable – and it costs more but I will get something back for it. So, at the end of the day I won't lose. You understand what I'm saying? And then they'll say: 'Oh, no I'd rather take no '3' or even no '5' – even if I pay more now, the question if I return it, I'll get something back. And at the end that will level the playing field. So, it's smart thinking again at the end of the day.'" (Trade Association 2)
- "We must inform the consumer via all these communications that I talked about. To say: 'Hey guys, you must now make the right decision for the environment. For yourself. But don't necessarily take the cheapest one. Because that's got no value at all for you. And you're going to throw it away. But no '5' has got a value for you. Although you pay more. So, it's a question of balancing.'" (Trade Association 2)

Clearly marked products

Importers

- "I think the people don't know what the signage on the plastic material necessarily means, because you get a three or a six on the recycle system in that block. I don't think people know and understand what it means." (Importer 2)

Trade Associations

- "But again, what role – and there's a lot of discussion about this currently – and I don't think the retailers have come to the party a 100%. What role does the retailer play in making sure that when the consumer walks into a store that they can identify the Namibian product, that is 100% recyclable?"
- "There is no skills development internally, in (the ranks of) the Retailers – or most of them – to inform their people to assist people to identify the Namibian product. And I understand it from a Retailers' point of view, because I worked in retail for a long time. They don't want a Namibian corner. Why? Because they want the product – if you look at plastic bags – bags that you use in your bin. They want it to be together. It's better, then you can make a choice. But the Namibian one is not identified. So, the guy that is packing the stuff, surely, he should know. This is my three or four or five isles. In these five isles, I must know where the Namibian products are, if somebody asks. Or identify it." (Trade Association 2)

Encourage full recycling process

Sorting at the source

Plastic Manufacturers

- "Best way to recycle is not to let a product go into the landfill and then recycle. It should be separated at source. That there is the key. If you can separate at source, then the recyclers get clean plastic that's reduced the carbon footprint of rewashing because we need water to wash. If it is clean we can get or go through a short-cut." (Manufacturer 1)
- "That's at the household. Preferably at the household before it goes to landfill. So, things going into the bin to the landfill should be things that really needs to be thrown away. That's it. Because we need to get that volume down because it's a significant amount. And if you really do it properly then you reduce your landfill waste with at least two thirds, probably with about 80%." (Manufacturer 1)
- "I think industry is there to make it happen. There's enough manufacturing plants, there's enough plants that want recycled materials. So, there's a place to sell it off, there's people that can collect it and bunch it into smaller quantities, you know, compress it. The thing where I think we need to be creative is the public, the end consumer – how can they put more recyclables in a place where

it can be easily collected instead of being thrown away. And it's very difficult to change consumer behaviour and I've seen countries where there's very little litter lying around. But you often see people just throwing it (litter) out of the window. So, it's a cultural thing that needs to change and it's not going to happen overnight." (Manufacturer 2)

- "It's not our culture, because if you study, if you read about other Nations, let's say the UK or so, even it starts from the house, where they already sort their bins, you know this one is for tins, this one, it is already starting in the house." (Manufacturer 3)
- "The value chain is there, we just need to feed into it more. That starts with the end consumer" (Manufacturer 2)

Importers

- "The organisation as well. Household and organisation, I will say you must educate the people more and more. We're a corporate environment so we know a little bit more than the guy on the street or the smaller shops, but I think it must start with everybody actually to build it up. It doesn't help you start on the top, but your population is not correct. Somewhere along the line the whole house will collapse again, and you need to start over again and after five, seven years you're going to need a cycle again."
- "I think you must start with yourself and your household, and that will filter out from there, cause if you do it in your own personal life you will do it at work. And education." (Importer 2)
- "I don't know, households 4 or 5 years ago you receive a clear bag for recyclables but now you need to pay for it I think. And I think that is also when people stopped recycling, to put out recycle material that can be recycled. So now everyone is just back on the whole bandwagon and just use their Wheelie Bins and see you later. I think education, yes, recycle. In Europe you get 3 bins, plastic, paper waste, and then, in every household." (Importer 3)
- "I think we can do much better, because people don't really support the effort. I mean Rent-A-Drum can only do so much. They can collect, but if there is nothing to collect then they cannot do much about it." (Importer 3)
- "I also stopped recycling. Because one day they put out a bag and then they don't put out a bag. One day they collect and the next day they don't collect. Yes, I think so. I don't recycle anymore." (Importer 3)

Re-users

- "Separation on source and collecting on source. Not collecting it with garbage and then trying to sort it out at the landfill site or the dumpsite. Waste must be separated where it is generated and collected there because then they don't get contaminated. And the value is just better also if it is done at source." (Re-user 1)
- "Doesn't matter where you produce it, at source. At your house, at your business, doesn't matter where." (Re-user 1)

Consumer

- "It's a possibility to ban non-recyclable imported carrier bags, but that is not the problem, I think only ten percent of the Namibian households have the opportunity to recycle at the moment. It needs to be imported on the municipal council level in terms of the waste disposal to make sure that the recycling is happening." (Consumer 3)
- "I think as long as people just litter we will not solve the problem. So those companies that want to recycle, they can only recycle what they receive. And at the end of the day the problems come to some private people to collect all of these stuff, to clean the streets and to clean the environment, but actually it should start from your home itself." (Consumer 6)

Environmental Group

- "At the household level, and the lodge level and the consumer level people should just be encouraged to separate their recyclables from their unrecyclable, that's all. They should be encouraged to reduce the amount of plastics they take with all these little things we talked about and what they still got they should have a recycling system, a collection system and that should go to the recycling experts who then separate out and then it goes to the recycling plant. And then in the household, I don't think it's easy to train two and a half million people as to what to do and what not to do and that micro-level. At the broader level, *ja*, not at the micro-level. At the micro-level it should be the producers and the recycling people, manufacturers and the recycling people that lend their expertise to them." (Environmental Group 2)

Conversion into raw material

*Is there a need?
Will it be viable?
Focus on long-term
use products*

Plastic Manufacturers

- "What surprises me is the export of sorted plastic is out and then they bring recycled material back. The HD bottles are taken out and then recycled; the finished product is being brought back. Why don't we just recycle here? The sorting is done here but they turn it back into raw material outside the country. Yes, it is done outside. That is actually what happens. I think that is where the gap is." (Manufacturer 3)
- "What surprises me is the export of sorted plastic is out and then they bring recycled material back. The HD bottles are taken out and then recycled; the finished product is being brought back. Why don't we just recycle here? The sorting is done here but they turn it back into raw material

outside the country. Yes, it is done outside. That is actually what happens. I think that is where the gap is." (Manufacturer 3)

- "So, the whole value chain must be done in Namibia, from the recycling to the conversion to the raw material, to selling it back to whomever and back again. Yes, because I know there are certain industries that are at all not done. For example, the blow moulding the plastic is just not manufactured here, it's imported." (Manufacturer 3)
- "Looking at how much is still being imported and exported, I think from that control you know if something is being done. If there are regulations, there on the border that says ok. Ten years ago, we had a polypropylene that went in how many tons, but now we have that in, let's say, six hundred million tons. The difference in the movement will then tell you exactly whether something has been achieved or nothing has been done, or not much is being done about it. Yes, the transformation into raw material again is the lacking area. And like I said when there is then a market, so it is already clear, and it already tells us when the finished raw material comes back there is a market for it, there is a need for it. That is now when the gap comes in. Because now, if they bring it in obviously somebody is using it, how much of it is being used, that is also an area that needs to be looked at." (Manufacturer 3)
- "As I said, I attended a Conference and I was shocked. Recycling means, what I've learned is recycling means take one thing that's been used and make it into something else, that is the recycling process. In Namibia I don't think we have a recycler as yet." (Manufacturer 4)
- "So, in my opinion, in my humble opinion, I don't know if there is anybody doing this. So far, I've yet to find a fully recycling company in Namibia. Yes, they call them recyclers, but I think they're just collectors and sorters. They collect waste, they sort it, they bale it, they sell it, that's not recycling. So, I call them waste collectors. We have a number of waste collectors in Namibia." (Manufacturer 4)
- "Now the Coca-Cola Company, we have 3 phases. Phase 1 is the one I said, identify the waste collector and see how we can assist them. Phase 2 is monitor the amount of waste that is going out to South Africa to establish whether Phase 3 is necessary, so that Coca-Cola can come in and do the work, build a Recycling Plant in this Country. Do we have enough waste that will warrant a recycling plant?" (Manufacturer 4)
- "Exactly, we need to take the next step of converting recycled plastic into raw material. That's the most important. Why are we exporting recycled plastic and then importing the raw material again?" (Manufacturer 4)
- "There is lots of activity but not enough volume. But it's getting there." (Manufacturer 1)

Importers

- "I think that's what they send to the plants, two plants we know of, must be put back into something usable again, but not in plastic bag wise. I mean like in a crate or a hanger or a thing that you can use for five, six, seven, eight years before it breaks. On a daily basis. I won't say you must go that way again (referring to discardable plastic)." (Importer 2)
- "Take it and make something useful. If you can make bricks out of it for low cost housing, do that rather than just putting it back into a bad bag, anyway that if you put something in it then it breaks, and you take another one, and it just creates more pollution." (Importer 2)
- "They (Rent-A-Drum) have a sorting, but not a recycling. I heard on the radio the other day that one of the biggest hindrances for recycling is everything has to be trucked to South Africa, which adds cost. Which is rather counterproductive to recycling. So, we must see how we can do it locally." (Importer 3)
- "You know the private sector will only do something if there are profits involved. So, if you, you know the government will have to take the lead with that. You can finance it out of taxes, but then the other thing is you always, the problem is with efficiency, most of this stuff that the government take on is not highly successful." (Importer 3)

Re-users

- "There's definitely a need to do a study on that. To put up a recycling plant, just for paper or carton or plastic, you need volumes and volumes and volumes. According to me at this stage, we haven't got the volumes in Namibia but maybe in the future." (Re-user 1)
- "Yes, there is a market for recycled plastic, but then you have to go a step further than just collecting material. At this moment that is what we are doing in Namibia, we are just collecting because there is no real factory for the production side of the thing. Like I said, we are still very reliant, like most industries, on the South African markets. So that makes it difficult." (Re-user 2)
- "My personal opinion in that regard is that there are more than enough opportunities here to do that and the volume definitely as well. Due to the fact that there is a lot of products imported from South Africa that is in plastic, especially the grocery stuff that packaging wise. Your plastic that you get around bales of tomato sauce and all that. And there is a lot of plastic in between the packaging that I think that will be an opportunity." (Re-user 2)
- "Payment wise, the market in South Africa, the people are paying for the recyclables. Here due to the transport factor, of actually still having to transport it from Namibia to South Africa, we are not paying for it, but we are collecting free of charge. There is no cost. The value isn't there yet. And like I said as long as the transport thing will stay an issue and with the Diesel cost going down,

I am pretty sure that the sides of giving the rebates will definitely increase the people of being more aware to keeping it, as there is a value to it, instead of just throwing it away." (Re-user 2)

- "Here the main thing is logistics. Getting the stuff from different areas to places where they can be recycled and have the infrastructure like we do in order to bale the stuff and send it is the main issue and then the cost efficiency of it. In order to drive 500km to pick up 5 tonne and drive back you are not making money because after just collecting it there you still have to bale it and there is electricity and about, sorting, a lot of stuff still has to go into that. But the fact that there is not an opportunity, I would never say that. There is opportunity everywhere. Distance is only a problem based on your costs. You can put in infrastructure at the place further up, but your transport cost to transport it from there to South Africa will have an effect on that as well. Costing is a big problem, based on transport. The transportation in this type of industry of collecting and sending, based on our company, based on our personal logistical cost just for collecting, also putting it together with the transportation of getting to the paper mill in the factories down in South Africa, probably take up about forty percent (40%) of the cost of the company. And then you still have labour and electricity and all that other stuff come on top of that.

Consumer

- "Rent-A-Drum is exporting plastic to South Africa. It has to do with their capability with regards to recycling. It is a question of whether they have the equipment or not to do it here and if they can't do it here then they export. If you look at the economy and if you look at creating jobs and that type of thing then that is obviously an answer if Rent-A-Drum is to increase their capacity so that they don't have to export." (Consumer 1)
- "From an economic point of view or job creation and that type of thing and looking after Namibia obviously we would love to have all these things in place because it will create jobs, it will take the plastic off the street and all those types of things. It is a win-win situation." (Consumer 1)
- "The reason why we export plastic and not convert it into raw materials here is because of economies of scale. If we can get economies of scale, it will be viable." (Consumer 3)

Trade Associations

- "We don't really have green jobs because recyclables, at the moment it goes to South Africa, the transport cost has to be taken out of whatever it is that you generate. Which is why the plastic plant in Okahandja is such good news for me, because here is now one instance where you say that the price cannot be affected with the excuse "Oh, but we need to transport it to South Africa." You can imagine what a 30-tonne truck loaded with glass, what the costs are to send that to Cape Town, and that's where it needs to go because we cannot accommodate it in Namibia. We need to grow our own capacity more." (Trade Associations 1)
- "We can do sorting, to a certain extent here. But that conversion of that sorted material into raw material again, that can be used, we do everything in South Africa. It should be done locally if it is found to be financially feasible." (Trade Associations 1)
- "I don't know how that will ever be solved, because as proud as we are of our small population, that means small volumes. I understand that a number of people have tried, but you cannot make it economically viable. Even something ridiculous like tyres. A 1500 apparently go to the landfill every month. 1500 is not worth it to setup a whole industry that can process those tyres, and rubber market to sell it to. I also understand that the recycling market is a very fickle one. Now that China doesn't accept any waste plastics from other countries, a lot of countries are sitting going; "What do we do with ours stuff". Because they used to export everything to China, now China says no more. And this is also why I am very much in favour of the re-use angle. Glass is an interesting one, because glass can be shredded as this one member of the RNF does. And then you can create bricks, you can create gravestones so that means you don't have to transport the products out of Namibia. But you create a new product within Namibia." (Trade Associations 1)
- "It's actually recycle and then turned into a new product. I think it empowers communities because you are creating jobs." (Trade Associations 1)
- "More can be done." (Trade Associations 1)
- "I was disturbed when I was in Swakopmund and I by chance bumped into a lady, who sells prefabricated houses that are made from plastic. Plastic and some sort of wood combination. Of course, I immediately asked her: "Where do you get your plastics from?" and she said to me "South Africa". Certain components of plastics which we do not have here, or which we do not have enough of. But it saddens me that there is a company in Swakopmund manufacturing these sheets that makes affordable housing, that it needs to be brought from South Africa. There is a gap, but now it is difficult to say, I don't know how you can fill it if your volumes are not there." (Trade Associations 1)
- "Can we be an importer of waste to make up our volumes? I am no expert on that, but I think there could be an opportunity here. I know the expansion in Okahandja is taking place. I would love to go and see it, I would love to know what the volumes are." (Trade Associations 1)
- "I have got 2 start-up members, these are the youngsters, he was going to create benches from recycled plastic. He gave up, because he was again faced with importing this stuff from South Africa. So sometimes I find my job very frustrating, there is a need but now the supply is a

problem. I think there is a lot of awareness that needs to be made. I am encouraged by the companies like EIF that assist people to get their businesses started."(Trade Associations 1)

- "Yes, for instance like the example that I said to you about the guy that wanted to make furniture. And he was even promising me school benches that he is going to sponsor for the school's competition. And then you get sad when he faces the reality of, you need a lot of capital. And you need a lot of time to make this viable, and many people don't have those recourses. But there are many ways to do things. I just hope that they do get up and running." (Trade Association 1)
- "But you say also then, if an entrepreneur comes to the fore, and he says, "Ag, I want to do furniture from plastic", then he is also faced with allot of problems because we don't have enough, also to supply him with raw material?" (Trade Association 1)
- "Because we don't have the necessary processes. And we must understand – you know, people are always pointing and saying: 'Why are we exporting this commodity or we're doing that?' To set up the plant or the processes to convert it – it's very expensive. And we all know, currently we've got a really bad financial environment in Namibia – let's be honest about it. It's maybe much cheaper, currently, to export it to be converted. And then maybe import it back into Namibia. However, isn't it an opportunity to look at and again say: 'Hey guys, to convert it locally, this is what we need. This will be the cost.' Shouldn't there be a feasibility study on that and say: 'Hey, for the next five to ten years we can develop a business plan to be self-sufficient in Namibia'. That is the focus. It's not a low-hanging fruit, but again, it's part of the value chain of recyclables in Namibia. And it can't be only plastic. Surely, if we look at that, we can look at it holistically and say, 'What about all the other commodities that is out there that can be recycled?'. " (Trade Association 2)
- "There is a growth opportunity here. Absolutely, but it cannot be implemented over night. And we must remember, if we look at the history of manufacturing in Namibia versus the history of manufacturing in South Africa – they've got a long, long way that they have been in manufacturing. Much longer than... (Namibia). Their processes are more refined. The money that they've put in there... They have put it in, it's now a question of reaping the benefits. Where we are in the infant (stage) to do that. It's going to cost us a lot of money. But it's not to say we can't do it. We must identify the opportunities. And say if it's feasible: 'Let's go for it'." (Trade Association 2)
- "You see, that's part of the survey that needs to be done with the data. That will have to be collected. I don't really think we can say: 'We have got the market for recycled plastics – 100% yes'. If I say 'yes' I will have put a question mark behind my 'yes'. I think we have, but because of the non-availability of the data – it's just a guess. And that's one of our problems – we guess, a lot. Instead of having the facts in front of us to say 'yes' or 'no'." (Trade Association 2)

Environmental Group

- "That's fairly true. Once you've got the plastic bag, you break it down, you break it into little pellets and then you can melt the pellets and turn it into other plastics. You can't do that indefinitely, you can't keep recycling plastics. Once you've recycled plastics once, sometimes you can recycle it a second time, but after that they start getting brittle and you can't really recycle them anymore. So, renewables, you can't produce plastic bags from plastic bags from plastic bags. You can produce other things from plastic bags which are thicker and chunkier. So, in Namibia for example, they use the plastic bags and the bottles and all the rest of it to produce the black water piping that the farmers use. You couldn't turn that into another plastic bag and then turn that into another plastic bag, that doesn't work. So, you only got a little bit amount of recycling that you could do. So, taking it out of the disposable situation into a long-use situation is a sensible thing to do." (Environmental Group 2)

Government

- "I think it's more on the technology that's being used and finance also to fund for that technology. And also, the expertise in the area of plastics. I don't think we have really experts in that area that can able to do that. I think those are some of the barriers." (Government 2)

How?

Driven through example by the top
(Government and companies)

Refer to targets

Education and Awareness

Refer to Stakeholder Engagement and Targets

Recycling bins/
bags/ collection
centres

Plastic Manufacturers

- "It's never going to work out if you have in small villages around the country, don't have a channel, don't have a stream, towards where they can take their recyclables. There needs to be some facility somewhere." (Manufacturer 1)

including creative ways of collecting waste in remote areas

- "As Industry we have been working on it for some time. I think the first recycle station will be available towards month-end. And then it will be a pilot and then we will see where it takes us and how good it can work. It's a difficult thing, need to work on it." (Manufacturer 1)
- "Definitely. I think more stations is a beginning point. I don't see a lot of drums in the middle of town, standing around, so people normally just throw it away."
- "Set up mobile recycling stations. Yes, that would be very effective." (Manufacturer 3)
- "Because if you look at the First World Countries, they have machines standing on the road where you put the bottle in and they get a little slip and they get a token and they go and buy anything in any shop." (Manufacturer 4)
- "You can ask the manufacturers because they are the guys that are going to have the punitive measures against them are aware and are willing to set up structures such as setting up reclamation centres and all of that etcetera etc." (Manufacturer 5)
- "On a levy pay roll to fund this and utilize logistic infrastructures and collect the waste. We run trucks up and run empty trucks back or something like that. There's a lot but it needs all parties to come together." (Manufacturer 5)
- "The industry here, everybody is a willing player, but it has to be coordinated and the benefits have to be seen." (Manufacturer 5)
- "We got schools and build on the other things that are not there at the moment. Collect at school points in terms of bottles and plastic bags. You educate, collect and then somebody co-ordinates collection from school points. School kids are not going to walk with bags to a rubbish tins there might have to be central collection points in town. I don't see the need to wait and over analyse it when you can take key learnings from a number of counties now and implemented already and then have a x-fazed plan to get to ultimately where you want to be instead of ... that shouldn't take too long." (Manufacturer 5)

Importers

- "I do believe we can do a lot more in Windhoek in the community to put out recycling drums for glass and paper and plastic." (Importer 2)
- "I don't know, households 4 or 5 years ago you receive a clear bag for recyclables but now you need to pay for it I think. And I think that is also when people stopped recycling, to put out recycle material that can be recycled. So now everyone is just back on the whole bandwagon and just use their Wheelie Bins and see you later. I think education, yes, recycle. In Europe you get 3 bins, plastic, paper waste, and then, in every household." (Importer 3)
- "I also stopped recycling. Because one day they put out a bag and then they don't put out a bag. One day they collect and the next day they don't collect. Yes, I think so. I don't recycle anymore." (Importer 3)
- "Yes, I lived a time at Academia, and at that Checkers, there was a recycling those 3 or 4 things (bins) and we took our stuff there and then it was gone. Where did it go, into the next garbage wheelie." (Importer 3)
- "So, make it easier for people to recycle, provide the bag, have the collection centres. So, if the awareness is created there is stations available so that you can actually do the right thing." (Importer 3)

Re-users

- "Yes, definitely. We've tried to get that off the ground now for many, many years. We don't get the support from people. Our aim is that no truck runs empty in Namibia. There's too many trucks running empty from Lüderitz or Katima Mulilo to Windhoek, but transporters don't want to bring it back to us." (Re-user 1)
- "They get paid for that and the return time is for them very important. But your corporate social responsibility is also to do it but slowly we're busy getting there. We're working now with, we'll get the name now. That delivers monthly to the lodges. They're beginning now to get back to us. So that helps a lot. So, we've got that buy in from the people whose delivering at the lodges are starting to get back to us in Windhoek, Oshakati or Swakopmund." (Re-user 1)
- "Definitely, this type of thing can be expanded, we need distributors to bring back what they put out." (Re-user 1)
- "There are not enough collection points, perhaps at malls and shopping centres. Definitely not. Who do you think is responsible for that? At this stage we do it free of charge. It costs a lot of money. But I think it is enforced by council. Every council, every city must ensure that waste is being treated right." (Re-user 1)

Consumer

- "Make sure there is absolutely enough collection points and there is the infrastructure in place to handle it." (Consumer 1)
- "Consider the logistics. I think that is one of the biggest things in Namibia with the distances and that type of thing to have the infrastructure for something like this. It is very difficult to get in place and it's very expensive." (Consumer 1)
- "I think they should put up more points and people to... there must be incentive for them to recycle. Cause it's only in Windhoek and a little bit in Swakopmund." (Consumer 4)

- "We have a problem where, we have a lot of lodges in Namibia – now the biggest problem with lodges is obviously: They do want to get rid of plastic. Where do they get rid of it? They get the people who delivered it to them to basically take it away from them. So obviously that's another way of, let's call it getting rid of their waste." (Consumer 5)
- "Namibia is so vast and the distances that need to be travelled are so great – so let the people that already have delivery routes also help with the collection. We're doing that at the moment. You know, through some of our members (that are) doing it. The big thing is, you're still stuck with what they call, 'wet waste' you know because that's not the nicest thing to transport. You know, if you don't manage it properly but... Dry waste, that's another way of... But if there's an incentive for that guy or that company to bring back that trash, surely that will make his travelling cost or transport cost, will make it cheaper for them." (Consumer 5)
- "So, if a truck goes and delivers and then they pick up the dry waste – just like the plastic bottles and the empties – and then they bring it back to someone like Rent-A-Drum on their way back for the recycling. We do it at the moment, some of our members are doing it. It needs to be implemented. As I said, this is just a service, because obviously we're in a service game, you know that sort of thing. That's part of the service which we do (offer) mostly. For them it's like, the ideal because they don't have to, let's call it manage that dry waste. Obviously, because where do you dispose it?" (Consumer 5)

Trade Associations

- "I find in Namibia people want to do the right thing and often we don't give them the opportunity to do the right thing. I attend a number of clean-ups where our members sponsored, and then when the clean-up is done you can do another clean-up, because there are no bins available to put, especially the recyclables in, there is no awareness on if you have finished your little *brotchen* and your cooldrink, please there goes the recyclables and there goes the waste. So, we also need to enable people to do the right thing." (Trade Associations 1)
- "But why can we at least not have ample collection points, especially at shopping centres. People want to do the right thing, but you need to make it possible and easy for them to do so." (Trade Associations 1)
- "Bins also prove to be a problem. Ruan at Rent-A-Drum has a saying: "Waste attracts waste." And if I look at our schools that recycle, it clearly says glass, cans, paper. What do the public do, they just dump everything. Dagbreek is successful but they employ 2 people to sort the stands every day. Another school that had a stand outside where the public contribute, had to remove the stand because the neighbours started complaining about the waste that was flying around." (Trade Associations 1)
- "Provide the bins so that people also have the option again to do the right thing. People want to do the right thing." (Trade Associations 1)
- "Yes. You know if you say: Ok, fine you can recycle with Rent-A-Drum, you get the bag. But many people just give up. Many areas of Windhoek are not covered." (Trade Associations 1)
- "Definitely more collection points." (Trade Associations 1)
- "People want to do the right thing. Help them do the right thing by putting the structures in place." (Trade Associations 1)

Environmental Group

- "The thing is only a small percentage of it gets back into that system. So overall, one factor is that the collection system is not good. So particularly in the rural areas stuff just gets thrown into the bush and so not much of it comes back into the recycling." (Environmental Group 2)
- "It's better than nothing because we have the recycling and Rent-A-Drum is collecting the recyclables, three coming on four. But there's work to be done. And part of that work is having proper collection points. Remember I was talking about these sites and regions, little towns and so on, part of it is having those in place and there can be centres where it all comes together properly." (Environmental Group 2)

Recycling stations including increase R-A-D, Kleen Tek operations, recycling at landfills

Plastic Manufacturers

- "It's realisation. They have been doing a reasonable job- Rent-A-Drum, Kleen Tek, those type of guys but they've been focusing largely on the easy wins. Have you driven through the likes of Otapi, Rundu or where no education has happened and those kinds of places where it's a problem, remotes places like Rehoboth if you're driving from the south is terrible. They need to increase their operations." (Manufacturer 5)
- "They're economically driven by actually making money in terms of collecting waste. Unless there's a potential for it to become economically viable, they're a business they're not going to do this for free. That's a barrier. 60% of our population lives up north, it gets a bit fragmented and one could argue that you've got a very sophisticated waste collection mechanism in Windhoek. Three sites that you could manage and collect and it's close to Head Office an infrastructure than for e.g. Opuwo, Katima to get waste back 1400km." (Manufacturer 5)
- "You can also have a look what they're (Rent-A-Drum) doing with their waste. Some of the waste PET they send back to South Africa. Katima given the limited amount that's going to come from there, all of its waste and if you don't do something with it, it's the problem. To bring it back to

Windhoek, then to ship it so SA, it's not much money. You're not working with big ticket items anyway. Distance is a problem, it is a very sparsely populated country. We're two and a half million spread over 67% of SA's land mass, there's not many of us but we still make a mess." (Manufacturer 5)

- "Better municipal dump management. That would be the collection point so for them to manage that element of it the likes of Kleen Tek and Rent-A-Drum potentially paying for separated waste." (Manufacturer 5)

Importers

- "Recycling must be done at all dumpsites. Building rubble there, garden there, plastic and boxes this side in the cages. I think they have already started, yes." (Importer 3)

Re-users

- "Recycling is not always profitable for our business. You need volume, volume, volume. Our aim is to have our footprint over Namibia but to collect it is costly. The value of the recyclables cost more than the transport, so you have to be very careful where you put up operations. But that's not an excuse. You get the transport sorted out, maybe get subsidized on that, that would help." (Re-user 1)
- "I know five, six years ago I drew up a plan and discussed it with Envirofil that was managing the dumpsite at that stage, especially based just on plastics to recycle that, but due to certain ways the market works they did not want to give us access to the dumpsite." (Re-user 2)
- "Currently we are not allowed to send staff in there to do that, but at least the guys running the dumpsite are now personally taking care of that. Which was never part of that." (Re-user 2)
- "Here the main thing is logistics. Getting the stuff from different areas to places where they can be recycled and have the infrastructure like we do in order to bale the stuff and send it is the main issue and then the cost efficiency of it. In order to drive 500km to pick up 5 tonne and drive back you are not making money because after just collecting it there you still have to bale it and there is electricity and about, sorting, a lot of stuff still has to go into that. But the fact that there is not an opportunity, I would never say that. There is opportunity everywhere. Distance is only a problem based on your costs. You can put in infrastructure at the place further up, but your transport cost to transport if from there to South Africa will have an effect on that as well. Costing is a big problem, based on transport. The transportation in this type of industry of collecting and sending, based on our company, based on our personal logistical cost just for collecting, also putting it together with the transportation of getting to the paper mill in the factories down in South Africa, probably take up about forty percent (40%) of the cost of the company. And then you still have labour and electricity and all that other stuff come on top of that.
- "As I say, as soon as market prices start dropping, your cost never drop, because you got your labour and you collecting cost, your Diesel, that always stays consistent, so it is crucial that you also have different line that you are do not rely on one single commodity and that you have separate commodity that the one balances out the other one." (Re-user 2)
- "The other thing I have an issue with as well, and I had a discussion with the Ministry of Environment as well regarding that is, people sending, and that includes all the wholesalers, the packaging materials, the cans, food cans and the tomato sauce and whatever, they do all the packaging in South Africa. Then they send it over here but then we need to get permits in order to recycle it to send it back there. And at a certain stage there was more than permits we need to have certain certificates in order to be allowed to send it back, but they don't ask us for anything they send. They just send everything here without any stoppages and then we are not allowed to send it back. And for me that is like dumping as well, because for them to get their product here they need packaging and that, but they as manufacturers need to take responsibility back and say fine we send our product there in this packaging, so we are willing to take it back and recycle it at that side due to us not having the infrastructure or the factories to do that." (Re-user 2)
- "Accessibility. I've had people phoning me from Otavi and places like that, I mean it is 400km from here and the idea is great, and that they started to take out the product and recycle it is great, but the volumes need to justify driving 800km there and back. Or even to put up a plant there." (Re-user 2)
- "There are still a lot of options, the opportunities are there, but the people will not bring the product to you from Tsumeb to Otavi or from Otavi to Tsumeb due to the fact that you have it there. They will not drive 100km and get nothing for it. "

Consumer

- "Well, we've got Rent-A-Drum, but I mean they're only Windhoek based. I've heard that they started in Swakopmund also and I had the privilege of visiting the site, I rode out to Daan Viljoen. Excellent. It's kept clean. You would expect it would look like (a) dump area, but I tell you, it's like a paperless area. Yes, it's an excellent idea, as I said, surely there must be incentives for these initiatives. At the moment they're making money out of it, which is fine, they're entrepreneurs, they see this as an opportunity and obviously they make use of it. But I think there's more out there and I think with the necessary financial support, we can establish the same sort of businesses right over the country." (Consumer 5)

- "If you look at the vast distances in the country, obviously there's transport involved, there's all kinds of things. But I think if we manage it smartly, let's call it on ground level, for instance if you take a town like Opuwo, with all respect – it's far, remote, everything there – the big question is, is it handled smartly or is it just a matter of 'it's out of sight, out of mind'? But, yes, I think there's huge opportunities and I also think there's a market for it, which we basically just need to explore and find out..." (Consumer 5)
- "Some of the funds collected from the levy or the sin tax should go to businesses like Rent-A-Drum so that they can expand their operations. Let's say – and we can work on percentages – we use a certain percentage of whatever comes in money-wise. Let's call it plastic sin tax. And we can say: 'Right, we're creating jobs, you know for a certain amount of people'. You can break it down, where you can have certain groups of people in certain towns that will manage that better. You know, obviously at the end of the day it's a huge education thing which is not only coming from school level, but it comes from the community involvement in whichever town." (Consumer 5)
- "Well I think the current recycling companies, well they already manage it. As I said, I believe Rent-A-Drum in the last year or two years has a big plant for the recycling of plastics. So, they have proved that they're in a position to handle it and manage it." (Consumer 6)

Environmental Group

- "So, for example the Department of Environmental Affairs, the DEA, the Ministry of Environmental Tourism, the MET, they could be designing a waste management system for each little town, depending on the population of that town and that could be a properly fenced-off area with a nice entrance gate which is locked, and areas where the waste is sorted. So, you've got your plastics, and your paper, and your glass, and your tins, and whatever, and then there can be a compost heap right next door where that stuff all goes and gets composted and so on. And where Rent-A-Drum can just come in and offload all the stuff that you sorted, and it goes to the recycling bin and that's a properly managed, properly designed system where a plastic bag can't blow away and people can't go scavenging in there and picking up diseases and various things like that. So, some of this money would then be used to design this and then to start implementing these different systems, working very closely with the recycling people to make sure that the design optimises their collection and all things hang together as a neat system." (Environmental Group 2)

Government

- "Well, as I said there are private sector efforts, you know putting up a few things here and there so that they can go and recycle plastic waste. But obviously they are also constrained perhaps by the operational cost – I don't think they go into the informal sectors, areas, they probably don't go across the breadth of the country. And you know you can always notice it from... the major turn points for people to travel. So, across the country, you always find like, there are always intersections of roads where maybe now leads to (a) major settlement and you always find waste in those corners, plastic waste. That also speak(s) to (of) the private initiatives' lack of breadth across the country, maybe because of operational cost. So, as I mentioned earlier, the efforts are there, but they are desperate, and they are also having their own constraints, whether it is funding, resources, outreach ability." (Government 1)
- "Well, perhaps one needs to understand, because the incentives regimes are trying to promote industrialisation. The incentive that Recycle Forum will perhaps need is not necessarily an incentive, but perhaps it's a subsidy that comes through the environmental levy that is under discussion. So, it's a matter of saying: 'We impose a levy on the industry' and you and others could come in, make an application from the Environmental Investment Fund to say, 'If you give us 2 million we are going to recycle 'x'-amount'. You know, so subsidy that drives the expansions of certain recyclers in the country, perhaps that sort of model can be looked at, but just to give an incentive municipal break to a private player operator just because they are recycling waste, it will be a hard sell in the beginning. So, go ahead with the environmental levy that is being discussed around the plastic and then find the appropriate model on how this funding is, how is this money that will be collected, going to be utilised to further ensure the reduction of plastic in the country, or recycling or whatever." (Government 1)
- "Recycling involving the carbon sort of pollutions in the air. We use machineries, but I think the best that we can do when it comes to recycling, I think it shouldn't be really done close to for example the City, must be a little bit far, remote, the plant where you do the recycling. Because you know when you are close to the City people breathe in all this dirty air and it will cause some diseases and so forth. I recommend that they must use a technology that really efficient in the way that not polluting the air. They need to use an advance technology to ensure that, there should be a reduction in pollutions, so they know need to be used." (Government 2)
- "The whole value chain, including the workforce that's needed, payment, as I mentioned also funds to pay for the technology of the vehicles, for anything, infrastructure that you need for that purpose. So, there is a lot that need to be done, paying employees, you're buying machineries, vehicles, infrastructure where you going to put your plant, I mean plant infrastructures. There is many that need to be done and also the expertise as I have mentioned so you need to have those

things in place for you to move and obviously we have those obstacles, barriers to move further, that are really blocking us to do that I think." (Government 2)

- "Anything that has to do with Socio-Economy for example the provision of employment, job creations, provided the plastics is being managed in a better way that does not give an impact on the environment. And we need to check the cost and benefits that are involved. You put the cost, you see the benefit, the benefit will then be like job creations, which is good enough because Namibian youth they don't have job. So, it's a good thing to have it, but we just need to take into consideration in terms of the management of those plastics, pollutions and everything. So, the Government needs to put up at least, if you for example, you want to put up a plant, at least when it comes to land, the provision of land where you have to put the plant. At least they can maybe subsidise to give a little bit of low price on that land and also to put up a good legal framework in terms of regulations that really says for example the higher you pollute the more you pay. Just for the manufacturer to reduce their pollution especially in the environment like air pollution and so forth you know." (Government 2)
- "Their operations are mostly in the urban areas, not extending to the rural areas." (Government 3)

PET recycling plant

Plastic Manufacturers

- "We cannot at this stage take back plastic because it's then contaminated, the re-use is difficult. For us it's impossible, we can't. It can't be repackaged e.g. to put milk into the containers again. The recyclability component also needs to be looked at, given the investments of a PET recycling plant, Namibia does not have the numbers. It's a hard product to recycle that gets shipped back to SA, distance." (Manufacturer 5)

Incentivise recycling

Create a value

Returnable
deposit/pay per
weight

Plastic Manufacturers

- "Then of course we need to probably put a value on recyclables, that there is a tangible benefit for collecting and recycling. In future I think that is where it should go." (Manufacturer 1)
- "If you think about it commercially, then there is a lot of waste going into landfill still, and that should be sorted, and that could be sorted into categories and then sold back to the recycling companies. There is a value. The most successful one of them all is Collect-a-Can or the Aluminium Sector because they've got a very nice structure in collecting and taking it back, and most of the rest can learn from them. The value is not always that high, but there is a value, so we need to work it out." (Manufacturer 1)
- "So, the right way would be to have small collectors who can supply Rent-A-Drum commercially. So, Rent-A-Drum would collect and buy what is available at a commercial rate. Unfortunately, these rates vary." (Manufacturer 1)
- "If it's done commercially it will feed itself. It won't be government asking, or us as industry pushing to get things done. It will be the man on the street doing it." (Manufacturer 1)
- "Rather create economic value to polymers for secondary life-cycles." (Manufacturer 2)
- "It's always good to incentivise someone through cash, but I think the value to polymers, to even picking them up, the first cycle in itself, is very low in value. So, you have to recycle, I would say, a kilogram to get N\$3 and it's a lot to be recycled for a value of N\$3. So, I think that is difficult to incentivise someone, to make it worthwhile." (Manufacturer 2)
- "Get a bit of money involved. The moment you get, you do it with a, when it becomes a market, I think that is when you become to attract interest. When everybody becoming interested, I think they can make better living from it, like what they are doing on the dumpsite. You'll be surprised if you see what is happening now and five years ago. Even if you, for example, go to the local super markets, the Shoprites, the Pick n Pays, you use to find the boxes laying all around. But now very early in the morning when trucks off load you will find the people from the lower income groups they are there gathering, because they know the boxes are being sold. That is why when you look for an empty box you won't find it laying around anymore because now there is a market for it." (Manufacturer 3)
- "The main problem is, the things that we collect do not have value." (Manufacturer 4)
- "So, the next step is do we have a value? Is it going to be worth it for the guy on the street to pick up that bottle and take it to, you know." (Manufacturer 4)
- "The other this is also if you put a value, say for instance you put, there's a value on a can, the aluminium can. You get money for a can. So, you will not see a can lying around because it's money. You pick it up and you take it. People are fighting over cans. But there is no value for this plastic bottle. There is no value for that bottle. Why should I pick it up? Why should I pick it up and take it to a Collection Centre? Why should I pick it up and take it to a Waste Collector? Because the waste collector can't pay me, zero for that little bottle. So, what we need to do is, we need to put a value to this bottle so that it's feasible for the guy on the street to pick up this bottle and take it to the waste collector or the Collection Centre and saying here we have a bag, I have 2 kilos here can I have N\$2." (Manufacturer 4)
- "So, it's a bigger thing that we need to do. It's not just empowering the waste collector, you are empowering the informal waste collector also to feed into the system. It's something that we need to sit down, the Industry and say how are we going to put a value to this bottle, so that

everybody can benefit in the end. And if everybody benefits, we benefit, because they're picking up our bottles. The Country benefit because the Country is cleaner. The plastic activist benefits because they can now find something else." (Manufacturer 4)

- "It can work, it will work because it's working for cans and it's working for glass." (Manufacturer 4)
- "Well in Europe they now have a system there, if you buy a bottle of mineral water you pay a deposit on the bottle and when you bring the bottle back you get your money back. And I think a similar system to that is probably the right direction to think." (Manufacturer 1)
- "If you want to transport water, the best way to transport water is in a pipe. The second-best way is in a returnable bottle. Why don't we have it. We don't have returnable water bottles. There's returnable beer bottles, returnable cool drink bottles. That's way better than what we have at present." (Manufacturer 1)
- "Create a reward system. When the people come and drop off stuff in Rundu, they get rewarded, when they do this they do that. The packers get paid, the reclaim products get shipped out you need to see huge momentum in that field." (Manufacturer 5)
- "We're going to pay them. However, that's determined, and at which source it's determined. If you look at very sophisticated countries where it's really working like Scandinavian countries there's automated machines where if you throw it in, it gives you a coupon. Ours would have to be monetary, potentially people that are looking for work and that it can create a little cargo. Collectors would go with whatever they collect and at the reclamation thing you'd get 5cents a bottle or 2cents, whatever it is. They get paid for what they bring in." (Manufacturer 5)

Importers

- "I mean we've looked at a number of other elements, what other countries are doing in terms of, deposit values on some bottles that it's 5 cents or attach a monetary value to it but at the end of the day it becomes a challenge because people need to change their total behaviour on that and it is more awareness campaigns and things like that." (Importers 1)
- "There's no value in bringing back the bottle, nobody is going to reward you as an individual." (Importers)
- "You have the practices overseas where you have the garbage collectors just like scrap salvage. You bring your stuff, you get weighed, you get paid. You have that, obviously it works there, but if it works here, economies of scale, we are 2 million people." (Importer 3)
- "Something that Coke did for a while was a refundable return. Maybe find out from them, was it a best the practice or not?" (Importer 3)

Consumer

- "We need to have something in place where people either get rewarded for an amount of plastic or there should be a levy on plastics, people should be encouraged not to litter. I take the example of the returnable glass bottles, they have a value. People will collect that and can get money for it, there's a lot of brands or manufacturers without returnable bottles. Those bottles are the ones that get thrown out of the car, just left at a party or the beach whatever the case may be. To put a levy on the plastic-give someone a reward for returning a plastic can work, there should be law governing it and the value of it." (Consumer 2)
- "In terms of the PET, you can introduce a deposit which for me as a trade retailer doesn't like the idea, but I have to wear both hats and at the end of the day the environment is more important than the business. That's the PET bottles." (Consumer 3)
- "They must incentivise people, there's plenty of jobs to create or they can supply the bags and things to do." (Consumer 4)
- "And I think there's also a lot of opportunities – job creation – that people can do recycling, put up something like that. If we can create a sort of levy, surely there will be funding that we can do these sorts of things." (Consumer 5)
- "But you can advertise on TV and radio, 'Please recycle, please recycle'. 30% of people will take it as a thing they have to do, the rest will just ignore it. Maybe if you have campaigns where people collect it and they can create jobs for that and that's where the levies come in and you use those levies to pay those people, then maybe." (Consumer 6)

Trade Associations

- "Well, I think the myth is to a certain extent that plastic – a bag – has got no value. And 'yes', it's true, to a certain extent. But if Government looked at it in a different way and gave the plastic bag a value – in other words, do what the people did with glass bottles. Why can't Government – in order to confront the plastic problem – why can't they introduce a levy? But I must reiterate, it must be an affordable levy. If you pay for your plastic bag people will tend – and it was introduced in South Africa and they had huge successes, initially – people will then look at the plastic bag differently. Because now it's got a value. And they will re-use it. Either re-use it, or if – and this is 'if' – they can take it to an institution, and I'm talking off the top of my head. Say, like cans – if they can take it to an institution like say Rent-A-Drum and give the plastic per kilogram back to Rent-A-Drum to be recycled and get some amount of money for that." (Trade Association 2)
- "An incentive, yes. An incentive on returning plastic bags. I tell you, the people will pick it up on the land refills, they'll take it to where it should be, because they're going to receive a little bit of money for it. Currently it's got no value, and people will re-use the plastic bags over and over

again. So, on the one hand, I think Government should look at introducing an affordable levy." (Trade Association 2)

Environmental Group

- "I think it does work to some extent, because with bottles for example, you see at least they started an incentive. Building an incentive to change behaviours, because there's a benefit and a penalty. There's an incentive and a disincentive when you don't recycle." (Environmental Group 1)
- "You have to have the right incentives in place. You know, this is a serious misconception in the world. They think that every problem can be addressed by environmental education. Well I can tell you, you can have people with PhDs in environmental lurking around, they will still do the wrong thing if the economic incentives are not right. People with no education at all, if the economic incentives are driving things in a certain direction, they will go in that direction. So, information and education are important, but far more important is getting your incentive packages right and what we're doing here, is we're not saying, 'Plastic is bad and ban all plastic', we're saying 'These elements of plastic are bad, they become a public nuisance and they become a public threat and they become an environmental threat, and society is then burdened with the costs of dealing with that. Therefore, we have to put incentives in place so that doesn't happen.' And the incentives are a deposit on bottles, a charge, tax, a levy on plastic bags, ultimately in five years' time leading to abandoning plastic bags altogether and getting them out the system, and these other things, straws gone and so on." (Environmental Group 2)

Government

- "There is mostly in bottles, that I have seen... where people are making business." (Government 3)

Problem
*Unstable and low
price*

Plastic Manufacturers

- "Unfortunately, these rates vary." (Manufacturer 1)
- "Waste plastic, the lowest grade waste plastic at this point, has got a value of perhaps 80 cents to a kilo. Whereas in the past two, three years at its peak times went over R2 a kilo just in corporate, so it is a variable." (Manufacturer 1)
- "For the guy on the street, he must collect a humongous amount and then he struggles, he doesn't have transport, he doesn't have this, he doesn't have the means, he doesn't have the infrastructure to bale it and take it to South Africa. So, it ends up either in his yard, or you know." (Manufacturer 4)

Importers

- "But what value are you going to put on it? Because like we said we are only sort and then we have to take it to South Africa for it to be reworked. So, you won't be able to pay a lot for this. I mean lately with our money, even a 10c, if you see a 10c lying on the ground you don't go through the trouble to pick it up because of the value, or the perceived value, so people they, for 2c or 3c they will not go through the trouble." (Importer 3)

Re-users

- "The plastic market also crashed last year, so China closed their markets that people are not allowed to export to them anymore. Because they think that the people are dumping into their country. So, when that happened all the plastic mills in South Africa we supplied to started to fill up and there was no place that we could send it to. At a certain stage we were sitting here with about two hundred tons of plastic, bailed, ready to send." (Re-user 2)
- "Yes, but as I said due to the market factor of the products and paying for the products it is very difficult to say, we have a fixed price, this is what we pay for plastic, this is what we pay for box because due to the fact that as soon as the demand drops you have to drop the price and later on people think that 50c per Kilogram, what can I buy for 50c?"

Consumer

- "If you look at the implementation of it we tried it at our stores, we have a plastic campaign - No to plastic. We collected plastic bags but now the store is not geared for coping with that amount of plastic. There's no one else that can take it off. This plastic was collected, I'm not sure what was done with it I think it ended up on the landfill." (Consumer 2)

Trade Associations

- "If you think of Europe, and I get many people that often visit Europe that say, "Why can't we just have this machine where you put in your plastic bag and you get 10c off of whatever you buy at the till? Then again if you speak with the retailers that isn't quite so easy as we would think it." (Trade Associations 1)
- "And I can appreciate that plastic is light, you can imagine, like for instance Dagbreek School collected 30 tons of recyclable. Now another calculation has been made by one of these buy back centres where we said to the institution, Ok, you get the buyback centre, you then employ a person that will then receive the goods from the community and make payment. Now the prices are so low they come back and said; "We cannot afford this." Because the income of the recyclables, and the plastic is also so light, so you can just imagine what you need to collect to get N\$5 together. So somehow there must be another solution found." (Trade Associations 1)

<p>Solution <i>Subsidies/Incentives</i></p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "But we need to establish a chain and then start doing it, and then in bad times we need so subsidise the poor guys who's actually collecting, and in good times when we'll incentivise them for a bit, but they need to understand that it is a bit incentivised at the time so that there is a bit of a value chain." (Manufacturer 1) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "Definitely not viable if it's not subsidised. But we will subsidise it because if you go to Europe and you put this bottle back into the vending machine you often get 10 times more of what is the value of that, but it's been subsidised, so government pays a little bit, local authorities pays a little bit, there's a levy on top of that. So, it's a whole process but for Namibia, I don't think so." (Re-user 1) • "It's cost saving for them. If they recycle, it's cost saving for them." (Re-user 1) • "Money talks, yes. The less goes to a landfill site, they pay less for waste management and dumping fees because we're collecting at this stage recyclables free of charge where we can. So that's the saving that they'll have." (Re-user 1) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "So, I think it's like, we need to recycle more, or how can I say – bigger country-wide. I know everything costs money, but obviously on the other hand, if we can apply sort of a tax, we can always do job creation and put up something like in Ohorongo or in Tsumeb or whereby we can say: 'Right, let's sort this out'. You know, obviously there will be, let's call it 'virgin plastic', there will be, let's call it 'second-hand plastic' or whatever they grade it... But I think there's a huge gap where we still need to focus on. Not only Windhoek-based, but I would say: 'Let's do it country-wide'." (Consumer 5) • "Well, we've got Rent-A-Drum, but I mean they're only Windhoek based. I've heard that they started in Swakopmund also and I had the privilege of visiting the site, I rode out to Daan Viljoen. Excellent. It's kept clean. You would expect it would look like (a) dump area, but I tell you, it's like a paperless area. Yes, it's an excellent idea, as I said, surely there must be incentives for these initiatives. At the moment they're making money out of it, which is fine, they're entrepreneurs, they see this as an opportunity and obviously they make use of it. But I think there's more out there and I think with the necessary financial support, we can establish the same sort of businesses right over the country." (Consumer 5) • "And we can promote people, we can put some sort of incentives in place: Whoever recycles a certain amount of tonnage, support them with certain funding. As I said, it's just off the top of my head, you know, sort of thing." (Consumer 5) • "Some of the funds collected from the levy or the sin tax should go to businesses like Rent-A-Drum so that they can expand their operations. Let's say – and we can work on percentages – we use a certain percentage of whatever comes in money-wise. Let's call it plastic sin tax. And we can say: 'Right, we're creating jobs, you know for a certain amount of people'. You can break it down, where you can have certain groups of people in certain towns that will manage that better. You know, obviously at the end of the day it's a huge education thing which is not only coming from school level, but it comes from the community involvement in whichever town." (Consumer 5)
<p><i>Establish a channel</i></p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "At this point I think let's just get the channel sorted out. There's enough things going on without subsidies. If we get to a point where there is not enough off take, then we can start looking into subsidies looking into what we can or need to do to make it viable. But there is enough commercial value to actually I think to get the ball rolling." (Manufacturer 1) • "I think the key there is, if you want to do recycle stations, then what we need to find is sponsors for the station so that the entrepreneur who is going to do the work on boots level, don't have the capital layout. You can tell him if you get this you need to collect and sell and that there is no down payment, there is no capital layout then it's got a chance of survival and if he can't do it then we can say as Industry let's take this station away and put this with someone else who will be happy to do the job. It falls into the Harambee plan as it will create jobs." (Manufacturer 1) • "And that is what we're currently looking at. Finding these waste collectors and trying to empower them. What do you need, how can we help you, how can we assist for you to get this waste baled?" (Manufacturer 4) • "I'm not sure you're going to sit with a cash box at a rubbish site. Somebody might put in a shipping container and it might be a little office or something where it can be done, or coupon based - collect, collect and they go to a centre to redeem it. I would think it through, but at the end of the day there needs to be a mechanism." (Manufacturer 5) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "People, especially young people, really expect an incentive which is why buy back centres are in the planning stages, with the support of people like Rent-A-Drum, Plastic Packaging, Coca-Cola, O&L." (Trade Associations 1)

- "If we don't just do the collecting and sorting in Namibia while exporting to SA, but if we do the whole value chain in Namibia, up until recycling, that will be a way to increase the value of plastic." (Trade Associations 1)
- "Every consumer goes to a place where they buy, whether it's in a mall, whether it's a grocery... (shop) on the corner or wherever. And surely, when we want to introduce the levy, we should think about that very clearly. That's part of the feasibility that we have to talk... (about) at the Stakeholder consultation. To make sure that, when you go back – and normally, human beings, we do the same thing over and over again because we know what we... we like what we're doing, the way that we do... If we go and buy at Grocery A, B & C – every month – then surely, if I buy that bottle or that plastic bag from him, then I must go take it back to that company. They mustn't tell me if I come there: 'I'm sorry, yes, there's a value but I'm not going to pay you the money. I'm not going to take it back. Then we shoot ourselves in the foot and forfeit every initiative that we want to implement. So, yes, there must be a convenient place where the people can exchange it for the money, they can return it. And that plays a big role." (Trade Association 2)
- "In Europe they have machines at the retail outlets where you deposit it in the machine and it gives you the money back. Again, yes. It sounds simple. In theory, that's what we need. But to put that machine there – what will be the cost? And over what period will that cost be recovered? By people disposing of a plastic bag or a bottle and then they receive their money back. And again, now won't you sort of enhance theft – people coming to knock over the machine or whatever to get the money that's inside. So, we must really think about this clearly." (Trade Association 2)
- "I think there are ways and means. For me, back in the years, when you bought your bottle of cold drink and you could take the bottle back. I take it back to the shop on the corner and they pay me my 5 cents and I was really happy to get it. Or 10 cents or whatever. So, where you buy it, that is the place where you should give it back. Then we don't have to have deposit machines. I'm not saying we mustn't have them, whatever we erect on the corner where people can take their plastic bags. But I don't think we are there yet. We need to see what the most cost-effective way will be to do this." (Trade Association 2)

Link with a market value

Plastic Manufacturers

- "Create economic value to polymers for secondary life-cycles, like you can use plastics again to burn it, to manufacture toys. Because it's such a good product and it can be used ten times over again. You can use that as a raw material and if you have raw materials and you have creative people thinking, I don't know where the boundaries can be – the ceiling. The sky is the limit." (Manufacturer 2)
- "I think if there's a bigger offset, more industries or manufacturers wanting that material, supply and demand might go up and the value of polymers may rise and then you can sort of incentivise someone in the beginning. I think if you work on people that wants more recycled materials, then the value might go up and then in the end you might incentivise someone. So that's where it can go, I think." (Manufacturer 2)
- "Potentially with all the PET that comes back but then warrants the bigger guys like Rent-A-Drum are sending such bulk to SA and it warrants them. The collection comes easier to them. You can also collect a hell of a lot of plastic bags to get any collateral because they're so light and people could say you can get more out of a bottle, it's easier to collect and leave plastic bags in the field. What's wrong if you pay 40 cents for it, the first person who collects it and takes it to a collection point gets 5 cents back." (Manufacturer 5)

Trade Associations

- "EIF is the Environment Investment Fund. I feel for the people that start-up companies that they are disappointed more often than not. They need support." (Trade Associations 1)
- "The Ministry, I think it was Trade and Industry, had an expo about 4 years ago. Not enough advertised and I heard about it by chance. I walked in there and I was gobsmacked at what little Namibians were producing, from old stuff, being creative and being inventive." (Trade Associations 1)
- "Then, I also get emotive. Now this lady in Swakop with her prefabricated houses made out of, very much, recycled material. She cannot put up her structures in town, because now the building regulations do not allow you to build. Then you ask yourself; "How is a shack then fine?" (Trade Associations 1)
- "When I spoke to her she said: "But you know, that's building regulations." (Trade Associations 1)
- "Yes. I mean, and you can, In South Africa there is a big movement with the Eco bricks. I don't know if you have read about it. They use 2litre plastic bottles and they fill it with plastic. So, people are feeling, o bring your eco bricks to us, and I don't know where they are going with it, I understand they are building structures with it. So why can't we also do it?" (Trade Associations 1)
- "It is important that people are made aware of these industries so that they can support them." (Trade Association 1)

Link with the levy/returnable deposit

Plastic Manufacturers

- "There's still 35 cents out there to do other stuff with, there's a good example. If you start paying 5% for every bag collected back, you are going to get a lot of bags back for recycling purposes." (Manufacturer 5)

Consumer

- "If you sell the bag for N\$0.20 and someone brings back a bag and you refund them N\$0.10 it becomes very technical. There should be a system in place. If there is legislation where government can say that you need to pay N\$0.30 for a bag but when the bag is returned, you'll receive N\$0.10 or N\$0.20 people will then start picking up a bag. If you are willing to throw away the N\$0.30 the person on the street will pick it up because that puts money in his hand." (Consumer 2)
- "And I think there's also a lot of opportunities – job creation – that people can do recycling, put up something like that. If we can create a sort of levy, surely there will be funding that we can do these sorts of things. (Consumer 5)
- "But you can advertise on TV and radio, 'Please recycle, please recycle'. 30% of people will take it as a thing they have to do, the rest will just ignore it. Maybe if you have campaigns where people collect it and they can create jobs for that and that's where the levies come in and you use those levies to pay those people, then maybe." (Consumer 6)

Trade Associations

- "Well, I think the myth is to a certain extent that plastic – a bag – has got no value. And 'yes', it's true, to a certain extent. But if Government looked at it in a different way and gave the plastic bag a value – in other words, do what the people did with glass bottles. Why can't Government – in order to confront the plastic problem – why can't they introduce a levy? But I must reiterate, it must be an affordable levy. If you pay for your plastic bag people will tend – and it was introduced in South Africa and they had huge successes, initially – people will then look at the plastic bag differently. Because now it's got a value. And they will re-use it, or if – and this is 'if' – they can take it to an institution, and I'm talking off the top of my head. Say, like cans – if they can take it to an institution like say Rent-A-Drum and give the plastic per kilogram back to Rent-A-Drum to be recycled and get some amount of money for that." (Trade Association 2)
- "An incentive, yes. An incentive on returning plastic bags. I tell you, the people will pick it up on the land refills, they'll take it to where it should be, because they're going to receive a little bit of money for it. Currently it's got no value, and people will re-use the plastic bags over and over again. So, on the one hand, I think Government should look at introducing an affordable levy." (Trade Association 2)
- "Yes, it should be linked to the levy. It should absolutely be." (Trade Association 2)

Environmental Group

- "The plastic bottles our suggestion is that there's a deposit on every plastic bottle sold. So, if I buy water, whatever that water cost at the moment, it's going to cost that plus an extra 20c. And when I take that bottle back, I get my 20c back. If I'm a lazy bugger and I throw it out the car window, someone's going to pick it up. It's going to be an unemployed person or a kid and they're going to get a couple of bottles together and they will take it back to the shop and get their deposit. So that deals with that." (Environmental Group 2)

Positive outcome

Trade Associations

- "I think it's a good idea, it's a brilliant idea. Because it also, if you say green industries and labour in Namibia, you create green jobs." (Trade Associations 1)

Emotional motivation

Plastic Manufacturers

- "I will not really go with incentivising, because it makes it more difficult to make it viable in the industry and the post-industrial cycle. Because you add 50 cents to that N\$3.00 and that's a lot. So, I wouldn't go with incentivising at first, although it could be a good idea in the long run. At first, people need to be encouraged to recycle because it is the right thing to do." (Manufacturer 2)
- "For now, it should be more a patriotic – it's my duty as a Namibian – an emotional incentive type of thing. Definitely, we need to play on that." (Manufacturer 2)

Importers

- "But I'm not aware of any individual that can actually get money out of it. So that's why I said you need to focus on the softer elements for this, drive, the benefits, the behaviours of recycling. I mean we do not have enough awareness campaigns for people to actually want to recycle." (Importers 1)
- "So, instead of focussing on creating a value to change behaviour, speak more to the heart that it's the right thing to do, get emotion behind it, and to be a driver of behavioural change. To make people aware of what could be the effects if we don't do it now." (Importers 1)

Re-users

- "It has to be more of an emotional drive that people feel it's the right thing to do, I must do it. My waste is my responsibility." (Re-user 1)

Trade Associations

- "I have attended quite a number of feedback sessions of students, there is a lot of students that work in Namibia. And then they also say, people just say "Why should I recycle if there is nothing in it for me. How do we change the culture? How do you motivate people to recycle because it is the right thing to do?" (Trade Associations 1)

Penalties/fines

- "Then again you get the certain sector of the market that just looks at you and says; "But why should I? Why?" And I am talking about well-educated people, "No why should I?" "(Trade Associations 1)
- "Collection points and awareness. You know people, be emotive, put on it - Do the right thing."(Trade Associations 1)

Importers

- "We're looking into it; we're wanting to explore that. Nobody does a returnable plastic bottle. But I'm not sure the market will take it out that quickly unless I have the pay a penalty or fine on the plastic." (Importers 1)
- "No, they should be enforced a lot stricter and it doesn't help you're going to do it little by little by little. You need to put your foot down and say, 'Right, now from now on you will be fined if you are found wasting plastic or whatever.' An example should be made." (Importer 2)
- "But examples start from the top. Yes, a fishing rod from the top down." (Importer 2)

Environmental Group

- "I think it does work to some extent, because with bottles for example, you see at least they started an incentive. Building an incentive to change behaviours, because there's a benefit and a penalty. There's an incentive and a disincentive when you don't recycle." (Environmental Group 1)
- "I admit where I will say 'yes'. I had the benefit of living in Switzerland, Basel. Basically, when you buy, you have to buy which is recyclable. Because there's no way to dispose of it (otherwise), because you have a penalty. You can't dispose of each and everything. So, the more you buy the one which is basically environmentally friendly, the more you have a way of disposing them. If you buy the other one, it will cost you more to dispose of it." (Environmental Group 1)
- "But whereby basically, because it's more expensive to dispose of non-recyclable material – for example in certain countries – and it's very expensive. So already, you either are willing to pay to dispose of them or you are willing to buy a better product so that you don't have to pay it at the end. And consciously, it's very, I think humanly (human nature), when you are disposing waste and you are paying more. It actually is like 'Oh, my gosh'. But when you are buying something which you a going to use it's better to invest there. And then you realise you have a benefit at the end." (Environmental Group 1)
- "You pay by the amount of waste you are disposing of. But then if most of your products are recyclable, you don't dispose of it, you put them in a recyclable bin, which means you have less to dispose of than what you are recycling. Because everything – big juice bottles or milk bottles or what have you – then you throw it in there. And they have a standard, which basically you can see 'This is recyclable – 100%'." (Environmental Group 1)

2.5. RECOVER

A. CURRENT ACTIVITIES

Waste-to-energy	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none">• "Then of course we carry on to the Waste- to-Energy sector." (Manufacturer 1)• "Re-using would be like the RDF, Ohorongo, I would say because they basically take it and re-use it. They burn it to get secondary energy. Ten out of ten for them." (Manufacturer 2)• "I think Ohorongo is a good thing. Definitely." (Manufacturer 2)• "I think, Ohorongo is doing a splendid job in terms of re-using. For them, ten out of ten." (Manufacturer 2)• "It's now being used as RDF fuel, so the Recycling Plant of Rent-A-Drum now takes it and it's being chipped into smaller pieces bio and send to Ohorongo Cement to use as fuel." (Manufacturer 4) <p><u>Importers</u></p> <ul style="list-style-type: none">• "No, we are doing nothing in this space that I am aware of." (Importers 1)• "I mean we work with biodegradable products that's used for generating electricity. I don't know the cow dung and all these things, those are other waste products which is used but not in plastic, I've not seen anything in the plastics on it." (Importers 1)• "Then I don't know how far they are, this, at Ohorongo the wood chip slash garbage firing plant, I heard that is in the pipeline, I don't know how it's going." (Importer 3) <p><u>Re-users</u></p> <ul style="list-style-type: none">• "The greatest value that we have for plastic at the moment is that waste-to-energy. Waste-to-energy, ja." (Re-user 1)• "People must understand the process and what is the value that we get out of it. If you treat your waste as the waste we used to grow up you haven't got any value out of it, there's a value. If you do proper recycling, and I'm not talking about plastic, but if you do proper recycling you can at least recycle up to over 90%. Thanks to the refuse-derived fuel plant, everything can be recycled at this stage except wet waste and nappies and protective clothes and that sort of stuff but more than 90% can be recycled. People must just take responsibility and do on source separation. Community and business must also get on board. Your waste is your problem, everyone's own problem." (Re-user 1)• "No, it's recycled by Namibia Polymer Recyclers. A lot of our plastic goes there. But that we can't use we send to South Africa where it's being re-used the same as they're doing. And what we can't export, or we haven't got a market, or it is contaminated we use as fuel. We can use 100% of all plastics." (Re-user 1)• "There's different waste to energy's, without talking about refuse-derived fuel. According to me there's no pollution. Ohorongo Cement is part of the grouping in Germany where it's about eight of them, these factories are sitting in towns or next to a town or a kilometre from town. You go to Ohorongo Cement there's no smoke coming out, there's no pollution. But I think it's best to get the facts from Ohorongo Cement, I can get you in contact with them." (Re-user 1)• "According to me there's no pollution." (Re-user 1) <p><u>Consumer</u></p> <ul style="list-style-type: none">• "There is no other use than this. I can't make a fire with this first of all it's toxic. At this stage I don't think plastic creates energy." (Consumer 2)• "Ohorongo does a lot of things for marketing purposes and whether it's really effective or not I can't say or if it's just a marketing ploy of theirs. For your information they're cement manufacturers between Tsumeb and Otavi." (Consumer 3)• "I don't know about the plant, but it's probably a good thing, but I don't think it's good for the O-zone layer." (Consumer 4) <p><u>Trade Associations</u></p> <ul style="list-style-type: none">• "Styrofoam used to be unrecyclable, but the good news is it can now be used in the refuse driven fuel plant of Rent-A-Drum which is the most brilliant thing. Which puts Namibia really at the forefront and that's also not being highlighted enough I think." (Trade Associations 1)• "I think that's the best news. Can you imagine how much waste is being diverted from the landfill. So, which again brings you to the awareness." (Trade Associations 1)• "A brilliant thing and I understand the RDF plant in Windhoek is one of the first in Africa, I'm not sure, in Southern Africa, but it's definitely on the forefront. And I still think too few people know about that." (Trade Associations 1)• "They are now in a process of taking that plastic and turning it into energy. So, we are absolutely moving in the right direction." (Trade Association 2) <p><u>Environmental Group</u></p> <ul style="list-style-type: none">• "Are you saying the Ohorongo Cement is able right now to take the plastics and then burn them and convert that to energy? In a sustainable manner? It's possible. But I don't know what system they are using." <p><u>Government</u></p> <ul style="list-style-type: none">• "Ohorongo." (Government 1)• "But in Namibia when it comes to Energy I don't see it happening here." (Government 2)
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B. BEST PRACTICE

Waste-to-energy	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"><li>● "I think we need to get the Waste-to-Energy drive way up to a point where we get the Ohorongo of this world to be in a position to where they don't have to import non-renewable resources like Coal. So, we can do all of that with waste. We get that to the right volumes we'll have a major pull effect on the environment. A major one. It will be, as a matter of fact I think we can be in a position where we will start seeing a shortage of waste if we do it right. Sweden has got this process refined to probably the top level of the World. And they're in a position where they consume all household waste into either recycling or into Waste-to-Energy and they even import waste to feed their incineration plants for the production of electricity." (Manufacturer 1)<li>● "No. I would like to look at the polymer balance sheet in itself. What polymers you get into Namibia as virgin, and what polymers are recycled or sold so that you know that all the polymers that is brought in, is basically used in secondary life-cycles. And I'm talking about waste to energy, that RDF plant of Ohorongo. I'm talking about Namibia Polymer Recyclers' recycling of waste products and Rent-A-Drum collecting waste and exporting it. So, if you can add up all those polymers' tonnage and you can compare it to what has been imported and it nets off, you know nothing was left over in the environment. So, looking to a positive balance sheet, sort of Namibia asking 'Please, import waste. We want to use it.' Because there's value to that." (Manufacturer 2)<li>● "I think that Ohlthaver & List, I've seen they also have plant for creating energy, but it's the wood chips and I think they can be more creative in burning not only wood chips, but plastics as well. Because it's got a lot of energy as well. So, I think there maybe they can improve to re-use." (Manufacturer 2)<li>● "I think waste to energy is where we need to go. I think we need to burn it. If we burn it, it's not ending on the landfills. It's creating energy again for something that all users use, so if we can use those channels of the big companies like a Breweries, like an Ohorongo, it will be sufficient for all the plastics to be re-used into burning it and creating energy." (Manufacturer 2)<li>● "What I've heard about Ohorongo is that we don't have enough plastic in Namibia to burn, so we use all the plastic, all the waste, everything that can be burned to make energy. We won't have enough. We would import to burn. Let's have a positive balance sheet. Let's burn everything. Let's do something, because it's value lying there. It can create energy. We're importing energy from South Africa. So, by burning plastic, we can buy less energy. It's a win-win combination and the entire country is clean." (Manufacturer 2)<li>● "If burnt. It poses a problem for the energy production. You are going to have to have a look at how you do it in terms of what you push back might be doing good by getting plastic off the ground, but you can be pushing toxins into the air again." (Manufacturer 5)<li>● "It burns nicely, but you have to have a look at what it gives off e.g. toxins and gases into the atmosphere. What's good here is bad there. I haven't seen too much here, there are guys claiming it from that I don't have any real knowledge what pitfalls are and what needs to happen to make sure you can burn it safely." (Manufacturer 5) <p><u>Importers</u></p> <ul style="list-style-type: none"><li>● "I would think so anything that can burn but would you want to burn plastic." (Importers 1)<li>● "Yes, off course, if that's an opportunity why not." (Importers 1)<li>● "Probably, to what efficiently, that is the question? If you burn it, you cause another pollution." (Importer 3)<li>● "There is still a bit of chemistry that they have to do regarding the burning of plastics." (Importer 3)<li>● "Yes, I am very sceptical. Their specific process it's a boiler type of process so that you need to incinerate the plastics and there is a lot of harmful carcinogens that is produced from that plastics. So, I think there is still some homework that needs to be done to get that safe proses, otherwise they are going to do more harm than good. (Importer 3) <p><u>Re-users</u></p> <ul style="list-style-type: none"><li>● "There is an option for renewable energy taking place, but the infrastructure and market needs to be in place. You need to have a set market in order to go that route. And to spend a couple of million N\$ to get that infrastructure right." (Re-user 2)<li>● "The main thing still remains with cost efficiency to make sure your cost is covered. Doing something for the good of it and putting money in the whole time, no one, not even the Government will do that. It is just not cost efficient. There has to be big enough advantages to look at that options." (Re-user 2)<li>● "We have been to seminars and functions regarding that, but I think currently the setup is too new in order to spend that amount of money it will be viable, or it will be the right choice to do that for a very long period." (Re-user 2) <p><u>Consumer</u></p> <ul style="list-style-type: none"><li>● "The long-term solution to the problem is that all the waste is driven up to Ohorongo and that they actually burn it, but the problem with that one is do they burn it in an environmentally friendly way, do they have enough filters, etc." (Consumer 3)<li>● "So, I think it's like, we need to recycle more, or how can I say – bigger country-wide. I know everything costs money, but obviously on the other hand, if we can apply sort of a tax, we can always do job creation and put up something like in Ohorongo or in Tsumeb or whereby we can say: 'Right, let's sort this out'. You know, obviously there will be, let's call it 'virgin plastic', there will be, let's call it 'second-hand plastic' or whatever
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they grade it... But I think there's a huge gap where we still need to focus on. Not only Windhoek-based, but I would say: 'Let's do it country-wide'." (Consumer 5)

- "There is a huge opportunity there. I've heard about certain power stations that was actually run on, let's call it old tyres (disposed motor tyres) that sort of thing. We can look at plastic." (Consumer 5)
- "We need to do research to see what the environmental impact is on burning plastic before we start making this operation so big where we start importing waste." (Consumer 5)
- "No definitely I think it is a good initiative. I'm not quite sure how the plant works, but *ja*. If they can find a solution for that and it can create more jobs. I'm not sure is that energy converted into electricity or... so *ja*, if you can do that then you solve some of our problems on electricity." (Consumer 6)

Trade Associations

- "We can make this even a bigger thing in Namibia where we even import waste into Namibia to turn into energy, so we can be an energy supplier to our region and not only to our Country. If one wants to think big, that's big. If one looks at the long-term things like the Harbour in Walvis, why should this not be possible." (Trade Associations 1)
- "We definitely have a growth potential here." (Trade Association 2)
- "'If we do the ground work correctly, we can even be importers of waste when it comes to that conversion. And do it. We can then start to become a small competitor to South Africa. They are importing and they're doing it. So why can't we do it? But again, we are not there. We have to go and get – and I over-emphasise it – we must get the correct data to make the right decisions." (Trade Association 2)

Environmental Group

- "I don't know exactly what system they are using to burn the plastic and convert it to energy. I'm not too sure whether it's a good thing – in principle it sounds (like) a good thing, but I don't know what type of system they use." (Environmental Group 1)
- "Waste to energy is an important part of waste management, *ja*." (Environmental Group 2)

Government

- "Look, anything to help the re-use of a product helps. Anything to help reduce energy cost helps, but then obviously you have to see what is the externality that arises from the utilisation of plastic in those (unclear 26:01) to ensure energy for making the clinger at Ohorongo Cement. The invader bush is also something that they are using, you know, through the biomass to energy. But if there are production processes that allow you to utilise plastic and it does not lead to more pollution, maybe the by-product is captured for another value-chain stream somewhere else, why not? So, it's a matter of optimising on the opportunity. And since we are very low as a country in terms of emissions, perhaps maybe utilising the plastic through such energy conversions, would also not really lead to a lot of emissions for the country, so you'll be forced to make a compromise. To say: 'Look, I really need to get rid of these things while I'm gradually replacing it', but the angle (unclear 27:14) is an opportunity to use it also for another industry's energy needs. Namibia's energy for industrial production in the region is probably the highest, so therefore (the) industry is looking for ways to reduce their electricity tariffs in whatever way they can." (Government 1)
- "I haven't seen studies around it. I think the focus (unclear 28:13) on renewable energy – solar, wind... And it's a matter of tweaking the major problem of intermittency. You know, the day when there is no wind or when the sun doesn't shine – it's very hard for industry to buy into that argument, so therefore... I don't know. I haven't seen. I've only seen the biomass to energy studies, which I believe demonstrate potential, but the waste as you are mentioning – I have no idea what waste it is. Does the country want to import waste from other countries – that I have no idea." (Government 1)
- "I think we are not doing much on that. I think I have learned from one Country, I am not quite sure whether it's India or in South Africa where they generate fuel from plastics. I'm not quite sure they have those machinery that do that. But in Namibia when it comes to Energy I don't see it happening here. People need to be encouraged to do, to have some by-product of the plastic, which can maybe be fuel, so they need to be encouraged. I don't know whether there is an organisation that is doing that, but if there should there be and organisation I think it will be a good thing to take off, to encourage Namibian to get something out of plastic that they got from the shops." (Government 2)
- "This could be a solution to our plastic problem even if it's not recycled or re-used by the individual that at least be collected and go into a stream to energy. Yes, it will be, provided that every product that you are producing at one point, it has side effect on the environment, provided when you migrate from plastic and you get something like a by-product from the plastic, obviously you have now to control, you need to put the control measures when you're now producing certain products, be it energy. When you are producing that energy, there should be some air pollutions, so you need to control it also. So, you need to take a lot of things into consideration to protect the environment when you're producing any product." (Government 2)

3. STAKEHOLDER ENGAGEMENT

3.1. REACHING THE GENERAL PUBLIC

A. MESSAGING

Messaging

Create Emotional Response

Good News

Plastic Manufacturers

- "To get the message out there we need to bombard them with some positive snippets about what is being done and what can be done. Have you done your part?" (Manufacturer 1)

Re-users

- "Show what is already being done in Namibia so that people can have the facts and get some ideas." (Re-user 1)

Trade Associations

- "The good things that are being done in Namibia needs to be highlighted so that people can become aware." (Trade Associations 1)
- "And if you couple it with good news stories, people love good news stories. And I know of a number, just because I operate, and I work in the industry and if people know about this, then you take pride in it and there are innovative people in this country." (Trade Associations 1)
- "I think, can one not involve the NBC, the NBC also wants good news stories. Why can we not do film work on good stuff that's happening. Show the process of the piping being made. Show the volumes. I know that Rent-A-Drum has done quite a bit of film work. But for people to just see a truck driving to Ohorongo, still does not say that was the Staysoft bottle that previously was unrecyclable is now being burnt for fuel." (Trade Associations 1)
- "If we highlight the good news." (Trade Associations 1)

Patriotism

Plastic Manufacturers

- "I would pretty much work it on an emotional level of patriotism for Namibia. That would be my recommendation to say that we are going to speak to the patriotic part of our Namibian population and say, we as Namibia are not going to be a filthy, dirty African country. We're going to be the cleanest in Africa. One of the cleanest in the world. With some of the best recycling rates. And work on their emotion in patriotism." (Manufacturer 1)
- "Because the consumer who's passionate about what is being done in this Country, will sort out the Business Community if they don't comply or don't adhere." (Manufacturer 1)
- "You know there's something about Namibia that's very patriotic, about being a clean country. We often hear it and it's something that makes you feel proud of Namibia. And I think if you can create that even further and build on that, for being a clean country – it goes far. It makes you feel proud of the country and that's how I feel in my personal capacity, but I think if you can just pass that on. We've got the saying: 'Namibians don't litter. Pick it up and bin it, because Namibians don't litter. Ever.' And that is how we are. Namibians don't litter. Ever. Because we don't litter. If we can bring that to all the people, but again, it's going to be a culture thing. It's not going to be overnight." (Manufacturer 2)
- "Create patriotism of: 'We have a clean country' and by that you take two negatives and make it one positive. Because now you have taken the problem away, you have created patriotism, you have created a Namibian citizen that is proud of his nation and you don't have a plastic problem." (Manufacturer 2)
- "Not everyone has access to social media but it's an awareness. The guy that sees you doing it, like minded individual in the street when you see him doing it - hey that's not cool, kind of thing. Like a social pressure. We spoke to a Nation now recently and everybody got involved in the clean-up, they cleaned up everywhere. There's still this kind of camaraderie that exists in a small nation, so how hard can it be. The President starts, I pick this up -not cool. You have a little campaign going. A guy then thinks just before he does that. They've done it in Ruanda even the President once a month they close on one month on a Friday, the entire country cleans up. We used to be the cleanest city here for ten years and they took over from doing that." (Manufacturer 5)
- "You got to create that, 'it's not cool to drop that', it's not the Namibian thing to do, however you do that. Everything else is then in process to align, if I don't drop it here then I'll drop it here." (Manufacturer 5)

Importers

- "Windhoek, like you said, yes there is very seldom people visiting, they always remark that Windhoek is very clean, and it makes you proud. So, we must just, you know that feeling, you must expose some other people to that as well." (Importer 3)

Clarify Truth vs Myth

Plastic Manufacturers

- "What's bugging is, and really lacking is there is many, many opinion leaders who's totally uneducated in what they've got an opinion about. And that's an unfortunate fact. There's misinformation and

Show the facts to connect with the emotions

many times it's unintentional. There is a lot of misinformation flowing, for example the bloody plastic island in the sea. It's something that's being used by some of the environmental groups to create emotion. To get an emotional response to a problem, which they are doing very well, but it's not factual. And because it's not factual it's not going to help, it's not going to be part of the solution. The emotion should be based on fact, then we can start getting somewhere." (Manufacturer 1)

- "There's a lot of myths. There's a lot of media going around, and I think it's negatively offered because of the environmental, visible thing that touches the emotion." (Manufacturer 2)
- "There's a lot of myths floating around and especially on social media and people think they can believe every single thing that social media tells them. You can read that thing and your healthy mind will tell you that this is bollocks, but just because it's on Facebook, you'll share it to your friends and say look at this." (Manufacturer 4)
- "There is a lot of myths going around in terms of plastic and the re-use and why you shouldn't." (Manufacturer 4)
- "Definitely, but it's a technical thing. We spoke about (it) quickly and I wanted to comment and elaborate on the carbon footprint (issue). But if you think about carbon footprint, the wording in itself needs to be understood and then to understand the process and polymers in itself is a difficult technical thing to grasp for a person that doesn't have plastic backgrounds or that level of knowledge. I see it's a difficult thing to grasp." (Manufacturer 2)

Re-users

- "Definitely, awareness is always important. Change people's minds because they think something is not good or they heard something is not good, but they haven't got the facts." (Re-user 1)

Trade Associations

- "I'd just play on their feelings. I'm amazed, the lady that drives this whole thing about the plastics. There was a young chap who came to see me, and he says he wanted to do film about plastics and I said the first people that you need to speak to would be the Producers of plastic. Then you also realise what is in place to recycle it. So, don't just get carried away about banning plastic. Then he told me that this lady is actually his mother and I never realised that. But *ja*, we somehow have to just give more of the reality of the situation in Namibia." (Trade Associations 1)
- "I think there is a different perception of plastic out there and we need to send out the right messages and we need to really make that switch in consumers' minds: Plastic is not this evil (product) – if they use it right. We need to sort out what is true and what isn't so that we can address the root of the problem." (Trade Association 2)

Why Reduce, Re-use, Recycle Show the facts to connect with the emotions

Plastic Manufacturers

- "I think if more people are given knowledge on recycling, I think it's the knowledge that people are not having so once that knowledge is applied and people are made to understand about the recycling then it would be much better. Not only how to do it but why it is necessary." (Manufacturer 3)
- "It is the end consumer that needs to be educated, that needs to be made aware of the fact that it's dangerous. If it lands into the environment it can have certain effects on our environment and I think that is the important message that we should get out to our consumers." (Manufacturer 4)
- "Awareness is good because even the short time I've been here the awareness is getting ahead of steam and Social Media you can't open Facebook and not see something about plastics damaging the ocean or left on the beaches." (Manufacturer 5)
- "I will not really go with incentivising, because it makes it more difficult to make it viable in the industry and the post-industrial cycle. Because you add 50 cents to that N\$3.00 and that's a lot. So, I wouldn't go with incentivising at first, although it could be a good idea in the long run. At first, people need to be encouraged to recycle because it is the right thing to do." (Manufacturer 2)
- "For now, it should be more a patriotic – it's my duty as a Namibian – an emotional incentive type of thing. Definitely, we need to play on that." (Manufacturer 2)

Importers

- "But I'm not aware of any individual that can actually get money out of it. So that's why I said you need to focus on the softer elements for this, drive, the benefits, the behaviours of recycling. I mean we do not have enough awareness campaigns for people to actually want to recycle." (Importers 1)
- "People are not aware of what carbon footprint is and how the three R's reduce it. We need to know what it is and why it is important." (Importer 3)
- "But I'm not aware of any individual that can actually get money out of it. So that's why I said you need to focus on the softer elements for this, drive, the benefits, the behaviours of recycling. I mean we do not have enough awareness campaigns for people to actually want to recycle." (Importers 1)
- "So, instead of focussing on creating a value to change behaviour, speak more to the heart that it's the right thing to do, get emotion behind it, and to be a driver of behavioural change. To make people aware of what could be the effects if we don't do it now." (Importers 1)

Re-users

- "People must understand the process and what is the value that we get out of it. If you treat your waste as the waste we used to grow up you haven't got any value out of it, there's a value. If you do proper recycling, and I'm not talking about plastic, but if you do proper recycling you can at least recycle up to over 90%. Thanks to the refuse-derived fuel plant, everything can be recycled at this

stage except wet waste and nappies and protective clothes and that sort of stuff but more than 90% can be recycled. People must just take responsibility and do on source separation. Community and business must also get on board. Your waste is your problem, everyone's own problem." (Re-user 1)

- "I think the main thing is, if it was such a big thing the education side of things needs to have a bigger impact and more focus. And it needs to be brought out there so the people all understand. Because I think the main thing is also the education is lacking due to the fact that people are not understanding the issue with plastic. Due to the long time it takes to disintegrate and all that, which makes it an issue. But like I said not a lot people knows that it takes twenty of fifty years to degrade. So, if people understand it better and the impact that it really has, I think people would start using it wisely." (Re-user 2)
- "I still think the main issue lies with the education side, that the people need to know what the impact is of not disposing of your waste. And it goes for everything, not just plastic." (Re-user 2)
- "It has to be more of an emotional drive that people feel it's the right thing to do, I must do it. My waste is my responsibility." (Re-user 1)

Consumer

- "At a consumer point of view, I would think people should be made aware of the negative impact that plastic has on the environment, first of all the earth then on people itself." (Consumer 2)
- "People then dispose it because they don't have any use for it anymore, they just throw it way. The environmental impact stems from that and that is my biggest concern about the use of plastic. I think one should educate people much more regarding the disposing of plastic; the responsibility and the impact on the environment." (Consumer 2)
- "I think it is an education thing, we just didn't grow up with this problem in the sense that it was a problem. It is something that was always there, and it was never really termed as an issue. Then obviously no one is going to care." (Consumer 1)
- "Information shared should be straight forward not scientific high-level type of understanding. You should tell them five pointers, give them a reason with pictures. Similar things then what they did on the cigarettes. Tell and show people although it might be gross. Like a little animal that suffocated in plastic. Show a plant wrapped in plastic that died, plastic in water when it contaminates which will be a direct reflection on you as a person. The awareness should be in such a way that people can understand it and comprehend why they need to go with it." (Consumer 2)
- "As I said, starting with the education of people. Teach them not to litter, teach them about recycling. I think it should be in schools, a programme. Teach children how to recycle and the process. What happens if plastic is left in an environment, what happens if it's recycled." (Consumer 6)
- "I think the plant of Rent-A-drum, I think even if they start with schools and take the children and take a tour around the plant so that they can see how much plastic there is and how all those dumps of plastic look, that they can imagine and see, if they recycle it, what positive, end solution is there with recycling." (Consumer 6)

Trade Associations

- "But then again, I really think all the Stakeholders should take hands to make sure that the consumer out there better understands why they must not let plastics be blown all over the show. They must use it as it is meant to be (used). Then the people will have much less emphasis on – you know 'Plastic is rubbish', 'We don't want plastic'." (Trade Association 2)
- "But then again, I really think all the Stakeholders should take hands to make sure that the consumer out there better understands why they must not let plastics be blown all over the show. They must use it as it is meant to be (used). Then the people will have much less emphasis on – you know 'Plastic is rubbish', 'We don't want plastic'." (Trade Association 2)
- "It's a whole awareness... (matter). We must do that campaign. Last time when I was at the last meeting between the Stakeholders and the Minister of Environment – I told him – I think we must up our own team in informing the public. We must communicate to them on plastics. What are the problems with plastic? The bad consequences. But also, how can we alleviate it. What is their role to play?" (Trade Association 2)
- "I have attended quite a number of feedback sessions of students, there is a lot of students that work in Namibia. And then they also say, people just say "Why should I recycle if there is nothing in it for me. How do we change the culture? How do you motivate people to recycle because it is the right thing to do?" (Trade Associations 1)
- "Then again you get the certain sector of the market that just looks at you and says; "But why should I? Why?" And I am talking about well-educated people, "No why should I?" (Trade Associations 1)
- "Collection points and awareness. You know people, be emotive, put on it - Do the right thing." (Trade Associations 1)

Environmental Group

- "I think some private sectors, some NGOs, the Environment Investment Fund of Namibia – they are trying to do some awareness to try to change behaviour. But I think, since it's such a well-developed culture, it needs a bit of change. It really needs an aggressive public campaign with the pros and cons – as you say – why we shouldn't and why we should change." (Environmental Group 1)

Responsible disposal - do not litter.

Importers

- "Yes, people needs to be educated not to litter."(Importer 3)
- "I think there is a lot to be gained by education. Educating people not to litter, into putting their stuff into bins. At least they can care. The only with that you should be able to make a lot of progress as far as I am concerned."(Importer 3)
- "Teach people to at least just dispose of it (plastic) responsibly so that it at least ends up on a formal dumpsite, so that it can be sorted there." (Importer 3)

Re-users

- "Firstly, like I said, my first issue is that people are not even doing the basic things of putting the stuff in waste bins or in skips, does not matter. They are not disposing of it in the proper way. And if we can't even get that part right, then it would be a struggle to even go look at the recycling side. You need to crawl before you can walk. If everybody gets used to, okay we've got the infrastructure, we know to put waste in a bin, and we start doing that first then everything will be cleaner, and it will go to the dedicated areas where is it supposed to go. There the recycling can start to take place. Then after that it is part of the culture of the people. Then only can we get to the point of saying, okay from now on instead of putting in this bin we have got this bin for the recyclables. So now you have your recyclables on the one side and the non-recyclables on the other side. So, like I said I think it is a process thing that needs to be implemented which is hand in hand with education." (Re-user 2)
- "So, I think there is a certain amount of education, but mainly while he is on site. As soon as he leaves the site and there is no one to check up the people once again out of nature, but the main thing is they bring it to a central point. They take the first step, they take it and put in the bins. So that is a start, if they can at least follow that stream it will get to a point where we recycle here, or on the site or at the dumpsite is the crucial part." (Re-user 2)
- "I think that would be a good thing. For me, you cannot force people to do things that they would not like to do. It gets back to your personal conviction, who you are. Am I doing the right thing of throwing the plastic or bottle into the field or the drain? Should I keep it with me until I get to a place to dispose of it? I understand everybody is talking about the recycling and stuff like that, but first step is to educate the people in order to dispose correctly. If we dispose correctly it will form part of the waste stream and then you will have more access to that than having it out in the field. If it is part of the waste stream if will be disposed correctly at the dumpsite." (Re-user 2)

Government

- "There is a lot of things that you need to take into consideration. As you are moving from, the evolutions of things that are happening around, we need really to make peace with it for now to ensure that we don't just enforce, first you educate people, the effect of plastic, then the Manufacturer also, the effect in terms of the air pollutions, the effect chemicals that they are using it might have an effect on the human being and so forth. Education comes, and we need to move step in step, move from one step to the other steps until we really get the solutions." (Government 2)

Reduce

Mind-set change

Re-users

- "I don't think there is actually a possibility of reducing it until the consumer has changed their way. That includes me as well. I know if it is two or three things that I can carry in my hand I will not ask for a bag, but out of nature the people at the till the people put a cold drink bottle and a bread into a bag and give it to you. Where you can actually carry those 2 things in your hand without struggling. It is a mindset that needs to be taught." (Re-user 2)

Consumer

- "It's a question of we get a lot of customers that will say, 'don't put that into 2 bags, give me only 1' but you get as many customers who buy a packet of cigarettes and put it in a bag that type of thing so it's a question that, it cancels itself out. It comes back to awareness, customers need to want to reduce their plastic bags." (Consumer 1)
- "I would say rather than go to what we do, and we do promote it as a company, as an OK franchise, you know, where we have these bags that are re-usable, it's like a cloth-type of (material). Obviously, we tried it in the past, we've tried it for every, you know so long – obviously we have a bit of advertising on its side, but I think the Namibians are still in a mindset of: 'Yes, I want my carry bag and I want to go, you know, I don't care.' " (Consumer 5)

Trade Associations

- "You know what is interesting is; they often use it on Facebook. Is that our parents and our grandparents used to do it, they just did not know it. They went shopping with a basket. There were no plastic bags in that day. They weighed items and they paid for it. It wasn't put into a plastic bag and on a Styrofoam and, and, and. So, I think we just need to relook it. I come from a Dutch mother that went through the war, so everything got re-used. I was very embarrassing to wash plastic bags and hang them on the line (laughter). We must just be made aware of this again."(Trade Associations 1)
- "Yes. And that is one of the frustrations, and it wasn't until I together with one of our members that we said let's really look at plastics. People are screaming and yelling, and we don't know a thing. And that's how John Pallet of the South African Institute of Environmental Assessment. He's based here in Windhoek and he and I every second week has a meeting with Jaco, and I enjoyed it so much and then they organised a visit to Polyoak and I was totally impressed. I never knew. And that again brings you

down to we don't know. We don't know what's been done. All we know about Plastic Packaging is they make bags, and bags litter, and bags should be banned, and let's just be negative about it, but all the good that goes with it I think people don't know" (Trade Associations 1)

- "I know that one retailer the manager once said to me, I wish my staff would realise how much they cost me if they put two items into a bag and then take a new bag. The awareness of what does this cost and what does this do." (Trade Association 1)

Environmental Group

- "I don't know if you are aware, last night there was a talk on living a zero-waste lifestyle? It's going to be on the 21st in Swakopmund. There's a speaker, she's a French lady that lives in America, we brought her out here to talk about zero waste. Her whole family of four, two big, burly boys and a husband, he looks as rough as a (inaudible) and she's a nice, petite, French lady... they in a year produce less than a small glass jar of waste, the whole family in a year. And it's simple, they've reduced their lifestyle to live really simply and they do, they concentrate on doing things, not owning and collecting things. So, they've got minimal amount of possessions, they've got a nice house, but it's uncluttered, minimal possessions, and they refuse, reduce, re-use, recycle, rot, compost. That's their five-step plan. So, if they go to the supermarket and she takes glass things and material things to the supermarket, buys cheese, takes the plastic wrapping and sits the cheese in the glass, closes it. Buys meat, put the meat in the glass, leave the plastic behind. She goes with a few jugs and a few things in her trolley and loads her stuff into there and into her containers and so on. Goes to the counter and she doesn't take any plastic from the shop at all, nothing that she needs. She takes her glass bottles and has a milk bottle, has a place that provides wine into glass jugs for her there. So, she refuses, then she re-uses things and just keep re-using them and then if there's anything that's left, she recycles it and ultimately all the waste stuff she puts into composting. And she produces a jug like that's waste every year." (Environmental Group 2)

Government

- "So, in Namibia we need to do something to encourage our consumers to bring their own bags." (Government 2)

Re-use
Ideas sharing

Plastic Manufacturers

- "We should just make people aware that you can do that. And what all the things, you know, that you can do to re-use plastic. There are so many creative ways to re-use plastic, people need to share their ideas and learn from others." (Manufacturer 4)
- "We're naturally re-using but it's almost like seen as, the *arm man se ding om te doen*. You hear what I'm saying? So, if you make that cool with a campaign so people can see, oh, okay. You hear what I'm saying? If you make it cool, the green thing to do. This is what you keep, and this is what you can do with it. People will start doing it." (Manufacturer 4)
- "It comes down to awareness and educating." (Manufacturer 4)
- "It really comes down to making people aware, what they can do, what they can do. What is it to re-use, and what is it to recycle. The moment you understand it, you find ways of, you know, for every single thing in your house. You can find another use for it instead of having it land on a landfill or wherever." (Manufacturer 4)

Importers

- "I think that Talia has a big point there's, because you can start small enterprises with re-using with this craft. I mean nowadays on social media you get so much great ideas. Don't put this on record but I saw a nice idea to make a dog mat out of plastic bags. I took all my plastic bags; put it in a woven polybag and they just put a material bag over. So now it's a nice bag for my dog to sleep on when he is in the house. But now a day you get nice ideas for mats, for welcome mats, front porch mats, the nicest ideas people are doing at home. But imagine starting small enterprises stimulating our economy." (Importer 3)
- "Yes, I think we have very creative people living in Namibia, so by opening that platform I think, more ideas will come as ideas are shared. There can be ideas sharing, competitions etc." (Importer 3)

Trade Associations

- "You know what is interesting is; they often use it on Facebook. Is that our parents and our grandparents used to do it, they just did not know it. They went shopping with a basket. There were no plastic bags in that day. They weighed items and they paid for it. It wasn't put into a plastic bag and on a Styrofoam and, and, and. So, I think we just need to relook it. I come from a Dutch mother that went through the war, so everything got re-used. I was very embarrassing to wash plastic bags and hang them on the line (laughter). We must just be made aware of this again." (Trade Associations 1)
- "Give them tips how to use them properly, or to re-use it." (Trade Association 2)

Environmental Group

- "I don't know if you are aware, last night there was a talk on living a zero-waste lifestyle? It's going to be on the 21st in Swakopmund. There's a speaker, she's a French lady that lives in America, we brought her out here to talk about zero waste. Her whole family of four, two big, burly boys and a husband, he looks as rough as a (inaudible) and she's a nice, petite, French lady... they in a year produce less than a small glass jar of waste, the whole family in a year. And it's simple, they've reduced their lifestyle to live really simply and they do, they concentrate on doing things, not owning

and collecting things. So, they've got minimal amount of possessions, they've got a nice house, but it's uncluttered, minimal possessions, and they refuse, reduce, re-use, recycle, rot, compost. That's their five-step plan. So, if they go to the supermarket and she takes glass things and material things to the supermarket, buys cheese, takes the plastic wrapping and sits the cheese in the glass, closes it. Buys meat, put the meat in the glass, leave the plastic behind. She goes with a few jugs and a few things in her trolley and loads her stuff into there and into her containers and so on. Goes to the counter and she doesn't take any plastic from the shop at all, nothing that she needs. She takes her glass bottles and has a milk bottle, has a place that provides wine into glass jugs for her there. So, she refuses, then she re-uses things and just keep re-using them and then if there's anything that's left, she recycles it and ultimately all the waste stuff she puts into composting. And she produces a jug like that's waste every year." (Environmental Group 2)

Government

- "Yes, we need to do an aggressive awareness in terms of usage and re-using of the plastic, managing of the plastic and I think there should be an awareness that needs to be taking place, so that the Namibian can be well informed in terms of these aspect of plastics. Usage." (Government 2)

Recycle
Recycled
products
available

Plastic Manufacturers

- "Definitely, *ja*. I think consumers need to be encouraged to not only make their decisions based on cost alone. Consider the environment. It's what, how does that saying go? Don't think about the effect of today, think 10 years back and 10 years forward. What is the effect going to be? So, if people know what the impact is then they will probably do it." (IM)

Trade Associations

- "If we give a better platform for people like the Mammadu Trust, like Katya's Creations, like what is being done in Okahandja and what is the product that comes from there." (Trade Associations 1)
- "But *ja* I think it should just be a more concerted effort to buy locally to support local industries to be aware of what is being done in Namibia" (Trade Associations 1)

Incentive for
recycling

Consumer

- "But you can advertise on TV and radio, 'Please recycle, please recycle'. 30% of people will take it as a thing they have to do, the rest will just ignore it. Maybe if you have campaigns where people collect it and they can create jobs for that and that's where the levies come in and you use those levies to pay those people, then maybe." (Consumer 6)

Trade Associations

- "Tell people first of all: 'Now, there is a value on the plastic bag'. To inform them how to use them. Give them guidance how to use it, where to take it, to which landfill sites, to Rent-A-Drum, to Plastic... wherever. Inform the public: 'There is now a value on the plastic bag'." (Trade Association 2)

How to recycle

Plastic Manufacturers

- "The sorting of what is recyclable and what is not recyclable, that should also be educated and done at source so that the recycling collectors don't get a lot of garbage that they still need to dispose afterwards. The need to get a pretty clean basket of recyclables." (Manufacturer 1)
- "We need to educate our consumers. We need to create a culture of recycling. To get everybody to be aware, to understand what needs to be done." (Manufacturer 1)
- "I think if more people are given knowledge on recycling, I think it's the knowledge that people are not having so once that knowledge is applied and people are made to understand about the recycling then it would be much better. Not only how to do it but why it is necessary." (Manufacturer 3)

Importers

- "How will you teach them to know? Maybe in school start at the bottom and work up, I don't know. We work with it, but I think if you don't work with it on a daily basis I don't think... "
- "I think the different types of recycling options, maybe."
- "What plastics can be recycled and what cannot." (Importer 2)
- "What does the signs mean and all those kinds of things." (Importer 2)

Re-users

- "Don't make it too complicated at first. That is my main thing, so I think we should start slowly and not put everything on the table. We say glass bottles, cans, plastic bottles and plastics is recyclable, so pick that up, put it in the clear bag and the other things goes into the rest. Then everything is still cleaning, but we are starting the recycling process and people are starting to know what to recycle." (Re-user 2)

Consumer

- "As I said, starting with the education of people. Teach them not to litter, teach them about recycling. I think it should be in schools, a programme. Teach children how to recycle and the process. What happens if plastic is left in an environment, what happens if it's recycled." (Consumer 6)

Environmental Group

- "I don't know if you are aware, last night there was a talk on living a zero-waste lifestyle? It's going to be on the 21st in Swakopmund. There's a speaker, she's a French lady that lives in America, we brought her out here to talk about zero waste. Her whole family of four, two big, burly boys and a husband, he looks as rough as a (inaudible) and she's a nice, petite, French lady... they in a year produce less than a small glass jar of waste, the whole family in a year. And it's simple, they've

reduced their lifestyle to live really simply and they do, they concentrate on doing things, not owning and collecting things. So, they've got minimal amount of possessions, they've got a nice house, but it's uncluttered, minimal possessions, and they refuse, reduce, re-use, recycle, rot, compost. That's their five-step plan. So, if they go to the supermarket and she takes glass things and material things to the supermarket, buys cheese, takes the plastic wrapping and sits the cheese in the glass, closes it. Buys meat, put the meat in the glass, leave the plastic behind. She goes with a few jugs and a few things in her trolley and loads her stuff into there and into her containers and so on. Goes to the counter and she doesn't take any plastic from the shop at all, nothing that she needs. She takes her glass bottles and has a milk bottle, has a place that provides wine into glass jugs for her there. So, she refuses, then she re-uses things and just keep re-using them and then if there's anything that's left, she recycles it and ultimately all the waste stuff she puts into composting. And she produces a jug like that's waste every year." (Environmental Group 2)

Laws/
regulations
passed

Government

- "First, get the key stakeholder together, decide what the way forward is before we start...and then go tell the public. If a law is put in place, for Namibians to know what is happening in Namibia it's in a day they all know there have been some changes from last 6h00 to the following, the previous 06h00 to the following 06h00. They will pick that one up. The one that will talk, if there is something on a paper, a draft, and people say that is a good one, then we will be sending that information. Then we are agreeing together that this is the way forward to protect public health. Otherwise you will be in fragments. Health talks this and you talk this, and you told this, at the end of the day things are out of proportion. A uniform message is important." (Government 3)

B. PREFERRED MEDIUM

Mediums

Multimedia
Approach

Plastic Manufacturers

- "We probably need to appoint some Agency to work out a proper communication plan for the different spheres of the community to reach everybody." (Manufacturer 1)
- "But we should be out there, we should be in the streets, we should be visible everywhere." (Manufacturer 2)
- "There's so many mediums. I think they should try everything. I think they should do banners, they should do social media, they should do newspapers. It should be out there. You know, people like different mediums of communication." (Manufacturer 2)
- "Multi-media approach, TV, Radio, newspaper is still one of the best. It's one of those things. I mean we have challenges with the responsible drinking and we still haven't cracked it. How do I raise that awareness to drink responsibly, don't drive when you drink?" (Importers 1)

Importers

- "Ja again, you must look at your crowd. Older crowd, they are not social media orientated, there a letter or a news bulletin will work, but your younger crowd is more your social media crowd. Your WhatsApp, Instagram, Twitter... but unfortunately you have different generations, I think it's the first time the other day that I read that there's seven different generations currently and they totally think different, read different, do different..."

Re-users

- "Through Facebook, through newspapers, through talks, through everything you must be in people's faces all the time. Because we can see in our recycling stats, if we stop talking it goes down, if we start talking again the graph is growing again." (Re-user 1)

Consumer

- "It's probably the media. Social media today is actually pretty huge. What we use to advertise, social media, newspaper, radio, TV all those types of things." (Consumer 1)
- "If you want to get to everyone and you want to make it successful. I honestly believe that the more you say something the more people believe it. At the end of the day you should use all these mediums and you should use it constantly. Once off will never work." (Consumer 1)
- "Social Media, newspaper and radio because up North; Wamboland they don't have good access to newspaper, but they walk with their little radio in their ear." (Consumer 2)
- "Well I think you need to take it from various angles." (Consumer 3)

Environmental Group

- "I think all types of media. You know why I say all types? If you think about a child, going through development, until it becomes an old-aged person. Different types of mediums catch the attention. So, it has to be different types. But also, even just the two of us – I may prefer some type of media, you may prefer the other ones." (Environmental Group 1)

Plastic Manufacturers

- "First and foremost, would be education. But you know the children in schools are not being educated officially only." (Manufacturer 1)
- "The business – it's funny – I think the best way to reach any industry is through schools and children. So, I think if you start with the small ones you will reach every component in the market. I think start there and it will go through all industries. All the sectors. All the geographical areas." (Manufacturer 2)
- "We got schools and build on the other things that are not there at the moment. Collect at school points in terms of bottles and plastic bags. You educate, collect and then somebody co-ordinates collection from school points. School kids are not going to walk with bags to a rubbish tins there might have to be central collection points in town. I don't see the need to wait and over analyse it when you can take key learnings from a number of counties now and implemented already and then have a x-fazed plan to get to ultimately where you want to be instead of ... that shouldn't take too long." (Manufacturer 5)

Importers

- "I think it must start with the government's side and in the household, but if your schools start learning the kids about it they will be educated grown-ups one day, but the government must set the example and let it happen." (Importer 2)
- "And that's where you should start, is with education, recycling at schools." (Importer 3)
- "I see at the school my kids go to, they also have the separation. The schools itself they have the bins there for plastics and other garbage. Every day they go and empty it. You as a parent you can do your own sorting at home and you can drop it off at school. They have incentives for schools, if you win first price you get this and so forth. Every year they have incentives for schools to collect. They can broaden this initiative to include more schools." (Importer 3)
- "I think also the school program, is not the Private Schools? Is it state schools? I think for just 7 being state schools, that's not good. That's should be your focus, that's where our population is state schools, that's basically in every area of Namibia. Start with that." (Importer 3)
- "You know companies like us should support efforts like that, you know. At school, put down the bins and encourage the children to. That's where you start, once those children leave school hopefully they will carry on with that practice." (Importer 3)
- "Biz Kids. Yes, make it compulsory to have something recyclable, re-use, and reduce. Whatever topic to that business for this year." (Importer 3)

Re-users

- "I think is should start with the younger generation at schools and your homes as well. Personally, it starts at home then it goes to school. If you teach your kids at home, listen this is our bin everything you throw away goes there, you do not leave it on the floor. You don't leave it in the back yard. It goes in the bin. It starts at home so there is no real medium to go through that. The best would be to start in Primary Schools. High Schools as well. Any School Environment. They can then take it from there and say listen at the school we have to put the waste in the bins not in the classrooms or outside in the yard. So why do we not have a bin at home?" (Re-user 2)
- "As the generation grows it will form part of them it is much easier as they will automatically then teach it to their children. So, it is a crucial part to start with the younger generation. Time will only tell, and it will take a lot of time in order to teach the people and change their culture." (Re-user 2)

Consumer

- "You need to make aware the kids at school, because it's their future we're affecting with it." (Consumer 3)
- "I think the schools cause that's the next generation and in the short-term you've got your social media and your printed press. It depends on which group you're trying to reach. The younger the group, your social media. The older the group, the more your printed press." (Consumer 3)
- "Schools, that's a good one, *ja*. Education." (Consumer 4)
- "*Ja* schools, but if they start from schools, it's a good start *ja*." (Consumer 4)
- "(The) recycling process, but I think with recycling, it's actually a huge educational process. And I think, basically, to give my bit of thought to it, is to start at school level. Obviously, the basics, because I think at the African – let's call it... I'm a born and bred Namibian. I come from a background where we generally think, 'Ag, we can just throw it down and somebody else will pick it up'. So, first of all, I would say: 'Right, let's focus on education'. But it won't solve the problem, because we need to act now, and it will take a long time. (Consumer 5)
- "But I think the best thing is to start with education, right at school level." (Consumer 5)
- "Absolutely. I don't know, you can sort of break it down – I would say, my personal suggestion is on a varied level: Make it performance-wise. Whichever school performs the best on recycling. You know, that sort of thing." (Consumer 5)
- "As I said, starting with the education of people. Teach them not to litter, teach them about recycling. I think it should be in schools, a programme. Teach children how to recycle and the process. What happens if plastic is left in an environment, what happens if it's recycled." (Consumer 6)

- "I think the plant of Rent-A-drum, I think even if they start with schools and take the children and take a tour around the plant so that they can see how much plastic there is and how all those dumps of plastic look, that they can imagine and see, if they recycle it, what positive, end solution is there with recycling." (Consumer 6)
- "Newspapers, radio, TV... and I said, it starts from a small, young age. If you teach a person from a young age and educate them about it, it's easier, but you can't..."

Environmental Group

- "There are also other types of media, like plays – in schools, whereby you do it in a creative manner. When you introduce a change to school level so that they are engaged. And the plays catch the children (their attention) better. Why? Because they are visible, and they can see the harm being done to the environment or what happens... So, it's different stages." (Environmental Group 1)
- "But also, right now I think a competition, whereby say the school that comes up with a better strategy or... I don't know, I'm not going to... but at least compete so that maybe the school that reduces plastics completely or propose strategies and how... I don't know, it depends." (Environmental Group 1)
- "Because the schools, they normally have school children awareness generation." (Environmental Group 1)

Social Media

Plastic Manufacturers

- "There's also the use of social media to reach the youngsters, for which we need a plan. You need some plan to say how are we going to do a Twitter account for Namibia waste management, or for Green Namibia, call it something that's got an upside. Green and better Namibia, something to that effect. There needs to be a proper plan." (Manufacturer 1)
- "Social media, snippets. That is probably the most effective at present. Because you get a lot of it. You get social media from your news platforms. News 24 will give you a little snippet that says, okay, Ramaphosa has signed, and then you know exactly what's happened and if you want you can go read. You get these little bits and pieces coming your way all the time. But the communication thing I think it's becoming a nightmare." (Manufacturer 1)
- "If I can talk off the cuff or my gut-feel, I would say social media is probably the most effective at this point." (Manufacturer 1)
- "Awareness is good because even the short time I've been here the awareness is getting ahead of steam and Social Media you can't open Facebook and not see something about plastics damaging the ocean or left on the beaches." (Manufacturer 5)

Importers

- "Social media..." (Importer 2)

Consumer

- "It's probably the media. Social media today is actually pretty huge. What we use to advertise, social media, newspaper, radio, TV all those types of things." (Consumer 1)
- "Social Media, newspaper and radio because up North; Wamboland they don't have good access to newspaper, but they walk with their little radio in their ear." (Consumer 2)

Trade Associations

- So, I feel that often, I love the 2 companies, but they are not necessarily on Facebook, they are not following trends, they are highly successful businessmen and they do well in what they do. But they don't know what the public are saying." (Trade Associations 1)
- "Facebook, yes, but did you know it's the fastest way to reach many people at no cost. And I was mentioning where are the statistics, if we can say 700 000 bags have been produced, from recyclables form Okahandja. What, really? That is not only a publicity stunt or promoting your Company that is good news for Namibia." (Trade Associations 1)
- "Where do people go to the most? And I'm not talking about the more affluent people. I'm talking about the less affluent people, and the people that use plastic bags. Again, we come to plastic bags. What medium do they use? Have they got internet at home? Maybe not. So, the media, the internet media, your Twitter and your Facebook and your LinkedIn and all those kinds of stuff. It is growing, but are we there yet in Namibia? No. So what will they use? They listen to the radio. I really think that's where... They read newspapers. So, the printed media and the radio should be used more to convey the messages. I'm not saying: 'You mustn't use it – put it on Facebook or on the website of the Ministry or whatever. Yes, it must be there. Surely it must be there. For the people that do have access to the internet. But what about all the others?'" (Trade Association 2)

Environmental Group

- "Well I think radio gets to about 90-something percent of the people in this country and local language. The printed media and then social media. I think those three things will pretty much reach everyone. Often you have to have social media, using a number of different platforms and coming from a number of different organisations to reach people, but generally those three are good at reaching people." (Environmental Group 2)

Clean-up campaigns/
Recycling drives

Plastic Manufacturers

- "And I think it will pull the nation together, like this clean-up campaign, you know – get everyone involved." (Manufacturer 2)
- "Recycling drives, not in the North, I know there have been attempts, but no they haven't worked much. I think also the interest is just very limited. This needs to change. We need to create a culture of recycling." (Manufacturer 3)
- "Not everyone has access to Social Media but it's an awareness. The guy that sees you doing it, like minded individual in the street when you see him doing it - hey that's not cool, kind of thing. Like a social pressure. We spoke to a Nation now recently and everybody got involved in the clean-up, they cleaned up everywhere. There's still this kind of camaraderie that exists in a small nation, so how hard can it be. The President starts, I pick this up - not cool. You have a little campaign going. A guy then thinks just before he does that. They've done it in Ruanda even the President once a month they close on one month on a Friday, the entire country cleans up. We used to be the cleanest city here for ten years and they took over from doing that." (Manufacturer 5)

Importers

- "I think the President can organise more cleaning up exercises like the last one." (Importer 3)

Newspaper

Plastic Manufacturers

- "Newspapers always claim to be the alpha and omega about communication, but now if you read through the newspaper I cannot tell you what's being advertised because I don't even look at it." (Manufacturer 1)

Consumer

- "Social Media, newspaper and radio because up North; Wamboland they don't have good access to newspaper, but they walk with their little radio in their ear." (Consumer 2)
- "Newspapers, radio, TV... and I said, it starts from a small, young age. If you teach a person from a young age and educate them about it, it's easier, but you can't..."

Trade Associations

- "So, we need the media. I must say they are supportive, but if you don't pay for your advert you're always dependent on if there is space. Ag no I'll put the SPCA, I worked for the Namibian for 5 years, I know, I'll put the SPCA advert in it looks nicer than the Recycle Namibia Forum's Advert. Ag ja, that kitty is cute let's put that. So, you're really dependent on the fickleness of people in the, the production room. Newspapers are wonderful if they've got a spot they will put a good cause in it and it's excellent. But do people really see it? I see it because I worked in that Industry." (Trade Associations 1)
- "Newspaper ads." (Trade Associations 2)
- "Where do people go to the most? And I'm not talking about the more affluent people. I'm talking about the less affluent people, and the people that use plastic bags. Again, we come to plastic bags. What medium do they use? Have they got internet at home? Maybe not. So, the media, the internet media, your Twitter and your Facebook and your LinkedIn and all those kinds of stuff. It is growing, but are we there yet in Namibia? No. So what will they use? They listen to the radio. I really think that's where... They read newspapers. So, the printed media and the radio should be used more to convey the messages. I'm not saying: 'You mustn't use it – put it on Facebook or on the website of the Ministry or whatever. Yes, it must be there. Surely it must be there. For the people that do have access to the internet. But what about all the others?'" (Trade Association 2)

Environmental Group

- "I think it should – One, there's the television, there's the radio, there's the print media." (Environmental Group 1)
- "Well I think radio gets to about 90-something percent of the people in this country and local language. The printed media and then social media. I think those three things will pretty much reach everyone. Often you have to have social media, using a number of different platforms and coming from a number of different organisations to reach people, but generally those three are good at reaching people." (Environmental Group 2)

Radio

Plastic Manufacturers

- "Radio has got this captive audience thing but you have to listen to what comes up. But it's not exactly true because we're not always listening to the radio. We just listen when we're in the car driving and then you probably want some music or news. That's it. It's not an effective medium anymore." (Manufacturer 1)
- "Radio, difficult to say, but there's a lot of talk radio going on in specifically rural Namibia. Because a lot of people in the smaller villages, that's their main linkage towards the rest of us. And for that I would not miss National Radio and National Television, because I think that is to speak to the population of this Country. I think that's your most efficient way. To us you formal it. To the rest of the Country I think it is probably one of the key places." (Manufacturer 1)
- "The radios, I think everybody listens to the radio, programs are being put on radio to raise awareness. To tell people this is what you can do with plastic, this is a don't with plastic, plastic causes cancer." (Manufacturer 3)
- "Radio. 98 % of Namibian population listen to the radio." (Manufacturer 4)

Television

Consumer

- "Social Media, newspaper and radio because up North; Wamboland they don't have good access to newspaper, but they walk with their little radio in their ear." (Consumer 2)
- "Newspapers, radio, TV... and I said, it starts from a small, young age. If you teach a person from a young age and educate them about it, it's easier, but you can't..."

Trade Associations

- "Where do people go to the most? And I'm not talking about the more affluent people. I'm talking about the less affluent people, and the people that use plastic bags. Again, we come to plastic bags. What medium do they use? Have they got internet at home? Maybe not. So, the media, the internet media, your Twitter and your Facebook and your LinkedIn and all those kinds of stuff. It is growing, but are we there yet in Namibia? No. So what will they use? They listen to the radio. I really think that's where... They read newspapers. So, the printed media and the radio should be used more to convey the messages. I'm not saying: 'You mustn't use it – put it on Facebook or on the website of the Ministry or whatever. Yes, it must be there. Surely it must be there. For the people that do have access to the internet. But what about all the others?'" (Trade Association 2)

Environmental Group

- "I think it should – One, there's the television, there's the radio, there's the print media." (Environmental Group 1)
- "What else? OK, the play I say that because you see many times the plays, be it an ad on national radio – even just hearing, listening to this – or physical in the schools." (Environmental Group 1)
- "Well I think radio gets to about 90-something percent of the people in this country and local language. The printed media and then social media. I think those three things will pretty much reach everyone. Often you have to have social media, using a number of different platforms and coming from a number of different organisations to reach people, but generally those three are good at reaching people." (Environmental Group 2)

Government

- "Radio. Radio still. Driven by radio in order for you to really access most people. Across all the vernaculars and the national language. That's the best way to do things." (Government 1)

Consumer

- "Newspapers, radio, TV... and I said, it starts from a small, young age. If you teach a person from a young age and educate them about it, it's easier, but you can't..."

Trade Associations

- "I think, can one not involve the NBC, the NBC also wants good news stories. Why can we not do film work on good stuff that's happening. Show the process of the piping being made. Show the volumes. I know that Rent-A-Drum has done quite a bit of film work. But for people to just see a truck driving to Ohorongo, still does not say that was the Staysoft bottle that previously was unrecyclable is now being burnt for fuel." (Trade Associations 1)
- "I love, and it's expensive, the ad campaigns, if you look on DSTV. The Glass Recycling Company of South Africa, they've got this wonderful advert that highlights that you can recycle a glass bottle time and time and time again. You use less power." (Trade Association 1)

Environmental Group

- "I think it should – One, there's the television, there's the radio, there's the print media." (Environmental Group 1)

Re-users

- "Shows." (Re-user 1)

Trade Associations

- "Expos where ideas can be shared, and information given." (Trade Associations 1)
- "Absolutely because again at that EXPO where people were invited to showcase their stuff. I didn't know half the Companies existed. That makes the most beautiful tiles from natural product in Namibia. I know often they don't have the resources, the capacity or the funding to do large marketing like a tile company would that come, again a franchise in Namibia. But *ja*, I feel somehow more awareness can be done." (Trade Associations 1)

Environmental Group

- "I don't know if you are aware, last night there was a talk on living a zero-waste lifestyle? It's going to be on the 21st in Swakopmund. There's a speaker, she's a French lady that lives in America, we brought her out here to talk about zero waste. Her whole family of four, two big, burly boys and a husband, he looks as rough as a (inaudible) and she's a nice, petite, French lady... they in a year produce less than a small glass jar of waste, the whole family in a year. And it's simple, they've reduced their lifestyle to live really simply and they do, they concentrate on doing things, not owning and collecting things. So, they've got minimal amount of possessions, they've got a nice house, but it's uncluttered, minimal possessions, and they refuse, reduce, re-use, recycle, rot, compost. That's their five-step plan. So, if they go to the supermarket and she takes glass things and material things to the supermarket, buys cheese, takes the plastic wrapping and sits the cheese in the glass, closes it. Buys meat, put the meat in the glass, leave the plastic behind. She goes with a few jugs and a few things in her trolley and loads her stuff into there and into her containers and so on. Goes to the counter and she doesn't take any plastic from the shop at all, nothing that she needs. She takes her

Expos/ Trade Shows/ Public talks

<p>Post</p>	<p>glass bottles and has a milk bottle, has a place that provides wine into glass jugs for her there. So, she refuses, then she re-uses things and just keep re-using them and then if there's anything that's left, she recycles it and ultimately all the waste stuff she puts into composting. And she produces a jug like that's waste every year. It's a very good speech. If you can be down in Swakopmund on the 21st she's going to present it down there at the Strand Hotel." (Environmental Group 2)</p> <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Leaflets in the post boxes." (Trade Associations 2) • "I think there is one thing that people underestimate in this county. And I worked for the Post Office – I was the General Manager. And I introduced a lot of things. The one institution in Namibia that has the best infrastructure is the Post Office. And they've got post boxes all over. Even in your small town, they've got post boxes. So, if the Ministry, Private Sector, whatever – can just create a leaflet, an information brochure or whatever and put it in every post box. And more people than one person uses a post box. Two or three of four families, in certain instances use the same box. They will get the information. What they do with it, that's another question. Because now people will say, 'Ah, no, Ronnie, now you are actually advocating for more paper to be thrown away. So, on the one hand, you do something to communicate it to them, then they use that to create more litter. But I think it's a balance that you can find. And if the people are correctly informed: 'This leaflet – don't throw it on the street – take it to your... wherever. Or put it in a plastic bag to be recycled'. They can throw it on the dumpsite – that leaflet. Or on the whatever. But people will collect it there and take it to Rent-A-Drum or wherever to be recycled. So, I'm just saying more needs to be done in communicating with the consumer on the pros and cons of the different commodities, in this instance – plastic bags." (Trade Association 2)
<p>Website</p>	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "Well the business community – at the end of the day – why can't Plastic Packaging have the pros and cons on their website?"
<p>Ambassadors</p>	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "You need to have your brand, your brand leader. Like a musician or whatever that has a few rap songs about it. You need to have the politicians bringing it into their voting agenda. You need to have the economists, etc. talking about the financial impact. So, you need to have it from all sides." (Consumer 3)
<p>Recycling Plant Site Visits</p>	<p><u>Re-users</u></p> <ul style="list-style-type: none"> • "What we've seen is site visits, people come here to see it actually. They don't think this is happening in Namibia. Perhaps with schools?" (Re-user 1) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "I think the plant of Rent-A-Drum, I think even if they start with schools and take the children and take a tour around the plant so that they can see how much plastic there is and how all those dumps of plastic look, that they can imagine and see, if they recycle it, what positive, end solution is there with recycling." (Consumer 6)
<p>Podcast/ YouTube videos</p>	<p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "Some of these little podcasts and things, really have an impact. Not long, laborious... you know, having some heavy environmentalist wagging fingers and talking to people and saying, 'You must do this'. Just putting out the information, just sharing information that this is the situation, these are the birds that are being impacted, these are the whales and dolphins dying and this is what's happening to turtles. This is what the rest of the world is doing, and Namibia is following suit, and these are the reasons behind it and this is how it's been done and really it's everyone's responsibility to realise, everyone come on board and make it (inaudible)." (Environmental Group 2)
<p>Competitions</p>	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "Maybe you can form partnerships with plastic manufacturers to have competitions or stuff. Or we sponsor bakeries, Coke sponsors those next to the street vendors, whatever. They can sponsor those kinds of businesses (craft businesses that re-use plastic)." (Importer 3) • "Organise a competition for somebody to come forward with the best idea, or object to be made from plastic." (Importer 3) • "Maybe you could also, instead of just the companies, you can have an overall town proudness competition, Cleanest Greenest Town. Not like the colour green. The Greenest Town." (Importer 3) • "They have this initiative Town of the year; you can have the cleanest town of the year." (Importer 3)

3.2. REACHING THE BUSINESS COMMUNITY

A. MESSAGING

Messaging	
Patriotism	<u>Plastic Manufacturers</u> <ul style="list-style-type: none">• "Well I think every business that's got its roots in this country will feel the same about it." (Manufacturer 1)
Polymer Balance Sheet	<u>Re-users</u> <ul style="list-style-type: none">• "More companies are going the green route and are thinking about recyclables and wanting to get figures on what volumes do they do and what volumes do they generate. It is not always easy to manage that because you do not have scales at every single site. We have given the recommendation to certain clients that they install a scale and there we can weigh the product before it is loaded and compacted for the waste and we can weigh the recyclables. Once again the cost implication is most of the time the reason why they do not go that route." (Re-user 2)• "Most of our clients we give them monthly reports on what is their total waste to you, what is being recycled and what categories and what is going to the landfill sites. We have a program where we can tell you exactly at the time what is his total spread of waste." (Re-user 1)• "We do it now directly with our clients and recycler Namibia forum. We want to do it because we measure ourselves and our clients measure themselves, they want to. So, I'm not sure what other organisation can do it." (Re-user 1) <u>Environmental Group</u> <ul style="list-style-type: none">• "And then the other ones, it can be for industries – because you need to target your different audiences. Industry may want some of the hard facts that I'm asking. Before I say this, what is... And that one maybe is deliberate dialogues, discussions with most likely knowledgeable – if I may say – or experts in the field who have done research, who are able to say: 'Look, Namibia, now this is how many tonnes of plastic waste we produce, this is how many tonnes ends up where and this is how much you can save if you... something like that. Then it's a bit of a targeted and engaging and really, because industries or businesses – sometimes they actually fear the unknown. But if you present to them the "knowns" (facts), they are pretty much able to decide and change and so on." (Environmental Group 1)
Truth vs Myth	<u>Plastic Manufacturers</u> <ul style="list-style-type: none">• "The reality, because everybody has got this misconception of plastic. Especially with the food, everybody just has got a misconception." (Manufacturer 3)
Government's position on plastic	<u>Plastic Manufacturers</u> <ul style="list-style-type: none">• "By having that legislation put out there, it already reduces. Because I believe there are people that comply with all the regulations – that's what we all need to do." (Manufacturer 2)• "Exactly. And I think definitely it's going to be a thing that if you implement it, Government's good at that. They sometimes implement something that... doesn't make sense and everything is not in place. But I think by just implementing and putting it out there as a rule – 'that is how we do it' – will force industry to comply already. Although it's not policed or 100% governed, by having that there it's already a step in the right direction." (Manufacturer 2)
Business community will comply with standards and eventual regulations	<u>Importers</u> <ul style="list-style-type: none">• "If there is a law or policy in place, then it's not an option anymore." (Importer 2)• "As I say, you have to force it. The people are not going to do it willingly, you'll have to enforce it on them. But once you get used to it, then you get used to it." (Importer 2)• "The problem is there are so many things that one needs to adhere to lately, one that I am thinking of is food security. You know, we have got basically a separate department now managing food security, now not that I am saying that you mustn't provide people with secure food, but, we are living in Africa, now they want to subject us to European and American standards and stuff like that. And you are facing these things every day more and more and it puts cost on your structures. So, you have got to cope with that, now you have got to cope with something else and I think the tendency is then to, to give attention to the most serious or pressing problem that comes your way. If it isn't compulsory, it won't be a priority." (Importer 3) <u>Re-users</u> <ul style="list-style-type: none">• "We will only be able to see change if it is required by law." (Re-user 1)• "But it's all about awareness, enforcement and education. That you can't do as a private company alone, you need the back up of government and state." (Re-user 1) <u>Consumer</u> <ul style="list-style-type: none">• "You know, everybody is going to a conference for a good time. My personal view is that if there is a sin tax on plastic, then you as a company actually, let's call it perform according to certain standards that's been set down, whoever said it and what's been said – I don't know. You can

Cost-saving	<p>sort of get a reduced... or a payback or a discount on whatever. And work it from there." (Consumer 5)</p> <ul style="list-style-type: none"> • "Have a penalty or incentive that drive behaviour change. Absolutely." (Consumer 5) • "If you force someone to do something different, they will just get into that habit. Whether it's a material bag or whatever you want to call it, as soon as you force someone through legislation to change the habit, then it is going to happen." (Consumer 1) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "It's cost saving for them. If they recycle, it's cost saving for them." (Re-user 1) • "Money talks, yes. The less goes to a landfill site, they pay less for waste management and dumping fees because we're collecting at this stage recyclables free of charge where we can. So that's the saving that they'll have." (Re-user 1)
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B. PREFERRED MEDIUM

<p>Mediums</p> <p>Conferencing/ Presentations</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "I think conferencing would then bring together people in the plastic industry. So, to have a body to bring everyone together and arranged information sessions so you get the same message. Then there is no confusion about what is true or not, what is being done or not." (Manufacturer 3) • "Like I said, information sharing meetings and inform people more about plastic." (Manufacturer 3) • "If such meetings can take place, and clarities, people can clear things and speak more, understanding, people have more understanding of it. Like I said, plastic everybody just sees plastic and that's it, but nobody really knows how the plastic. People would be, they are actually surprised when they see how plastics are being manufactured. It's one in a 100 people that really, they would see an end product, but they would not really see how it's being done." (Manufacturer 3) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "And then the other ones, it can be for industries – because you need to target your different audiences. Industry may want some of the hard facts that I'm asking. Before I say this, what is... And that one maybe is deliberate dialogues, discussions with most likely knowledgeable – if I may say – or experts in the field who have done research, who are able to say: 'Look, Namibia, now this is how many tonnes of plastic waste we produce, this is how many tonnes ends up where and this is how much you can save if you... something like that. Then it's a bit of a targeted and engaging and really, because industries or businesses – sometimes they actually fear the unknown. But if you present to them the "knowns" (facts), they are pretty much able to decide and change and so on." (Environmental Group 1) • "So, for industry, for business community – presentations by knowledgeable people, the experts – weighing the pros and the cons so that they can make an informed decision in their own industry." (Environmental Group 1)
<p>Similar to Public Campaign</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "What is being done for the general public will spill over into the business community, it should." (Manufacturer 4) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Similar to public." (Consumer 6)
<p>Competition</p>	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "It is probably something that people will act on I just believe it is the wrong reason for it. The reason for any competition will be firstly to win it and secondly to use it as a marketing tool and that's not what this is about. So, it should be something, in my opinion, emotionally and something from the heart and caring. How do you get people to care, I don't know. But a competition in my opinion sends the wrong message to why we're doing it." (Consumer 1) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "I'm not sure. I love competitions because I know how much people like competitions because everybody wants to win. I'm not sure, I'm just thinking Shoprite possibly has the thinnest bag. Because it is the least expensive bag, but how about how green are you. I almost wanted to look at how green are you." (Trade Associations 1) • "EMCOM officially has the greenest building, they even in the kitchen, the people are told to <i>vrugteskilletjies daar</i>, coffee goes there, they're compost. If you move out of the room, the lights go off. They've got a big sign in the office that measures the electricity consumption. All these small things. I like the green idea. You can just imagine how embarrassed a Pick n Pay would be if a SPAR is greener than them." (Trade Associations 1) • "If Companies are being recognised for what they are doing well it will encourage them to do more things like that." (Trade Associations 1)

Associations	<p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "It needs to be recognised. There is the Sustainable Development Awards in Namibia, which recognises, I think certain things of businesses. But there's no reason why businesses cannot do their own, because the others look at different categories." (Environmental Group 1) <p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Well I think you've got your business associations which can be utilised" (Consumer 3) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "I think direct communications and because our business community is so small, you got the Chamber of Commerce, you got Enterprise Namibia, there are a couple of organisations in Namibia, tourism sector through NATA, the mining sector through the Chamber of Mines, the environmental NGO sector through Chamber of Environment here. We can get to people directly through email, internet, direct mail and so on. So, the professional people, it's readily present to..." (Environmental Group 2) <p><u>Government</u></p> <ul style="list-style-type: none"> • "Well, through the sectoral associations. It's important to reach them through the sectoral associations, because in that way you know very well that you have centralised information and it will then be spread in a democratic fashion to all of them. If you do it just because, you know a few companies, you are most likely failing reaching the critical mass you need. And you will also (have to) protect yourself from any future attacks that you are favouring a few people to receive the information. So, you write to the Namibian Manufacturers Association and give them full information and ask them to spread it on (to) members. You write to Namibia Chamber of Commerce and ask them to spread it through to their members. That's how it works." (Government 1) • "Very difficult for me to say that. If you could have maybe associations that deals with plastics at this moment, it would be much more better because within those associations you know who the stakeholders are. But for now, I cannot able just to say off head yes, no this is the best medium to get to your Industries. I do not know the industry really well, I do not know them very well. Probable the formation of probably the association would do better. And also have a data base of stakeholders to reach them. Once you have a data base of your stakeholders then obviously you'll be able to do a good awareness with them. Rather than just putting in the newspaper, it works, but yes. But if you know them to be much more better." (Government 2)
email	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "I would say emails and newsletters type of thing. We communicate, we have notice boards at our entrances. We have our in-house newspaper and then we also have meetings on a regular basis with our people." (Importer 2)
Staff training	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Emails, ja just do an email, it's easy." (Consumer 4) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "At the shopping centres that we do, there is a little bit of education. We have signs that shows what type of recyclables should go where. Boxes are automatically separated from the waste stream. So, it has started quite well. Mainly while the site worker is on site, it actually works for us that is responsible for the waste area." (Re-user 2) • "No, we haven't done that, but running the waste area with the site worker and he knows exactly what to sort and then when the people from the stores bring down their waste then he would tell the people, that is just plastic, put it in the bag for plastic. The box goes there." (Re-user 2)
Brochure with Municipal bill	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "I think for the city of Windhoek, with your monthly bills they can be brochures or whatever..."

3.3. REACHING THE OPINION LEADERS INTERVIEWED

A. INFORMATION NEEDS

Information Needs	
Consumer Awareness and Understanding	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none">• "I would like to know specifically on this, what the consumer understands and perhaps more important, what they don't understand. That's what we need to know as manufacturer." (Manufacturer 1)• "When it comes to plastic, recycling, brands etc. Because a lot of what we've been doing we think in some cases what the consumer understands and then they have no clue, and, in some cases, we think they don't understand but they are pretty clued-up. So that is I think, the essence here. We need to understand." (Manufacturer 1)
Polymer Balance Sheet	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none">• "No. I would like to look at the polymer balance sheet in itself. What polymers you get into Namibia as virgin, and what polymers are recycled or sold so that you know that all the polymers that is brought in, is basically used in secondary life-cycles. And I'm talking about waste to energy, that RDF plant of Ohorongo. I'm talking about Namibia Polymer Recyclers' recycling of waste products and Rent-A-Drum collecting waste and exporting it. So, if you can add up all those polymers' tonnage and you can compare it to what has been imported and it nets off, you know nothing was left over in the environment. So, looking to a positive balance sheet, sort of Namibia asking 'Please, import waste. We want to use it.' Because there's value to that." (Manufacturer 2)• "I'd just like to know where it's going. I'd like to know what has been imported, what has been recycled, what has been burned. You know, just to have a feel of where it's going, because there's so many figures just thrown around, of how many tonnes ends up in the ocean. I'd just like to know as a Namibian citizen, that we are fine. That we are not adding to the problem." (Manufacturer 2)• "Yes, I would like stats. Yes. Definitely." (Manufacturer 2)• "No. It shouldn't be difficult to read. I just want to see, OK, there's the stats. Namibia has... there's a 10% leakage in the market or there's a... you know, just a quick stat. Not too much detail." (Manufacturer 2)• "It could be interesting, you know, it could be interesting. We know what the other bottlers within the group are doing, so that we know, but I don't know the competition, other companies, no idea."• "But just like a broad stat like you've just gave me, 30 % reduction. You don't have to go into your intellectual capital or anything like that." (Manufacturer 4)• "Consumers (the measurable) would be littering, clean-up campaigns. Getting stats to know how we are doing." (Manufacturer 2) <p><u>Importers</u></p> <ul style="list-style-type: none">• "I would like to see how much gets recycled. So how much plastic do we bring in or put out in the market and how much actually ends up being recycled. So, I can give you a number and say okay I've sold so many bottles of water and this is the grams of plastic in it has an assumption and compare that in all the Industries that does this, compare to how much did we actually recover through recycling. Just to see how effective we are in recycle." (Importers 1)• "Maybe if there are developments like, Pietie from wherever is starting up a recycling plant, that kind of information will be good to have so that we can also see, ok maybe we need to adjust our sorting process to help that guy get our stuff. Who to give that information? Is there a centralised plastic body? I don't think so." (Importer 3)• "I think once again as responsible corporate citizens, that's something that we should look at. Because we, like I have said, you know, we can only complain and do nothing about it. So, it will also make you more aware, and when you become more aware there will be spin-offs." (Importer 3) <p><u>Re-users</u></p> <ul style="list-style-type: none">• "Also, with your waste going to the landfill sites and see what is at every landfill site and see if it is going up or down. You must have a graph." (Re-user 1) <p><u>Consumer</u></p> <ul style="list-style-type: none">• "I want to see our recycling stats in Namibia. Also, how do we compare to others on the continent and elsewhere." (Consumer 1)• "Maybe over the 3 years a proper, proper analysis of what we use, what we import and from there if you have the information you can make informed decisions." (Consumer 1)• "Ja, but you see what happens is we have a contract with them, we pay them a monthly fee. So, they sort everything. They take it to the correct areas where they have to dump it and basically that's that. So, we are in their hands. If they handle it the correct way or not, I'm not sure." (Consumer 6) <p><u>Trade Associations</u></p> <ul style="list-style-type: none">• "I would like to know what the volumes are at the Okahandja plant." (Trade Associations 1)• "I want to hear the good news. I want to hear how much is recycled." (Trade Associations 1)

- "But for me is that the best news story is, that this one product in Namibia that you can trace from manufacturer through the consumer, post-consumer waste, and into a new product. Because you cannot do it with paper. You cannot do it with glass." (Trade Associations 1)
- "But I really think there should be more measurable in place. Do you know that Namibians have recycled X amount of plastic in the last month?" (Trade Associations 1)
- "Now statistics impress people. If you can compare it. If you say to a school you've collected so much waste it's 5 Boeing's, hah, because they can imagine it. If you know how much pipes were produced from recycled material. (Trade Associations 1)
- "So, I would like to hear what it is that's being done, yes, I know that the Star refuse bags are made from recycled plastic, but who else does?" (Trade Associations 1)
- "Yes, and I tell everybody, if you buy, buy that one, because that one is made in Namibia, from recyclables. How many did we produce? Now the last stats that I've got from Anfer I think was 2015 or 2016. Where is the 2017 stats? I know it's difficult because we also work and together with Coca-Cola and them we are trying to see what gets put into the market and what's recycled. It's nearly impossible to determine. But it's a challenge." (Trade Associations 1)
- "We tried, we are busy, we've got IJG did the research. But it's very difficult. Remember a bottle picked up in Opuwo could have been sold in Namibia 3 years ago. So, it doesn't help, or if you take, when they looked at the manufacturing of water again, it's a good example. Okay so that water bottle that you've picked up was this now produced in Namibia or was it imported from South Africa or wherever. When was it sold, where was it sold?" (Trade Association 1)
- "All of them and whatever you do that's got to do with the 3 R's, that actually should be 4, Refuse, Re-use, Reduce and Recycle." (Trade Associations 1)
- "How many thousands of tonnes of plastics are there in our market? And how many of that thousands of tonnes are we recovering for the purpose to recycle it and to make (transform) it into energy or whatever we want to use it for? We don't know. And I think it's high time that we try to get that data." (Trade Association 2)
- "So, what goes out in the market, what is recovered from the market, and what is done with the recovered materials? How much is exported? How much is imported again? How much is converted into energy and how much is converted into raw material? I want those stats." (Trade Association 2)
- "Rent-A-Drum is doing that. Again, I come back to the stats. How successful are they? What they get, they will convert to raw material or to energy or whatever. I know Gys, the guy there – they are also an NMA member. So, I know about it. The question is again – of (relating to) the whole plastic problem – 'What part are they doing?' And that is the crucial fact for me. We can't clap our shoulders and say: 'Yes, we are doing a great job'. But in the meantime, it's only 10% that we are doing. And what about the 90%? But we don't know that. We must get that data." (Trade Association 2)
- "Of what I know – and I don't have the data – of what I know, I think we are faring really good. There is much more emphasis in the past 2 to 3 years, maybe even 5 years. If you look at the development that Rent-A-Drum did. The expansion that they did. The collection. They went in to the coast, they went to the north, they're in the south – collecting recyclables. I think we are really doing a great job, but I put it in inverted commas. We don't know how good it is because we don't know what is out there to be collected." (Trade Association 2)
- "If we talk about data on what kinds of products are being manufactured in Namibia, what is being imported? Any product that's manufactured in Namibia. I can't tell you now. It's sad, if we think about it. If you go to the Custodian Ministry, which is Ministry of Trade and Industry, they can't tell you. If you go the Registrar of Companies, they can't tell you. Nobody can tell you. Because again there's no collective – collecting of information from all the Stakeholders." (Trade Association 2)

Environmental Group

- "I would like to find out more about Ohorongo's operations." (Environmental Group 1)
- "I think for us, because we want to report the progress and the status of what Namibia is doing – what type of efforts, and what type of successes are here in Namibia that can be informing the global community. Be it within the Sustainable Development Goals, but also some other practices, because some good practices are coming from here. There's no reason why Namibia could not share the good practices because Namibia is very small, population-wise. It's very big country-wise. But it also has certain successes, like in conservation. Which is a good success globally, when you compare. So, there's no reason why Namibia could not be a good global case study or Best Practice." (Environmental Group 1)
- "I would like to know how many bottles of coke and other soft drinks the manufacturers sell in Namibia. How many of their bottles come back into the recycling system and how many are lying out there in the veld and what are they doing about that. I would like to know that. I would like to know, the same with the plastic bags and with the straws. And I would like to know how much all the retail shops spend in Namibia buying plastic bags to give away free to their customers. How much that costs them all. So, what is the accumulative amount of money that is spent on giving away free plastic bags to customers in Namibia." (Environmental Group 2)
- "Well it would be good also to have better information on what goes into all the landfills, and what goes into all the dumps, waste, rubbish dumps around the country. What is the rates of stuff going

in and what is it made up of. We know that plastics, we do a survey of road-side or a Windhoek municipality dump here, waste management system and you just do quick surveys to see how much plastic makes that up, but it would be good to do more systematic, analytical, qualitative assessments of all of that." (Environmental Group 2)

Government

- "Yes, we should get more information, because we are trying to come to some solutions around the matter." (Government 1)
- "More information on waste to energy." (Government 1)

National goals and achievement

Plastic Manufacturers

- "Excellent goals and it is goals that are being addressed by many of the institutions or groups. We currently have the Namibia Beverage Container Association, Recycle Forum. Their slogan is – Zero Waste-to Landfill. At Coke-Cola our new slogan is – World without waste – and those are projects that were launched two years ago, three years ago. Coca-Cola re-looked at our recycling project and re-launched it January this year. Where we say for every bottle or can we put in the environment we'll bring one back. So, we're working towards that and many other Institutions are working towards these goals. So, I'm quite happy to say it's there, we're working on it. I just don't know whether we can already determine a success rate. If somebody can really get up and say oh we're 5 % there or we are 10% there. For us we will only be able to say within maybe a years' time, maybe two years' time, whether our project is working, the impact it's having and how we see it." (Manufacturer 4)

Importers

- "It would be interesting to see that as well, because that's going to help me develop my strategy at the end of the day. Because this (plastic bottle) is what the consumer wants at this stage. I need to give what the consumer wants, but if I know for instance that we are taking a stand to reduce that footprint, because now currently I'm producing it, but I also want to put in measures in place where I can get it back. But if we know that okay guys, I should not even waste my time, develop innovating into that space, then I can find another direction as well." (Importers 1)
- "So, to get the stats and to know what the specific goals are, get in the stats to say how we are faring and to say where we are going as a Country." (Importers 1)

Re-users

- "You must measure, with anything you have to measure yourself. Where's your goal and where do you stand now and how you will get there." (Re-user 1)

Consumer

- "Of course, we need information on how we are doing as a county towards achieving these goals. As I said especially from our point of view that we have a set goal that we're working towards. It is very important to understand what the broader public and the rest of the country are doing about that." (Consumer 1)

Trade Associations

- "How far are we from achieving these goals? How are our efforts getting us closer to these goals every year? Where should we improve?"

Environmental Group

- "I think for us, because we want to report the progress and the status of what Namibia is doing – what type of efforts, and what type of successes are here in Namibia that can be informing the global community. Be it within the Sustainable Development Goals, but also some other practices, because some good practices are coming from here. There's no reason why Namibia could not share the good practices because Namibia is very small, population-wise. It's very big country-wise. But it also has certain successes, like in conservation. Which is a good success globally, when you compare. So, there's no reason why Namibia could not be a good global case study or Best Practice." (Environmental Group 1)

Government

- "Yes, that would be good. To get regular information on how we are faring in our achievement of goals and targets." (Government 1)
- "What does carbon footprint entail and more information on the impact on non-renewable resources." (Government 2)

Truth vs Myth

Plastic Manufacturers

- "You just hear there is a something and there is a something. You hear of myth of plastic, but nobody is really coming forth and giving the right information everybody is just assuming." (Manufacturer 3)

Importers

- "What is the truth about paper vs plastic. Are paper grocery bags really a better environmental choice? Do they use less energy and non-renewable resources to manufacture?"

Re-users

- "There are a lot of don't know answers on the truth and myth questions. More empirical evidence is needed, not just from one point of view, but from a well-rounded view point."

Government's position on plastic

Consumer

- "If you want to have a meaningful discussion about it then you should know what the facts are. Is plastic energy efficient to recycle and produce? What is the environmental effect of replacing plastic with paper? Can plastic cause cancer? Can plastic be converted into energy?" (Consumer 1)

Trade Associations

- "What is going into the manufacturing process these days? How much less plastic are we using?"

Environmental Group

- "I think the facts, yes. The entire value chain involved in the manufacture and recycling of plastic." (Environmental Group 1)

Government

- "Yes, because it's a huge debate right now. Yes, and therefore, what you are getting...it's just like very light arguments from both sides and therefore you are not sure as to... so that's why I'm saying, both sides are presenting very light arguments and the objectives are not well grounded in the 'why we are doing certain things or why we are imposing bans or why we are looking for levies'." (Government 1)
- "One day I was talking with those people, and they talked about new technologies, and I said to them, 'fine, demonstrate, because what we are saying that we don't want anything to carry our food with. No, we want something... If you change your technology, make us understand that what you are producing now is environmentally friendly for you own health and ours. And don't just talk about losing employment.'" (Government 3)
- "We need to know all the facts about plastic, the pros and the cons, and not just from the view of the manufacturers, all stakeholders must give their research so that we can have all the information from all the angles." (Government 3)

Plastic Manufacturers

- "What I would really want to know is the government interest on plastic because I think that is an area that is, that is not considered. I don't know if the government doesn't have a lot of interest. So, I think it's an area that is partially being neglected." (Manufacturer 3)
- "At the top, I want to know what governments' stance on plastic is, what is the level of the priority that they give to it. And are they investing in that industry?" (Manufacturer 3)
- "I don't think I've seen enough from Government in terms of where they're heading with this kind of thing. I have a feeling I'm just concerned it might be knee jerk, based on too little information and consultation. So, I hope it will eventually be well considered. From the manufacturers the guys that I've met, the forums and stuff there's a willingness but also needs to be well thought out in terms of how it's going to be tackled to actually stop the problem." (Manufacturer 5)

Importers

- "Government needs to take a stance. We're not going to make a decision on plastic, because and maybe I've got a file on that, Government will only make a decision if, they will make the decision if it effects their pockets. So, Government is looking for revenue so we're making the decision for the wrong reason. So, we'll implement taxes to generate revenue but we're not addressing the core problem." (Importers 1)

Re-users

- "I think education. Education is a big part of that. Because people in Namibia did not grow up with waste management and recycling. So, we're not yet a first world country but we can work together with the government and the president. The goal is to get Namibia back as the cleanest country or city in Africa. So, we've got the backup of the president and the government. What is their position on plastic? How do they see the way forward?" (Re-user 1)
- "But it's all about awareness, enforcement and education. That you can't do as a private company alone, you need the back up of government and state and for that you need to know where they stand." (Re-user 1)

Consumer

- "The Government must make known where they stand on the issue. It has been coming for years." (Consumer 4)

Trade Associations

- "Government's lead is vital. We need to understand their vision and plan."

Environmental Group

- "Namibia has a Waste and Pollution bill, or is an Act? It is basically the intention of the country – how it wants to manage waste, including plastic and pollution. And obviously for this to happen, there should be a strategy, which I think is in draft form. But then the strategy should have targets and so on. The key role players, the industry and of course the policy makers themselves and what they do. I think it starts at that level, rather than just the plastic. It's waste and pollution. And waste – it's waste on land, it's pollution in the air, it's also pollution in the water (marine or fresh water) and so on. And then different types of wastes." (Environmental Group 1)

Funds Application
Environmental
Investment Fund
Reports

Trade Associations

- "So, I check, the EIF has this wonderful page that says Berg funding granted, okay, what happened to this Company that got 172 000 to start a tyre recycling plant. I mail to my friend Mr Nafidi, I don't

	<p>know. I said, but listen you guys, you gave funding, and we got one funding from the EIF to produce a booklet and create a Website, so I know the reporting measures that are in place for the EIF. Where's the feedback on all these projects that have received money? That's and interesting page to go and look at." (Trade Associations 1)</p>
Levy Application Reports	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "You've got an opportunity when you launch here to be completely transparent and say we've collected X million that means we've opened another reclamation depo in Rundu or whatever. We've done this it needs to be participated." (Manufacturer 5) <p><u>Consumer</u></p> <ul style="list-style-type: none"> "If you paid a levy, me personally, would like to know what happens to those funds, where it goes and for what it is used. So, then I think no one would mind paying a levy, but if it's just another levy that's going to the government's pockets, I don't think the people would be happy with that, because if you have constructive control over it and if you can show what has been done with it, yes. Otherwise it's just reaching someone else's pockets." (Consumer 6)
Information sources	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> Whoever is collecting the information must disseminate it - see targets

B. PREFERRED MEDIUM

Medium email	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "Formal e-mails, good place to be if you want to get to us." (Manufacturer 1) "E-mail is fine." (Manufacturer 2) <p><u>Importers</u></p> <ul style="list-style-type: none"> "E-mails." (Importers 1) "Email." (Importer 2) <p><u>Consumer</u></p> <ul style="list-style-type: none"> "I think booklets are overrated, I would probably react more to it and read it more if I receive it through email." (Consumer 1) "Email and newspaper." (Consumer 4)
Newspaper	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "Newspaper, if there's a proper story about something significant we will always read into it. And it is amazing how much the newspapers find their way into the social media nowadays. I think that is probably a good platform." (Manufacturer 1) "Newspapers are fine. But preferably, easy to see. Maybe a newspaper or a banner." (Manufacturer 2) <p><u>Importers</u></p> <ul style="list-style-type: none"> "So, you must take that in account to how you communicate. For me to send me a tweet or Instagram feed, won't work. I won't even see it, I don't know it, I won't open it. Rather give me a paper and I can read it, then it's fine." (Importer 2) <p><u>Consumer</u></p> <ul style="list-style-type: none"> "Email and newspaper." (Consumer 4)
Social Media	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "Social media is fine." (Manufacturer 2)
Conferencing/Presentations	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> "I think conferencing would then bring together people in the plastic industry. So, to have a body to bring everyone together and arranged information sessions so you get the same message. Then there is no confusion about what is true or not, what is being done or not." (Manufacturer 3) <p><u>Importers</u></p> <ul style="list-style-type: none"> "I get a 1000 e-mails a day. I get invited to 100 forums a month, from anybody that's sitting wherever in the world. So, I just delete those e-mails, let's press for the important ones." (Importers 1)
Report	<p><u>Trade Associations</u></p> <ul style="list-style-type: none"> "The Minister of Environment (should say), OK quarterly to all the industry players to submit their data. They consolidate it and draft a report. And then give a report to stakeholders. And surely, the Minister, the Prime Minister, I think His Excellency the President, will want to get a report like that and say: 'Hey guys, yes, we are going in the right direction'. I think Namibia can be in the forefront of introducing plans – affordable plans – and also to help the economy and the consumer to curb plastic waste. I think we can do it. We must start to think smart." (Trade Association 2)
Newsletters	<p><u>Importers</u></p> <ul style="list-style-type: none"> "Newsletter." (Importer 2) <p><u>Re-users</u></p> <ul style="list-style-type: none"> "We're members of different organisations around the world that is set up with daily or monthly newsletters to see what is going on in the market." (Re-user 1)

4. 3-YEAR ACTION PLAN PROPOSED

4.1. NATIONAL PLASTIC MANAGEMENT GOALS

Positive	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Good goals for Namibia, definitely" • "These are good goals." (Manufacturer 3) • "Excellent goals that are being addressed by many of the institutions or groups." (Manufacturer 4) • "These are big headlines in terms of what needs to be looked at. They nailed it." (Manufacturer 5) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "That's at the end of the day where we want to be. We have a fantastic beautiful Country and we have to preserve it." (Importers 1) • "Yes, they are good." (Importer 2) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "Definitely good goals." (Re-user 1) • "Yes, I do. These goals are good." (Re-user 2) <p><u>Consumers</u></p> <ul style="list-style-type: none"> • "Very good goals. Good goals to set for everybody." (Consumer 1) • "It is a question that if it's the environment and if it's going on the way it's going these things need to be in place, no question about it." (Consumer 1) • "Yes, we need to do that. As a country we are not there yet, I think." (Consumer 2) • "Yes. Definitely. These are good goals." (Consumer 3) • "Definitely good goals." (Consumer 4) • "I think it's perfect goals. I think it's just a matter of how we are going to implement it." (Consumer 5) • "No definitely, they have to." (Consumer 6) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "I think it's good for Namibia." (Trade Associations 1) • "Yes. Absolutely. We must protect the environment." (Trade Association 2) <p><u>Environmental Groups</u></p> <ul style="list-style-type: none"> • "They are good goals, but zero waste to landfill – that is a bit tricky." (Environmental Group 1) • "Yes, they are. We should be striving for low carbon, clean environment, low renewables. A zero-waste approach is what we should be striving for." <p><u>Government</u></p> <ul style="list-style-type: none"> • "It's targets. We gradually work through them with industry, instead of outright banning." (Government 1) • "Yes, I think it's applicable to Namibian environment, we mentioned about fauna, marine, resources, water and the environment. I think it's much more applicable, you can go by those objectives." (Government 2) • "Of course, if we say 0 to this, 0 to that, then we are moving. All that you mentioned there, very, very important, of the environment. And then you have a clean environment. Putting all those together and come up with a project and we all agree as Namibians." (Government 3)
Amendments suggested	
Positive Polymer Balance Sheet	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "No. I would like to look at the polymer balance sheet in itself. What polymers you get into Namibia as virgin, and what polymers are recycled or sold so that you know that all the polymers that is brought in, is basically used in secondary life-cycles. And I'm talking about waste to energy, that RDF plant of Ohorongo. I'm talking about Namibia Polymer Recyclers' recycling of waste products and Rent-A-Drum collecting waste and exporting it. So, if you can add up all those polymers' tonnage and you can compare it to what has been imported and it nets off, you know nothing was left over in the environment. So, looking to a positive balance sheet, sort of Namibia asking 'Please, import waste. We want to use it.' Because there's value to that." (Manufacturer 2) • "So, using more second life-cycle polymers than importing virgin... to have that as a goal. One must exceed the other one"
Measurable targets	<p><u>Consumers</u></p> <ul style="list-style-type: none"> • "These goals must be made measurable. Put percentages or numbers next to each." (Consumer 1) • "It's no use to having a goal if there is no effort to achieve the goal. There must be targets put in place that can be measured." (Importer 3)
Unattainable	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "The ideals are good, but the goal is too high. It's discouraging because it takes too long to get there, if ever. It's like saying I am going to lose 50 kg in a month." (Importer 3) • "To put a goal for a 0 is putting it high. So rather just make it a bit more manageable." (Importer 3)

Timeline	<p><u>Consumers</u></p> <ul style="list-style-type: none"> • "Urgency. A lot of people talk about it and there's a big hoo ha, there's some small individual groups that try their best. The biggest impact will come from Government when there is resolution that can regulate plastic without us sitting here in five years' time again." (Consumer 2) • "We must start right now without delay." (Consumer 5) <p><u>Environmental Groups</u></p> <ul style="list-style-type: none"> • "I think they are good goals within a time frame, yes, they are." (Environmental Group 1)
Education/ Awareness	<p><u>Re-user</u></p> <ul style="list-style-type: none"> • "I think education. Education is a big part of that. Because people in Namibia did not grow up with waste management and recycling. So, we're not yet a first world country but we can work together with the government and the president. The goal is to get Namibia back as the cleanest country or city in Africa. So, we've got the backup of the president and the government." (Re-user 1) • "I think that something that should also form part of that is education." (Re-user 2) • "So, I think definitely part of the goals that should form part of that, is the Education of the people to make sure that they understand the way the waste system is supposed to work. Disposing it correctly and then from there we can take the recycling thing further." (Re-user 2)
Alignment with Waste Management Act	<p><u>Re-user</u></p> <ul style="list-style-type: none"> • "Definitely. I think we can work with it and together with the Waste Management Act that would force people to recycle and to do proper waste management." (Re-user 1) • "I think we must stand with the Waste Management Act, there's some targets there which the government wants to enforce and put in place and I think we must start with those targets. If it is stipulated in the targets, what must we do with waste. Not just taking the certain criteria of waste but taking the whole spectrum of it. And it's not long, 2023 is around the corner, just have a look into that and I think if everybody in Namibia is willing to do that, we can make a change in 5 to 10 years' time. 10 years is too long, 5 years' time." (Re-user 1) <p><u>Environmental Groups</u></p> <ul style="list-style-type: none"> • "You know Namibia has a Waste and Pollution bill, or is an act now? The Waste and Pollution (bill) is basically the intention of the country – how it wants to manage waste, including plastic and pollution. And obviously for this to happen, there should be a strategy, which I think is in draft form. But then the strategy should have targets and so on. The key role players, the industry and of course the policy makers themselves and what they do. I think it starts at that level, rather than just the plastic. It's waste and pollution. And waste – it's waste on land, it's pollution in the air, it's also pollution in the water (marine or fresh water) and so on. And then different types of wastes." (Environmental Group 1) • "And the Ministry of Environmental Tourism on the strength of our engaging in this, engaging with them, they've moved very fast. The Minister instructed his staff to pop together a solid waste management strategy in place, and he got through in record time, took it to parliament, cabinet parliament, got it approved and then there's now a solid waste management strategy for the country. To advise on that he set up a panel of specialists and I serve on that panel with a bunch of other people. So, you need to get a copy of that 'solid waste strategy'. It's a five-year strategy." (Environmental Group 2) <p><u>Government</u></p> <ul style="list-style-type: none"> • "Your national policy on, what do you call this – solid waste – is still out there, I believe. Or it's almost about to be approved. So, once you start seeing implementations and directives and regulations, you can then push up the scale in terms of the scoring." (Government 1) • "I don't think it's in operation yet." (Government 1) • "Yes, it's the policy. Both solid waste management policy and then, plastic levy – they are under discussions now. So, they haven't yet come into operation, so therefore, you can't score high. It's intention, it's not yet implementation and operationalisation." (Government 1)
Alignment with UN Global Compact - Sustainable Development Goals	<p><u>Environmental Groups</u></p> <ul style="list-style-type: none"> • "From the Development Goal's point of view. If you consider all these goals (in the UN Global Compact) – from Consumption and Production and then to Life on land to Climate Action, as well as to Life below water – you look at the value chain. But then you link it as well to decent work and employment economic growth. All the industries need to consider themselves along this value chain." (Environmental Group 1) • "Of course. I will go back to what I started: The Sustainable Development Goals – there is actually a Compact (UN initiative) of Business Change. Although all the goals are interlinked, and they are connected, this goal: Responsible Consumption and Production – is how you consume and how you produce. But of all the goals, businesses can actually aim to achieve some or whatever. And many businesses can actually find their entry point in the Sustainable Development Goal through the Compact. And it starts with the objective of the Organisations. Having clear targets and business culture by having the individual culture. Although both go hand in hand." (Environmental Group 1) • "And our entry point is on the Sustainable Development Goals – as I said, Goal 12 (Sustainable Consumption and Production) is clear. But (there are) also other goals, it's not just one." (Environmental Group 1)
Alignment with other Governments	<p><u>Importers</u></p> <ul style="list-style-type: none"> • "The Chinese looks after that (marine litter), the Chinese vessels. I don't know is it really within our control? My perception is that most pollution, you know Marine Pollution, is cause by the vessels on the sea. How do you control that?" (Importer 3)

4.2. 3-YEAR TARGETS AND ACTION PLAN

Conduct research/consultations - informing standards and monitoring progress

Need for collective data

Plastic Manufacturers

- "I think it's a good idea to actually do some research and then come with the recommendation. Because if you have something like that, that says all-right, in Namibian context we want to reduce, let's get back to the Shrink for example. Let's reduce the ink on shrink, then you bring the cost down, you bring the carbon footprint down, you bring the recyclability up. So, it is a one hand wash the other type of scenario. But there is a lot of focus that needs to go into it." (Manufacturer 1)
- "There is a need for industry information. Definitely the industry should inform Government when it comes to setting policy. I think it's a lot of communication that needs to go along with that and Government also needs to be wary that industry doesn't only do it for their own bags, that back pocket, because they just want to keep South African competition out. It shouldn't be that, it should really have a good intent and if the motive is good and they listen to industry and they rely on industry and they trust industry, then do it because then it's going to be better for the entire country. Not for protecting one industry or one client, one customer, one manufacturer." (Manufacturer 2)
- "The Plastic Industry can do that. It's possible and I know about, all of us manage it. The Organisations we belong to, like the Beverage Container Alliance, RNF. We get data on a monthly basis as to how we are going as Coke, but the problem is we do not have all collectors, recyclers on board to get the data from all of them. That is why the data looks a bit low or skewed." (Manufacturer 4)
- "I don't think I've seen enough from Government in terms of where they're heading with this kind of thing. I have a feeling I'm just concerned it might be knee jerk, based on too little information and consultation. So, I hope it will eventually be well considered. From the manufacturers the guys that I've met, the forums and stuff there's a willingness but also needs to be well thought out in terms of how it's going to be tackled to actually stop the problem." (Manufacturer 5)
- "About 2. Lots of things need to happen which is not happening now." (Manufacturer 1)
- "No, not at all." (Manufacturer 3)

Importers

- "We are not the experts. So, allot of people want to make decisions, but there is a lot of things that we don't have enough information about." (Importer 3)

Re-users

- "We need to get collective data. No, definitely but not only plastic but all aboard, because you have to measure yourself and you can know where you stand at the end of the day." (Re-user 1)

Consumer

- "Set measurable goals. It is the only way to achieve it, if you don't have a measurable goal, what do you do. You need to put plans in place to achieve something and it's critical in my opinion to have a measurable goal if as a country we want to achieve it. But for that, we need to know where we are at the moment so that we can set a target. Then we need to know how we are doing in achieving this target. We need stats." (Consumer 1)
- "If you don't have the information, and there's not a lot information available on this. We don't have the stats." (Consumer 1)
- "We need information if we are going to find a solution." (Consumer 1)
- "There is not much available." (Consumer 3)
- "There's not much information going around." (Consumer 4)
- "I think it's a three, because we actually don't have any information." (Consumer 6)

Trade Associations

- "The question is – and we don't have the data, unfortunately, I don't have the data, if it is out there. We need the data. We need to know that. Otherwise, how can we say: 'We are making progress in recovering plastics or whatever?' Even if we introduced a levy or we introduce legislation, but we don't have the data – how are we faring according to the norm that we should be? There should be a standard. And we should say: 'There is 1 000 000 tonnes of plastic out there. Of that 1 000 000 tonnes of plastic we recover 50% or 60% or 10%. And then we can set standards and measure progress." (Trade Association 2)
- "There is no collaboration on the data. Like Coca-Cola – they have their data. Breweries – they have their data. Plastic Packaging – they have their data. But there is no place where it's been consolidated." (Trade Association 2)
- "Rent-A-Drum is doing that. Again, I come back to the stats. How successful are they? What they get, they will convert to raw material or to energy or whatever. I know Gys, the guy there – they are also an NMA member. So, I know about it. The question is again – of (relating to) the whole plastic problem – 'What part are they doing?'. And that is the crucial fact for me. We can't clap our shoulders and say: 'Yes, we are doing a great job'. But in the meantime, it's only 10% that we

are doing. And what about the 90%? But we don't know that. We must get that data." (Trade Association 2)

- "You see, that's part of the survey, that needs to be done with the data. That will have to be collected. I don't really think we can say: 'We have got the market for recycled plastics – 100% yes'. If I say 'yes' I will have put a question mark behind my 'yes'. I think we have, but because of the non-availability of the data – it's just a guess. And that's one of our problems – we guess, a lot. Instead of having the facts in front of us to say 'yes' or 'no'." (Trade Association 2)
- ""If we do the ground work correctly, we can even be importers of waste when it comes to that conversion. And do it. We can then start to become a small competitor to South Africa. They are importing and they're doing it. So why can't we do it? But again, we are not there. We have to go and get – and I over-emphasise it – we must get the correct data to make the right decisions." (Trade Association 2)
- "Well, there's a lot of other stuff. But let's stick to plastic, actually, for now. This is about plastic bags. We do not have, in this country – unfortunately – enough data available in the industry. We've talked about plastic, we haven't got sufficient data. How can we make decisions without data?" (Trade Association 2)
- "If we talk about data on what kinds of products are being manufactured in Namibia, what is being imported? Any product that's manufactured in Namibia. I can't tell you now. It's sad, if we think about it. If you go to the Custodian Ministry, which is Ministry of Trade and Industry, they can't tell you. If you go the Registrar of Companies, they can't tell you. Nobody can tell you. Because again there's no collective – collecting of information from all the Stakeholders. Put it on a database out there and say: 'Hey guys, these...' (are the figures)" (Trade Association 2)
- "If there comes a delegation from Finland or Turkey – there is a delegation coming from Turkey now to come to talk to people in Namibia. And what will they ask? What do you manufacture in Namibia? Or what don't you manufacture in Namibia? Because they want to import what is not manufactured into Namibia. That's why they are coming. There's no data available. I can tell them about the things we know about, but I can't tell him: 'We're really 100% sure we don't manufacture toothpicks, we don't manufacture nappies, etc. Because there is no data available.' (Trade Association 2)
- "That comes together with the data collection. I can't give you an estimate because I don't have the data. If I had it, and we say we are at 10% currently, then surely, we'd say: 'We must go about 5 or 10 or 12% or 15% whatever per year, to get our initial target of a 100%'. Is 100% attainable? That's a good question. But we don't have the data, so it will be thumb sucking. And I don't like to do that." (Trade Association 2)

Government

- "There is a need for stats, for data, so that we know how much plastic is imported, how much is returned, how much is recycled, how much is turned into raw materials, how much goes to energy. So that we know where we are as Namibians, of the X number of tons that comes in so much is coming back and being recycled. The technical committee will need this information to make decisions." (Government 2)
- "I think, first of all, one should do research from the government's side to identify what are the pros and cons on the usage of plastic in Namibia, and that will be able to inform policy-makers towards what the next step is to take. On the government side, as we said you should start with the Ministry of Environment to take initiative and then they come up with a policy and a strategy as to how to go about it. I think if you've got a policy in place that will be the first point. Now we don't have anything in place, it's very difficult now. Even for companies to do something, there's no initiative." (Government 5)
- "I agree first research, then the policy, then to put a waste management system into place. If they do that, then we will be able to see if we should stop them (plastic usage), burn them or we should just try to reduce them." (Government 5)

Information sources
Existing research

Plastic Manufacturers

- "There is quite a number of documents available from the International Recycling Organisations. If you want to find some it is very easy to go onto, for example the SAPRO – South African Plastic Recycling Organisation's website and you find Best Practice documents galore. There is a lot of it. We need to perhaps have a working group to take the top 10 of those and make it Best Practise for Namibia and publish it and say right, this is what we are going to do to make things better in this Country." (Manufacturer 1)

Environmental Group

- "But the other important thing is you have to have a consistent message. A simple, consistent message, you don't want your message undermined by best-interest group or anything like that. There's a lot of work globally going on plastics, you're probably aware of that at the moment, it's part of a really big international campaign, the United Nations is involved, you've got bankers involved, Sky communications and tv is involved. The whole Mediterranean Sea board has things in place. It's a really big issue at the moment. And there's been a lot of research done which has shown the rates of plastic accumulation in the oceans." (Environmental Group 2)

Government

- "I think the action plan will then involve the Association or responsible Ministry or any Association that is up to ensure that there is management of the plastic. It requires associates to run it, more specifically on the awareness. When we're doing awareness, it requires resources in terms of personnel, in terms of money, equipment and whatsoever that you're going to use in the field to go around and give awareness to your people. The action, the other activity that I will involve is maybe to encourage the usage, the application of standard, and also the formation of Technical Committee on plastics, so that they can sit around the table and put their needs and can be able to develop certain standard or adopt standard that are already somewhere else, so they can just sit and look at it and see whether it is meeting our interest here in Namibia or our needs. So, the application of standard will then be something that need to be taken very seriously and also the awareness, all this involving some money or resources needed to ensure that we develop the standard and create awareness to our people." (Government 2)
- "As a country we can benchmark with other countries, if we want to, or we come up with something that we can use." (Government 3)
- "On the other hand, we are trying to swim into the same way as the globe. While we do our domestic things, we must benchmark in terms of quality of standard and level of hazards. Consider international standards." (Government 3)

Stakeholder Input

Stakeholder

Engagement

Process

Involvement/input in setting standards

Plastic Manufacturers

- "All the stakeholders on your list should give a valuable input here, and then after that we'll have to do a very, very thorough sorting to say what is most important towards what is least important." (Manufacturer 1)
- "It's very much a pulling together of Industry, of getting all the stakeholders together and you know, let everyone play a part in generating the information and coming to a set of standards that we would like in Namibia, to say, this is us." (Manufacturer 1)
- "All elements must get involved, municipality, government, environmentalists, manufacturers and potentially retail needs to participate." (Manufacturer 5)

Importers

- "So, we've got forums that needs to make sure that whatever we do we're developing in the right direction. And I'd like communication like that to come through to us as well" (Importers 1)
- "Whatever forum or platform." (Importers 1)
- "If government thinks of, this is obviously to educate the government about what the situation is, involve the stakeholders, don't just make the rules and see what comes out. Stakeholder consultation is essential." (Importer 3)

Environmental Group

- "There are many role players. Government has a role, the NGO sector has a role, private citizens have a role, retails shops have a role, Plastic Packaging and others could use the plastic from their angle and are viable to express their views on things and one wants to engage with them and everyone work towards a cleaner, healthier, safer environment. And it's everyone's collective duty to do that." (Environmental Group 2)
- "There just needs to be watch dogs that are making sure that the people who profit from certain things are not the controllers of the information. So, the Coca-Cola's for example and the Plastic Packaging and all the rest of it. And also, not the people who set the policy and legal agendas. So, we need to take a view of what is in society's best interest and society's best interest is to have a clean, healthy environment and for society to be healthy and have options." (Environmental Group 2)

Government

- "But sustainable development is pervasive – they're touching industry, they're touching the environment, you're touching labour, you're touching SME development. There are SMEs that supply certain things to the plastic industry. The moment you cut them out, the moment you stop plastic, these guys' life line is also affected. So, it's pervasive. So therefore, you need like, at the ministerial (unsure 17:01) level, an institutional agency that is also able to permeate across the various sectoral interests and bring them in together. So, they should be able then to produce reports like 'status of the environment report' and put in place those type of reporting indicators." (Government 1)
- ""Another need is that the whole industry must sit around the same table. You know, you have on the one side the environmentalists, you have the economists, you have the retailers, the manufacturers, the importers...everyone to sit around the same table and to talk and discuss so that we can come to a common standard and 'this is who Namibia is and the way forward'. That should be the role of SDAC, yes. It's just that since that establishment, it's been a little bit in limbo in terms of really pushing for this cross-sectoral alignment and ensuring... But they are the perfect institution to do this work." (Government 1)
- "Nothing in this country is done without consultations. Otherwise, you'll set yourself up for failure." (Government 1)

- "Get your solid waste management act or policy – if there is a policy now then get the act done by next year. And then set up a comprehensive, nationally endorsed implementation plan around how we are going to now gradually exit out of the plastic, say by 2030 or 2045. The industry, and the rest of the stakeholders will come to a target date. But always remember consumer choice is key, so that there will always be the choice, for consumers would always want to use plastic to continue. That's why I said, you get your policy framework right, you get your act right, then you have a national stakeholder consultation and an endorsement of the implementation framework. 'This is what we are going to do by this date'." (Government 1)
- "As far as I know we are in the process of establishing the Technical Committee on plastic – standard developments, we are developing standards. We called the interested stakeholders or parts that are involved or benefiting or negatively affected, to come around the table and develop or adopt a certain standard from elsewhere to make it a Namibian, but we are in the process of establishing the Technical Committee on the standards. The Manufacturer or the Industries they help to put up their needs of particular standard of their businesses in plastic manufacturing. Then they agree about the requirements, if the standard comes from somewhere they will now say okay, nationally we can able to change this because this is not applicable to our environment, and at the end of the day when the standard come out of the NSI, it really cater for the National interest." (Government 2)
- "You know when you say for NSI, NSI operate on various departments. Be it my department that's Law on Standard Development, Technical Committees, so the information that might be needed, will not be needed by the Technical Committees. Because remember as NSI we developed standard based on market needs, or National interest to say. So, the Nation has to come through with their interest and they have to sit around the table with all the stakeholders that are interested, interested parts in that certain standard, to give their input because at the end of the day the standard will save their needs. So maybe that sort of information will be needed in our technical committee." (Government 2)
- "I think the action plan will then involve the Association or responsible Ministry or any Association that is up to ensure that there is management of the plastic. It requires associates to run it, more specifically on the awareness. When we're doing awareness, it requires resources in terms of personnel, in terms of money, equipment and whatsoever that you're going to use in the field to go around and give awareness to your people. The action, the other activity that I will involve is maybe to encourage the usage, the application of standard, and also the formation of Technical Committee on plastics, so that they can sit around the table and put their needs and can be able to develop certain standard or adopt standard that are already somewhere else, so they can just sit and look at it and see whether it is meeting our interest here in Namibia or our needs. So, the application of standard will then be something that need to be taken very seriously and also the awareness, all this involving some money or resources needed to ensure that we develop the standard and create awareness to our people." (Government 2)
- "First of all, we must find ourselves as stakeholders, here, at this level so that we understand the producers are here, and those who are controlling, the regulators, the retailers. The retailers are very important." (Government 3)
- "After the introduction of the proposal, the project to phase out shopping bags that are all over, now you see people coming who say 'we can produce a plastic that is environmentally friendly and from there we can recycle, things we hear. We want things on the programme, and this programme, for example, for recycling in this country, it should call for all the stakeholders, not the manufacturers to decide. Because we will not know exactly what they have decided upon. We can still make some ... maybe interference with their activities. Public health is for all of us. That is the good thing. This is what the manufacturers also don't understand because when you talk in terms of health they think you are now jeopardising the manufacturing industry. So, if there is an issue of recycling in this country, we want to recycle plastic bags, it should come also through the Ministry of Health which is Public Health, so we discuss and then we see if we can come to an agreement to say this one is environmentally friendly. On the other hand, we are trying to swim into the same way as the globe. While we do our domestic things, we must benchmark in terms of quality of standard and level of hazards." (Government 3)
- "Yes, we must... we will never have one voice, and, you see, while we are talking on this, if you ask people, some will say, 'why do you want to take out plastic', interview them, they will tell you, 'no, it's helping us' and all these kind of things, there is a gap there also that when we are done with this first phase and we take/divide this information to education and the public .. and the retailers... and the manufacturers, the health sector, the Ministry of Environment..." (Government 3)

Information sharing by Forums/Associations

Overall Plastic Manufacturers

- "Ja, depending what information from what angle. The forums are a good place to start because we're on a good communication basis on a regular basis." (Manufacturer 1)

<p>NMA</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Well in terms of the manufacturers NMA should be the co-ordinator, getting the information together." (Manufacturer 1) • "We have the Namibian Manufacturing Association who's one of the stakeholders on the list. Who's looking after the interest of the manufacturers specifically. And they should be a stakeholder here. They should be a participant." (Manufacturer 1) • "All the various forums must take responsibility to communicate the information relevant to their sphere of influence. Team Namibia, NMA, RNF, Namibia Chamber of Environment, the NCCI". • "Definitely Manufacturing Association of Namibia, also putting out there what was produced and collected. So, I think bodies like that can definitely, sort of, collect that data and put it out." (Manufacturer 2) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "I think the Namibian Manufacturing Association." (Importers 1) • <u>Consumer</u> • "If we do receive information, normally we receive information from the manufacturing association." (Consumer 4)
<p>RNF</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "And then we have the Recycle Namibia Forum who's the collective of the recyclers and that includes stakeholders who's not directly involved with recycling but who's also playing a significant role. For example, they've got Coca Cola on board as a key stakeholder because they play a major role in the recycling of bottles and caps. And they've been getting their input for the Best Practice documentation and giving their support to recycle stations etc." (Manufacturer 1) • "All the various forums must take responsibility to communicate the information relevant to their sphere of influence. Team Namibia, NMA, RNF, Namibia Chamber of Environment, the NCCI". • "Recycle Namibia Forum. Is also a good one (source of information) that can be more visible in the market.?" (Manufacturer 2) • "Recycle Namibia Forum and Manufacturing Association of Namibia can drive information on recycling." (Manufacturer 2) <p><u>Importers</u></p> <ul style="list-style-type: none"> • "Recycling Namibia or whatever platform." (Importers 1) <p><u>Re-users</u></p> <ul style="list-style-type: none"> • "I think we're really on the ball with what's going on with plastic with our research and so but there could maybe be a body or recycle Namibia forum that can take that over and share it with more people." (Re-user 1) <p><u>Trade Associations</u></p> <ul style="list-style-type: none"> • "They've been saying it must be the RNF but then RNF cannot just consist of me." (Trade Associations 1)
<p>Team Namibia</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "All the various forums must take responsibility to communicate the information relevant to their sphere of influence. Team Namibia, NMA, RNF, Namibia Chamber of Environment, the NCCI".
<p>NCCI</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "All the various forums must take responsibility to communicate the information relevant to their sphere of influence. Team Namibia, NMA, RNF, Namibia Chamber of Environment, the NCCI". <p><u>Importers</u></p> <ul style="list-style-type: none"> • "People like the NCCI." (Importers 1) <p><u>Environmental Group</u></p> <ul style="list-style-type: none"> • "I think it's not necessarily a matter of 'who', but it's creating a platform whereby it's an opportunity for someone to do it. I think what the NCCI is doing is very, very good. Because they are creating a platform to start understanding just the plastic but then hopefully it's not a once-off. But then it's a platform created within the Chamber of Commerce and Industry, which then will have follow-up actions. Maybe this time it's plastic, we don't know what next, but as well the value chain of the SDGs (Sustainable Development Goals)." (Environmental Group 1) • "They can be shared, they can be narrated...because having a platform is more difficult than finding 'who' to do it (the appropriate party to gather case studies). But the Chamber of Commerce and Industry could be a good platform because it's an umbrella organisation. But then they can have that platform whereby basically businesses or industry or what have you, they come together – it's not a once-off. For example, the result will be presented, I hope, and then after this, then what. And the platform continues, and then finding... because development partners can join hands with an existing platform. It's very difficult to initiate because when it's externally initiated it doesn't last." (Environmental Group 1) • "And calling the partners to join hands. The development partners – this is the platform. Have I dedicated a desk, or person, or focal point whatever it's called?"
<p>Namibia Chamber of Environment</p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "All the various forums must take responsibility to communicate the information relevant to their sphere of influence. Team Namibia, NMA, RNF, Namibia Chamber of Environment, the NCCI".

<i>Environmental groups</i>	<u>Plastic Manufacturers</u> <ul style="list-style-type: none"> • "We should come together and say okay, come guys, we understand, we understand your point of view. And now I'm talking about the Environmental guys and their activists and lobbyists. We understand, and we see, and we also want the same thing. But what you have to understand is that you need to understand our position as well. So, let's find common ground, let's find common ground. And say all right doing this is what we're going to do." (Manufacturer 4) • "Not pulling in the same direction. So, the understanding must first be that we understand and respect the side of both sides and the opinion of both sides." (Manufacturer 4) • "And it will involve the Environmental Companies as well, the guys who are passionate about driving this sort of thing, give them a platform." (IM) • "Because at the moment you know the fight is the environmental bodies. The activist is, you know, coming and attacking the manufacturers. The manufacturers are defending themselves and working doing their own thing and they are just, you know. We strongly believe that they are becoming like this horror drama movies on Netflix, where pictures are being staged. Because I don't know where you get pictures of those Coke bottles in the rivers. Is it lying there or are you actually taking them there and taking a picture. But anyway, at the moment we are working against each other and I don't know why. I don't know why. We should be on the same side." (Manufacturer 4)
<i>Namibia Statistics Agency</i>	<u>Importers</u> <ul style="list-style-type: none"> • "But there's information that is already going through to Namibia Statistics, so I mean they've got a lot of information since what's happening and what's been sold and then they add these additional criteria that shouldn't be a problem because you know then at least the information goes to an environment where it's looked after." (Importers 1)
<i>Institute of Waste Management of South Africa</i>	<u>Re-users</u> <ul style="list-style-type: none"> • "Institute of waste management South Africa also doing a lot. The plastic federation of South Africa we also get a lot of information from them and our research we are engaged, and you have to know exactly what is going on." (Re-user 1)
<i>Plastic Federation of South Africa</i>	<u>Re-users</u> <ul style="list-style-type: none"> • "Institute of waste management South Africa also doing a lot. The plastic federation of South Africa we also get a lot of information from them and our research we are engaged, and you have to know exactly what is going on." (Re-user 1)
<i>Recyclers e.g. Rent-a-Drum and Kleentek</i>	<u>Re-users</u> <ul style="list-style-type: none"> • "Most of our clients we give them monthly reports on what is their total waste to you, what is being recycled and what categories and what is going to the landfill sites. We have a program where we can tell you exactly at the time what is his total spread of waste." (Re-user 1) • "We do it now directly with our clients and recycler Namibia forum. We want to do it because we measure ourselves and our clients measure themselves, they want to. So, I'm not sure what other organisation can do it." (Re-user 1) • "I know we have done that last year. We submitted some figures and the Beverage Companies did the same thing. It gives you a better idea of what tonnage you have on the recycling side. You can weigh it up on the amount of sales you had. They know that weight of their bottles when it is in an unbroken form. I know Namibia Beverages has done it lately. The % is far below the Sales amount initiated against what is being collected." (Re-user 2)
<i>Information sharing by Industries/ Businesses</i>	<u>Plastic Manufacturers</u> <ul style="list-style-type: none"> • "Providing statistics on your recovery of bottles, it shows your competitive information, so it must be communicated in a way that protects your business." (Importer 1) • "It could be interesting, you know, it could be interesting. We know what the other bottlers within the group are doing, so that we know, but I don't know the competition, other companies, no idea." (IM) • "But just like a broad stat like you've just gave me, 30 % reduction. You don't have to go into your intellectual capital or anything like that." (Manufacturer 4) • "Manufacturers potentially being involved on the education side first and foremost." (Manufacturer 5) <u>Importers</u> <ul style="list-style-type: none"> • "Industry consultation is essential. Before targets or goals or big decisions are made there should be a consultation process first. I mean the moment you're going to start interfering into my business I will not be pleased. Imagine going to Plastic Packaging and saying listen in 2 years' time we want no more plastics in the Country. How is he going to react? You aren't going to tell him I'm going to put a levy on bags paid by end consumer, he's not going to like it, he said no, why should the end consumer pay for it, let's pop in the price of, because at the end of the day these people will switch away from plastics to reusable bags and he's going to lose out on his revenue. So, he would like it to build into the price of the product being sold. The retailer on the other side sit with, I'm paying hundreds of thousands per year for plastics I just give away, I want to recover that cost from my end consumer. So, it depends on who you speak to, when and where." (Importers 1) • "That would be typically Plastic Packaging can give you an educated answer to that." (Importer 3)

Re-users

- "Any industry information based on people using plastics. Due to confidentiality there is a lot of reasons why people do not give it. It has a direct idea of what their sales are. The competition will know what they are selling. There is a lot of confidentiality that makes it difficult to get information." (Re-user 2)

Environmental Group

- "There's many people who are going to do it. Now no one's going to trust some people to do it, for example, I'm not going to trust the Plastic Packaging people to be the experts to give the unbiased information on plastics." (Environmental Group 2)

Responsible coordinating body

Overall

Plastic Manufacturers

- "The body who has to co-ordinate all this, it will have to be an efficient one if it's going to pull the industry together, lobbyists associations and manufacturers and pull everyone together to contribute to a pull, have a co-ordinated approach. Where are we ever going to get that body? And then for starters, if you have that body, that body should work together, because you are going to find people on that body that disagree. You hear what I'm saying? You are going to find lobbyists and activists and people that are against plastic pollution, that is on that body." (Manufacturer 4)
- "There needs to be a body no doubt about it. It doesn't need to be cumbersome it needs to be able to act fast. It needs to not be a toothless tiger that needs to have a mandate that it can act on. It needs to have a plan, it needs to have funded personnel there that are capable of making a decision and actioning what needs to be done. If it's just going to be another body and another nobody makes a decision and waiting for stuff to be tabled and waiting for municipalities to buy in and that then we're waiting our money. Wherever the source of the money comes from, if it's co-sponsored from us or collected by selling bags or if Government puts money in or whatever it is, it's got to be a dynamic- the problems that real. We're funding an army that sits around doing bagger-all basically and billions, what do we do to actually count plastic and almost where's the real enemy in terms of what it's doing to the country. Just food for thought." (Manufacturer 5)

Trade Associations

- "People are secretive about their stats so it must be a body that can make it compliant for information to be shared and how." (Trade Association 1)

Forums/ Associations

Namibia Chamber of Environment

Plastic Manufacturers

- "We have the Namibian Chamber of Environment who is typically a body who can provide a research paper. Then it needs to be taken into education and there I think the problem is the linkage. To get things from draft to proper documentation or documented with proof, and then into Education, then into practice. So, it's very difficult to say who should be responsible either, it's collective. This is something that every consumer is responsible for, so we all should be responsible also for the information, the flow of the information and for the education." (Manufacturer 1)

NCCI Plastic Manufacturers

- "Or someone like the NCCI, they can request for this data." (Manufacturer 4)
- "So, I would say the restrictions as to type of plastic used and then the management, what do you do as an Industry or as a Manufacturer to get your, those data should then be submitted on a monthly or a quarterly basis to either the NCCI or the Ministry of Environment. A reputable company, they have power to regulate and take action." (Manufacturer 4)

NMA Trade Associations

- "No. I said emphatically, 'no'. Why? I'm not a compulsory association. I'm a voluntary association. So, what do I know about the people – what they do – that is not a member. If there is legislation to say: 'If you manufacture, you must be a member of the NMA' – by all means. Because then I get all the data. But I haven't got all the data. So, is it fair? That comment? No. I don't know about the people that is not my members. I don't even know where they are or who they are, or what they manufacture. But who (does) know? Where do you go to register? At the Ministry. So, to me it's easy. Keep it short and simple. Where you register to be a manufacturer, surely, they should have the data. When you register, they calculate, or they put it onto a computer. There it is. So, at the end of the day, you can collect all their data. It's not rocket science. So, it's not the NMA. It's not the NCCI. It's not CIF, in the construction industry. No, it's not Team Namibia. Because we are all voluntary associations.
- "They can only give you the info that they've got on their members." (Trade Association 2)

New Forum: Plastic Association

Plastic Manufacturers

- "I know it's got a manufacturing association, but you don't have plastic associations, things like that. You don't have such an association, you have manufacturing, you have the construction, you have everything else except the plastic. So, I think it's an area that is widely neglected especially with the manufacturing of plastic." (Manufacturer 3)

Government Ministry

Government in general

Consumer

- "So, firstly in my opinion, what is needed is information gathering driven by government, from a government point of view, as I said a lot of companies can do something on their own, but you won't get all the information the way the government can." (Consumer 1)
- "Theoretically it's the government that's supposed to regulate the things that is bad for our community as a whole and really where the community can see the long-term benefit. So, I really think it's government that needs to do it, but it would obviously be nice if there is a grass roots support groups that can try and get a cultural change and the media supporting it, etc." (Consumer 3)
- "I think the government. They are basically in charge of the, all the sectors... everything. So basically, it must start from there." (Consumer 6)

Trade and Industry

Plastic Manufacturers

- "Trade and industry." (Manufacturer 3)
- "Yes, Trade and Industry." (Manufacturer 3)
- Trade Associations
- "If we talk about data on what kinds of products are being manufactured in Namibia, what is being imported? Any product that's manufactured in Namibia. I can't tell you now. It's sad, if we think about it. If you go to the Custodian Ministry, which is Ministry of Trade and Industry, they can't tell you. If you go the Registrar of Companies, they can't tell you. Nobody can tell you. Because again there's no collective – collecting of information from all the Stakeholders. Put it on a database out there and say: 'Hey guys, these...' (are the figures)" (Trade Association 2)
- "Well, again you look at your Custodian Ministry. Who is the catalyst, the facilitator, of getting that data? Ministry of Trade and Industry." (Trade Association 2)
- "Yes. Surely. And I've talked to the Honourable Minister and he agreed with me. He said: 'Ronnie, we really need to get that act together'. They are busy with data collecting. Just to say, 'We are doing something about it'. 28 years, 29 years after Independence. Sometimes, execution is not good here. But we must get data. Start later, but we must start somehow." (Trade Association 2)

Environment and Tourism

Plastic Manufacturers

- "I don't know who should be collecting and analysing countrywide information on plastic management. We are so used to putting everything on Government's stoep. But for instance, if the Ministry of Environment says and makes it a rule that on a monthly basis every single Manufacturer must report back as to what have you done, percentage of what you, you know, compared to the percentage of what you have put in the market, how much did you get out. It will then give them an indication on what, you know, data in Namibia, so much containers of waste are going into the market and already we are getting so much out." (Manufacturer 4)
- "So, it must be a respectable body asking for this information. This information is somehow confidential. I don't know why. It's almost like asking somebody for their bank balance and it's a real struggle to get it from the Industry. So, if it comes from Government, from say for instance the Ministry of Environment, you will give this info to us on a monthly basis and that info is published on a quarterly basis, then you also see, okay, what we're doing works, or it doesn't work so we have to change somewhere, or you know. That's what I would suggest." (Manufacturer 4)
- "So, I would say the restrictions as to type of plastic used and then the management, what do you do as an Industry or as a Manufacturer to get your, those data should then be submitted on a monthly or a quarterly basis to either the NCCI or the Ministry of Environment. A reputable company, they have power to regulate and take action." (Manufacturer 4)

Trade Associations

- "Well, for me (it's a matter of): 'Who is the Custodian of the environment in Namibia?' And if you look at it from that point of view, surely, it should be the Minister of Environment and Tourism. They are the Custodians, together with the private sector." (Trade Association 2)
- "If the catalyst can be the Minister of Environment and Tourism, that say: 'Guys, every 3rd quarter or whatever, we talk about it. This is what is produced. This is what we are recycling. This is where we are. This is the initiatives that we are implementing – how successful is it. Then we are going in the right direction. Have we got it? I don't think we have, not on that platform. On that level." (Trade Association 2)
- "The Minister of Environment (should say), OK quarterly to all the industry players to submit their data. They consolidate it and draft a report. And then give a report to stakeholders. And surely, the Minister, the Prime Minister, I think His Excellency the President, will want to get a report like that and say: 'Hey guys, yes, we are going in the right direction'. I think Namibia can be in the forefront of introducing plans – affordable plans – and also to help the economy and the consumer to curb plastic waste. I think we can do it. We must start to think smart." (Trade Association 2)

Government

- "You see, in the Ministry of Environment you have the Sustainable Development Advisory Council, which is a council that is set up through the Environmental Management Act of 2007,

which is currently being amended. I would want certain powers and certain directives, such as plastic, solid waste management and the likes to be housed within the Secretariat of the SDAC (Sustainable Development Advisory Council) to enable them to become more proactive, to enable them to be...Because they are the chief advisor to the Minister of Environment and Tourism. But sustainable development is pervasive – they're touching industry, they're touching the environment, you're touching labour, you're touching SME development. There are SMEs that supply certain things to the plastic industry. The moment you cut them out, the moment you stop plastic, these guys' life line is also affected. So, it's pervasive. So therefore, you need like, at the ministerial (unsure 17:01) level, an institutional agency that is also able to permeate across the various sectoral interests and bring them in together. So, they should be able then to produce reports like 'status of the environment report' and put in place those type of reporting indicators." (Government 1)

- "They can draw information together... the Sustainable Development Advisory Council, which is a council under the Environmental Management Act of 2007 and their mandate is to ensure that they look across pervasive issues that have sectoral interest, and that they are the chief advisor to the Minister of Environment and Tourism." (Government 1)
- "So, they (SDAC) can ask industry or compel industry to submit quarterly reports or whatever on their own stats. Yes, I think what you need to do there is to ask that in their amended act now, that their powers are beefed up and you know, obviously Namibia, we don't like penalising languages, but you know, just to say that: 'certain things like the status of the environment, covering certain things, are housed within the SDAC and the SDAC is given the full powers to compel industry to supply the data on a quarterly basis or whatever. This applies to industrial activities that could have a negative externality on the environment and in collaboration with the Ministry of Industrialisation, Trade and SME Development, the two ministers would collaborate, would give the directives to the SDAC. You know, you can think of that, because in Namibia the institutions are there. It's just that because people work in silence, that we tend to either duplicate or create new things whilst you have provisions in many of the legislations and at the ministerial level in institutions that can take up these functions and, in that way, you stop the silent approach to things." (Government 1)
- ""Another need is that the whole industry must sit around the same table. You know, you have on the one side the environmentalists, you have the economists, you have the retailers, the manufacturers, the importers...everyone to sit around the same table and to talk and discuss so that we can come to a common standard and 'this is who Namibia is and the way forward'. That should be the role of SDAC, yes. It's just that since that establishment, it's been a little bit in limbo in terms of really pushing for this cross-sectoral alignment and ensuring... But they are the perfect institution to do this work." (Government 1)
- "This is where I'm coming, I started with the environment. We are the health sector. We don't want this. We said tobacco indiscriminately no. When we said that, the industry is coming with their other things, fine. But now, who is the person responsible? Who should drive this? We have the Ministry of Environment, we have the Ministry of Health, for us health ... To say Ministry of Environment is also responsible because of the environment policy. So, they should be looking at the pollution of the environment. When we look at environmental pollution issues, we don't want it because it is connected to health. But the Ministry of Health and Ministry of Environment are two ministries should be driving this process." (Government 3)
- "On this specific topic of plastic? I'm not a ... not phase out this plastic, you have seen the pictures here, the Ministry of Health, on the basis of health issues as I said, this we did, and we saw that the next time, that first ministry to come to us and try to discuss this with us is the Ministry of Environment. We have environmental policies, we have health policies, so I think if it is an issue of general environment the Ministry of Environment should, when it comes to an issue of environment and health, it is us..." (Government 3)

Health and Social Services Government

- "This is where I'm coming, I started with the environment. We are the health sector. We don't want this. We said tobacco indiscriminately no. When we said that, the industry is coming with their other things, fine. But now, who is the person responsible? Who should drive this? We have the Ministry of Environment, we have the Ministry of Health, for us health ... To say Ministry of Environment is also responsible because of the environment policy. So, they should be looking at the pollution of the environment. When we look at environmental pollution issues, we don't want it because it is connected to health. But the Ministry of Health and Ministry of Environment are two ministries should be driving this process. Pulling all the stakeholders together, these two ministries." (Government 3)
- "My project is such that we will sit down, as stakeholders, health, environment, other relevant ministries, then determine standards, the manufacturers, the scientists, we (would) look at the proposal, we will not just turn and say no. We will look at the advantages and disadvantages, if it curbs the problem, then we will all go for it. Let us see the temporal things (?) ... because A, B, C, should not happen, and say, colleagues, this gap and this gap will still be ...(?)" (Government 3)

<p>Namibia Standards Institute</p>	<ul style="list-style-type: none"> • "On this specific topic of plastic? I'm not a ... not phase out this plastic, you have seen the pictures here, the Ministry of Health, on the basis of health issues as I said, this we did, and we saw that the next time, that first ministry to come to us and try to discuss this with us is the Ministry of Environment. We have environmental policies, we have health policies, so I think if it is an issue of general environment the Ministry of Environment should, when it comes to an issue of environment and health, it is us..." (Government 3)
<p>Independent Organisation PETCO</p>	<p><u>Government</u></p> <ul style="list-style-type: none"> • "As far as I know we are in the process of establishing the Technical Committee on plastic – standard developments, we are developing standards. We called the interested stakeholders or parts that are involved or benefiting or negatively affected, to come around the table and develop or adopt a certain standard from elsewhere to make it a Namibian, but we are in the process of establishing the Technical Committee on the standards. The Manufacturer or the Industries they help to put up their needs of particular standard of their businesses in plastic manufacturing. Then they agree about the requirements, if the standard comes from somewhere they will now say okay, nationally we can able to change this because this is not applicable to our environment, and at the end of the day when the standard come out of the NSI, it really cater for the National interest. It's not regulations, but on the standards. Regulation is part of the Government responsibility." (Government 2) • "Standards feed into regulation. Yes, so to use it as a basis of regulations and then they became compulsory." (Government 2) • "When you are establishing the committee, you have to send the nomination letters to the Industries for them to nominate their representative of technical committees. So far as far as I know we sent the nomination letters to various Industries, Regulators, for them to come on board but it all depends from them, we keep on following up, but the development of the standard is for neutral, they're not being paid and the participation sometimes not really at the standard that we want, because people don't really put more effort, the Industries. But we appeal to them at all times to insure if we request the nominations of representative they must send it on time. Although we put the due date but I'm not quite sure about the due date that we put, but once they come, once we receive all their nominations then we can now call the meeting then they can sit around the table to look at the standard." (Government 2) • "They are not supposed to be setting standards. They don't know what ... What I see is they are not technical; if you go to Fisheries, you go to Health, you go to other ministries, they do not know everything, so they are not supposed to say this standard. And we agree on standards and it becomes Namibian standard." (Government 3) <p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "I don't know who will head it. In South Africa there are bodies like Petco (South African PET recycling company incorporated in 2004 to represent the South African PET plastic industry's joint effort to self-regulate post-consumer polyethylene terephthalate (PET) recycling) and there are a lot of guidance and information coming from them and it's a funded organization that can take a certain levy of all the tonnage to fund it in the manufacturing process. A similar body that works very closely with government given the nature of the problem needs to be established in Namibia." (Manufacturer 5) • <u>Importers</u> • "You need an independent person or organisation that's going to collect this, that's going to drive this." (Importers 1)
<p>Setting and enforcing of standards/ regulation/ strategy</p> <p><u>Progression:</u> <i>Standards (Voluntary conformance) to... Bill (Legislative proposals brought to parliament) to... Act (When a Bill is passed by parliament, making it law) to... Regulations (The application of the law imposed by authorities)</i></p>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "There's been talk, the Namibia Standards Institute, the Packaging Working Group who's supposed to come up with standards, standards and recommendations, but they've not had a single paper published that I know of. They have not really done anything significant." (Manufacturer 1) • "You know it's impossible to answer that, because yes, they (the Namibian Standards Institute) should be the entity setting the standards. If you think back to the old years there's been a standard for toilet paper, it still exists today. It says single ply toilet paper is 500 sheets to the roll, 100 by 110 millimetres on a 38 millimetres core. That was the standard. And if you sold a 400 sheet per roll you're actually lying to the consumer. So there the Government came in through their Ministry of Trade and they then had a case against the manufacturer. And a standard like that for some of the plastic products should be in place. For example, the 20 % or less ink coverage on promotional material. That is a simple thing. It's really stupid. Then the maximum thickness on certain products you need to perhaps specify. But there is lot of work that needs to go into that. You can also overdo it and then it becomes impossible to make things work, the Industry need some balance." (Manufacturer 1) • "I think the main thing is as a Country we need to get to the objectives that we can subscribe to. If you look at the Constitution, there's a certain set of rules in the Constitution that says this is us, this is Namibia, this is what we subscribe to. What I'm trying to get to here is a set of rules for plastics that says this is us. This is what we're going to do. This is what we subscribe to. And that

must be defensible in the world in terms of environmentalists, it must be defensible in terms of carbon footprint, it must be defensible in terms of UNEP – United Nations Environmental Protection Agency, and what they are doing. And if you can get one document that says this is us. I think it will help us to align our interest. We won't have different stakeholders pulling in different directions to ban this or do that or get this out of the way. Then we know exactly what to do. I think the pillars are there, we just need to define them properly." (Manufacturer 1)

- "There's some of it that's like – in the Constitution we say – you have the right to life, you have the right to an education. So, there is some of this which say is a no-brainer like zero marine litter, that's a no-brainer, then everybody would agree to that, or zero plastics into our water aquifers. I think that is also a no-brainer. And so forth. So, we need to sit down with this and say right, these are four or five items that's absolutely non-negotiable. And then from there on so what is more important now, is it carbon footprint, is it the usage of non-renewable resources, where do we go next and then we determine the layers and we will have a working plan, and then if we have that, everybody needs to subscribe and then we will have the different stakeholders working together and pulling in the same direction." (Manufacturer 1)
- "Let's just agree on the baseline principals here and once that's sorted and out of the way then we can work in a direction. Because at this point we are defending business. Because there's a lot of different organisations coming every week with an effort to reduce the usage of plastics and they don't understand the baseline of what they're busy with. So, let's just get it sorted then we can start working. If someone talk about the problem of plastics on the radio we can refer to one document and say this is Namibia, we've got this sorted. If you want to help, this is how you can help. Don't start working with a publicity campaign on social media about the island of plastic in the middle of the sea, you're wasting your time. We are way beyond that, years looking." (Manufacturer 1)
- "I would like us to sign a Constitution. That's what I would like. To get some place where we say this is us. This is our rules. Then everybody can work towards one common goal. We do that, it will be a very easy road from there onwards. We'll still have the same problems, but at least everybody will know how to get there." (Manufacturer 1)
- "Standards in Namibia in terms of what we want in a product, what we can manufacture here and what we can import. And CaCO₃ – we just need to say 'no' – because it's got a ripple effect. And why do we need to import something that's going to sink in the ocean. Stop it. So, we as Namibia have to put our hand up and say: 'Listen, this is our standard.' And if it's higher than South Africa, great. Because we need to stand up for the country and like I said, we created patriotism and if the Government is starting to do that (demand standards) then it might go to the end consumer and they would also..." (Manufacturer 2)
- "I think we first need to know where we're going. In terms of what we want to achieve as a nation. And then put the standards out. And say, 'Listen, this is not tolerated. This is unacceptable.'" (Manufacturer 2)
- "Putting standards there, you know sort of something from Government acting." (Manufacturer 2)
- "My measure would be policies that's been changed by Government." (Manufacturer 2)
- "We need to say what we want. Say 'No, we don't want it. It is our standards, so if you can't live up to the standard we will procure someone else.' Because nowadays you can procure from China and it's so easy... and America...and it's easy to procure. We can decide what our standards are. We shouldn't conform with low standards." (Manufacturer 2)
- "This is what we say we're going to work. Yes, so this is what we need, we need guidelines that says okay, a,b,c,d,e, now that we have the guidelines we get together and say people this is the way forward. Let's now figure out how we're going to get there." (Manufacturer 4)
- "The body, the rules with regards to plastic in our Country, the Collection Centres that we are opening, the collectors that we are identifying, putting value to the bottles, you know, to the PET. Putting a value to recyclables, not just PET, all recyclables.
- "How are we going to create a culture of recycling? I think there's definitely leaders that need to step up. Laws and regulations need to be put in place." (Manufacturer 2)
- "If Government has taken a stand and the end consumer will also see: 'OK, but Government is trying to protect our country against polymers, (against) unrecyclable products, so let us also work towards that. So, I think it's definitely a drive that needs to start from top to bottom. You're not going to start with the end consumer. The end consumer is going to look up. He's going to pick up and bin it and a few days later, if someone in the Government has made a statement or does something that's contradicting that and then he thinks that: 'OK, but why, why should I?'" (Manufacturer 2)
- "Yes. I think the NSI should be the driver and they should be the publisher and eventually they, under the Ministry of Trade, should be the Legislator. Because that someone needs to regulate what is the Best Practice. Someone needs to actually go back and say who is going to take care of this. Make sure that it happens." (Manufacturer 1)
- "I would like just a first step from them (government), to see, OK, something has been done. Something has changed there." (Manufacturer 2)

- "Exactly. And I think definitely it's going to be a thing that if you implement it, Government's good at that. They sometimes implement something that... doesn't make sense and everything is not in place. But I think by just implementing and putting it out there as a rule – 'that is how we do it' – will force industry to comply already. Although it's not policed or 100% governed, by having that there it's already a step in the right direction." (Manufacturer 2)
- "You could regulate it but how would you do it? Would it be effective, how would you control it? Because you know people always have a way of getting away with things so then you ask yourself how, let say for example, let's use the down packaging for example who would you have to control it, so I think the controlling will then now be a challenge." (Manufacturer 3)
- "Ministry of Environment and Tourism" (Manufacturer 4)
- "So, I would say the restrictions as to type of plastic used and then the management, what do you do as an industry or as a Manufacturer to get your, those data should then be submitted on a monthly or a quarterly basis to either the NCCI or the Ministry of Environment. A reputable company, they have power to regulate and take action." (Manufacturer 4)
- "It's not just the collection of data for us to know how we're doing according to these goals but also to regulate. If I have a Policy that's saying nothing that is non-recyclable is to be imported, you need to also tell me what you import so I can see what you've imported and if you did I can regulate and say you're not allowed to do this." (Manufacturer 4)
- "If all stakeholders are expected to report monthly on what is coming in, this is going out etc. to the Ministry of Environment and they set up quarterly reports that's a way that they can also regulate that. They can also regulate that to see yes, this is coming in, this is coming in and it's according to our regulations so we're good. And I think within 10 years' time we should be hunky dory. Have the goals." (Manufacturer 4)

Importers

- "Definitely education, but I think they need to put a policy or a law in to say, 'You must recycle'. It mustn't be an option." (Importer 2)
- "Ja, but what percentage of the population will do that? If you enforce it, then yes, definitely." (Importer 2)
- "I think there must actually be a rule on it, yes. Saying listen your recyclables must be in that kind of bag and we will collect it, period." (Importer 3)
- "Government needs to take a stance. We're not going to make a decision on plastic, because and maybe I've got a file on that, Government will only make a decision if, they will make the decision if it effects their pockets. So, Government is looking for revenue so we're making the decision for the wrong reason. So, we'll implement taxes to generate revenue but we're not addressing the core problem." (Importers 1)
- "Government must take in a position. How would your political leaders address it without affecting their voters? So, it becomes a political discussion at the end of the day. If, for example, I have to pay for plastic bags suddenly, my voters say no but listen I can't now suddenly pay for plastic bags, I don't have the money. They must decide what is necessary and take the action needed." (Importers 1)
- "Government must make it happen. They must enforce it." (Importer 2)
- "And enforce it. It doesn't help you put regulations and laws in place, but nobody enforces it, and nobody looks after it, and the money doesn't go to the right places. Then it's no use." (Importer 2)
- "Then you need the resources to enforce that." (Importer 3)
- "Yes, and to monitor it." (Importer 3)
- "Because it doesn't help the law stands there nobody checks. Speed limits but no speed cops. Just take away the speed limit." (NM)
- "Stop streets without speed cops. I am the only person that still stops at that stop street." (Importer 3)

Re-users

- "We will only be able to see change if it is required by law." (Re-user 1)
- "The municipalities and the local authorities they must also come bit more to the party because they are also everywhere. They are really everywhere. Definitely because overall in Namibia waste management and recycling is not really high on the agenda of any council. But I think it will be changed with the new waste management act when it comes into play, they will be forced to do it. So, I think definitely in the next 5 to 10 years you'll see a big difference in Namibia." (Re-user 1)
- "I think we must stand with the Waste Management Act, there's some targets there which the government wants to enforce and put in place and I think we must start with those targets. If it is stipulated in the targets, what must we do with waste. Not just taking the certain criteria of waste but taking the whole spectrum of it. And it's not long, 2023 is around the corner, just have a look into that and I think if everybody in Namibia is willing to do that, we can make a change in 5 to 10 years' time. 10 years is too long, 5 years' time." (Re-user 1)

- "The waste management act that is coming up is a good document and it's sufficient. Ja definitely. There are targets that must be done. I think it's rather to have a different one just joins that one and we will work together with that"
- "The impact of all the different industries where plastic is being used correctly and for the right purpose but the disposal of it is where the problem still lies. Even if it is in Manufacturing they send materials to Oshakati to the Pick n Pay there, they do not have a waste removal company there. What do they do with it? There are certain towns in Namibia that I know do not have a dedicated waste area. We have Kupferberg dump site. But certain towns do not even have a dump site, or the dump site in Okahandja is not fenced off. They go and throw everything away there but as soon as the wind comes up it picks up everything there. I know this is being addressed in the National Solid Waste Plan by the Ministry of Environment. Last year we sat with a lot of people and certain towns to council and with NET included so there is a 10-year plan included to make sure that each town and village and everyone gets a dedicated refuse dump site that is also according to standards. That is a start, people need that first before they can know where they can take their waste. And then after that the sorting can start to take place. If it is an open dump site and you throw everything there or even some places do not have a dump site, then you have no place to take it to. So once again there needs to be certain structure in place to do this." (Re-user 2)
- "I think definitely management is better and if there's a value in any product then the end user will benefit. Together with that previously there was no law enforcement on waste management and recycling and pollution so most of the things people just throw out of the window or just put it on the street. So, if law enforcement can be enforced it will sort out the problem." (Re-user 1)
- "But it's all about awareness, enforcement and education. That you can't do as a private company alone, you need the back up of government and state." (Re-user 1)
- "The only barrier is if government will not enforce it. If there's a document but you can still do what you want, then it doesn't help." (Re-user 1)

Consumer

- "If you force someone to do something different, they will just get into that habit. Whether it's a material bag or whatever you want to call it, as soon as you force someone through legislation to change the habit, then it is going to happen." (Consumer 1)
- "It's the responsibility of each and every one Namibian in my opinion, from the individuals through to the companies but at the end of the day, the broader management of that and from the legality point of view the government should take responsibility for it. Without government setting policy, this won't work." (Consumer)
- "My biggest worry usually about something like this is that without the government's involvement with regards to the legality and that type of thing is that at the end of the day we are struggling with the economy and all those types of things at the end of the day the profit motive becomes bigger than the carbon footprint motive if there's no government involvement and legislation about it then it is really difficult to manage up until the end. So, from my point of view government legislation, clear set goals, where we want to be and imperative measures at the end of the day if it is necessary whether it's how they want to implement it is something different, it is very difficult. But if there is no legislation with regards to this and clear set goals with that then I'm not sure we're going to get there as a country." (Consumer 1)
- "That's why I'm for legislation with that to force us to change. If we're going on the route of changing people's mindset and behaviour, it's firstly very expensive and secondly, it's going to take a long time and we don't have all that time with regards to the environment and where we are today. So that's why I'm 100% for legislation and getting behind this and we force people to change." (Consumer 1)
- "Urgency. A lot of people talk about it and there's a big 'hoo ha', there's some small individual groups that try their best. The biggest impact will come from Government when there is resolution that can regulate plastic without us sitting here in five years' time again." (Consumer 2)
- "I'm not an expert but if you look at Rent a Drum, Gys Louw, they do a tremendous job in recycling in Namibia. If they had more support from government side in the sense of legislation that will force people, ground level people to do their bit, their job will be easier. Those companies like Kleentech are doing a great job, they need more support from governments side." (Consumer 2)
- "Law, Government. That's the only way, if you're plastic manufacturer or importer and I say you can't import it but behind my back you still do. There is a lot of good intentions, but it doesn't always follow through." (Consumer 2)
- "There should be a law forcing it otherwise. It's not in our culture currently. It's not a cultural thing currently, you need to force people." (Consumer 2)
- "We just want to hear when, because this is now going on for years now, they must just decide when they are going to start for people to pay for plastic." (Consumer 4)
- "You need the support of Government, definitely. Because it needs to be, let's call it in the framework of the law or (a) governing body needs to control it." (Consumer 5)
- "We need a policeman to enforce it. That can only be government." (Consumer 2)

- "We've got strict regulations on speeding and we're still the country with the highest deaths on the road. So, it's not so much that the regulations are being put in place or not, it's much more a problem of enforcing it. Unless there's a different culture enforcing them." (Consumer 3)
- "Fines are still part of the regulation, then somebody needs to go out and send the fine and hand it out and say, 'here's your fine'." (Consumer 3)
- "You need the support of Government, definitely. Because it needs to be, let's call it in the framework of the law or (a) governing body needs to control it." (Consumer 5)

Trade Associations

- "There should be some legislation introduced to maybe enhance the importance of plastic in the environment. But also give an incentive to people that use plastics all over." (Trade Associations 2)

Environmental Group

- "You know Namibia has a Waste and Pollution bill, or is an act now? The Waste and Pollution (bill) is basically the intention of the country – how it wants to manage waste, including plastic and pollution. And obviously for this to happen, there should be a strategy, which I think is in draft form. But then the strategy should have targets and so on. The key role players, the industry and of course the policy makers themselves and what they do. I think it starts at that level, rather than just the plastic. It's waste and pollution. And waste – it's waste on land, it's pollution in the air, it's also pollution in the water (marine or fresh water) and so on. And then different types of wastes." (Environmental Group 1)
- "And the Ministry of Environmental Tourism on the strength of our engaging in this, engaging with them, they've moved very fast. The Minister instructed his staff to pop together a solid waste management strategy in place, and he got through in record time, took it to parliament, cabinet parliament, got it approved and then there's now a solid waste management strategy for the country. To advise on that he set up a panel of specialists and I serve on that panel with a bunch of other people. So, you need to get a copy of that 'solid waste strategy'. It's a five-year strategy. But from the ministry you can get that, and it sets out the policies and the aspirations of where we want to go and workplan in it and so on. And so, the whole thing is now moving forward, and plastics are one of the top priorities that need to be dealt with early " (Environmental Group 2)

Government

- "Remember, our country was perhaps the first one in terms of putting a clause of protecting the environment in its constitution. So, anything that produce a negative externality, whether it is in our production processes, whether it is in our social interactions and it affects the environment, should either be minimised, or we look at mitigative strategies around it." (Government 1)
- "I think it's desperate efforts, here and there. And remember also, because of the absence of a clear solid waste management policy – I think we've only had strategy, way back, I can't remember – and therefore it was quite...left to the market to see what it can do. So, you would find private players try(ing) to do the best they can. But in the absence of a national policy, things are always (done) in desperate fashion. No one is compelled to do anything and therefore players like Recycle Namibia Forum, actually have been at the forefront, which is something that we need to appreciate. But the absence of a policy also made it very hard for national efforts, because I mean, I could come in today and set up a plastic manufacturing industry plant, without requisite guidance of a policy on that, perhaps I need to look after certain effects or I need to develop the value chain in a certain format. So as a result, it's desperate efforts and open to almost (a) framework for industries to come and set up things without proper guidance." (Government 1)
- "Not good, but you would (have) done more if you get your house right (in order). If you get your policy framework right. And as a result, you know, big players like City of Windhoek, the cleanest city in Africa, to the one in Rwanda. Because of the lack of comprehensive regulatory framework, so that we can all diligently follow it. If someone comes in, they are setting up a major manufacturing plant, I should be able to cross-check in terms of what does the regulations say in terms of negative externalities." (Government 1)
- "Yes, that is centralised. We are discounting the current efforts that desperate groups are doing, but you really need to centralise things and give much more direction, so that when it's able to be conferrable in knowing what to do. Because if you don't have that centralised guidance, everyone does things the way they see things, but cumulatively is that what Namibia wants? Or if that will happen, Namibia becomes pollution-free. I don't think so. It could be, but unconsciously we are doing it, but we need to find some conscious agreement, in principle. So, this document, or this policy, would that reach then from the end-consumer through to the manufacturer, through to the retailer – cover the whole spectrum. It will be comprehensive." (Government 1)
- "Get your solid waste management act or policy – if there is a policy now then get the act done by next year. And then set up a comprehensive, nationally endorsed implementation plan around how we are going to now gradually exit out of the plastic, say by 2030 or 2045. The industry, and the rest of the stakeholders will come to a target date. But always remember consumer choice is key, so that there will always be the choice, for consumers would always want to use plastic to continue. That's why I said, you get your policy framework right, you get your act right, then you

have a national stakeholder consultation and an endorsement of the implementation framework. 'This is what we are going to do by this date'." (Government 1)

- "Well from the trading aspect, when you are trading you shouldn't really put up the obstacles not allowing people to import. If we have a good legal framework to block some of those plastic be it. But in the absence of the regulations it might be really difficult because we are trading. Namibia is member of WTO which are TBT which are trade on technical barrier on trade, non-tariff and so forth. You cannot just decide to ban the importations without clear regulations. But if we have legal framework that really stipulate that we can able to, obviously we need to have a reduction so that we can have control of those plastic that are coming in. But, otherwise for now is just a question on management. I'm not quite sure about the regulation in terms of the plastics. For now, it's more on management of those plastic, that's my personal view." (Government 2)
- "Well from NSI side you know we operate from the mandate. Our mandate is actually to ensure that we develop standards and we ensure the quality assurance, and also to ensure that there is a certain protection on the environment. Having said the protection on environment, obviously that is part of ensuring that there is no pollution on the environment. We have from the International point of view or from the Namibia point of view, we have standard that is an ISO 14001 which is announced ISO14001 which is a management system on environment which is now a guideline to guide the people that you should not pollute. And also, within that there is also references on the regulations that need to be in place for the Companies to make sure that when you pollute more you pay more for example. Those are just a guideline from us. It's not a compulsory standard yet, but I believe there should be some sort of regulations on the pollutions. I've learned from the Mining Companies, and Ministry of Mines and Energy I think is dealing with all the regulation, and also environment the Minister of Environment is also involved in terms of taking care of the environment. The impact of your productions, of a certain product, what is the impact in terms of pollution, air pollution, environment and so forth. From our side as NSI, we encourage people to use best practices and make use of the standards that are in place. And also, to get training from us more specifically on ISO 14001 which is a management system standard so that they can at least have a best understanding of how to reduce their pollution on the environment. What are the effect if they pollute, it means you have to pay penalty and so forth all those kinds of things I think need to be in place," (Government 2)
- "Standards are voluntary, they only became compulsory once we have incorporated it or used that as a basis in regulations. Then it became compulsory. But hence a minister himself, he can able to declare the standard compulsory if the need comes, especially when it has to do with the safety and consumer protection and all so forth, he can declare the standard to be in such a way. Our appeal, although it is a voluntary standard that are in place, is just for the people to make use of the best practices in their processes of producing plastics, but we can't enforce, that's not really in our mandate for now, until we have compulsory standards that says you need to do ABCD, that is the law. If the legal obligation comes in place obviously we can able to take that route but for now it's not in place." (Government 2)
- "There is a lot of things that you need to take into consideration. As you are moving from, the evolutions of things that are happening around, we need really to make peace with it for now to ensure that we don't just enforce, first you educate people, the effect of plastic, then the Manufacturer also, the effect in terms of the air pollutions, the effect chemicals that they are using it might have an effect on the human being and so forth. Education come, and we need to move step in step, move from one step to the other steps until we really get the solutions." (Government 2)
- "At the moment it's good that we are at the encourage, at the educate stage, not the compulsive regulatory stage. Yes, that's what I can say, at this point we can do it in that way." (Government 2)
- "Yes, provided there is a technical regulation that is really governing, for the importers to import here, they must adhere to certain requirements, for the exporters to send their product to Namibia they need to adhere to those requirements. Same apply to the importers, same apply to the local people that are manufacturing. The field must be well levelled for everyone for business. Rather than just to wake up and say we need to be protected. No, it doesn't work like that, because remember when we do business, at the NSI we have a notification point, inquiry point where you have also to communicate with other Organisations, be it National Standard bodies like NSI, at the World Trade Organisations, you need to report your technical regulations that you are putting in place for others to know, and also to give their objections and whatsoever they want to, and from there the field is levelled. Which actually means then we must comply with it and they must comply with it so that the playing field is level." (Government 2)
- "Is that in place at the moment for the plastic industry, that clear set of rules and regulations or must that still be developed? I think if I just speak off hand, not any that I know of at this moment, probably there is a regulation somewhere maybe I don't know. But that one I need to research on and find out whether there is something that is to do with plastic at this moment. (That needs to be in place for imports to be controlled and standards to be enforceable)." (Government 2)

- “Standards feed into regulation. Yes, so to use it as a basis of regulations and then they became compulsory. Once regulations when that is in place it will level the playing field. Yes, that is how it works, because that is a legal obligation, once it is in place it needs to be enforced as it is, not as voluntarily as it is now.” (Government 2)
- “Yes, no when it come to that I think we need to consider the EMS ISO 14001, which is an environmental management system standard, so that need to be in place for the people to ensure that they manage the environment when they are producing their products. So, I know there are some best practices, good manufacturing practices that need to be used by manufacture, I think they know it, best practice that they need to put in place to make sure they are really in adherence of the laws of the Country in terms of the environment and so forth.” (Government 2)
- “I think the action plan will then involve the Association or responsible Ministry or any Association that is up to ensure that there is management of the plastic. It requires associates to run it, more specifically on the awareness. When we're doing awareness, it requires resources in terms of personnel, in terms of money, equipment and whatsoever that you're going to use in the field to go around and give awareness to your people. The action, the other activity that I will involve is maybe to encourage the usage, the application of standard, and also the formation of Technical Committee on plastics, so that they can sit around the table and put their needs and can be able to develop certain standard or adopt standard that are already somewhere else, so they can just sit and look at it and see whether it is meeting our interest here in Namibia or our needs. So, the application of standard will then be something that need to be taken very seriously and also the awareness, all this involving some money or resources needed to ensure that we develop the standard and create awareness to our people.” (Government 2)
- “I'm not really sure because there should be a regulation that must be in place for you to charge that levy. Because I believe it is illegal obligations from the Government that we put up these levies on plastic importations, on plastic manufacturing. Manufacturer need to produce also you know. I think that one is more on regulation side.” (Government 2)
- “I think, first of all, one should do research from the government's side to identify what are the pros and cons on the usage of plastic in Namibia, and that will be able to inform policy-makers towards what the next step is to take. On the government side, as we said you should start with the Ministry of Environment to take initiative and then they come up with a policy and a strategy as to how to go about it. I think if you've got a policy in place that will be the first point. Now we don't have anything in place, it's very difficult now. Even for companies to do something, there's no initiative.” (Government 5)
- “I agree first research, then the policy, then to put a waste management system into place. If they do that, then we will be able to see if we should stop them (plastic usage), burn them or we should just try to reduce them.” (Government 5)

Awareness campaign

Create a R-R-R-R culture

Plastic Manufacturers

- “I think definitely more education, awareness.”(Manufacturer 2)
- “People are not, the awareness is not there. The awareness is a problem because you know for somebody to take, throw a plastic garbage bag in the dustbin it seems to be very difficult thing. I have seen recycle management companies trying to sort, put this bin for bottles, this for plastic, but then you find it is still not being done, it is the awareness.” (Manufacturer 3)
- “Children grow up in that culture overseas to recycle but when it comes to us it's otherwise, the opposite, you know you throw everything, we are told we you are not touching bins, you know, if it's rubbish, it's rubbish, you shouldn't touch.” (Manufacturer 3)
- “Recycling drives, not in the North, I know there have been attempts, but no they haven't worked much. I think also the interest is just very limited. This needs to change. We need to create a culture of recycling.” (Manufacturer 3)
- “Yes, like I said the main, main issue here is just awareness.” (Manufacturer 3)
- “And that is also a massive awareness campaign that needs to run out. That needs to and we're working on that as well, so it's in the process, by end of July we're planning to launch” (Manufacturer 4)
- “I live in Omeya and we have two waste bins. So, my mom came to visit me, and she looked at me and my four-year-old would say, no Oumie that one you must fill, that comes in this bin and she looked at the kid and she say why? And he said, I don't know Oumie says it. And she looks at me and she says why do they have two dustbins, why do you have 2 bins. And I said no we're recycling here, those are for the waste and that is for, she goes, ja julle weet nie wat om met julle se geld te doen nie – because she doesn't understand.” (Manufacturer 4)
- “So, I think there is so much awareness and education need to go into this and we are so approaching it wrongly, we want to penalise, we want to penalise, let's penalise the people because they're doing it wrong. They don't know any other way. They don't know any other way.” (Manufacturer 4)
- “It's not part of our culture, and now the Europeans and the slim people come, and they say, oh, you should reuse and recycle, and what is that other one, reduce” (Manufacturer 4)

Importers

- "I mean we've looked at number of other elements, what other Countries are doing in terms of, deposit values on some bottles that it's 5 cents or attach a monetary value to it but at the end of the day it's becomes a challenge because people need to change their total behaviour on that and its more awareness campaigns and things like that." (Importers 1)
- "I think it's a mental thing, it's a view of life that must be shaped." (Importer 2)

Re-users

- "I think education. Education is a big part of that. Because people in Namibia did not grow up with waste management and recycling. So, we're not yet a first world country but we can work together with the government and the president. The goal is to get Namibia back as the cleanest country or city in Africa. So, we've got the backup of the president and the government." (Re-user 1)
- "People must understand the process and what is the value that we get out of it. If you treat your waste as the waste we used to grow up you haven't got any value out of it, there's a value. If you do proper recycling, and I'm not talking about plastic, but if you do proper recycling you can at least recycle up to over 90%. Thanks to the refuse derived fuel plant, everything can be recycled at this stage except wet waste and nappies and protective clothes and that sort of stuff but more than 90% can be recycled. People must just take responsibility and do on source separation. Community and business must also get on board. Your waste is your problem, everyone's own problem." (Re-user 1)
- "The thing is I personally agree that the plastic bags are re-usable already, we don't have to throw it away after the first use, but out of nature, I think that we all just use it one time and don't take it back to the store if we go back for shopping. It isn't part of our culture. It isn't who we are. That needs to change." (Re-user 2)
- "I think that will be a big part of changing this whole issue. We need to change our culture." (Re-user 2)
- "My key thing behind this is the Education. Each person should take responsibility for what they buy and to dispose of it in the correct manner. That is the only way that it would change as visual as it is at the moment and plastic is a light product and it blows, and everybody can see it. Where your glass bottles and plastic bottles and other stuff is much more heavy and cans they don't blow all over the place. That is why it is not such a big issue because it is not so visible." (Re-user 2)

Consumer

- "But it's the question to manage that and to manage the whole population of Namibia is not going to be easy, and to get the mindset of the people to change." (Consumer 1)
- "(The) Recycling process, but I think with recycling, it's actually a huge educational process. And I think, basically, to give my bit of thought to it, is to start at school level. Obviously, the basics, because I think at the African – let's call it... I'm a born and bred Namibian. I come from a background where we generally think, 'Ag, we can just throw it down and somebody else will pick it up'. So, first of all, I would say: 'Right, let's focus on education'. But it won't solve the problem, because we need to act now, and it will take a long time. (Consumer 5)
- "It's a self-sorting process. But it's a mindset change that you need to go through. We need to create that culture." (Consumer 5)
- "First of all, I think let's start with education at school level." (Consumer 5)

Government

- "I think the action plan will then involve the Association or responsible Ministry or any Association that is up to ensure that there is management of the plastic. It requires associates to run it, more specifically on the awareness. When we're doing awareness, it requires resources in terms of personnel, in terms of money, equipment and whatsoever that you're going to use in the field to go around and give awareness to your people. The action, the other activity that I will involve is maybe to encourage the usage, the application of standard, and also the formation of Technical Committee on plastics, so that they can sit around the table and put their needs and can be able to develop certain standard or adopt standard that are already somewhere else, so they can just sit and look at it and see whether it is meeting our interest here in Namibia or our needs. So, the application of standard will then be something that need to be taken very seriously and also the awareness, all this involving some money or resources needed to ensure that we develop the standard and create awareness to our people." (Government 2)
- "Because, no, why I wanted to say that, because is it Namibians only? That's why I wanted to go that far. I think on the education on recycling, it's still much more based in urban areas." (Government 3)
- "So, all in all, I work with the communities, up to grassroots, with many programmes where I speak about health issues, environmental issues, personal hygiene, sanitation etc. But the issue of saying I use a plastic, tomorrow I put it somewhere for recycling...that's still a dream." (Government 3)

Plastic Manufacturers

- "So, all the forums that are there, the NMA, RNF, Team Namibia they must stand up and be effective in order to within their sphere of influence. And then I think what we should do with the Namibia Chamber of Environment, we should start with a media campaign once we have our common objectives properly identified. Saying, all-right, this is what we are going to do as a Country and then we can roll it out. It should be, a Best Practice document should be in every guest house and in every airport toilet, in every place of public interest where you can actually see that this is what this Country is about in terms of managing their waste." (Manufacturer 1)
- "We've got 2 million people. We can change 2 million people's behaviours. It's more difficult changing Ethiopia's behaviour of 90 million. Having 2 million is, you know, doable." (Manufacturer 2)
- "I think it would really take time, it will take a generation I can see." (Manufacturer 3)
- "The most effective organisation or body should coordinate this campaign effort, that can literally, that will have the time, and would have the means and the infrastructure to say okay, fine this is what we're going to do. We're going to run this campaign, it's going to be a nationwide campaign it's going to run for at least 3 years. Because we need to educate for 3 years, educate. And this campaign must be done in schools, churches, in old age homes, everywhere this must go." (Manufacturer 4)
- "Don't you think also one of the first steps should be to also establish the need for recycling? Why should we recycle, who cares about recycling? We care, we know, but we're willing to spend money, but I imagine 80 % of guys out there is not going to pay a cent extra just to recycle. Ja, I'm talking about everybody. If there is not a need to recycle then how're you going to motivate any of these efforts. That's where the awareness, I think, will come in. We need to start there." (IM)
- "The nation wants to do something. It's a small country, you are talking to a small audience. It's probably easier to connect with our small population than the 60mil people across the river. When you have to get people to buy into it, it's not going to be impossible, but significant investment needs to be made in terms of awareness creation and whoever gets together putting your money where your mouth is." (Manufacturer 5)

Importers

- "Unfortunately, if you look at your lower LSM, they are the ones that basically live in poverty and doesn't even think about recycling. That's their last priority. We need education and awareness." (Importer 1)

Re-users

- "Through Facebook, through newspapers, through talks, through everything you must be in people's faces all the time. Because we can see in our recycling stats, if we stop talking it goes down, if we start talking again the graph is growing again." (Re-user 1)
- "As the generation grows it will form part of them it is much easier as they will automatically then teach it to their children. So, it is a crucial part to start with the younger generation. Time will only tell, and it will take a lot of time in order to teach the people and change their culture." (Re-user 2)

Consumer

- "Unfortunately, any educational type of program is taking really a long time to change people's habits. To change their mindset and that type of thing. Not something that's going to happen overnight. That's why I'm for legislation with that to force us to change." (Consumer 1)
- "That's why I'm for legislation with that to force us to change. If we're going on the route of changing people's mindset and behaviour, it's firstly very expensive and secondly, it's going to take a long time and we don't have all that time with regards to the environment and where we are today. So that's why I'm 100% for legislation and getting behind this and we force people to change." (Consumer 1)
- "It's not going to happen overnight, it's going to take a generation if your kids are exposed to that message by the time 10-30 years becoming adults it would be second nature. Their children will...it's going to be difficult for us as a country to change our habits. It's for the next generation but we need to start now. In this generation there is people that is open-minded that can see the problem that can see the future and know where to go. We need to create a culture that will see the best benefit with the next generation." (Consumer 2)
- "Education, tell people why you are being forced to do this because just forcing me to do something people will resist. If you 'force' and explain to them why and long-term effect that'll be hand in hand. That can't take less than a year but between one and three years we can mention would be a foundation ongoing, part of the whole recipe. It shouldn't be three different section, it should be a combination of the force, education and evaluation and see by year three. Then you can see when it was started this is the challenges that we had, we were educating people, and this is the end result." (Consumer 2)
- "That's an educational process, it will take some time, cause it's easy just to dump it." (Consumer 4)
- "(The) Recycling process, but I think with recycling, it's actually a huge educational process. And I think, basically, to give my bit of thought to it, is to start at school level. Obviously, the basics,

because I think at the African – let's call it... I'm a born and bred Namibian. I come from a background where we generally think, 'Ag, we can just throw it down and somebody else will pick it up'. So, first of all, I would say: 'Right, let's focus on education'. But it won't solve the problem, because we need to act now, and it will take a long time. (Consumer 5)

- "As I said, I think it's just education, education, because we're sitting on a, let's call it a fairly young Namibian population. You know, if you look at the age bracket, I'm not familiar with the numbers but I think we need to make it a part of education. You know, sort of, educate that there's a tomorrow, there's kids to come, you know, that there's a future and we can't carry on like this." (Consumer 5)

Trade Associations

- "I think the question and the answers will be totally different in 10 years' time. Because I think Namibia is very much in the starting blocks of awareness of whatever it is that you buy, is it reusable, how it been produced, where is it been produced." (Trade Associations 1)
- "It all comes down to awareness, it's like we are starting from a baseline. It's not a part of our culture, it's not part of the way that we grew up, so it's something new, and to change the behaviour are thinking of people, it's a long-term project, one that we should start with now if the future is going to look different." (Trade Association 1)
- "But I think there needs to be some sort of urgency on highlighting the good that is being done in this country. I really think it needs to be highlighted. People, and when I stand at an EXPO or when I am at a school and I say do you know that pipe that you use in the garden, ja, that's recycled plastic, nee. I really, really would like to see a heightened focus on what's being done in Namibia." (Trade Association 1)
- "Everyone knows our recyclables goes to South Africa. But do you know what stays here? How can we support this industry? Rent-a-Drum, you can imagine how much more they can send to Ohorongo. But it needs to be collected." (Trade Associations 1)
- "People need to know that these dog food bags, they are not recyclable because to keep it fresh it's got some sort of a liner inside. They made it totally unrecyclable. But ja, this can now go to Ohorongo. Do the people know it? No." (Trade Associations 1)
- "Because I really through my work stand in front of people and I can tell you, 9 out of 10 do not know. And as I've said, okay Mammadu, it's a side-line, but that plastic bags are reused in such a wonderful way, creating employment, earning an income for people from the poorest part of Windhoek." (Trade Associations 1)

Government

- "If we are able to convey extensive and make people understand that they will tell you behaviours such as this are transformational. It's not like tomorrow there is a turn." (Government 3)
- "That is what public health operates. Public health, we don't impose. Stop the plastic, just like that. We will say stop smoking because of A, B, C, stop the plastic because of A, B, C. so that project proposal can then get a chance for people to discuss. It is our collective responsibility to ensure our health. We are a leading ministry, we are scientists, and we tell people science is for them, so we don't always impose, 'just don't do this'. No. We tell people, 'look, if you do this, this results in this. And we don't expect an abrupt change. We teach, we influence on good health, tips until people understand." (Government 3)

Laws/regulations passed

Government

- "First, get the key stakeholder together, decide what the way forward is before we start...and then go tell the public. If a law is put in place, for Namibians to know what is happening in Namibia it's in a day they all know there have been some changes from last 6h00 to the following, the previous 06h00 to the following 06h00. They will pick that one up. The one that will talk, if there is something on a paper, a draft, and people say that is a good one, then we will be sending that information. Then we are agreeing together that this is the way forward to protect public health. Otherwise you will be in fragments. Health talks this and you talk this, and you told this, at the end of the day things are out of proportion. A uniform message is important." (Government 3)

Campaign Funding
All stakeholders contribute

Plastic Manufacturers

- "Who should fund the campaign? You know and then everybody is saying Coca Cola are a billion-dollar company, you hear what I'm saying. People are reluctant to take the responsibility and say, okay fine. So, I will put the responsibility to, let's call it the system. The system should educate. And the system should consist out of the Government, the Private Sector, the what other sectors do we have, the Medical Sector, the Finance Sector, Banking Industry, all of us should come together and say okay let's do this massive, massive campaign. The most effective one should coordinate the effort." (Manufacturer 4)
- "But if you say, for instance we say, the NCCI will then be responsible for this massive campaign, hypothetical speaking, and every single company on this list must give \$100 000 towards the campaign. Or say for instance, not every single company, categories, it varies. If you're Company A you're a big massive Company, Company B, Company C. This is the amount Company A pays,

		<p>this is the amount Company B pays. And then they do the campaign, from all these companies they have a committee, or a forum." (Manufacturer 4)</p>
Levy		<ul style="list-style-type: none"> • See levy
Government budget	<u>Re-users</u>	<ul style="list-style-type: none"> • "They (Ministry of Environment and Tourist) must budget for it." (Re-user 1) • "I'm not sure if they'll get the money must be from government somewhere. I don't want to impose a levy, but there's certain ways so." (Re-user 1)
Campaign responsibility		
Forums/ Associations		
	<i>NCCI</i>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "But if you say, for instance we say, the NCCI will then be responsible for this massive campaign, hypothetical speaking, and every single company on this list must give \$100 000 towards the campaign. Or say for instance, not every single company, categories, it varies. If you're Company A you're a big massive Company, Company B, Company C. This is the amount Company A pays, this is the amount Company B pays. And then they do the campaign, from all these companies they have a committee, or a forum." (Manufacturer 4) • "A core committee, they then approve the campaign. You can get someone with necessary expertise. That will work out a campaign that will psychologically change the way people think, think and do and reason." (IM) • "The Chamber of Commerce , the umbrella bodies that are involved with the businesses, they should come forth and they should really, get the people that are involved in the plastic to come and speak so that people can understand what is really going on and raise awareness, especially when the businesses are going, the BEEs you don't find them involved in plastic they just feel like , ag, it's a cheap thing who will want to make plastic bags."(Manufacturer 3)
	<i>RNF</i>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "Some of those funds of collecting the levies should go to Recycle Namibia Forum to put out the stats, to create patriotism. So, if you put it in front of their door, and say listen: 'This is what you do, we need to put it out there. We need to, sort of, educate. We need go to schools, we need to put up banners, we need to pick it up ourselves, we need to do clean-up campaigns, we need to... If we put it out there and they've got funding... If you have money, you can do a lot of things. I think currently they don't have any money, because there's a few companies paying membership fees to Recycle Namibia Forum and what can you do... (with that)? You can't even pay a salary there. So, put the money there, put the resources there, then I would happily pay a levy." (Manufacturer 2)
	<i>Team Namibia</i>	<p><u>Plastic Manufacturers</u></p> <ul style="list-style-type: none"> • "You have Team Namibia who's the public eye who's the branding organisation for Namibian product, and they should be playing a role in getting the message out to the consumer out there, with regards to what Namibian product is better than the next. And that is pretty simple." (Manufacturer 1)
	<i>NGOs</i>	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "Who should be managing the funds? We can look at NGOs, you know that... we can specifically look at that sort of thing. We can drive some activity at school level. We can have a – let's call it – a huge awareness campaign." (Consumer 5)
	<i>Ministry of Environment & Tourism</i>	<p><u>Re-users</u></p> <ul style="list-style-type: none"> • "The responsibility is so big for industry alone, like for you alone to carry that burden of national awareness. Who can again be more collective and run bigger campaigns? Ministry of environment and tourism." (Re-user 1)
	<i>Government in general</i>	<p><u>Consumer</u></p> <ul style="list-style-type: none"> • "But nothing stops any individuals to take initiative to teach people, but I think the drive should be from the government." (Consumer 6)
Organisation in charge of the levy	<u>Consumer</u>	<ul style="list-style-type: none"> • "That body we spoke about earlier, that's the ideal body. They collect the funds, a retail and a manufacturer they can't there's too many things that they are obligated to do. This organization will be able to say, okay 100% since that'll be their main focus. Irrespective of the money, the money can be automatically transferred. These oaks will have the platform either to get in experts from overseas or to go there, whatever the case may be and then convey that message back to the consumer. With oversea companies or experts in the field sit down and work out campaigns custom made or catered for Namibia itself." (Consumer 2)
Positive polymer balance sheet		
	<u>Plastic Manufacturers</u>	<ul style="list-style-type: none"> • "The only measure that I can think of is a positive polymer balance sheet." (Manufacturer 2)
Control how much and what plastic is entering our market		
Only recyclable plastics allowed	<u>Plastic Manufacturers</u>	<ul style="list-style-type: none"> • "It should be part of the goals, how are we going to get there, only bring in, import recyclable containers. It will make it easy for the Country that imports or relies on imports like Namibia at the moment you know. To make an impact, to make a difference. Because it doesn't help we are

running this million-dollar, billion-dollar campaign but we can't recycle any container that we have. The containers must be recyclable. That comes into our Country. And those are the restrictions Government can assist with, instead of penalising the manufacturers. Tell them whatever you produce and whatever container you use, the rule now is it must be recyclable." (Manufacturer 4)

- "I would first go for the easy one and say: 'CaCO₃ – nothing.' That's easy. Although it's not 100% easy, because how do you feel it, how do you test it, how do you see it? But just putting the standard out there is a step in the right direction. Because now we have put it out there. Now we have to comply there. And now we have to sort of police – the policeman is the difficult part." (Manufacturer 2)
- "I would like to see a change in policies in terms of import products and regulating that." (Manufacturer 2)
- "Plastic imported must be recyclable. That would very much help especially with the environment." (Manufacturer 3)
- "We can say, all-right, this is the rules and regulations, from now on, this is what we will allow in our Country. We will not allow non-recyclable plastics. You'll have to make sure that when you manufacture, your container should be recyclable." (Manufacturer 4)
- Re-users
- "Manufactures should take responsibility that the products they sell in Namibia should be 100% recyclable. Minimization of that is crucial, it is also possible through the education that people use, what they buy." (Re-user 2)
- Consumer
- "The first thing and the easiest, or the easier target will be to stop importing plastics that are not recyclable." (Consumer 1)
- "Government's involvement in legislation just with regards to what comes into the country and what we use." (Consumer 1)

Trade Associations

- "If there's legislation that any plastics imported into Namibia should conform to a certain process in the manufacturing process. Yes. It must be 100% recyclable. We do it in Namibia. Why can't people outside Namibia do it?" (Trade Associations 2)
- "And then, 'yes', for me the one other thing that Government really has to look at is to introduce legislation that plastics that come into Namibia that are used by retailers must conform to the same recyclability standards as our local manufacturers. If we can do that, I think the playing field will be level and I think at the end of the day the retailer will then start to make use of the local manufacturers more." (Trade Association 2)
- "Put in legislation. The plastic bags that are imported into Namibia, (they must) conform to the same standard as those that are manufactured in Namibia. Then the playing field is level." (Trade Association 2)

Introduce a levy

Plastic Manufacturers

- "So how long does it take to implement, pay 20cents, 30 cents, 40 cents. Get that levy going. The consumer complaining is exactly what you want it's your endorsement that the product is working because they're feeling it and they'll control it. They'll manage it as well. Get the levy." (Manufacturer 5)

Consumer

- "Other thing that I would say that would make a bit of a difference, not a long-term plan in my opinion, is the South African route that they went with the levies on plastic bags, but it needs to be legislation. It might not have a long-term effect on behaviour, but at least money is collected for the environment." (Consumer 1)
- "Introduce a levy." (Consumer 2)
- "I would say, sooner than later the levy should come in for that. That's the ultimate- it's the only thing you can immediately force people." (Consumer 2)
- "It should also be legislated that shops can't give plastic bags away for free like it has been done in South Africa, because otherwise some of the people would just give it away for free and then no changes will be done." (Consumer 3)
- "Ja, I think they must start tomorrow. People use different ways of carrying... like in South Africa, they use the bags for life. It's already big here, ja you see it a lot ja. But they must just put in law, like in the next month." (Consumer 4)
- "I would implement it in the next month." (Consumer 5)

Trade Associations

- "There can be a levy. I think I'm a proponent of, to introduce an affordable levy to the consumer. Secondly that levy must be used for the purpose that it was introduced in the first instance – that is to help the environment. To safeguard the environment." (Trade Association 2)

Environmental Group

- "You have to have the right incentives in place. You know, this is a serious misconception in the world. They think that every problem can be addressed by environmental education. Well I can

tell you, you can have people with PhDs in environmental lurking around, they will still do the wrong thing if the economic incentives are not right. People with no education at all, if the economic incentives are driving things in a certain direction, they will go in that direction. So, information and education are important, but far more important is getting your incentive packages right and what we're doing here, is we're not saying, 'Plastic is bad and ban all plastic', we're saying 'These elements of plastic are bad, they become a public nuisance and they become a public threat and they become an environmental threat, and society is then burdened with the costs of dealing with that. Therefore, we have to put incentives in place so that doesn't happen.' And the incentives are a deposit on bottles, a charge, tax, a levy on plastic bags, ultimately in five years' time leading to abandoning plastic bags altogether and getting them out the system, and these other things, straws gone and so on." (Environmental Group 2)

- "I think, putting those mechanisms in place we've talked about which are reducing and making sure that all the plastic, reducing the use of plastics and putting incentives in place for the recycling of them. Those are the first steps that need to be done. So, a levy on plastic bags, a deposit on plastic bottles, strengthening the collection systems, the management of systems with plastic around the country, getting rid of straws and those sorts of things. You do that as your first step, then you've cracked a large part of the problem." (Environmental Group 2)

Government

- "Well, get your levy done. Get your levy discussion done, approved. I think that will probably be by the end of this year." (Government 1)
- "We need plastic. In fact, Namibia, the Ministry of Environment and Tourism decided to not ban plastic, but to put a levy on it, but we reduce the consumption of the plastic. But perhaps we try to levy, especially plastic so at least we reduce it." (Government 5)

Plastic Manufacturers

- "Everything I've seen today there's everybody looking at the local manufacturers but that's literally 3-5% of what's out there. No one talks about everything that comes in a peanut butter jar from across the border already filled with product which will be disposed of as easy as a water bottle we make. The money that's going to be collected to co-sponsor this needs to start with stuff that also is sitting at the border waiting to come through, because we're going to be cleaning up that mess." (Manufacturer 5)
- "Chap who fills the peanut butter jar in Randfontein is not going to be too concerned. Maybe there is a slight premium in terms of importing stuff or products or whatever. Whether it is collected at the border before you get it in or whether the retailers provide information of what's in- packaged in these things. That's the starting point in any respect. We're not adverse, South Africa head office actually pays a significant portion in terms of a Petco levy to manage the process of recollection and recycling there's studies etc but here not yet. Lots of work to be done." (Manufacturer 5)

Re-users

- "I think definitely there can be a tax on all plastic that's imported." (Re-user 1)

Consumer

- "Basically, on that I would honestly recommend that – and it's something which is quite sensitive – which I think needs a bit of thought. To put a sort of a levy on whatever plastics comes into the country. Like a sugar tax or anything like that." (Consumer 5)
- "Tax. Well you've got a tax on petrol and on your diesel and you don't have a tax on plastic and it's the same source." (Consumer 3)
- "I would say impose a tax on all plastic coming into the country. You know, we can diversify whatever the situation (is). Long story short, that would give us sort of an edge – and let's call it some funding to get some education going and some activity going." (Consumer 5)
- "I would say, you know, I'm a consumer as well as everybody else out there. But obviously, doing distribution right through Namibia, I would say the bulk of our plastics come from South Africa or – let's call it – gets imported from various countries. Every product that you touch, basically it's been wrapped in plastic. So, if we can slog on a little, or a small percentage on whatever. Like, call it a sin tax or a plastic tax – I don't know what you can call it. Surely that will give us some funding to fight whatever we need or whatever we come up (with) as a major plan (as solution to the plastic problem)." (Consumer 5)
- "That's fair. As I said, obviously that will sometimes increase the price of the product, that sort of thing, because we're talking about virgin plastic, everything you know. Irrespective of what comes in, it all depends on food requirements or you know, let's call it processing of food to keep it safe and pure and everything. I think if we can say, whatever comes in and there's a levy on it, you know of whatever and that sort of thing and use that, irrespective if it's, let's call it reusable or recyclable or whatever – that sort of thing. Then there will be funding to have a smart operation going." (Consumer 5)
- "Yes, like a sin tax, let's call it a plastic sin tax or whatever. Obviously, that will give us funding to run a let's call it, whatever process – you know, even if it's school education. We can even run it, we've got a lot of people that's without work at the moment – work it on a tonnage or work it on whatever, kilograms, whatever they sort of recycle – make it actually worth it for them to do that

Sin Tax/Duty

kind of... let's call it collecting and everything there. But that's my personal view, I think that surely there must be sort of a, let's call it a plastic sin tax." (Consumer 5)

- "I think it should be collected at the point of import. You know, we've got great, I would say border control – if you look at whatever we try to import, there's quite strict, you know restrictions around that. You've got a detailed invoice that comes in, now obviously what percentage or portion of percentage gets levied onto that, that's still to be negotiated. But I think there's some funding that we can create from that, which will solve some of our problems." (Consumer 5)
- "I think to control it, to make the control easy, because now... (for example) let's see what's virgin plastic and what's the percentage on that, you know... I think do it as flat rate and that's easier to manage. As I said, it's just off the top of my head, because there's also paper involved, but which is also part of recycling, that sort of thing. But to structure that I think we need to work on it with a lot of other people, you know, to get their input on it. But I think the overall idea is to have funding to do whatever..." (Consumer 5)

Environmental Group

- "You have to have the right incentives in place. You know, this is a serious misconception in the world. They think that every problem can be addressed by environmental education. Well I can tell you, you can have people with PhDs in environmental lurking around, they will still do the wrong thing if the economic incentives are not right. People with no education at all, if the economic incentives are driving things in a certain direction, they will go in that direction. So, information and education are important, but far more important is getting your incentive packages right and what we're doing here, is we're not saying, 'Plastic is bad and ban all plastic', we're saying 'These elements of plastic are bad, they become a public nuisance and they become a public threat and they become an environmental threat, and society is then burdened with the costs of dealing with that. Therefore, we have to put incentives in place so that doesn't happen.' And the incentives are a deposit on bottles, a charge, tax, a levy on plastic bags, ultimately in five years' time leading to abandoning plastic bags altogether and getting them out the system, and these other things, straws gone and so on." (Environmental Group 2)

Government

- "You see that one, maybe from a trade point of view... it's very difficult to say we must restrict the import of plastic, because it is also needed in the country. You can limit the importation of plastic if you have certain companies that are already producing that will also expose that companies to competition with the products, because similar for importing. But it's something that has a positive side and also a negative side." (Government 5)
- "Imposing a sin tax on imported plastic, that will be a good idea, because it's almost the same as a levy, except that levies are on the usage, but it should be combined with some others measures as well, like the ones that we have mentioned to make sure that we protect the environment." (Government 5)
- "That sin tax will also go to the MET to contribute to proper waste management. Ja, and perhaps that sin tax can be used to put up some processes towards the disposal of plastic." (Government 5)
- "I want to add when you are importing, and you put a tax on that, so in other words a duty, that would now go deeper to say where are you importing from? Cause in Namibia we are a member of the Southern African Customs Union (SACU), we are also a member of SADC, and within SACU, SACU is a customs union, in other words, it has created a region whereby it's... in our neighbouring states, Namibia, Botswana, South Africa, Swaziland and Lesotho, those are the free trade areas. With one another we do business on a duty-free basis. All of the importers that are moving in the common customs area, which is now SACU, is supposed to be duty-free. Suppose Plastic Packaging, which is Namibia exporting to South Africa, duty-free, it's very difficult for Namibia to impose unilaterally a duty on specific plastics, because it is coming from within SACU. We have that agreement." (Government 5)
- "Even at SADC level, we have created lists outside the free trade area, so we want to do business with one another on a duty-free basis, but if we are importing plastic from China then that will apply, because China is not a member of SACU, we do not have a bilateral differential trade agreement with China and therefore anything that comes from China we can accommodate the tariff. So, I think one of those taxes can apply there to discourage our members to import from outside." (Government 5)
- "If we decide to introduce a duty, then everyone in the SADC region can, and then if we do that, we are discouraging a free trade in the area." (Government 5)

Encourage local usage

Plastic Manufacturers

- "Whatever the mechanism, there is going to have to be funding, it should be a level playing field or even slightly in our favour." (Manufacturer 5)

Trade Associations

- "That is your reusable shopping bag that you should be selling. Not something that you have imported 70 000 from China. I'm very patriotic." (Trade Associations 1)

- "And then, 'yes', for me the one other thing that Government really has to look at is to introduce legislation that plastics that come into Namibia that are used by retailers must conform to the same recyclability standards as our local manufacturers. If we can do that, I think the playing field will be level and I think at the end of the day the retailer will then start to make use of the local manufacturers more." (Trade Association 2)
- "At the end of the day, then they will understand that because of the standards internally – which is much higher than the one they imported – they will say 'OK guys, if the playing field is level, why must I import? It will cost me more. I will use the local manufacturers. And that's exactly what we want to do. We want to support local. Via the NDP5, via every industrial policy that has been made in Namibia. Support local. That's what we want." (Trade Association 2)

Control how much plastic is returned?

Clean-up

Plastic Manufacturers

- "Consumers (the measurable) would be littering, clean-up campaigns. Getting stats to know how we are doing." (Manufacturer 2)

Collecting/recovery and Sorting
Targets and Infrastructure

Plastic Manufacturers

- "I think the one measurable target is to say right, we want to get the recycling rates way up. And I can't give figures for that because it's difficult to disclose volumes impact. But I think we need to bring it up significantly.
- "I think that should be the key targets. A lot of the rest we can refine but I think the key targets, get the recycling rates up to two, three hundred percent, get the Waste-to-Energy up and then we'll have as a consequence, unintended consequence perhaps, we will have a clean environment." (Manufacturer 1)
- "Focus on recycling. I think it's just the stricter way on, especially on the recycling. You know if it's plastic, if we're speaking of plastic, I think, the main issue is just on recycling so if a goal, I think if the issue of recycling can be tackled and dealt with then I think it would give people another view, it would change the whole picture and the whole conception of everything." (Manufacturer 3)
- "At the moment in South Africa, South Africa at the moment collects 56 % of their PET. Our figure in Namibia, just for our company, at the moment is 12% of the percentage that we put in the market. Our target for the next 5 years is to at least raise it with 10%. That will make a huge difference to the whole Namibia. So, if all companies operating in Namibia can contribute and set similar targets. That is why networking as an industry is so important." (Manufacturer 4)
- "Excellent goals and it is goals that are being addressed by many of the institutions or groups. We currently have the Namibia Beverage Container Association, Recycle Forum. Their slogan is – Zero Waste-to Landfill. At Coke Cola our new slogan is – World without waste – and those are projects that were launched two years ago, three years ago. Coca Cola re-looked at our recycling project and relaunched it January this year. Where we say for every bottle or can we put in the environment we'll bring one back. So, we're working towards that and many other Institutions are working towards these goals. So, I'm quite happy to say it's there, we're working on it. I just don't know whether we can already determine a success rate. If somebody can really get up and say oh we're 5 % there or we are 10% there. For us we will only be able to say within maybe a years' time, maybe two years' time, whether our project is working, the impact it's having and how we see it." (Manufacturer 4)
- "The body, the rules with regards to plastic in our Country, the Collection Centres that we are opening, the collectors that we are identifying, putting value to the bottles, you know, to the PET. Putting a value to recyclables, not just PET, all recyclables.
- "Tackle local authorities to say this is coming and this is how we're going to do it. If they're not prepared you can do anything you want to in terms of teaching people at the schools and it's going to fall because where they going to go. I want to do it but where and then it's on the floor because there isn't a recycle bin. Put a recycling collection point within arm's reach of everybody, they're living in fairly compact living spaces and it can't be difficult to put three or four depots to encourage it. It can't be that much of an investment. That should fall under the local municipality. The reclamation guys the rent-a-drum etc. liaise with the local authorities and get a commercial component going because without buy in by all the parties it's not going to get any traction. Un-resolving commitment from every single element that is part of the process kind of thing." (Manufacturer 5)

Importers

- "I think the first target should be focussing on recovering it, recycle. So, let's start measuring. And that's what we've now started doing with Coke. Let's first see where we are what percentage currently get recycled or recovered. Focus on improving that percentage." (Importers 1)
- "The target should be monitor what's going out, get the best strategy in place to recover it back into the business and let's start from there." (Importers 1)
- "We've started discussions with Coke and Recycle Namibia and some of the other players in the market, Dairies, to look at what we can do over the next, as a strategy on how much of the product that we put out there that we want to recover. So not in terms just of having the returnable glass, but also making sure I put up on, I'm actively trying to collect the waste material

that put out there. Because my six-pack can is glass, but it's got a plastic shrink around it, or my six pack bottles, it's a one-way glass and it's got a plastic shrink and a paper box, the paper box is biodegradable but now you sit with the plastic in between. The glass, you need to get the glass back, so we want to actively come up, exploring to find a solution where you can recover that." (Importers 1)

- "Have formalised dumpsites where someone takes accountability for that. At the moment, people just say, let's have a dump here, throw the plastics on one side. That's the challenge and nobody takes accountability for that." (Importers 1)

Re-users

- "The impact of all the different industries where plastic is being used correctly and for the right purpose but the disposal of it is where the problem still lies. Even if it is in Manufacturing they send materials to Oshakati to the Pick n Pay there, they do not have a waste removal company there. What do they do with it? There are certain towns in Namibia that I know do not have a dedicated waste area. We have Kupferberg dump site. But certain towns do not even have a dump site, or the dump site in Okahandja is not fenced off. They go and throw everything away there but as soon as the wind comes up it picks up everything there. I know this is being addressed in the National Solid Waste Plan by the Ministry of Environment. Last year we sat with a lot of people and certain towns to council and with NET included so there is a 10-year plan included to make sure that each town and village and everyone gets a dedicated refuse dump site that is also according to standards. That is a start, people need that first before they can know where they can take their waste. And then after that the sorting can start to take place. If it is an open dump site and you throw everything there or even some places do not have a dump site, then you have no place to take it to. So once again there needs to be certain structure in place to do this." (Re-user 2)
- "The other thing is the infrastructure needs to be there. If you live where the workers live. There is no infrastructure there, there is a skip for a block of 500 or 600 houses and some people have to walk 100m or 200m to throw away a wrapper. They have to make it accessible for the people to make it easier for them to do the right thing." (Re-user 2)

Consumer

- "Make sure there is absolutely enough collection points and there is the infrastructure in place to handle it." (Consumer 1)
- "Consider the logistics. I think that is one of the biggest things in Namibia with the distances and that type of thing to have the infrastructure for something like this. It is very difficult to get in place and it's very expensive." (Consumer 1)

Environmental Group

- "Get the support structure in place that will feed into the recycling process." (Environmental Group 2)
- "I think, putting those mechanisms in place we've talked about which are reducing and making sure that all the plastic, reducing the use of plastics and putting incentives in place for the recycling of them. Those are the first steps that need to be done. So, a levy on plastic bags, a deposit on plastic bottles, strengthening the collection systems, the management of systems with plastic around the country, getting rid of straws and those sorts of things. You do that as your first step, then you've cracked a large part of the problem." (Environmental Group 2)
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Control what is being done with returned plastic?

Conversion into raw material

Feasibility study Plastic Manufacturers

- "Looking at how much is still being imported and exported, I think from that control you know if something is being done. If there are regulations, there on the border that says ok. Ten years ago, we had a polypropylene that went in how many tons, but now we have that in, let's say, six hundred million tons. The difference in the movement will then tell you exactly whether something has been achieved or nothing is being done, or not much is being done about it. Yes, the transformation into raw material again is the lacking area. And like I said when there is then a market, so it is already clear, and it already tells us when the finished raw material comes back there is a market for it, there is a need for it. That is now when the gap comes in. Because now, if they bring it in obviously somebody is using it, how much of it is being used, that is also an area that needs to be looked at." (Manufacturer 3)

Importers

- "They (Rent-a-Drum) have a sorting, but not a recycling. I heard on the radio the other day that one of the biggest hindrances for recycling is everything has to be trucked to South Africa, which

adds cost. Which is rather counterproductive to recycling. So, we must see how we can do it locally." (Importer 3)

Re-users

- "There's definitely a need to do a study on that. To put up a recycling plant, just for paper or carton or plastic, you need volumes and volumes and volumes. According to me at this stage, we haven't got the volumes in Namibia but maybe in the future." (Re-user 1)

Consumer

- "The reason why we export plastic and not convert it into raw materials here is because of economies of scale. If we can get economies of scale, it will be viable." (Consumer 3)

Trade Associations

- "We can do sorting, to a certain extent here. But that conversion of that sorted material into raw material again, that can be used, we do everything in South Africa. It should be done locally if it is found to be financially feasible." (Trade Associations 1)
- "There is a growth opportunity here. Absolutely, but it cannot be implemented over night. And we must remember, if we look at the history of manufacturing in Namibia versus the history of manufacturing in South Africa – they've got a long, long way that they have been in manufacturing. Much longer than... (Namibia). Their processes are more refined. The money that they've put in there... They have put it in, it's now a question of reaping the benefits. Where we are in the infant (stage) to do that. It's going to cost us a lot of money. But it's not to say we can't do it. We must identify the opportunities. And say if it's feasible: 'Let's go for it'." (Trade Association 2)

Maximise waste-to-energy potential

Plastic Manufacturers

- "I think we need to get the Waste-to-Energy drive way up to a point where we get the Ohorongo of this world to be in a position to where they don't have to import non-renewable resources like Coal. So, we can do all of that with waste. We get that to the right volumes we'll have a major pull effect on the environment. A major one. It will be, as a matter of fact I think we can be in a position where we will start seeing a shortage of waste if we do it right. Sweden has got this process refined to probably the top level of the World. And they're in a position where they consume all household waste into either recycling or into Waste-to-Energy and they even import waste to feed their incineration plants for the production of electricity." (Manufacturer 1)
- "I think that should be the key targets. A lot of the rest we can refine but I think the key targets, get the recycling rates up to two, three hundred percent, get the Waste-to-Energy up and then we'll have as a consequence, unintended consequence perhaps, we will have a clean environment." (Manufacturer 1)

Stimulate new industries

Trade Associations

- "It's just small things that people do. Also, at this EXPO, EIF once had an event where all the recipients of their funding had to showcase what they did. So, if they can start sponsoring businesses that make use of recycled material, and I also think the EIF in awarding all the funding at this stage they should also blow the horn a bit more." (Trade Associations 1)

Encourage industry participation

Setting environmental goals and targets
Retail, manufacturing, corporates, business

Plastic Manufacturers

- "It needs to be a culture of Namibia, it needs to be driven by senior officials. Not only Government. I'm talking about senior, big companies as well. If the people in a company see how they react to polymers by simply having two bins, they see that 'OK, but my company is doing it, it's becoming a habit. Then I'm going to do it at home as well.' Like I said, it's a thing we all need to buy into." (Manufacturer 2)
- "Excellent goals and it is goals that are being addressed by many of the institutions or groups. We currently have the Namibia Beverage Container Association, Recycle Forum. Their slogan is – Zero Waste-to Landfill. At Coke Cola our new slogan is – World without waste – and those are projects that were launched two years ago, three years ago. Coca Cola re-looked at our recycling project and relaunched it January this year. Where we say for every bottle or can we put in the environment we'll bring one back. So, we're working towards that and many other Institutions are working towards these goals. So, I'm quite happy to say it's there, we're working on it. I just don't know whether we can already determine a success rate. If somebody can really get up and say oh we're 5 % there or we are 10% there. For us we will only be able to say within maybe a years' time, maybe two years' time, whether our project is working, the impact it's having and how we see it." (Manufacturer 4)
- "I just think that you know from our side, we're really doing whatever we can with also our pledge that we took as Coca Cola Worldwide, not just Coca Cola in Namibia, but Coca Cola Worldwide. That this is what we're going to do, we're going to reduce plastic, all these things are what we, you know. And we have to give feedback. Our KPIs are built around that, we have to give feedback. We cannot just sit there and say I think I'm going to make up a story about it. This must happen in all large corporates." (Manufacturer 4)
- "It's actually a good example I think how it's been driven. It's a top down bottom up approach. The CEO or the President of the Company has said we need to do something about this and he said to his management, these are the targets, we need to reach these targets and now they're

taking the people from the bottom and say okay, this is what you need to have to do."
(Manufacturer 4)

- "By industry or reducing by industry, getting stats on how they are being monitored. How they have lowered plastic consumption or what alternatives have they thought of. If there's no alternative, it's fine, you can go ahead, but challenging it. Difficult to measure." (Manufacturer 2)

Importers

- "We've started discussions with Coke and Recycle Namibia and some of the other players in the market, Dairies, to look at what we can do over the next, as a strategy on how much of the product that we put out there that we want to recover. So not in terms just of having the returnable glass, but also making sure I put up on, I'm actively trying to collect the waste material that put out there. Because my six-pack can is glass, but it's got a plastic shrink around it, or my six pack bottles, it's a one-way glass and it's got a plastic shrink and a paper box, the paper box is biodegradable but now you sit with the plastic in between. The glass, you need to get the glass back, so we want to actively come up, exploring to find a solution where you can recover that." (Importers 1)
- "Let me put it like this, again on corporate level because we use SQA's and stuff like that and ask questions. We have environmental policies and programmes in plan. I think the bigger companies do the right thing, I don't necessarily know of the smaller ones. I don't think they know what they're buying and what they can do with it." (Importer 2)
- "For us, I will say a 110%, because we work with international companies that require the information for us to make sure it's virgin, what polymers and stuff gets used." (Importer 2)
- "I believe us as Namib Poultry would like to move in the correct way and in a lawful way, the best practices must be kept up on a daily basis." (Importer 2)
- "We get audited by world-class auditing firms like KFC at least once or twice a year." (Importer 2)
- "Ja, I just think it's all about education. All the big users of plastic bags must use something that is good for the environment. Get these guys onboard." (Importer 2)
- "Get companies involved as well." (Importer 3)
- "I know in manufacturing we already have a process in place. But if you look at your other type of waste where plastic is also, it's not only in manufacturing but in other types of, yes retail. Yes retail, we put the plastic on and they take it off. What do they do with it? Make sure that retail gets on board. Yes, because that's big volumes. All those shrink wraps coming off." (Importer 3)
- "So, if you have the information, you as industry will be more aware where your current stand is, and then you can set a target for 10% improvement and measure yourself. Yes, it could be a corporate responsibility. It could also serve as an adult education tool in-house, we all focus on the children but who says the old dog cannot be taught new tricks." (Importer 3)

Re-users

- "People must understand the process and what is the value that we get out of it. If you treat your waste as the waste we used to grow up you haven't got any value out of it, there's a value. If you do proper recycling, and I'm not talking about plastic, but if you do proper recycling you can at least recycle up to over 90%. Thanks to the refuse derived fuel plant, everything can be recycled at this stage except wet waste and nappies and protective clothes and that sort of stuff but more than 90% can be recycled. People must just take responsibility and do on source separation. Community and business must also get on board. Your waste is your problem, everyone's own problem." (Re-user 1)

Consumer

- "It is a question that we've got a goal in the company group, a 20% reduction of carbon footprint until 2019 as far as I know, and it is one of our strategic pillars and decisions that we've taken years ago so as a company we are already busy with it and whether it's electricity or whether it's plastic bags. We're working quite hard on that. Every company should set similar goals and work towards them." (Consumer 1)
- "It's a question of this is something that's a part of our DNA as a company so it is strange for me to sit here and suddenly think why the other companies aren't doing it and how to get them to do it. I actually have no idea, but they need to come on board." (Consumer 1)
- "Industries across Namibia must get involved. It's difficult, you know, in the industry it's difficult because obviously like we're in an FMCG market, there's people, let's call it in the metal industry, there's people that... you know, all different industries. In our industry, (in) which we are a major player, I would say we as a group, as OK Franchise – surely, I can't talk on behalf of Shoprite, but I think it will be well accepted by them too – have a sort of educational process or a thing where we can have at store level. Because obviously we drive things like major cleaning services, or hygiene services, all those kinds of things – why can't we drive something like that on waste management?" (Consumer 5)
- "That's fine. That's the ultimate. But we need to put the activity into place. And on the other side I think, maybe it's an excellent idea, which I will share with my colleagues on Monday – to have it, sort of on a store level. Because you can imagine, whatever is imported, whatever we sell, gets wrapped either in plastic or tin or whatever. And have something going in-store – I think it's

something we can do via business, you know, drive the businesses. It boils down to education, you know basically." (Consumer 5)

- "Secondly, which I think, I suppose you can put it first also – I would drive it via companies, via supermarkets, everything there to basically encourage them to sort of do recycling or to, how can I say, push it to the next bracket. Obviously, instead of just getting rid of all their trash, have it sorted at store level, where you get plastic on one side, paper on the one side and let's call it metal or tin on the other side. And work it from there, because it will be easier for a company like Rent-A-Drum – they don't need to then sort this out... That's basically the two points. I'll drive it, yes." (Consumer 5)

Trade Associations

- "Because that is also a new trend, not a new trend, but one that is growing in Europe is the extended producers' responsibility. Which in essence means that, if you produce a product you don't only make your profit. You actually take responsibility for the end collection and disposal. For instance, you cannot dispose of lightbulbs in the trash, so the manufacturer must make sure there are bins available where bulbs can be deposited." (Trade Associations 1)
- "Yes. The whole post-consumer wasting. Then I think, this I actually a brilliant idea. Tyres are a good example, if we could say to Goodyear "Fine you have made your profit, here are your tyres back. Thank you very much. Why should it become our problem?"(Trade Associations 1)

Environmental Group

- "But in terms of organisations or buildings, I think the Best Practice is when you build it into the organisational culture. Have basically an objective as an organisation that as part of our effort we are going to be environmentally friendly, starting with our procurement processes whereby we procure less what have you. And then starting with our behaviours, whereby we have designated places for bins and what have you, clearly visible and whereby maybe once in a while we have a talk – just to remind ourselves. Then it's part of the organisational culture, it's not a 'by the way'." (Environmental Group 1)
- "Yes. And holding managers accountable for it. Because they only perform when it's being measured." (Environmental Group 1)
- "Part of your organisational objectives. It's not a lip service. It's actually part of the culture. A new employee comes in, they are given the induction package. That induction package already automatically has: "In terms of plastics – this is how we manage our plastic in this building. This is how we encourage... 'Something like that. Liveable. Those are some of the Best Practices." (Environmental Group 1)
- "Now what's happening at the moment, this is an important thing for people to realise. Now I'm talking loudly here so it gets into your machine, very nicely. I am Coca-Cola and Coca-Cola is a problem company, because they are a big company, a leading company and they try and resist change, because it's expedient for them to do so rather than spear-head change in the global interest. So, what they do, is they produce their Coca-Cola, they get plastic bottles, they put their Coca-Cola into plastic bottles, they sell it to the retailers, the retailers sell it to people and the moment Coca-Cola has sold its coke and its plastic bottle to the retailer, they have wiped their hands of any further responsibility. And it's not just Coke, all the soft drinks and the water drinks are part of it." (Environmental Group 2)
- "So, what happens is that plastic bottles out there now become society's problem to deal with it. Coca-Cola runs away with all the money and society has to pick up the costs, and those costs are both environmental costs and human health costs, and all the other costs I've talked about. The mess and all the rest of it. And Coca-Cola say, 'Well I've done my job, I put a Coca-Cola bottle in the shop and it's up to you to sort out the rest.' So, the full cost of their enterprise, the full cost of producing Coca-Cola, cradle to grave type thinking, they stop long before the grave. They stop sort of after they produced the child and the old age, and the grave is someone else's responsibility. So that's transferring their responsibility to societies, to governments, to the population, to the environment and so on, and that is fundamentally wrong. They must take responsibility for their product, cradle to grave, because there are costs involved here and their impacts on people and the environment and all sorts of things, and so that point needs to be made very clear, very strong. That Coca-Cola is responsible for the Coca-Cola bottle, whether its glass or plastic, and till that thing comes back to the process. If it's laying out there on the ground, they share joint responsibility for it being out there." (Environmental Group 2)
- "It's a very important concept to knock into their heads, cause they're very quick to walk away from it. For example, in the UK, Scotland wanted to introduce a deposit on the bottles. Coca-Cola said, 'It's impossible, it's too difficult, we can't do it'. Norway, Sweden has been doing it for years. 'No, we can't do it'. They put every obstacle in the way until they saw public opinion was against them, suddenly they found a way of doing it, easily, no problem. So, they got it sorted and in fact now they're champing themselves as the leader of the sector." (Environmental Group 2)
- "The problem with Namibia is we don't have a big enough population to put pressure on a company like Coca-Cola and we don't have an educated enough and connected enough population to say, 'This is important. We're going to boycott Coca-Cola unless they start.' Because that's what the Scots said, 'We're not going to buy Coca-Cola products' and then they thought

we're going to feel it in our pockets and we need to find a way. In Namibia, they are much less willing to come to the party, because we don't have the same economic power, we can't get the population behind it in the same way, because you know people are not aware of the implications of it and so on." (Environmental Group 2)

- "So, what we want to do is save Coca-Cola and I'm using Coca-Cola cause it's such a big company and if they come to the party, other people will come as well. So, what we plan to do, if Coca-Cola is obstructionists, is to go to the parent company and get the people in the developed parts of the world to boycott Coca-Cola, because they are taking advantage of an undeveloped situation here by not living up to the same standards as they ought to live to in the developed world. And I've been in contact with a couple of people in that root and they are ready to support us. So, Coca-Cola and other big companies have to come to the party. Otherwise we will put pressure on them in places where they are not going to expect it." (Environmental Group 2)

Government

- "I think, first of all, one should do research from the government's side to identify what are the pros and cons on the usage of plastic in Namibia, and that will be able to inform policy-makers towards what the next step is to take. On the government side, as we said you should start with the Ministry of Environment to take initiative and then they come up with a policy and a strategy as to how to go about it. I think if you've got a policy in place that will be the first point. Now we don't have anything in place, it's very difficult now. Even for companies to do something, there's no initiative." (Government 5)