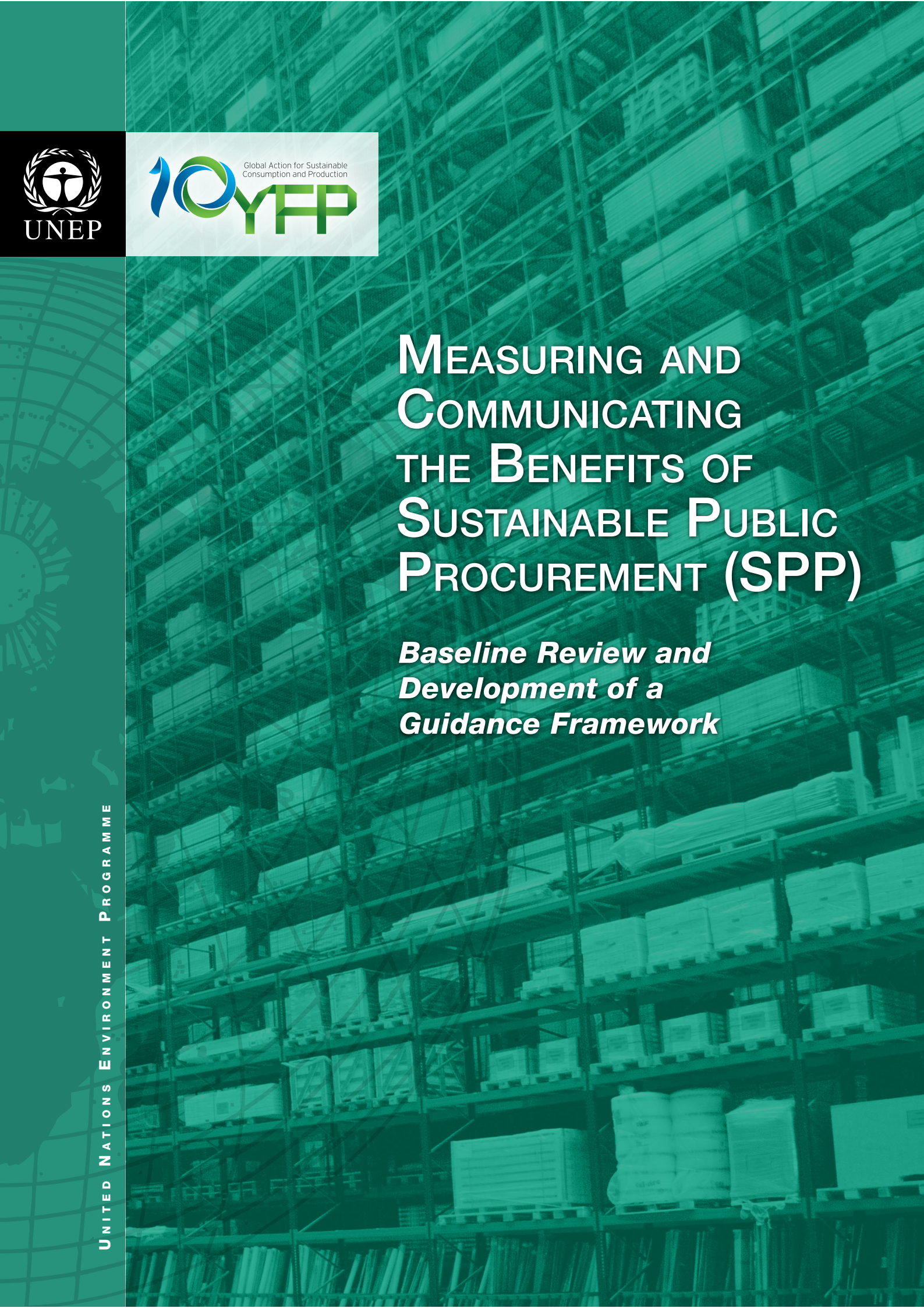
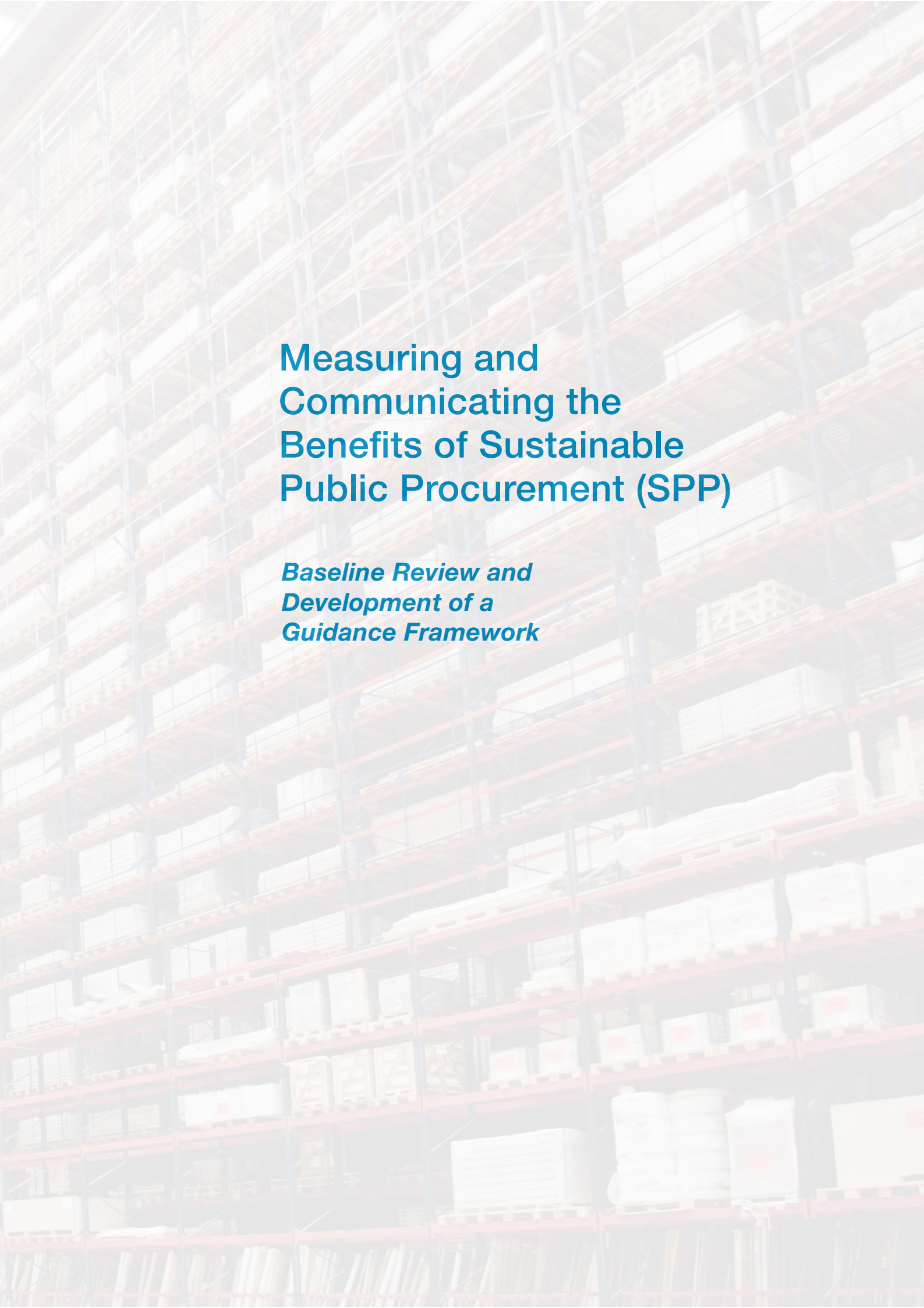


Measuring and Communicating the Benefits of Sustainable Public Procurement (SPP)

Baseline Review and Development of a Guidance Framework



Measuring and Communicating the Benefits of Sustainable Public Procurement (SPP)

Baseline Review and Development of a Guidance Framework

Acknowledgements

This technical report has been developed in the framework of the Working Group 2B "*Measuring impacts and communicating SPP benefits*" of the 10YFP SPP programme, led by UNEP and co-led by ICLEI-Local Governments for Sustainability and Korea Environmental Industry and Technology Institute (KEITI).

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Special thanks go to the experts who provided valuable information and feedback on the report: Aure Adell (EcoInstitut); Charleen Fain Kelser (State of California DGS); Alison Kinn Bennet (US EPA); Farid Yaker and Irina Uzun (United Nations Environment Programme); Hyunju Lee (KEITI); Christina Macken, Sam Hummel and Cuchulain Kelly (Sustainable Purchasing Leadership Council, SPLC); Grace Lambert and Kristen Sebasky (IEc).

The following Working Group members and Experts contributed to the baseline research, pilot, expert workshop in Washington DC, USA, in January, 2015: Sylvia Aguilar (CEGESTI); Romil Bajaj (Green Purchasing Network India); Nadia Balgobin (State Secretariat for Economic Affairs, Swiss Confederation); Debora Bonner (Pacific Gas & Electric); Craig Cammerata (Enviance); Scott Case (Natural Marketing Institute, NMI); Wang Cheng (China Environmental United Certification Center); Brennan Conaway (US General Services Administration); Christopher Cooke (The Sustainability Consortium); Alicia Culver (Responsible Purchasing Network, RPN); Cynthia Cummis (World Resources Institute, WRI); Beth Eckel (Practice GreenHealth); Holly Ellwood (US EPA); Shabnam Fardanesh (US DOE); Gakuji Fukatsu (Green Purchasing Network, Japan); Kevin Funk (General Services Administration); Cristina Gazulla (Independent Expert); Priscilla Halloran (US EPA); Sam Hummel (SPLC); Mervyn Jones (WRAP, UK); Robert Kaukewitsch (European Commission); Cuchulain Kelly (SPLC); Sujeesh Krishnan (PeerAspect); Sanjay Kumar (Indian National Railways); Isabelle Lessard (ECPAR); Thomas Lehmann (GIZ); Harry Lewis (US EPA); Juan Lui (China Environmental United Certification Center Co., Ltd, CEC); Christina Macken (SPLC); Patrick Mallet (ISEAL Alliance); Jorgette Marinez (BSR); Scott Matthews (Carnegie Mellon University); Dafne Mazo (SCPRAC); Prudence Mwali (Bank of Zambia); Kristina Neumann (Secretariat of the Convention on Biological Diversity); Dmitriy Nikolayev (Commonwealth of Massachusetts); Greg Norris (Harvard School of Public Health); Despina Pachnou (OECD); Chris Pyke (United States Green Building Council, USGBC); Johannes Reidel (Collaborating Centre on Sustainable Consumption and Production, CSCP); Mark Rossolo (UL Environment); Bruno Sarda (Dell); David Sarokin (US EPA); Kelly Scanlon (US EPA); Abby Semple (FiredUp); Yalmaz Siddiqui (Office Depot); Josh Silverman (US DOE); Audrey Some (ECPAR); Annie Stålberg (Swedish Competition Authority); Stephan Sylvan (US EPA); Philipp Tepper (ICLEI); Dr. Thumrongrut (Government of Thailand); Cheng Wang (China Environmental United Certification Center Co., Ltd, CEC); Nathan Wittstruck (US EPA); Paul Yaroschak (US DOD).

A full list of the Working Group 2B members can be found in Annex 1.

Design/layout by Thad Mermer.

This report has been developed in partnership with the Sustainable Purchasing Leadership Council (SPLC) with the financial support of the European Union, the Korea Environmental Industry and Technology Institute (KEITI) and the Ministry of Environmental Protection of the People's Republic of China (MEP).

10YFP SPP Programme

The Sustainable Public Procurement Programme of the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns

The 10YFP Programme on Sustainable Public Procurement (SPP) is a global multi-stakeholder platform that supports the implementation of SPP around the world.

Lead and Co-Leads

The United Nations Environment Programme (UNEP) leads the 10YFP SPP Programme with Korea Environmental Industry & Technology Institute (KEITI) and ICLEI-Local Governments for Sustainability as co-leads.

What is the 10YFP?

The 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP) is a concrete and operational outcome of Rio+20. The 10YFP is a global framework that enhances international cooperation to accelerate the shift towards SCP in both developed and developing countries. It provides capacity building and technical & financial assistance to developing countries, and encourages innovation and cooperation among all countries and stakeholders. UNEP serves as the Secretariat of the 10YFP and administers the Trust Fund. The 10 YFP SPP Programme is one of the six initial programmes of the 10YFP.

Background

The SPP programme of the 10-Year Framework of Programmes on Sustainable Consumption and Production patterns (10YFP) was launched on 1st April 2014with the objective of stepping-up international collaborative efforts on SPP implementation to fulfil its potential. The 10YFP Programme on SPP brings together a number of governments, local authorities, business sector and civil society from around the world who are interested in collectively promoting the supply and demand of sustainable products through SPP. It builds upon the previous work of the Marrakech Process Task Force on SPP (2005-2011) and the Sustainable Public Procurement Initiative (SPPI) (2012-2013).

The programme's specific objectives are to: a) build the case for SPP by improving the knowledge on SPP and its effectiveness as a tool to promote sustainable consumption and production as well as to support greener economies and sustainable development; and b) support the implementation of SPP on the ground through increased collaboration and better access to capacity building tools and support through SPP experts. The Programme builds synergies between diverse partners to achieve the SDG target on SPP (12.7).

Vision

The vision of the 10 YFP SPP Programme is a world in which environmental, economic and social aspects are embedded in public procurement and associated supply chains, with full support of governments worldwide.

Work plan 2016-2017

The programme's work plan revolves around four work areas which are implemented through several working groups. These work areas are the following:

1. Implementing SPP on the ground
2. Assessing implementation & Impacts of SPP
3. Identifying obstacles & Promoting innovative solutions
4. Collaborating with the private sector

Multi-stakeholder Advisory Committee

The Multi-stakeholder Advisory Committee (MAC) oversees the implementation of the 10YFP on SPP Programme. The current MAC will serve until the first quarter of 2017. As of January 2016, it is composed of 22 members:

ChileCompra, Eco Mark Office of Japan Environment Association, Environmental Development Center of Ministry of Environmental Protection (EDC, China), Forest Stewardship Council (FSC), Fundación Centro de Gestión Tecnológica e Informática Industrial (CEGESTI), ICLEI – Local Governments for Sustainability (co-lead), Indian Railways, Institut des Finances Basil Fuleihan-Lebanon, International Green Purchasing Network (IGPN), International Institute for Sustainable Development (IISD), International Training Center of the ILO (ITC-ILO), Korea Environmental Industry & Technology Institute (co-lead), Mauritius Procurement Policy Office, National Agency for Public Procurement (Sweden), National Center for Cleaner Production and Environmental Technologies (NCPC Colombia), Netherlands Ministry of Infrastructure and the Environment, Secretariat of the Convention on Biological Diversity, SKL Kommentus (Sweden), Sustainable Purchasing Leadership Council (SPLC), Swiss Federal Office for the Environment (FOEN), United Nations Environment Programme (lead), United States Environmental Protection Agency.

For further information, please visit the website of the 10YFP SPP Programme: http://www.unep.org/10yfp

Contents

Acronyms

10YFP	10-Year Framework of Programmes on Sustainable Consumption and Production Patterns
CSR	Corporate social responsibility
CO_2	Carbon dioxide
DOD	Department of Defense (U.S.)
EC	European Commission
EHS	Environment(al), health and safety
EPD	Environmental product declaration
EPP	Environmentally preferable procurement
EPEAT	Electronic Product Environmental Assessment Tool
ESE	Environmental, social, and economic
GDP	Gross domestic product
GHG	Greenhouse gas
GPP	Green public procurement
GWh	Gigawatt hour
IEc	Industrial Economics, Inc.
ICLEI	International Council for Local Environmental Initiatives Currently known as: ICLEI-Local Governments for Sustainability
ISO	International Organization for Standardization
IISD	International Institute for Sustainable Development
KEITI	Korea Environmental Industry and Technology Institute
kWh	Kilowatt hour
LCA	Life-cycle assessment
LCC	Life-cycle costing
LCM	Life-cycle management
LED	Light emitting diode (lighting technology)
LEED	Leadership in Energy and Environmental Design (standard for green building)
OECD	Organization for Economic Co-operation and Development
PSS	Product-service systems
ROI	Return on investment
SCP	Sustainable consumption and production
SME	Small and medium-sized enterprise
SPLC	Sustainable Purchasing Leadership Council
SPP	Sustainable public procurement
TBD	To be determined
TCO	Total cost of ownership
UNEP	United Nations Environment Programme
USGBC	United States Green Building Council
VOC	Volatile organic compound
WG	Working group (of the 10YFP SPP Programme)

1. Introduction

Why measure and communicate the benefits of sustainable public procurement (SPP)?

Public agencies are increasingly using their purchasing power as a positive instrument to promote sustainable development and a green economy. Although governments have been developing and implementing sustainable procurement programmes for some twenty years[1], a standardized and comprehensive methodology for measuring and communicating the benefits of these programmes remains elusive. The link between sustainable public procurement (SPP) and environmental, economic, and social benefits seems plausible, however, documenting and articulating those outcomes is challenging.

SPP is often linked to policy goals such as: strengthening economies and resilience; encouraging more sustainable patterns of consumption and production; mitigating climate change; advancing sustainable development; and increasing economic competitiveness. SPP can potentially also contribute to creating markets for appropriate technologies and innovative solutions by specifying and selecting innovative and sustainable products and services, thereby helping to build the market for them.[2]

A critical component in making the case for doing SPP is to measure and communicate the potential for contributing to broader policy goals. Presenting outcomes of a SPP programme can help to garner support within an organization for continuing and even expanding work on that programme. Presenting the outcomes generated with a transparent method, supporting evidence, and clear communication in terms of benefits –to the organization, and to meeting sustainable development goals, can greatly improve the implementation of SPP. It can help motivate and inspire more work on the topic, address stakeholders' interests and concerns, and provide accountability for citizens in how their taxpayer funds are being spent and policy goals are being met. In addition, measured outcomes can provide valuable insight to SPP programme staff, helping to inform the direction and scope for their programmes as they evolve and continuously improve.

Progress toward effective implementation of SPP is slowed by the dearth of data, methods, and a shared framework for communicating SPP benefits. Conducting measurements, and providing communications that meet the needs of various stakeholders to SPP, can be challenging. While some existing measurement methods and benefits calculators are available, as a whole, the landscape remains fragmented and sometimes contradictory. Data on procurement can also be hard to gather, and difficult to input into the existing calculators and tools. These challenges hamper the ability of SPP programmes to monitor their progress, tell their story, and recruit internal and external stakeholders to support their work.

Report Structure

This report, and the project that led to it, seeks to address some of these challenges by researching existing methods and tools, then developing guidance for organizations wishing to measure and communicate the benefits being generated by their SPP programmes. The work that is presented in this report represents the results of an ongoing exploration of the topic conducted in 2014 and 2015 with a variety of participants, and lays the ground for future work on the topic.

1 An IISD Report found that one of the earliest adoptions of national policy on SPP was Norway in 1993. International Institute for Sustainable Development, "State of Play in Sustainable Public Procurement" (2007). Accessed online December 18, 2014. Available at: http://www.iisd.org/pdf/2007/state_procurement.pdf

2 United Nations Environment Programme, "Background to Sustainable Procurement" (2014). Accessed online December 20, 2014. Available at: http://www.unep.org/resourceefficiency/Society/CommunicationandEducation/tabid/55550/Default.aspx

This report provides and combines the working group's outputs for the project, including:

- The results of the Baseline Review.
- The Guidance Framework for measuring and communicating the benefits of SPP.
- The results of the pilot for that Guidance Framework.

In addition, the final section of the report provides a broader discussion of the implications of this project, its limitations and some recommendations on next steps for taking this important work forward.

An Annex to the report provides more of the detail, and includes supporting tables and lists of references that readers may find useful.

The various outputs of the group have benefitted from the contributions of several expert reviewers and workshop participants from national governments, international organizations and others, listed in the Acknowledgements section. In addition, the project leads from Working Group 2B and Working Group 2A (Monitoring SPP Implementation) coordinated their work, ensuring that key concepts and terminology were aligned between the groups.

Working Group 2B: Partners and Goals

In 2014, a working group was established within the 10YFP SPP Programme led by UNEP, and co-led by ICLEI and KEITI to explore and research the topic. The Working Group 2B, led by Industrial Economics, Inc (IEc)[3] and the Sustainable Purchasing Leadership Council (SPLC)[4] worked to develop knowledge and share experience on the subject, making it more widely available to both policy-makers and practitioners. A full list of the Working Group 2B members can be found in Annex 1.

The hypothesis driving the Working Group 2B was agreed to be:

SPP practices will increase if there is a reliable way of measuring and communicating the sustainability benefits of SPP programmes.

The goal of the project was to lay a solid foundation for measuring SPP benefits by:

- Investigating and comparing existing methodologies and impact calculation techniques.
- Further developing a benefits framework and methodology.
- Receiving expert input and review on that framework and methodology.
- Testing the approach with pilot organizations.
- Providing guidance to organizations implementing SPP.
- Growing and diversifying the community of individuals and organizations actively working on SPP benefits measurement.

About the Sustainable Purchasing Leadership Council (SPLC)

The Sustainable Purchasing Leadership Council is a non-profit organization whose mission is to support and recognize purchasing leadership that accelerates the transition to a prosperous and sustainable future. The Council's programs and community of practice will help institutional purchasers to:

- Prioritize opportunities to influence the social, environmental and economic life cycle impacts of purchased goods and services,
- Identify existing leadership standards and approaches that address these priorities,
- Benchmark progress toward goals, and
- Receive recognition for advancement.

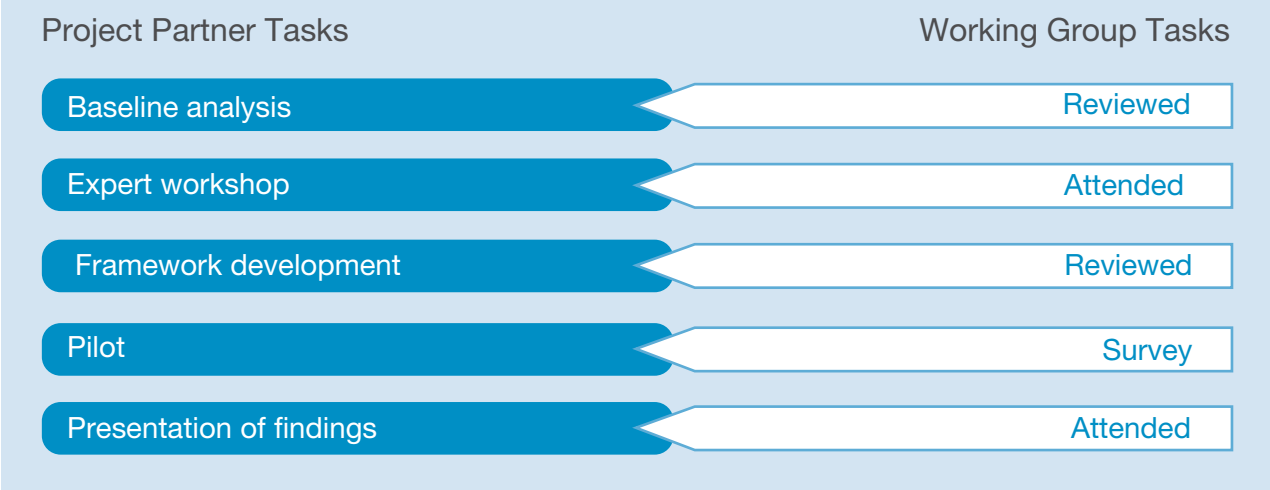
SPLC has gathered a cross-sectoral, multi-regional membership of more than 140 organizations representing over $200 billion USD in purchasing power.

See: www.sustainablepurchasing.org

3 Industrial Economics, Incorporated (IEc) is an environmental and economic consulting firm founded in 1981, providing expert analysis to clients in government, business, and not-for-profit organizations. IEc's 80+ consultants have subject-matter expertise in all major environmental areas including sustainable purchasing, and have extensive training and experience in policy analysis, economic and financial analysis, measurement and evaluation, and information management. See: www.indecon.com

4 Sustainable Purchasing Leadership Council (SPLC), see: www.sustainablepurchasing.org

Exhibit 1. Working Group 2B Project Tasks and Steps



The project began in September 2014 and concluded in July 2015. The five main steps of the Working Group 2B project are shown in Exhibit 1, with the tasks led by project partners on the left, and activities undertaken by the broader working group on the right.

Project Limitations

The project was intended to ay the ground-work for future research and work on the topic. While efforts were made to be comprehensive, the following main factors limit the extent to which the research undertaken and guidance produced can be used directly by organizations.

Research was limited to those reports and programmes that were available in English, publicly available, and accessible to the research team. This may result in an under-representation of initiatives and methodological approaches that were developed in other languages or regions.

A comprehensive review of all known reports and communications about SPP programmes worldwide was not conducted. This means that the results cited as to the numbers of examples of SPP outcomes is indicative. Hopefully future efforts to gather and track SPP programme activities are able to fill in these gaps and a more comprehensive overview of the state of the art as to measurement and reporting on SPP benefits being achieved can be created and shared. Such case studies and examples are of definite interest to the working group members and other experts consulted as part of the project.

The pilot conducted was limited – resources were not available to support a full scale implementation of the draft Guidance Framework; nor were the pilot organizations able to dedicate substantial time and resources to implementing and testing the Guidance Framework. Given this limitation, the project leads gathered together pilot feedback on the draft guidance from working group and other experts using an online questionnaire. A recommended next step is to further pilot and test the Guidance Framework generated with a range of different organizations, varying in size, region, and degree of sophistication of their SPP programme.

While these factors do somewhat limit applicability of the outputs presented in this report, the project partners believe that to the research findings and Guidance Framework generated is a helpful contribution to the state of knowledge. Working group participants and leads expect to continue to work on the topic in the future to address these gaps, and expand the work on the topic, and continue to share best practices with the SPP community worldwide.

2. Baseline Review

Goal of the Baseline Review

The goal of the Baseline Review, as presented in this report, was to:

- Review the existing methodologies and literature on measuring SPP benefits (or outcomes) that could be applied to the current project.
- Identify the major gaps and inconsistencies in the existing approaches.
- Enable a baseline understanding for the community of professionals working on SPP of the existing approaches for measuring SPP benefits and the gaps that need to be filled to advance the field.
- Identify the key concepts that could be used to develop the Guidance Framework.

Research Methods, Report Structure, and Limitations

The following research steps were taken by the IEc research team in conducting the Baseline Review.

Literature review

We initially gathered and reviewed a sizable set of literature on SPP reports and benefits measurement from around the world. An annotated bibliography can be found in Annex 2, presented in four major categories:

- *Method/guidance*: Reports that describe or summarize a particular method of measurement, such as life cycle assessment (LCA) or life cycle cost analysis (LCC), as well as reports that provide general guidance on how to measure the impacts of SPP.
- *Outcome example*: Reports that provide or describe results of an SPP programme.
- *Calculators*: Tools that assist in quantifying the impacts of sustainable products or services into which users enter their own data.
- *Other*: Resources that contain useful material on SPP even if they are not focused specifically on measuring outcomes.

Stakeholder and expert interviews

Working with project partners, the IEc research team interviewed sustainability measurement and procurement experts from around the world. The purpose of the interviews was to:

- Ensure that the baseline review covered the key concepts of measuring and communicating SPP benefits.
- Expand the existing set of methods and calculators currently applied to measure and communicate SPP benefits.
- Identify methods and calculators with possible application for measuring and communicating SPP benefits (which are not already used).
- Deepen understanding of the challenges associated with applying these methods and calculators in practice.

Interviews were semi-structured, with an interview guide sent in advance (Annex 3). To protect confidentiality and encourage candor, the interviews were not recorded, and this report does not attribute comments to specific individuals.

We interviewed a total of 20 experts by telephone in November 2014 and January 2015, representing a mix of stakeholder categories and regions as shown in Exhibit 2.

Structure of the baseline review

We present the key findings from the baseline review and analysis in four sub-sections:

1. *Reports on measuring SPP*: This section provides a synthesis of the expert knowledge (in reports reviewed) on measuring SPP. We distinguish between reports that mainly focus on process measures vs. those that focus on outcome measures, discuss general considerations for measuring SPP benefits, and list some commonly-cited benefits of SPP.
2. *Landscape of methods and calculators available to measure SPP benefits*: With the synthesized list of benefits generated in section 4a, this section maps out the different methods and calculators currently available to measure these

benefits, providing a landscape overview of what is available, and where there are gaps.

3. *Examples of SPP benefits communications*: This section presents some examples of communications of SPP benefits.
4. *Challenges and insights into applying methods and calculators*: Gained largely from the interviews, reports, and our observations, this section presents insights into the application of SPP measurement and communication, and articulates some key challenges.

We then present a concept map that structures our thinking around measurement and communication of SPP benefits based on research findings, laying out the key concepts for measuring and communicating SPP in practice. It is intended to organize the measurement and communication of SPP benefits in terms of economic, social, and environmental issues; the policy response to those issues; SPP programme activities; evaluation methods; and different audiences for communications.

The concept map was revised based on input from the expert workshop and working group meeting to be held January 14, 2015 in Washington, D.C., hosted at the U.S. EPA (with webinar support via UNEP). The concept map also formed the basis of the Guidance Framework document presented in Section 3 of this report.

Exhibit 2. Types of interviewees for the baseline study

Type of Stakeholder	Area of Specialty	Country
Communications	SPP, product communications	USA
Corporate supply chain	Supplier assessments	USA
Government	SPP programme design	UK
Government	Streamlined LCA, SPP	USA
Government	SPP measurement	Korea
NGO	Outcomes measurement	Germany
NGO	Green building	USA
NGO	SPP, measurement	USA
NGO	SPP, health	USA
Policy	SPP programmes	France
Policy	Outcomes measurement	Thailand
Policy	SPP, ecolabels	Thailand
Policy	SPP measurement	Belgium
Private sector company	Supply chain management	USA
Purchaser	SPP, impact measurement	USA
Purchaser	Calculators	USA
Retailer	Green products, suppliers	USA
Standards Organization	Impacts measurement	Canada
University	LCA, spend analysis	USA
University	LCA, Economic Input-Output LCA	USA

Methodological limitations for the baseline review

The baseline review conducted for this project has the following methodological limitations:

a. Concentration of research and publications in English may result in under-representation of initiatives and methodological approaches developed in non-English-speaking regions.
b. When looking for examples, we did not conduct a comprehensive review of all known reports and communications on SPP by government agencies. Instead, we targeted our search criteria to identify literature and examples that would be most relevant for our current project. In addition, we were limited to reports, calculators, and examples in the public domain. However, we suspect that several organizations have developed proprietary calculators and other measurement tools to capture SPP benefits. As such, there are likely more examples and approaches than reported in this document.
c. While we conducted more interviews than initially planned, we still were only able to talk to experts from the fields of product sustainability with mainly environmental and economic expertise. Interviewees were also predominantly based in North America, followed by Europe, and Asia. Interviewing experts with more expertise in social impact measurement and in regions such as South and Central America and Africa may result in a different set of approaches and challenges.

Despite these limitations, the baseline review provided a solid foundation for developing the Guidance Framework, and serves as a prompt to encourage more experts and government agencies to offer their approaches and experiences in measuring and communicating SPP.

Key definitions

Key terms that guide the research are sustainable public procurement, benefits, and communications include:

Sustainable Public Procurement (SPP) is a management process "whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment. Sustainable Procurement seeks to achieve the appropriate balance between the three pillars of sustainable development (i.e. economic, social and environmental)[5]. Other common terms for sustainable procurement are green public procurement (GPP), environmentally preferable procurement (EPP), socially responsible procurement (SRP), and responsible procurement (RP).

Public Procurement is the act of buying goods and services for the government. Other common terms for procurement are "purchasing" and "acquisition." In some organizations, these terms are interchangeable, while in others, they refer to different types of activities and systems[6].

Benefits refer to the outcomes or results achieved by a programme in its activities. The term "benefits" in this review is as an umbrella term referring to both the positive improvement of economic, social, or environmental conditions, and the reduction of negative impacts on economic, social, and environmental conditions.

While these terms sometimes have different meanings and refer to different activities, in this report, all of these concepts are included under the umbrella term "sustainable public procurement benefits, or

5 United Nations Environment Programme, "Sustainable Public Procurement Implementation Guidelines: Introducing UNEP's approach" (2012). Accessed online Accessed November 21, 2014). Available at: http://www.unep.org/resourceefficiency/Portals/24147/scp/procurement/docsres/ProjectInfo/UNEPImplementationGuidelines.pdf

6 For example, the US Department of Defense defines acquisition as a wider concept than procurement. Acquisition is an activity that includes the conceptualization, initiation, design, development, test, contracting, production, deployment, logistics support, modification, and disposal of weapons and other systems, supplies, or services (including construction) to satisfy needs of the Department of Defense as according to the Defense Acquisition University, "Glossary of Defense Acquisition Acronyms and Terms" (2009). Accessed online January 3, 2015. Available at: http://www.dau.mil/pubscats/PubsCats/13th_Edition_Glossary.pdf

SPP benefits." When different terms provide for an important distinction in method, measurement, data, or communication, we bring this to attention.

Literature review findings

Summary of resources reviewed and benefits cited

We identified and reviewed 158 resources (reports, Excel-based calculators and websites) on the subject of SPP that contained content discussing the topic of measuring SPP programmes, and outcomes/ benefits measurements in particular. We shared an initial list of 140 resources with the Working Group 2B and added an additional 18 resources which were then analyzed (making up the 158 total).

The knowledge resources are categorized into the following four main types. A full list of the resources reviewed can be found in Annex 2 (which is organized into the four main types below).

- *Method/guidance*: Reports that describe or summarize a particular method of measurement such as LCA or LCC, as well as reports that provide general guidance on how to measure the impacts of SPP.
- *Outcome example*: Reports that provide results of an SPP programme, which may be quantitative or qualitative.
- *Calculators*: Tools that assist in quantifying the impacts of sustainable products or services into which users enter their own data.
- *Other*: Resources that contain useful material on SPP even if they are not focused specifically on measuring outcomes. This includes reports focused on process measurement (e.g. indicators of the uptake of an SPP programme), the impacts of ecolabels, and the concept of net positive.

Exhibit 3 provides a summary of the number of knowledge resources for each of the above categories. We identified and reviewed 12 reports that provided methods or guidance on measuring the outcomes of SPP.

We identified and reviewed 44 calculators for measuring the impacts of sustainable products or services[7]. Section 4b below contains further presentation and analysis of these calculators.

We reviewed the benefits cited across the method/ guidance reports and outcome example resources to identify the breadth and type of benefits articulated in existing literature, and to demonstrate which of the benefits are most often measured and communicated.

Exhibit 3. Count of knowledge resources by category

Resource Category	Count	Percent
Method/guidance	12	8%
Calculators*	44	28%
Outcome example	22	14%
Other	80	50%
TOTAL	158	100%

*Note that this category includes 15 ENERGY STAR calculators for various products, which sometimes employ different methods so were counted as individual calculators

Exhibits 4, 5, and 6 (next pages) list the number of citations for economic, social, and environmental benefits, respectively within the literature reviewed. While there are strong causal links and interconnections between many categories of benefits, we assigned one category to each benefit cited to both 1) focus on the benefits actively communicated in the reports, and 2) to avoid potential double counting. For example, reduced water consumption leads to cost savings, but if a report discussed only reduced water consumption, and not cost savings from water consumption, then we did not include cost savings as a benefit identified in the report (unless other areas of we savings were reported).

The lower half of each graph contains a list of additional impact categories that were not cited in the resources reviewed (generated from draft SPLC

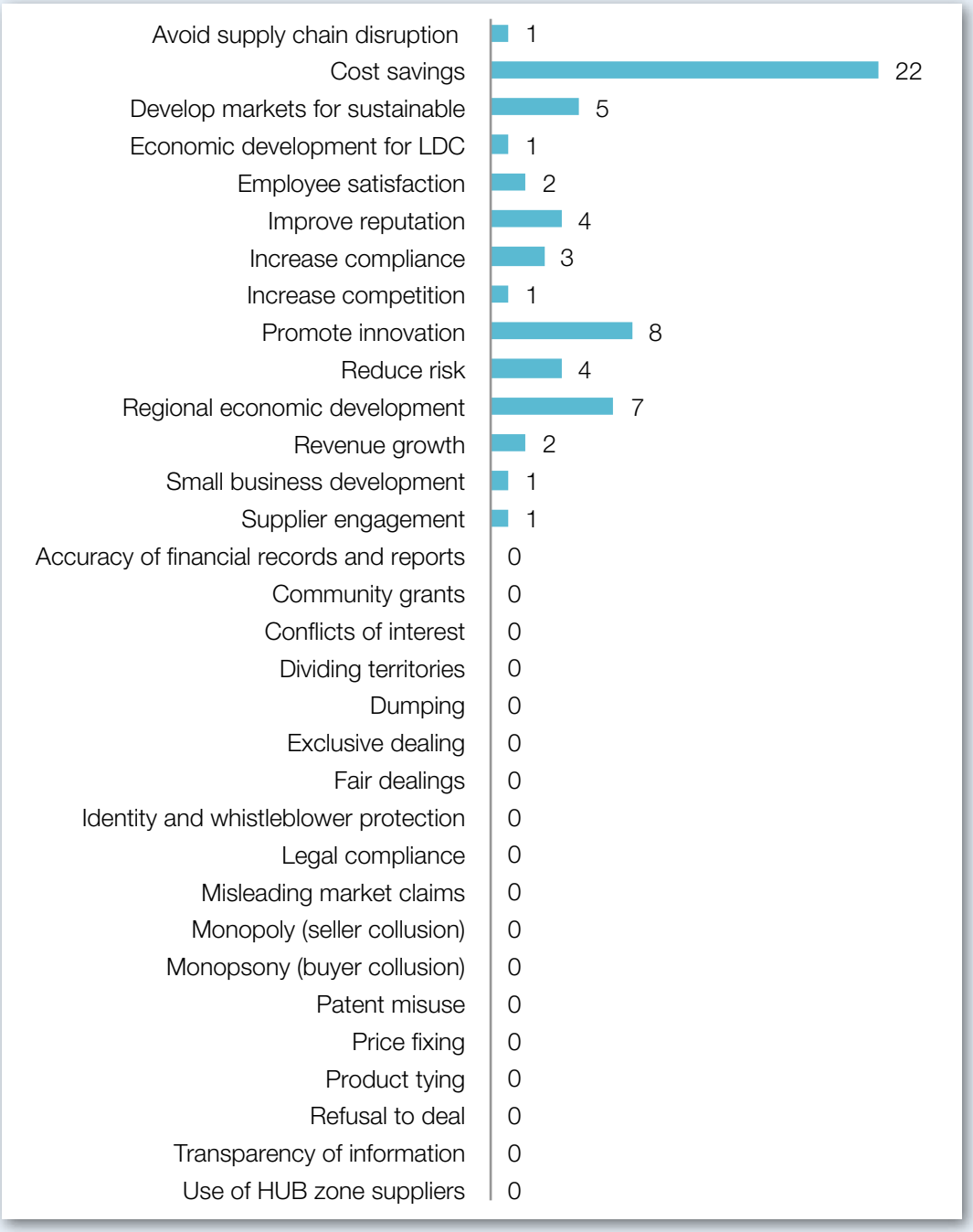
7 Research was limited to reviewing methods and calculators that are in the public domain.

Guidance v1.0)[8]. While we did not find existing calculators or examples of these additional impact categories monitored for SPP outcomes in the literature, the additional impact categories may potentially be expressed as benefits, and there may be examples or methods for measurement that we did not uncover in its research to-date.

The benefits most often cited were GHG emissions reductions (23), cost savings (22), promotes innovation (8), regional economic development (7), generates employment opportunities (7), improved occupational

8 Sustainable Purchasing Leadership Council, "Guidance for Leadership in Sustainable Purchasing v1.0" (2015). Available at: https://www.sustainablepurchasing.org/guidance/

Exhibit 4. Economic benefits cited in the literature reviewed



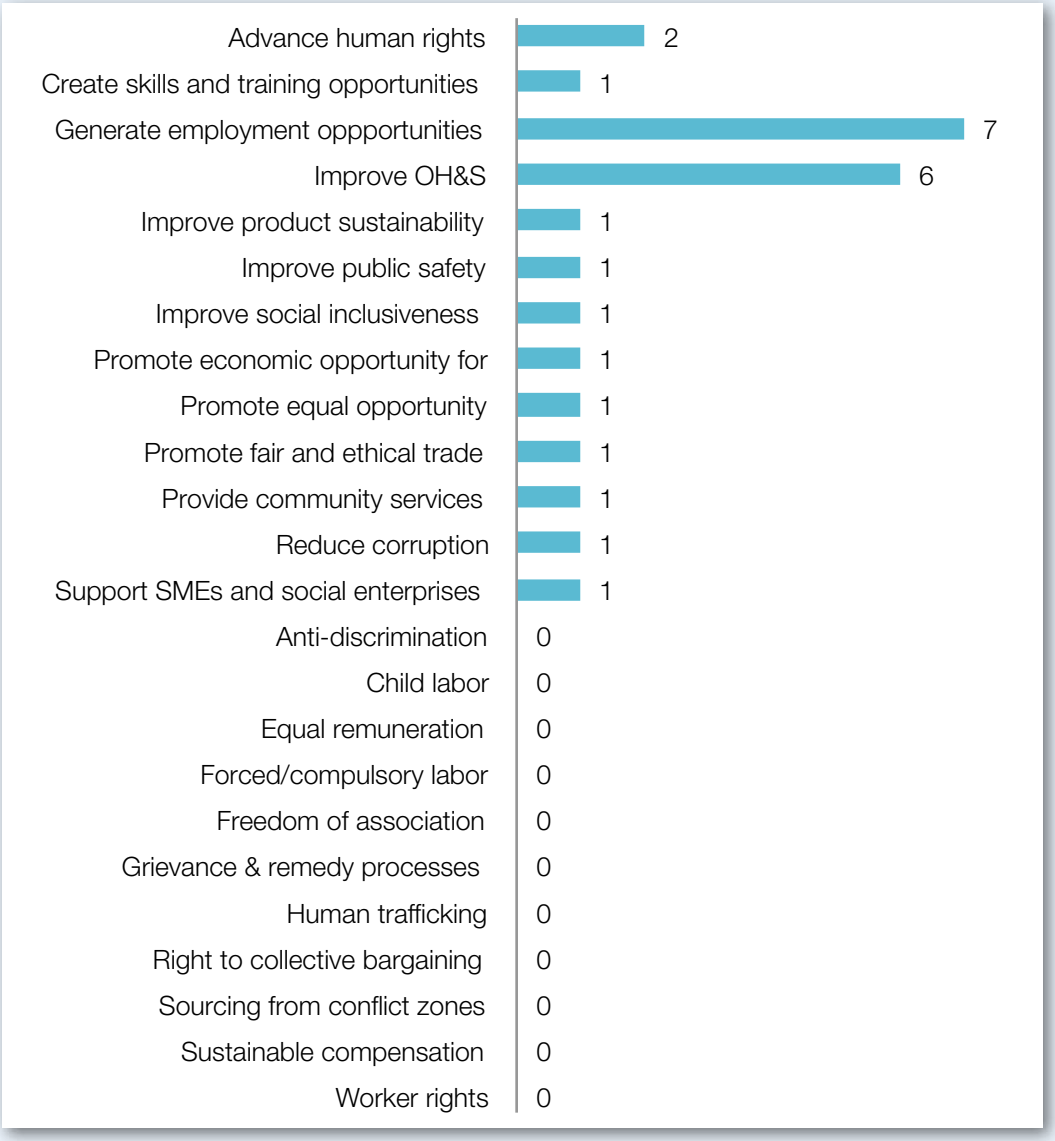
health and safety (6), and reduced waste generation (6). GHG emission reductions and cost savings are also the benefits most often quantified.

Existing methods and calculators for measuring the benefits of SPP

We reviewed the literature for the types of benefits measured, summarized in Annex 5. We classified the benefits listed as either internal or external or both:

- *Internal benefits*: realized by the organization with the SPP programme
- *External benefits*: realized outside of the organization with the SPP programme; these include benefits to the public, the environment, or the economy.
- *Internal/External benefits*: realized by both internal and external stakeholders. For example, reduced waste generation is beneficial for the organization with an SPP programme because it reduces the costs of waste disposal. Also, reducing waste reduces demand for landfill space and/or environmental impacts associated with waste incineration, and where waste is diverted for recycling, reducing waste can alleviate pressure to develop virgin feed-stocks.

Exhibit 5. Social benefits cited in the literature



In addition, we identified methods that could be used to measure each of the benefits. These methods are derived from our review of the literature, calculators and examples, as well as our institutional knowledge of additional methods that could be applied to measure the benefit.

We also identified calculators applicable to each benefit category. The tools are split into two groups: those that can be used for any product category (specific methods and cross-category calculators), and those that are designed for a specific product category (product specific calculators – examples). "TBD" in Annex 5 refers to a gap; further research will determine if this gap is due to a lack of methods and/or calculators, or to a current gap in our knowledge of the literature.

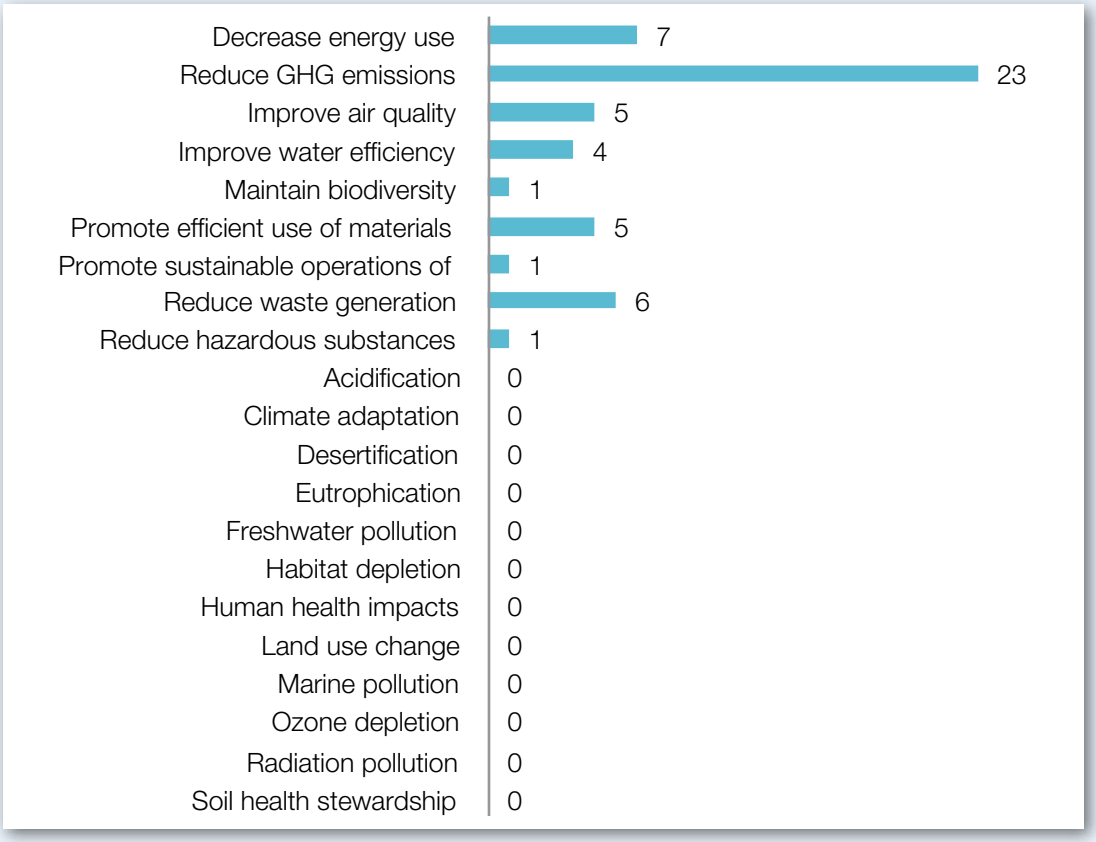
As seen in Annex 5, most of the calculators available focus on measuring cost savings and GHG emissions reductions. Additionally, many generic methods such as LCA can be applied to a wide variety of benefit categories. Calculators and methods are particularly lacking for measuring social benefits.

Exhibit 7 shows the number of calculators associated with each product and/or service category, based on assigning a standardized product classification scheme to each calculator[9]. We found that many of the calculators address multiple product and/or service categories, and that there are an abundance of calculators for calculating the impacts of appliances (largely due to the creation of many Energy Star calculators).[10]

9 We applied the product classification system developed by the Green Products Roundtable Framework.
The Keystone Center, "Accelerating Green Commerce" (2011). Accessed online December 20, 2014. Available at: https://www.sustainablepurchasing.org/wp-content/uploads/2013/05/GPR_Report_FINAL.pdf

10 U.S. Small Business Administration, "Energy Saving Calculators from Energy Star." Accessed online November 21, 2014 Available at: https://www.sba.gov/content/energy-saving-calculators-energy-star

Exhibit 6. Environmental benefits cited



Examples of SPP outcomes communications

We identified and reviewed 22 reports, case studies, and websites that provided the outcomes or benefits associated with specific SPP programmes. Analysis of these revealed that many of the examples provided only qualitative results, and that many reports with quantitative results did not provide methodological detail.

Overall, we did not find many examples of SPP outcomes communications compared to the number of agencies and organizations we know are working on SPP implementation. While many reports addressed the potential benefits of SPP, or stated the anticipated impacts of their programmes, as discussed in the previous section, only 22 of the 158 documents analyzed (14 percent) feature examples of measured results. Most of these reports cover a wide range of product categories, or alternatively, contained case study examples on certain categories. Please note that we did not check every government agency active in SPP to see if they reported on SPP.

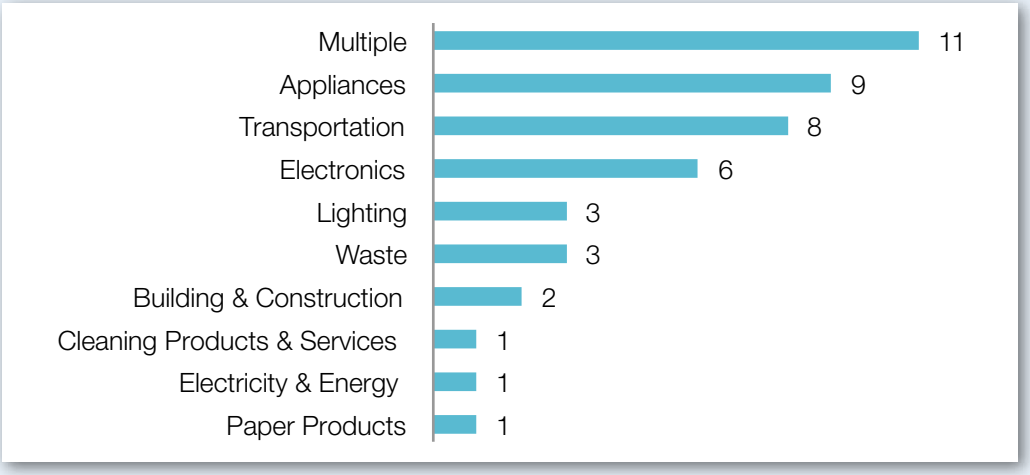
Exhibit 8 (next pages) summarizes key aspects of the 22 reports communicating SPP benefits including: author/organization, world region, and whether the report has a case study focus. As shown in the exhibit, many of the studies were published by international organizations with an interest in measuring and promoting SPP (e.g., UNEP, IISD, and ICLEI), or by academic researchers. We also found reports prepared by the European Commission and OECD. Additionally, we found case study examples for national government agencies, as well as for individual cities, states, and municipalities including Municipality of Ferrara (Italy); Portland, Oregon (United States); Melbourne, Queensland, and Victoria (Australia); City of Ghent (Belgium); and local government bodies from Yorkshire and Humber (England). Some additional case studies focused on private companies. The reports focus predominantly on the United States, Western Europe, and Australia. Two notable exceptions to this general regional trend were UNEP's "The Impacts of Sustainable Procurement: Eight Illustrative Case Studies"[11] and SEAD's "Guide for Monitoring and Evaluating Green Public Procurement Programs",[12] which document the impacts of SPP in developed and developing countries.

Those reports prepared by national governments reviewed tended not to quantify the benefits of

11 United Nations Environment Programme, "The Impacts of Sustainable Procurement: Eight Illustrative Case Studies" (2012). Accessed online November 3, 2014. Available at: http://www.unep.fr/scp/procurement/docsres/projectinfo/studyonimpactsofspp.pdf

12 Super-efficient Equipment and Appliance Deployment, "SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs" (July 2013). Accessed online November 6, 2014. Available at: http://www.superefficient.org/Activities/Procurement/~/media/Files/SEAD_GPP_ME_Guide_final.pdf

Exhibit 7. Calculators by product and service category



Note: The total number of calculators by category is greater than the total number of calculators, as some of the calculators address more than one category.

Exhibit 8. Overview of SPP Benefits Communications

Title	Author/ Org	World Region	Case Study Focus
The Impacts of Sustainable Procurement	UNEP	Central and South America, Europe, China, U.S.	Brazil: Foundation for Education Development, Secretary of Education (State of São Paulo) Costa Rica: The Institute of Electricity of Costa Rica (ICE) France: Ministry of Education Hong Kong SAR: Transport Department Italy: Municipality of Ferrara, Region of Emilia Romagna England: Local government bodies from Yorkshire and Humber Scotland: Government of Scotland United States: Metropolitan Regional Government of Portland, Oregon
SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs	SEAD	Europe, Latin America, Asia, Europe, U.S.	France: Commission for Sustainable Development (Ministry of Ecology, Sustainable Development and Energy) Chile: Directorate of Public Procurement, Ministry of Finance Korea: Ministry of Environment United Kingdom: Central Government - Department for Environment, Food and Rural Affairs (DEFRA) United States: Department of Energy
Value of Sustainable Procurement Practices	PwC; EcoVadis; INSEAD	Western focus (not directly specified)	Various companies and agencies (e.g., Nike, Walmart, UPS)
Sustainable Procurement – Back to Management!	EcoVadis	Europe	Europe
Green Procurement Program Implementation Guide	U.S. Department of the Navy	U.S.	United States: Department of Navy
Collection of Statistical Information on Green Public Procurement in the E.U.	PwC Sustainability	European Union	U.K., Austria, Sweden, Finland, Denmark, Germany, Netherlands

Title	Author/ Org	World Region	Case Study Focus
Costs and Benefits of Green Public Procurement in Europe, Part 1	Oko-Institut e.V.; ICLEI	Europe	European public procurers
Options to Improve the Uptake of Green Public Procurement in the E.U.: Impact Assessment	European Commission	Europe	European Union
Improving the Environmental Performance of Public Procurement: Report on Implementation of the Council Recommendation	OECD Environment Policy Committee	World	OECD
Green Public Procurement in Lithuania: Volumes and Possibilities for Environmental Impact Reduction	Dagiliūtė and Anikanova, Vytautas Magnus University	Eastern Europe	Lithuania
Taking the Lead: A Guide to More Responsible Procurement Practices	Chartered Institute of Purchasing and Supply/ TRAIDCRAFT	World	Various companies (e.g., L'Oreal, Barclays, Gap)
Green Purchasing in Australia, 2009	ECO-Buy/ netbalance Foundation	Australia	Eco-Buy Membership Toyota Australia – Organizational Green Purchasing Melbourne Airport – Cost Fuji-Xerox Australia – Supply Chain Whitehorse City Council – Staff Training Queensland Government Chief Procurement Office Victorian Department of Treasury and Finance
Results and Achievements of the European Project: SMART SPP	ICLEI	Europe	Europe

Title	Author/ Org	World Region	Case Study Focus
The Procura+ Manual: A Guide to Cost-Effective Sustainable Public Procurement	Procura+/ ICLEI	Mostly discusses Europe	Mostly discusses Europe
Benefits of Green Public Procurement	Nordic Council of Ministers	Northern Europe	Scandinavia
Using Life Cycle Approaches to Evaluate Sustainable Consumption Programs: Car Sharing	Briceno, Peters, Solli, and Hertwich (Norwegian University of Science and Technology)	Europe	Norway
Sustainable Supply Chain Management: A Framework to Assess and Reduce Environmental Impacts from UCSB Procurement	Dragos, Richman, Sartorius, and Sutherlin (UC- Santa Barbara)	United States	University of California, Santa Barbara (UCSB)
Approach on Life Cycle Costing and its Benefits	Thai National Science and Technology Development Agency	Asia	Thai Green Public Procurement
Procurement, Innovation and Green Growth: The story continues…	IISD with the Global Green Growth Forum	World	World (15 case studies from various countries such as Brazil, China, Australia, and Denmark)
Guide to the Business Case and Benefits of Sustainable Purchasing	BuySmart Network	Western-focused	Not specified
GPP 2020 Annual Monitoring Report	GPP 2020	Europe	European Union
Ecoprocura – City of Ghent: Addressing Broader Policy Objectives Through Procurement	Procura+, City of Ghent	Belgium	City of Ghent

their sustainable purchasing activities, instead relying on either process measure indicators or qualitative descriptions. One notable exception was a presentation prepared by Thailand's National Science and Technology Development Agency (NSTDA) and Kasetsart University, which reported the environmental benefits, GHG reductions, and cost savings associated with Thailand's SPP programme[13]. NSTDA initiated the study in cooperation with the Thai Pollution Control Department to examine the success of the government's Green Procurement Plan in promoting the production and consumption of sustainable products, and achieving environmental benefits and costs savings. In addition to the Thai study, KEITI and Korea's Ministry of Environment, the Government of France, and UK's Sustainable Development Commission have published reports communicating SPP results, as documented in the SEAD report[14] however, we did not directly review those reports.

Benefit Categories and Methods

Annex 6 summarizes the economic, social, and environmental benefit categories covered in each report. As shown in the table (Annex 6), the most frequently identified benefits were cost savings and GHG/CO_2 reductions; half the studies include both of these benefits. Other commonly cited environmental benefits include reduced waste generation, reduced water consumption, and improved energy efficiency. Economic benefits cited in multiple studies include cost savings, local or regional economic impacts, risk reduction, and innovation. The most commonly referenced social benefit is employment opportunities, typically for local and/or disadvantaged businesses. For example, UNEP's case study on the French Ministry of Education's procurement of remanufactured toner cartridges reports on full-time equivalent employment for disabled workers for toner cartridge production and delivery.[15]

Overall, social benefits receive less attention in the studies than economic and environmental benefits. It is unclear whether this reflects a bias in favor of economic and environmental benefits, or whether social benefits are less reported on because they are more difficult to measure. It may also reflect the limitations of the research being focused primarily on English-language sources.

While reviewing the benefits cited in the 22 reports, we also considered the methodological rigor and transparency of the benefit calculations. All but two of the 22 studies include at least some discussion about methods, though the level of detail varies across and within reports (e.g., some case studies within a report discuss methods, others do not). The most robust or detailed methodologies generally focus on ways to calculate cost impacts – typically calculated based on life cycle or whole-of-life costing – and estimates of GHG or CO_2 impacts. Methods range in complexity from the application of simple unit conversion factors, to complex approaches including use of life cycle assessment models[16]. Data sources include purchasing data on the quantity of sustainable and non-sustainable products sold, surveys, and review of product attributes.

Although most studies included a methodology, only about one-third (7 of 22) include any discussion of attribution issues. For example, one report, discussing a company's reduction in GHG emissions, notes, "This reduction is *mainly* attributed to their commitment to 'greening' their buildings by making design, materials, and construction decisions based on environmental considerations" (emphasis added).[17] Only six reports include equivalency factors (otherwise known as social math), which converts

13 T. Mungcharoen, "Approach on Life Cycle Costing (LCC) and its benefits" (May 1, 2013). Prepared for the Green Public Procurement and Eco-labeling Regional Workshop in Phuket, Thailand.

14 SEAD, "Guide for Monitoring and Evaluating Green Public Procurement Programs", op. cit.

15 UNEP, "The Impacts of Sustainable Procurement", op. cit.

16 Alex Dragos, Sarah Richman, Katy Sartorius, and Eric Sutherlin, UC-Santa Barbara, "Sustainable Supply Chain Management: A Framework to Assess and Reduce Environmental Impacts from UCSB Procurement" (April 2013). Accessed online November 20, 2014. Available at: http://www.bren.ucsb.edu/research/2013Group_Projects/documents/SmartSource_Final_Report.pdf

17 BuySmart Network, "Guide to the Business Case & Benefits of Sustainability Purchasing" (March 2007). Accessed online November 16, 2014. Available at: http://www.buysmartbc.com/_Library/Resources/resource_bsn_business_case_to_sustainability_2008.pdf

benefits to language that is more likely to resonate with a non-technical audience. For example, a report discussing CO_2 reductions in China states, "This [105,749 tonnes of CO_2] is the equivalent of the annual CO_2 emissions of 17,335 Chinese people in 2009".[18] Thus, although most of the 22 reports reviewed are transparent in their methods, they tend to assume that all reported benefits can be attributable to the programme, and do not generally communicate their findings in language accessible to broader audiences. Audiences and Policy Goals.

While a few reports reviewed focus on advancing a methodology for measuring SPP outcomes, most of the 22 reports aim to describe the benefits of SPP to validate and encourage SPP activities. To the extent that the reports aim to influence policymakers, we were interested in whether they draw a link between SPP benefits and policy goals. Most of the reports (17 of 22) connect their findings directly to national, regional, or agency policies. For example, as noted in the foreword to UNEP's report, "Through SPP, governments can lead by example and deliver key policy objectives in the environmental, social, and economic fields".[19] Several case studies in the UNEP report discuss the connection between SPP and policy goals, such as sustainable development, waste management, and developing a low-carbon economy. The SEAD study also draws a link between SPP, and sustainable development, and green growth. Many of these reports draw a link between SPP benefits and SPP policy goals, but they do not necessarily focus on broader policy goals beyond SPP such as sustainable development, or green economy development.[20]

In summary, our review of SPP communications provides some insight into the types of benefits typically discussed, how methodologies are used and described, and how messages are framed. However, the limited number of reports (22 of the 158 documents) is both a finding in itself, and makes it difficult to generalize results.

Initially, we were surprised to find relatively few statements and reports communicating the outcomes of SPP. However, as we conducted the interviews and discussed some of the challenges associated with measuring SPP benefits, it became clear that many methodological, organizational, and perception challenges hamper organizations from measuring and communicating SPP results. The following section describes these challenges.

Barriers and challenges to measuring and communicating SPP outcomes

Through interviews, literature reviews, and a short poll of workgroup and workshop participants for which we received 12 responses, we identified many barriers and challenges to measuring and communicating SPP outcomes. As one interviewee stated, "The reason public agencies are not communicating more about their SPP benefits is because it's so hard to calculate, and oftentimes the data isn't available."

While nearly everyone agreed that it was valuable, and in some cases, vital for public agencies to understand overall SPP impacts, undertaking such evaluations are difficult and problematic.

This section summarizes the main barriers and challenges cited by interviewees, the literature, and workgroup and workshop participants with respect to measuring and communicating the benefits of SPP (not in implementing SPP in general, which is well covered by other reports).[21] The challenges are grouped into measurement, data, organizational, and communication issues. The list is comprehensive, and no distinction is made as to how commonly-held are the challenges cited.

18 International Institute for Sustainable Development, "Procurement, Innovation and Green Growth: The story continues…," (2012). Accessed online November 5, 2014. Available at: http://www.iisd.org/pdf/2012/procurement_innovation_green_growth_continues.pdf

19 UNEP, "The Impacts of Sustainable Procurement", op. cit.

20 See for example, European Commission, "Options to improve the uptake of Green public procurement in the EU: impact assessment" (2007) (working document).

21 See for example, Section 3.4 of UNEP, "Sustainable Public Procurement: A Global Review Final Report" (December 2013). Available at: http://www.unep.org/resourceefficiency/Portals/24147/SPP_Full_Report_Dec2013_v2%20NEW%20%282%29.pdf

▷ Measurement challenges

Measurement challenges arise when trying to track the outcomes or benefits of an SPP activity. We identified the following measurement challenges:

- *Definition of "sustainable."* Measuring the benefits of SPP requires a clear definition of sustainability. However, interpretations of sustainable purchasing vary by region/country and by product category. The lack of a uniform, agreed-upon definition of SPP makes it difficult to measure benefits. Furthermore, definitions vary across government agencies, making measurement that much harder, and comparison impossible. Stated one respondent, "I'm challenged by everything associated with measuring benefits because the ability to accurately identify green products, track them, and report them when they're purchased does not exist."
- *Conflicting goals.* Sometimes there are tradeoffs where sustainability goals conflict with each other, a classic example being a product with higher environmental performance having a higher upfront cost. The measurement question is whether to report on just the positive, or also the negative impacts of the SPP activity.
- *Scope*. Measuring SPP benefits entails a number of scoping challenges, such as
  - » Should environmental, economic, and/or social performance be measured? Within each, what impact categories should be selected?
  - » Should the analysis focus on the full product/service life cycle or a specific life cycle phase (e.g., production, use, or disposal), or a subset of products vs. all products within an impact category? Frequently, it is impossible to measure life cycle impacts due to limited information. For example, procurement officials in Europe are often limited to asking bidders for information about emissions associated with the contract, and not, for example, with transportation of the product or service. This makes it difficult, at the contract level, to gain a comprehensive view of a product or service's life cycle impacts.
  - » Should measurement focus on product or supplier performance, or both?
- Who can make the changes needed to reduce impacts (and therefore, whose efforts should be measured)? Impact reductions typically require changes in the supply chain, where public authorities may only have limited leverage/influence.
- Should the whole organization's performance be measured, or only the subset of activities focusing on SPP?
- *Baseline-setting/comparisons*. Measuring benefits requires a clearly defined baseline against which to assess impact reductions. However, determining the appropriate baseline against which to compare a more sustainable product or service raises difficult methodological questions. For example, should a green product be compared to earlier versions of the same product (which may have changed significantly since the last time an agency purchased the product, or may not even be available in the market anymore), to the industry average, or to "best in class" at the same price? A similar question arises when assessing the impacts of administrative or policy changes for sustainable purchasing. There may be more than one baseline year for different policy criteria, further complicating measurement efforts.

▷ Measuring more complex effects

- *Unintended consequences*. In measuring the benefits of SPP, consideration may also need to be given to unanticipated or unintended results. For example: should consideration of the rebound effect[22] be included in SPP benefit calculations? If cost savings were achieved, how were the savings used by the organization – and should that be included in the benefit calculations?
- *Indirect effects*. A core tenet of SPP programmes is that government action will catalyze changes in

22 The rebound effect refers to the behavioral response to the introduction of new technologies that increase the efficiency of resource use, which tend to offset the beneficial effects of the new technology or other measures taken. For example, an increase in fuel efficiency lowers the cost of consumption, and hence increases the consumption of fuel.

the broader marketplace for goods and services. These changes are typically indirect – e.g., changes in attitudes, awareness, and behaviors of manufacturers, suppliers, and consumers in response to government purchases. Choosing which indirect effects should be included in an analysis of SPP outcomes (and how to account for these indirect effects) is methodologically challenging. Moreover, indirect effects can be more difficult to attribute than direct effects.

- *Attribution*. Attributing (or assigning "credit") for observed benefits is a significant challenge in measuring SPP benefits. There are typically many intervening variables and drivers to any observed outcomes, making it difficult to show that an SPP program "caused" or resulted in the observed benefits. For example, when a company makes its product more sustainable, it is unclear whether credit should be apportioned to the manufacturer, user, or purchasers – or whether they should all share the credit. Other attribution issues include:
  - » *The effect of offsets and carbon markets*. In other cases, a program's impact may be overstated by only looking only at the benefits reported by a single agency. For example, if an agency buys less power, and a different organization then buys the reduced emissions as an offset, it does not necessarily result in a net emissions reduction. A conceptual question is whether this should be counted as a benefit to the agency.
  - » *Double-counting*. With multiple stakeholders reporting the same benefits, there is a risk of "double-counting" – i.e., accounting for the same benefit more than once, thereby overstating a program's impact. For example, two agencies that jointly purchase an energy-reducing appliance may both claim "credit" for the energy savings in their respective annual reports. When attempting to aggregate benefits across government agencies, care must be taken not to count the same benefit twice.
  - » *Health risks and benefits*. Beyond environmental benefits, many people are interested in the health impacts of sustainable products/services; however, these impacts are often very difficult to assess and quantify due to data and attribution issues. While some parts of the sustainable purchasing community are giving significant attention to this issue, methodologies do not yet exist to rigorously measure the health impacts of SPP in a comprehensive way.
- *Aggregation*. It is not possible to aggregate SPP benefits across different impact calculators, because each calculator addresses different product/service categories and benefit types, and each uses different units of measurement. As one interview respondent put it, "There is a mish-mash of tools that require disparate inputs that are not in the same units, assumptions are not aligned, are not always apparent to you, and are not updated. Outputs are generated all in different units that would then have to be combined (units are hard to understand). When people look for equivalents, if the tool provides the courtesy, the equivalents are all different."
- *Monetized benefits*. Another challenge is translating between economic values and environmental or social benefits. While some interviewees noted that all benefits should ideally be expressed in monetary terms, others cautioned that this approach overlooks important benefits that cannot be monetized. The question of how to assign a dollar value to environmental goods and services is classic question in environmental economics, and a conceptual challenge for measuring SPP outcomes where monetization may not be possible, straightforward, or desirable.
- *Extrapolation*. Extrapolating from one product or service category to other categories is also quite difficult. Problems may arise when assumptions are made based on existing data and then extrapolated to other products, without knowledge of differences in use; or, extrapolations to other categories may be too generic to provide meaningful insight.

Data challenges

Deciding on and implementing an SPP benefits methodology is often constrained by data limitations. At every stage and every level, limited data was identified as a large barrier to measuring the benefits of SPP.

- *Life cycle impact data*. Data on environmental and social lifecycle impacts is limited for many product/service categories, particularly in comparison to economic data. As one respondent stated, "The economic benefit is easier to work with because you have most of the data available with you. But the same is not true for measuring social and environmental impacts as a result of SPP. Do we have requisite data, which can be used by procurement professionals while taking informed decisions about procurement of certain materials? Most of the methodologies developed for measuring impacts assume availability of quality data during the production, use, and disposal phase." Moreover, existing life cycle data tend to be generated in Europe and North America, but not in other parts of the world. How to use the data when analyzing the impact of sustainable purchasing in other regions is challenging.
- *Downstream impacts*. Sometimes the impacts of sustainable purchasing occur far down the supply chain, and may even extend to firms in other countries. Gathering information on downstream impacts is complicated when the suppliers with whom procurement officials interact do not have the information needed to calculate impacts throughout the whole supply chain. In this case, deciding who should gather the information about downstream impacts (and how) is not straightforward.
- *Upstream impacts*. Gathering information on the use and disposal phase of products purchased can be a barrier to including the results. Even if for some product categories – especially energy or resource using ones – upstream impacts represent the source of the greatest impact and therefore potential to reduce that impact, oftentimes from a practical point of view data is either not gathered, or not accessible to those seeking to make such measurements. One interview respondent noted that many existing calculators were designed to justify purchases rather than track actual impacts; and many existing impact assessment calculators were not built to enter purchasing data.
- *Test results*. Purchasers often use sustainability standards and eco-labels to identify green products. Access to test results and analysis from the eco-labeled products is needed to assess the products' impacts. However, even when products carry an eco-label, the underlying performance and environmental data can be difficult to obtain.
- *Spend data*. Assessing the impacts of sustainable purchasing requires knowing the number and dollar value of sustainable and conventional products/services procured. Additionally, a breakdown of expenditures by product/service category can help agencies target their efforts toward categories with the greatest potential impact. However, the accounting systems currently used in many agencies are not granular enough to parse out the costs to a fine enough detail to support these analyses.
- *Supplier data*. Suppliers may be the primary source for certain types of data. However, they may not be able or willing to provide all of the information needed to conduct a benefits analysis. Information requests that are burdensome for small suppliers could conflict with other policy goals of improving competition and supplier diversity. It may also be difficult to confirm the completeness and quality of the data provided.
- *Data uncertainty*. Data uncertainty can be quite high, resulting from differences in purchase prices for products of different brands; or fluctuations between geographical regions or from temporal developments (e.g. time-related development of electricity or water costs). This uncertainty can affect calculations[23].
- *Capacity for data analysis*. In general, vendors today are able to provide more data than they were a decade ago. However, there has been less progress in the account manager's ability to manipulate the data and provide what is needed

23 Öko-Institut e.V. and ICLEI, "Costs and Benefits of Green Public Procurement in Europe" (2006). Accessed online November 6, 2014. Available at: http://ec.europa.eu/environment/gpp/pdf/eu_recommendations_1.pdf

for an SPP benefits analysis. As one interviewee noted, "You can have the best tool, but if you haven't got someone to put in the information or who is prepared to use it, then it's not useful." Similarly, the process of distilling large amounts of data into a select number of environmental metrics with associated equivalents can be very difficult. As one individual put it, this requires "the extremely labor-intensive process of distilling hundreds of thousands if not millions of lines of data into a few environmental metrics."

Organizational challenges

This section describes four types of organizational challenges identified in the research: expertise/staffing, cost, access, and legal issues.

▷ Expertise/Staffing

Challenges include the following:

- *Expertise*. Specialized knowledge and skills are needed to analyze SPP outcomes. This expertise may or may not be available within the organization. Even when an organization has the required expertise, the individuals who can measure outcomes are typically not on the procurement team, and may not have full access to purchasing data. Due to budget limitations, it is not feasible for most public agencies to have experts on every product/service they purchase, so to a certain extent, they must trust their suppliers, and/or rely on third-party verification. While this can substitute for in-house expertise to an extent, it may limit the breadth and depth of the analysis.
- *Motivation*. Lack of motivation is a barrier to measuring SPP benefits. Conducting SPP activities requires extra time and effort, not to mention monitoring and collecting SPP data. Data collection and analysis is typically not part of a purchaser's job responsibilities; instead, procurement staff is often measured on time to complete contracts and how much money they spend. Sustainability can add to both of these dimensions, especially when adding extra reporting burdens. As a result, there is little motivation to measure SPP benefits.
- *Coordination*. As alluded to throughout this chapter, the measurement process requires input from a very broad range of stakeholders – e.g., suppliers, vendors, manufacturers, independent testing agencies, procurement staff, etc. Even if an organization is motivated to measure SPP results, the level of coordination required to undertake the analysis can be overwhelming.

▷ Cost

Attempts to measure SPP outcomes are constrained by considerations about cost and cost effectiveness:

- *Budget*. Put simply, it costs money to conduct an analysis of SPP benefits. In today's budget-constrained environment, agencies may not have sufficient funds to undertake this type of analysis.
- *Return on investment*. The lack of demonstrated (empirical, research-validated) financial or economic (monetized risk) ROI for sustainable purchasing actions is a barrier to approval at the management level.
- *Opportunity cost*. Another cost barrier is the trade-off between measuring SPP impacts vs. alternative uses of funds. For example, if an agency allocates funds to measure the benefits of SPP, it may have to forego other projects, which may be higher priority than measuring SPP impacts.

▷ Access

Obtaining the data needed to measure SPP outcomes can be a challenge:

- *Agency information*. This is a major barrier, both in terms of an organization's own spending, and to cost accounting systems to know whether benefits are realized (e.g., in terms of reduced energy costs). SPP outcomes cannot be quantified without this information.
- *Confidential business information*. While insight into cost and sustainability performance of products and suppliers may be needed to complete an assessment, confidential business information often forms a barrier to accessing that information. Cost data is often confidential, and therefore sometimes difficult to collect.[24]

24 Öko-Institut e.V. and ICLEI, "Costs and Benefits of Green Public Procurement in Europe", op. cit.

▷ Legal

The research identified two major legal issues that can arise when measuring SPP outcomes:

- *Delegated authority*. Depending on the jurisdiction and agency, individuals and organizations may not have the authority to conduct SPP work; require the data; and/or ask suppliers for extra information.
- *Lack of uniformity*. Legal/policy definitions of sustainability vary by jurisdiction. The lack of a uniform way of defining sustainable makes it difficult to measure and compare impacts.

Communication challenges

While most of the previous discussion focused on measurement challenges, the following section considers barriers to communicating SPP benefits. This section describes three types of communication barriers: the need to communicate, messenger, and audience.

▷ The Need to Communicate

An agency's reporting requirements and organizational dynamics may encourage or discourage open communication:

- *Reporting requirements*. Different agencies have different reporting requirements, even within the same government. Some agencies do not have to report, some do, and for others, reporting is encouraged but voluntary. Even when agencies are required to report on SPP activities, they may not be required to report on outcomes.
- *Motivation to report*. Whether or not reporting is required, agencies may actively choose to communicate their results to senior managers and other stakeholders (e.g., purchasers). Particularly when the program is new and growing, it is very important to communicate effectiveness and secure backing from an internal audience. Agencies use information on SPP outcomes to message their stakeholders that their efforts make a difference. At the same time, agencies need to make sure that the results are accurate, representative, and backed by reasonable approximations.

▷ Messenger

The credibility of the messenger is very important for how audiences will respond to the information that is being communicated:

- *Who communicates?* An audience's perceptions about the messenger's qualifications, experience, and motivations affect how the audience responds to the message. For example, senior managers may discount results if they feel that a department is "selling" them on a project. The public may not trust claims made by government officials who they believe have ulterior motives or are trying to justify their budget. Finding a messenger who can address the needs of a diverse audience (see below) is challenging.

▷ Audience

The audience for SPP results includes a diverse group of stakeholders, from purchasing officials and agency management, to policymakers and the general public. Each group has different conceptions, familiarity, and attitudes regarding sustainable purchasing – and different information needs. Some of the major challenges in reaching the audience include:

- *Information needs/interests*. Those receiving the information on SPP benefits may be interested for some product or impact categories, but not others. For example, different departments within an agency may value some types of benefits over others, depending on the department's mission and focus. Also, audiences may not be receptive to information that is surprising and unexpected.
- *Complexity*. Communicating highly technical information to a non-technical audience requires striking a balance between clarity and oversimplification. For example, it can be very challenging to communicate the resource intensity and toxicity of a product to policymakers without a technical background. In some ways, it may be better to simplify the communication in terms they will understand, such as economic or monetary units. However, this risks oversimplifying the actual situation.
- *Apathy and aversion*. Some audiences are skeptical, apathetic, or averse to sustainability

issues, as well as to the data that would require them to change. Overcoming general public apathy or aversion to measuring sustainability benefits might lead to focusing more on economics – e.g., shifting to cheaper products such as energy-efficient appliances. Efforts to communicate the benefits of SPP may also run counter to preconceived notions – e.g., that sustainable products are more expensive, or that environmental issues are another layer of bureaucracy and have little value. These perception issues both contribute to apathy and aversion, and make it harder to overcome negative or indifferent attitudes regarding SPP. To paraphrase one interview respondent, "the problem is not so much the data, but whether people care about the results and are willing to make decisions based on the evidence."

- *Burden of proof*. An overarching question that comes up in many circles is the need for a robust toolset to support environmental, social, and economic claims regarding sustainability impacts. As discussed throughout section 4d, conceptual and methodological limitations preclude a comprehensive and quantifiable assessment of the full life cycle impacts of many product/service categories. Audiences that are skeptical of sustainability claims sometimes choose to focus on gaps in the knowledge, rather than what we *do* know about sustainable purchasing impacts. In addition, policymakers would like to have a direct link between sustainability activities and impacts, but this is hard to show, for the reasons discussed above in this section.

In summary, this research identified many and significant challenges to communicating the benefits of SPP. Combined with the measurement and organizational barriers described earlier in this section, it is clear that much work remains to be done to be able to effectively measure and communicate SPP outcomes. Section 5 presents our conclusions and discuss possible next steps for addressing some of the challenges identified in this paper.

Conceptual Map of the Key Concepts

Purpose of the conceptual map

The baseline study research highlighted many different concepts, methods, calculators and communications approaches that inform measurement and communication of SPP benefits. From these knowledge sources, we created a draft conceptual map of the context, key concepts, methods and issues involved. The conceptual map presented in this section is intended to:

- Provide the broader policy and stakeholder context for undertaking measurement and communications of SPP benefits.
- Assist the SPP community in navigating this complex landscape when they come across methods, measurements, communications, and concerns.
- Facilitate a conversation about the need, opportunities and challenges associated with this work.
- Offer a basis for a further articulation of a framework and supporting methods for measuring and communicating SPP benefits (the expected outcome of the 2b project).

Exhibit 9 provides the conceptual map. The map is laid out to start at the top left-hand corner and work clock-wise around the diagram. The text that follows connects and explains each of the key concepts in the figure, the numbers listed in square brackets (i.e., [1-14]) illustrate where the concept is found in the corresponding figure.

We refined the map and subsequent work products in accordance to the feedback we receive from the Working Group 2B and January 14th workshop participants. We then used the map as a foundation for developing a more detailed framework.

Conditions, drivers and policy response

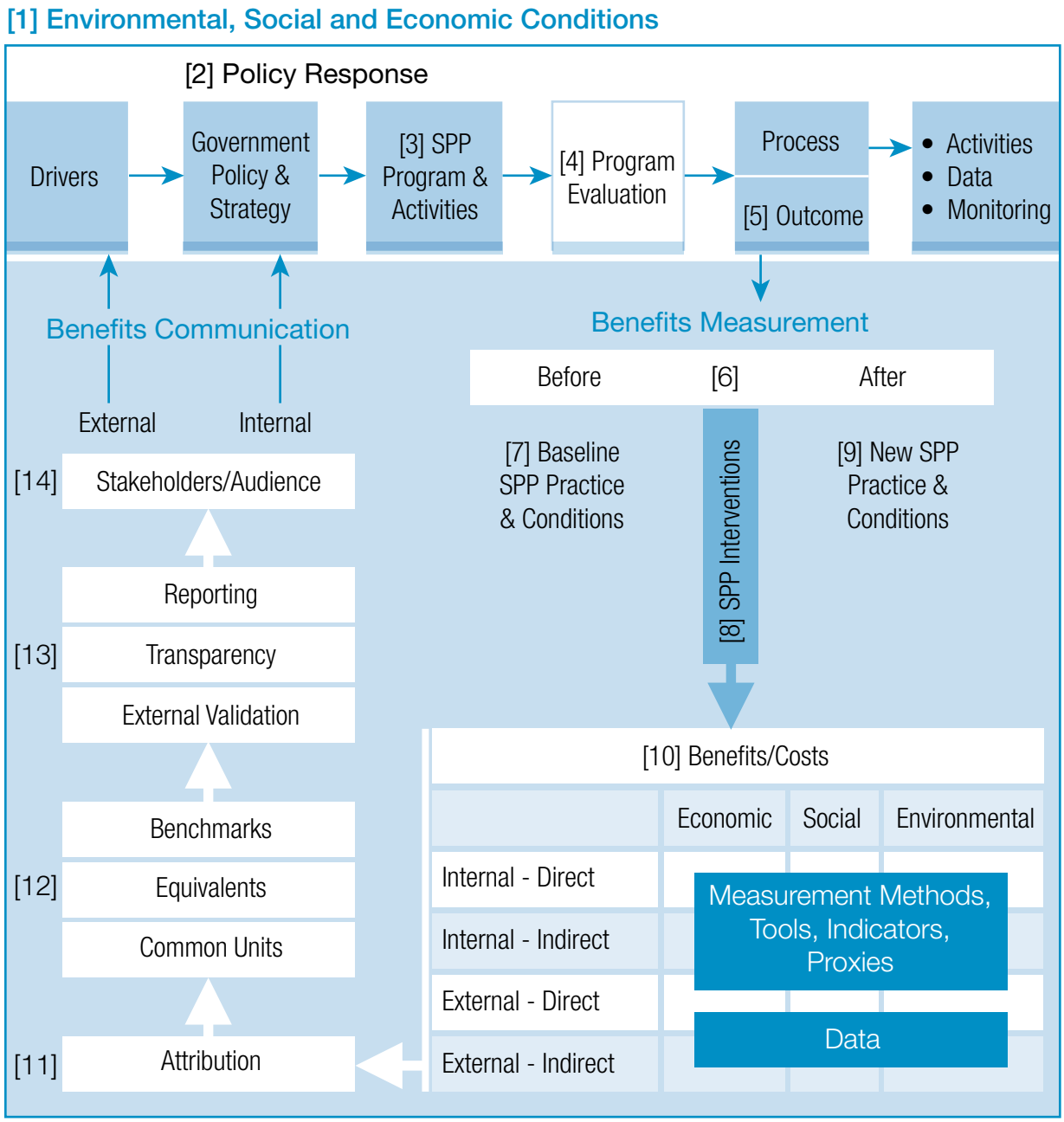
Economic, social and environmental conditions [1] and stakeholder pressure drive government organizations to develop a policy response and strategy [2] for acting upon those conditions. The inclusion of sustainability into procurement functions is based on the recognition that some of the largest sustainability impacts of government

agencies occur in the products and services they purchase. "Our acquisition of goods and services creates a carbon footprint nine times that of our buildings and fleet, put together" explained Dan Tangherlini, Administrator of the U.S. General Services Administration in May 2014.[25]

25 Sustainable Purchasing Leadership Council, "Video Address to the SPLC Summit" (May 21, 2014). Accessed online December 20, 2014. Available at: https://www.sustainablepurchasing.org/meeting14/multimedia/#videos

Amongst other activities, government agencies establish SPP programs [3] to "lead by example" in reducing the footprint of their own operations and supply chains, and to generate more positive environmental, social and economic change. Recognizing the importance of procurement in reducing the impacts of government agencies, as well as the opportunity to provide leadership and promote sustainable practices, SPP programs

Exhibit 9. DRAFT map of key concepts relevant to measuring and communicating SPP



ideally measure their impacts, prioritize which of those to focus on, create intervention strategies to implement SPP activities, and then measure the results being achieved.[26]

A useful discipline for measuring the outcomes of a program is program evaluation [4]. Program evaluation is a systematic method for using measurement and analysis to answer specific questions about how well a program is achieving its outcomes and why.[27] Program evaluation can help identify areas of programs that need improvement and determine whether the programs are achieving their goals and objectives. Typically, program evaluators separate *process* evaluation from *outcome* evaluation, and conduct systematic, data-based inquiries:[28]

A *process evaluation* assesses whether a program or process is implemented as designed or operating as intended and identifies opportunities for improvement. The UNEP working group 2a project covers process measures of SPP implementation, suggesting a range of indicators and measures for monitoring progress.[29]

An *outcome evaluation* [5] examines the results of a program, whether intended or unintended. This is the focus of the Working Group 2B and this baseline study.

26 Various guidance documents on SPP implementation exist, including: CIPS (2014) Sustainable Procurement Review; DEFRA UK, "Sustainable Procurement in Government, Guidance to the Flexible Framework" (2011); European Commission, "Managing Green Public Procurement Implementation" (2008); European Commission & ICLEI, "Buying Green! Handbook – 2nd Edition" (2012); EPA, "Final Guidance on Environmentally Preferable Purchasing" (1999); ICELI, "The Procura+Manual" (2007); IGPN, "Guidelines & Starter Kit" (2011); NASPO, "Green Purchasing Guide" (2014); Responsible Purchasing Network, "10 Step Process" (2010); Sustainable Purchasing Leadership Council (SPLC), "Guidelines v1.0" (2015 forthcoming); UNEP, "Sustainable Procurement Implementation Guidelines" (2011).

27 U.S. EPA, "Basic Information: Program Evaluation" (2014). Accessed online January 2, 2015. Available at: http://www.epa.gov/evaluate/basicinfo/index.htm

28 American Evaluation Association, "American Evaluation Association Guiding Principles for Evaluators." Accessed online January 6, 2015. Available at: http://www.eval.org/p/cm/ld/fid=51

29 The UNEP 10YFP SPP Working-Group 2A on Monitoring SPP implementation reviews different approaches for measuring and evaluating the impact of SPP and its contribution to green economy and sustainable development.

In the Working Group 2B project, SPP program outcomes are broadly described as "benefits," to capture the idea that positive benefits can also be created that actually improve the environment, social welfare and add to economic development. Of course, reducing negative impacts is also an important benefit.

Key measurement concepts

While there are many methods that could potentially be used and some calculator-type tools already available, many challenges with measuring SPP benefits persist, as described earlier in this section.

In theory, the way to measure the program benefits is to study what was done before an intervention; what was the invention; and what comes after [6], measuring the difference or delta between the two. Factors to consider in measuring SPP benefits include:

- Consideration of the audience and the level of rigor and data transparency required.
- The time period of the evaluation.
- Whether the results have been already achieved or if they can be predicted.
- The skill, competence, and independence of the team undertaking the evaluation.
- The scope of the analysis informed by:
  - » Policy goals.
  - » Benefit categories selected.
  - » SPP strategies undertaken by the program.
  - » Scope of the program being evaluated.
  - » Degree to which the evaluation will cover downstream and/or upstream impacts.
  - » Access to data.

Setting a baseline [7]

To understand the effects of an SPP program and the benefits achieved, agencies should characterize conditions before the intervention occurred. A mix of qualitative and quantitative methods can be used to set baselines for SPP, including:

- Spend analysis of the goods and services conventionally purchased by the organization.

- Sustainability measurement methods such as LCA and Economic Input-Output LCA.
- Characterization of the social, economic, market, and environmental conditions that the program might reasonably expect to effect.

Identifying the SPP intervention strategies and activities [8]

In the case of SPP programs, the interventions are not just buying green products (though certainly this is typically the main strategy). SPLC identified eleven such strategies, as shown in Exhibit 10.

Exhibit 10. SPP Impact Reduction Strategies

Efficiency

- Reduced impact through reduced use
  - » Example: Implementing a procure-to-pay IT system reduces impacts associated with printing and transporting paper documents.

Process Change

- "Design the impact out" of a process
  - » Example: Air pollution from medical waste incineration is reduced by switching to reusable surgical tools that are steam sterilized.

Servicizing

- Lease rather than buy to align Environmental, Social and Economic (ESE) incentives
  - » Example: Lease carpet so that it is returned to the manufacturer for full recycling.

Product Substitution

- Choose a different product with lower ESE impacts
  - » Example: Chemical costs and workers compensation insurance premiums reduced by switching to green cleaning products.

Supplier Engagement & Accountability

- Engage and hold accountable suppliers with regard to a specific impact
  - » Example: Some universities require apparel manufacturers to conduct independent audits of factory conditions and provide retribution-free grievance and remedy processes.

Supplier substitution

- Choose a supplier with lower ESE impacts
  - » Example: Making evidence of bribery or extortion automatic grounds for suspension of business with a supplier.

In-source

- In-source a function to better reduce impacts
  - » Example: Hiring LEED expertise in-house to optimize and streamline green building across all of org's construction and renovations.

Out-source

- Outsource when an external party can better reduce impacts
  - » Example: Contract out utility bill management to firms that leverage energy market expertise to cut energy and carbon costs.

Offsetting

- Pay for an impact reduction to offset impacts elsewhere
  - » Example: Buying carbon offsets; paying to put land in permanent conservation to offset development of other land.

Behavior Change

- Implement programs to shift attitudes and practices
  - » Example: Voluntary "green office" competitions reduce energy and material consumption, while increasing recycling.

Combining Actions

- Combine multiple actions into a single positive ROI project
  - » Example: An energy efficiency project is combined with a solar project. Energy savings offset the solar costs for a good overall ROI.

Source: SPLC Guidance 2015.
See: www.sustainablepurchasing.org

New SPP practices [9]

Following the intervention, new SPP practices can be expected to be implemented and then measured.

Measuring the outcomes of the intervention [10]

Measurement of the outcomes that resulted from the intervention will depend on the scope of the evaluation, the intervention, and the benefits being measured. A range of different methods and calculators are available.

Factors to consider in measuring outcomes include:

- The entity or stakeholder receiving the benefit (internal, external or both).
- If the benefits is consistent; is it always realized or is it sometimes contingent on other factors?
- If there are multiple benefit outcomes from a single activity.
- If any of the outcomes caused negative as well as positive outcomes.
- Whether the effects are direct, indirect or both.
- Potential rebound effects.
- The extent to which the observed benefit can be attributed to the SPP program.
- Other factors that may explain the observed results.
- Data access and quality.
- If needed or desired, whether the agency can use proxies to indicate the benefits being achieved.

Key communication concepts

Attributing outcomes

To the extent feasible, observed outcomes should be compared with an estimate of what would have happened if the program had not existed; otherwise, the observed changes cannot necessarily be attributed to the program and agencies should be cautious in making such claims. This is known as attribution [11]. Program evaluation is a useful method in understanding the attribution of realized outcomes to program activities.

Contextualizing and translating the results

In communicating on the results of the SPP measurement, contextualizing the results into units and measures that can be comprehended by lay audiences aids in developing an understanding of SPP impacts [12]. Contextualization methods include:

- Converting findings into a common unit, such as expressing an environmental benefit with a dollar amount. For example, energy savings and water use savings are commonly monetized to communicate results.
- Using equivalents and “social math”, such as expressing electricity savings using the number of homes that can be powered for a year by those savings, or the cars “taken off the road” for a year.
- Comparing and benchmarking to other organizations, to previous results, or between business units.
- Comparing the benefits to costs, measuring whether the benefits that have been achieved outweigh the costs. This can be done using a cost-benefit analysis or a return on investment (ROI) methodology.

Factors to consider in reporting on SPP benefits include:

- The degree of transparency concerning the methods, data, assumptions, scope, calculations, and missing information.
- The perceived credibility of the organization or individual conducting the evaluation.
- The perception of neutrality and bias of the results. As with certification and auditing assessments, program evaluations are generally rated higher if conducted by neutral and external experts.
- The format of the reports and communication materials.

Finally, agencies should keep in mind that a good communications strategy starts with the end user of the communications. Factors to consider include:

- Who is the audience?
- What do they want to know, and why?
- What else do they need to know before they can interpret the findings?
- What decisions may be taken as a result of the communication (if any)?

In the case of SPP benefits, there are a range of audiences, some internal to the organization and some external [14]. These audiences differ in hold a variety of different pre-conceptions and biases about the value of SPP, and also vary in their understanding of measurement approaches applicable to SPP. External validation and or recognition can be helpful to meeting the goals of the communication. Communicating effectively to a wide range of audiences may bolster support for continuing and expanding SPP programs.

▷ Conclusions of the baseline study

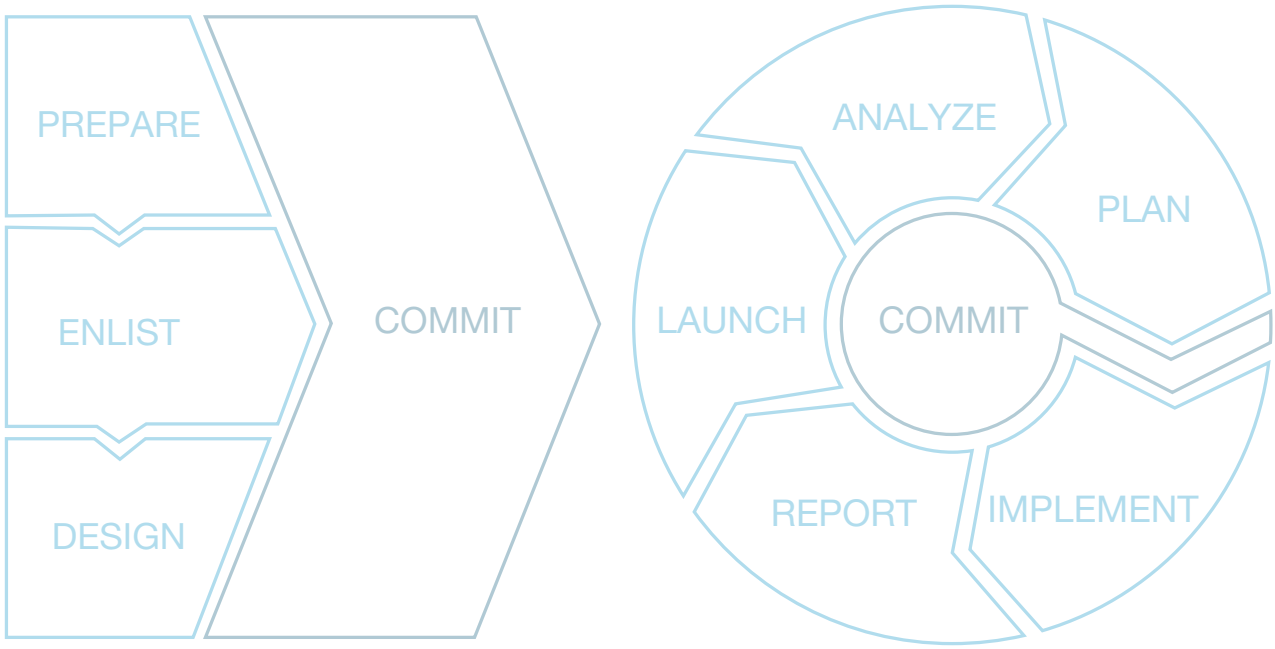
The baseline study formed the initial step in the larger Working Group 2B project, forming the conceptual and methodological foundation for the development of the framework that will help to guide purchasing organizations through considerations in conducting SPP benefit studies and communications.

There are many methods and calculators already developed and being used to analyze SPP benefits. However, even in aggregate, they do not cover all benefits being generated, and oftentimes use different units and underlying methodologies, which challenge users. There are also gaps in the methods and calculators landscape, most notably in measuring social benefits, and benefits to economic and community development.

Existing methods and calculators are also not necessarily designed to capture the sometimes large and important indirect benefits being generated, such as the promotion of innovative and sustainable products and services; or improving how information on the sustainability performance of suppliers and supply chains is improving as a result of purchasers' interest and requests.

While many barriers and challenges to measure and communicate the benefits of SPP surfaced in the interviews and desktop research, we also found many examples where outcomes were measured, and communicated as case studies, reports, or online statements and quotes. Over time, UNEP and SPLC hope to build and share a library of knowledge on the subject to continue to expand collective learning on how to do this, and do it credibly.

The baseline research highlights the need - common to other sustainable products, supply chain, and corporate social responsibility initiatives - for more consistency and interoperability of tools, measurement systems and sustainability communications. Many interviewees stated that a valuable outcome of the Working Group 2B project would be to develop guidance and a common approach to measuring and communicating the benefits of SPP. With this project, we seek to lay the foundations for such a common approach, fleshing out the issues, concerns, and challenges ahead of time so that the problems are clear and the solutions can begin to be developed by member organizations such as SPLC and UNEP and their partners. A common classification of product and service categories of sustainability impacts, outcomes, and benefits indicators would be helpful to those working directly on SPP and to their stakeholders with whom they are communicating. Doing so is but one step in the complex but rewarding journey of transforming purchasing activities into a force for sustainable development.


PREPARE
ENLIST
DESIGN
COMMIT
ANALYZE
PLAN
LAUNCH
COMMIT
REPORT
IMPLEMENT

3. Guidance Framework

The framework presented this this section provides guidance on how to measure and communicate the benefits of sustainable public procurement (SPP). It provides additional specific guidance to each of steps provided in SPLC Guidance v1.0 Leadership in Sustainable Purchasing,[30] and was developed with the support of the 10YFP SPP Programme's Working Group 2B.[31] A summary of the steps described below is provided in Annex 7.

The purpose of the Guidance Framework is provide governmental organizations a set-by-step guide to planning, measuring and communicating on the benefits that they are creating through the implementation of the SPP programs and activities.

Measurement of benefits of SPP programs, and communication about those benefits, is not easily done, and there are many factors to consider at nearly every step in an SPP program's lifespan. The Guidance Framework is intended to provide a comprehensive approach, with guidance of the issues, methods and strategies to consider.

The Guidance Framework is designed to be flexible to accommodate those governmental organizations that are just starting their work on SPP, as well as those already well on the path of SPP implementation, but who wish to improve. Other types of organization outside of government might also find the Guidance Framework useful in their sustainable purchasing work to inform measurement and communications, as well as program design. The Guidance Framework is informed by the hypothesis that if organizations are better able to credibly measure and communicate about the benefits they are generating through their SP programs, they are likely to find more support for their programs, and over time, generate even greater sustainability benefits.

30 SPLC, 2015, Guidance for Leadership in Sustainable Purchasing, v1.0 http://www.sustainablepurchasing.org/guidance/

31 10YFP SPP Programme: See: http://www.unep.org/10yfp/Programmes/ProgrammeConsultationandCurrentStatus/Sustainablepublicprocurement/tabid/106267/Default.aspx

Orientation to the Guidance Framework

This Guidance Framework document is organized to follow the steps provided in the SPLC Guidance 2015. Each section is structured as:

- A brief summary of measurement-related SPLC Guidance v1.0 in each step.
- An explanation of where and how the measurement and communication of benefits supports the work on the SPLC step.
- An elaboration of the benefit measurement and communication recommended steps and guiding questions.
- A specific output (or activity) that the organization will generate if they follow this Guidance Framework.

Background on how the Guidance Framework was Developed

The Guidance Framework presented is based on the following sources:

- The results of the Working Group 2B Baseline Review report and conceptual map.[32]
- Input from participants at an expert workshop held in Washington DC at the US EPA on January 14, 2016 (See Annex 4 for the Workshop Summary Report).
- Input from project partners and working group members provided via email, phone, and webinar.
- A review of working group 2A's recommendations on measuring and monitoring SPP activities.
- A review of the SPLC Leadership in Sustainable Public Purchasing Guidance v1.0.
- Feedback received on an earlier version of the Guidance Framework from Working Group and from those organizations that submitted feedback as part of the project pilot.
- Feedback received from Pilot Participants.

32 O'Rourke et al, 2015, Working group 2B baseline review of measuring and communicating SPP benefits http://www.scpclearinghouse.org/upload/publication_and_tool/file/406.pdf

The Guidance Framework is designed to align the Sustainable Purchasing Leadership Council (SPLC)'s *Guidance for Leadership in Sustainable Purchasing v1.0*, a handbook for strategic sustainable purchasing. More information about the *Guidance* can be found at www.sustainablepurchasing.org/guidance/.

Chapter 2 of the SPLC's *Guidance* includes an explanation of how to create a strategic sustainable purchasing program in four steps:

1. Prepare a vision.
2. Enlist support.
3. Design the program.
4. Commit to the program.

Chapter 3 of the *Guidance* explains how to run a strategic sustainable purchasing program, using a series of "strategy cycles", each of which involves six key steps:

5. Launch the strategy.
6. Analyze and prioritize potential actions.
7. Plan the strategy.
8. Commit to the strategy.
9. Implement the strategy.
10. Report on the strategy.

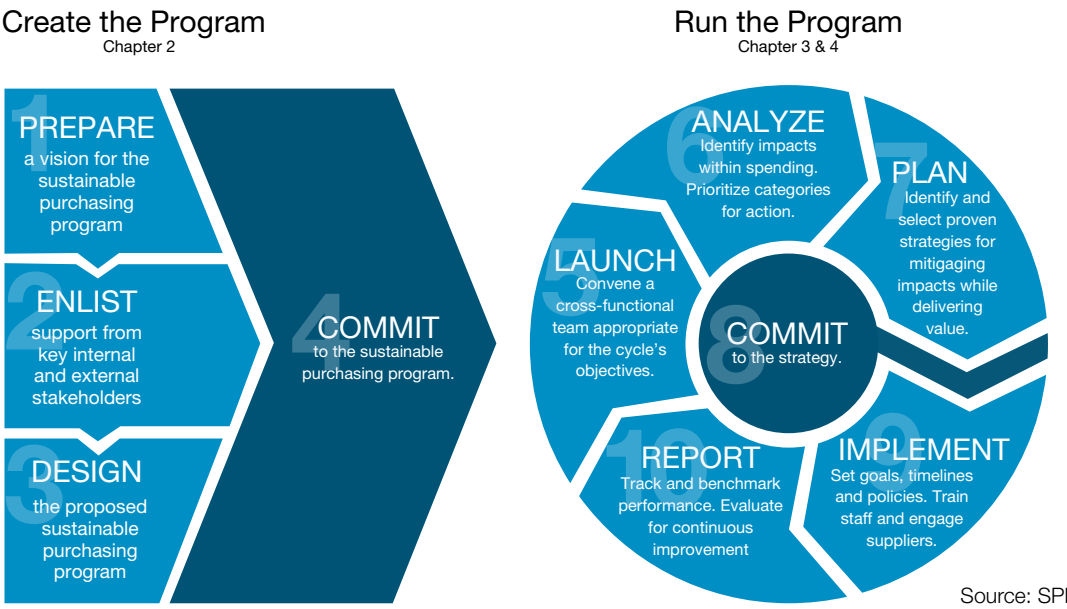
Effective measurement and communication of sustainable public procurement benefits may involve taking actions throughout this process. Therefore, the Guidance Framework is presented on the following pages within the outline format of the SPLC's *Guidance for Leadership*.

Exhibit 11. Key Concepts and Definitions used in the Guidance Framework

The following key terms are used throughout the Guidance Framework, and are defined here to serve as a point of reference.

- ***Benefits*** refer to the outcomes or results achieved by a program in its activities. The term "benefits" is an umbrella term referring to both the positive improvement of economic, social, or environmental conditions, and the reduction of negative impacts on economic, social, and environmental conditions.
- ***External Benefits*** are those benefits realized by stakeholders outside of an organization; for which the organization realizes no immediate and tangible benefit; but are generally considered to be good outcomes and worth pursuing regardless.
- ***Internal Benefits*** are those benefits that are realized by an organization internally; for which the organization gains the benefit itself. For example, cost savings.
- ***Logic model*** is a visual flow chart of program goals, resources, activities, customers, outputs and outcomes. These can be used to illustrate the intent and expected outcomes of a program, and to draw connections between activities and outputs and outcomes.
- ***Outcomes*** are synonymous with "benefits" in the Guidance Framework. Outcomes are the results or effects of the outputs of the SPP program activities.
- ***Outputs*** are the direct products and services delivered by a program. For SPP programs, given that the objective is to do more sustainable procurements, SPP outputs are considered in relation to the procurement activity and can be either procurements with sustainability criteria (e.g. tenders); sustainable products, services or works purchased; contract or purchase with/ from preferred companies; or direct generation of employment opportunities (this one being an output and outcome at the same time).
- ***Program*** is any activity, project, function, or policy that has an identifiable purpose or set of objectives.
- ***Program Evaluation*** is a method for evaluating programs to determine whether, and why, a program is working well or not. Program

Exhibit 12. Overview of the SPLC Guidance for Leadership in Sustainable Purchasing



Source: SPLC, 2015.

evaluations are systematic studies conducted periodically or on an ad-hoc basis to assess how well a program is working, to learn the benefits of a program, and/ or how to improve it. Program Evaluations are often conducted by experts external to the program.

- *Public procurement*. The process whereby public authorities buy or acquire through different contractual means the goods, services, works and utilities needed to execute their operations and services. Other common terms for procurement are purchasing and acquisition.
- *Sustainable public procurement (SPP)* is a process "whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment. Sustainable Procurement seeks to achieve the appropriate balance between the three pillars of sustainable development (i.e. economic, social and environmental). Other common term for SPP is responsible procurement (RP). When the focus is on the environmental aspects, common terms are green public procurement (GPP), environmentally preferable procurement (EPP) or environmentally responsible procurement (ERP). When the focus is on the social aspects, it is often refer as socially responsible procurement (SRP).
- *SPP activities*: any activity or intervention made to a typical procurement or purchasing cycle with the intent of improving the environmental, social and or economic outcomes associated with the purchase. A range of different activities can be considered "SPP" from buying less, to buying "greener" goods and services, to selecting different suppliers that demonstrate better sustainability performance. SPP activities can sometimes take place outside of a formal SPP program.
- *SPP Program*: a policy, action plan or formal mandate shaped as a program whose objectives are to promote and implement sustainable public procurement/purchasing.

For each stage of SPLC's recommended process, information is provided about actions and outputs related to benefits measurement. Together, these actions and outputs form the Guidance Framework for Measurement and Communication of Benefits presented here.

1. PREPARE THE VISION

Preparation is the first step in developing a sustainable purchasing program, and communication about the potential or expected benefits of SPP will support making the case for a dedicated SPP program. In this step of the SPLC Guidance, sustainable purchasing champions: articulate the need for the program, summarize the program's potential benefits, and develop a vision and pathway for achieving those benefits.

Identifying the *potential* benefits that the program may achieve in the preparation step is helpful in securing stakeholder buy-in, and sets the stage for subsequent measurement and communication activities.

Identify relevant benefit categories

At the outset, sustainable purchasing champions face a long list of potential benefits from which to choose. The Working Group 2B's *Baseline Study Report* identified numerous potential economic, environmental, and social benefits of sustainable public purchasing cited in the SPLC Guidance and a variety of other literature.[33] Exhibit 13 provides a partial list, focusing on benefits that may be measured with existing methods and calculators.

The most commonly cited *economic* benefit was cost savings, followed by innovation, regional economic development, and market development for sustainable products and services.[34] Reduced greenhouse gas emissions was the most frequently referenced *environmental* benefit, followed by decreased energy use, reduced waste generation, improved air quality, and efficient use of materials. The most commonly cited *social* benefits were employment opportunities and improved occupational health and safety. Because cost savings are so ubiquitous in the literature, we summarize the different types of potential cost savings in Exhibit 14 that may be most relevant for SPP.

In selecting the specific types of benefits to focus on at this stage, sustainable purchasing champions should consider the alignment between the program's potential benefits and their organization's mission and activities. Program champions should review the list and select those that are most likely to resonate with their particular stakeholders – inside and outside the organization.

To help guide this process, and to prepare for questions that managers and other stakeholders may ask about the program, it may be helpful to think through the following questions:

- Of the benefits listed, what are the priorities for our agency?
  - » How do the benefits align with our organizational goals, policies, and mandates?
  - » How will achieving these benefits support our agency's mission?
- Are there legislative expectations that the program should address?
- What are the internal stakeholder priorities and drivers?
- What are the external stakeholder priorities and drivers?
- Are there other pressing environmental and social conditions that our organization may contribute to solving?
  - » What are we trying to achieve?
- For example, are we trying to: reduce our environmental footprint; lead by example; develop markets; or all of these?
- Are there any results from previous SPP activities we can show to demonstrate benefits already achieved?
- Are there any results from other organizations' SPP activities we can show to demonstrate benefits already achieved?

33 Industrial Economics, Inc., *Baseline Review Report: Measuring and Communicating the Benefits of Sustainable Public Procurement (SPP), A Report for Working-Group 2B of the UNEP 10YFP SPP Programme*, 12 January 2015.

34 Appendix A contains the full list of benefits identified in the Baseline Report.

Classify the benefits and tailor communications

In addition to identifying the program's potential benefits, sustainable purchasing champions should consider *who* will realize the benefits. Classifying benefits as *internal, external*, or *both* will help sustainable purchasing champions tailor their communications to different audiences by identifying the benefits that are most important to each group:

- *Internal* benefits are realized by the organization with the sustainable purchasing program.
- *External* benefits are realized outside of the organization with the program; these include benefits to the public, the environment, or the economy.
- *Internal/external* benefits are realized by both internal and external stakeholders. For example, reduced waste generation is beneficial for the organization with a sustainable purchasing program because it reduces the costs of waste disposal; at the same time, reducing waste reduces demand for landfill space and/or environmental impacts associated with waste incineration, and where waste is diverted for recycling, reducing waste can alleviate pressure to develop virgin feed-stocks.

Exhibit 13. Potential Benefits of SPP (Partial List)

Environmental Benefits

- Reduced greenhouse gas emissions
- Reduced energy, water, and fuel consumption
- Reduced waste generation
- Improved air quality
- Efficient use of materials
- Reduced use of hazardous substances
- Maintains biodiversity

Social Benefits

- Creates employment opportunities
- Improves occupational health and safety
- Improves social inclusiveness
- Promotes economic opportunity for indigenous people
- Promotes equal opportunity employment
- Promotes fair and ethical trade
- Supports small and medium enterprises

Economic Benefits

- Reduces cost
- Promotes innovation
- Promotes regional economic development
- Develop markets for sustainable products and services
- Grows revenue
- Improves reputation
- Reduces risk

Source: Baseline Review Report: Measuring and Communicating the Benefits of Sustainable Public Procurement

Exhibit 14. Types of Potential Cost Savings and Relevance to the Public Sector

- Reduced initial cost
- Reduced lifecycle costs
- Reduced total cost of ownership
- Reduced operating, maintenance, and replacement costs
- Reduced energy, water, and fuel costs
- Reduced waste disposal costs
- Reduced over-specification
- Reduced compliance costs
- Reduced health and safety costs
- Reduced legal and insurance costs

Source: Baseline Review Report: Measuring and Communicating the Benefits of Sustainable Public Procurement and BuySmart Network's Guide to the Business Case & Benefits of Sustainability Purchasing, March 2007.

Start preparing for measurement

While the main focus of the Prepare step is developing a vision for the program and developing material to gain stakeholder support for the program, it is also a good time to begin considering how the program will measure success. Working to ensure that measurement and evaluation are integrated up front (ideally before a project is implemented) is crucial for ensuring that the project will be able to attribute cause to a specific intervention.[35]

35 This advice follows that of the US EPA on Impact Evaluation. See http://www.epa.gov/evaluate/impact-eval/index.htm Accessed Online, March 12, 2015.

As discussed in subsequent steps of the Guidance Framework, measuring benefits is important both to demonstrate a program's impact to current and potential stakeholders, and to inform strategy decisions that can strengthen the program moving forward. To set a strong foundation for these efforts, sustainable purchasing champions should begin to consider the following measurement-related questions during the Prepare step:

- Of the benefits that are most relevant to our program, what can our organization affect?
- Of the benefits that are most relevant to our program, what can our organization measure?
- How do these benefits connect to our policy goals and targets?
- What level of government/scope of agency will the program cover (i.e., what levels of government/scope of activities are we interested in influencing, and measuring, benefits)?
- What resources are available to dedicate to measurement and communication efforts?[36]

▷ Output of the 'Prepare the Vision' Step

The output of the Prepare step is a list of potential benefits that are a) most relevant to the organization and important stakeholders, and b) expected to be measured.

2. ENLIST STAKEHOLDERS

Sustainable purchasing champions can use the list of benefits developed in the Preparation step to enlist key stakeholders.

During the Enlist step, program champions: identify key stakeholders; plan the engagement process; invite stakeholder participation;[37] and finalize the list of stakeholders or continue the process. As part of this process, sustainable purchasing champions should:

- Test assumptions of what benefits stakeholders want to achieve and measure with the SPP program.
- Collect stakeholders' input on the importance of various benefits measures.
- Gather information on the types of communications that will resonate with different stakeholders as the program evolves.

This feedback can provide a basis for deciding on measurement strategies and methods in the Design step.

▷ Output of the "Enlist Stakeholders' Step

The output of the Enlist step is a refined list of benefits measures that resonate with key stakeholders.

3. DESIGN THE PROGRAM

The Design step focuses on developing a shared vision and determining the best pathway for starting an SPP program. During the Design step, the sustainable purchasing champion and key stakeholders hold initial planning discussions about the program's objectives, structure, indicators for success, and resource requirements. This is also a good time to design how the program will measure the benefits it will achieve in more detail.

Formalize the program with a logic model that connects planned activities to outputs and outcomes[38]

This stage is an opportune time for stakeholders to begin to identify and agree on strategic outcomes and pathways to success. To facilitate this discussion, we recommend that program champions develop a program logic model, and gain input on that model from key stakeholders. A logic model is a graphical representation of how a program is supposed to work, which illustrates the connections between a program's activities and desired outcomes. An example of a logic model is provided in Annex 8 of

36 Part of value of taking a programmatic (rather than activity-based) approach is that measurement and reporting of results will be built in to the program.

37 In addition to engaging internal stakeholders, it may be helpful to engage external stakeholders (e.g., business associations, private companies, consumer associations, universities and research centers, and non-governmental organizations), particularly if programmatic goals and evaluation are expected to focus on market transformation.

38 This step of the logic model and planning for program evaluation is a Working Group 2B addition, not currently included in the SPLC Guidance v1.0.

the US EPA's EPP Program Logic Model from 2011.[39] The benefit of drawing a logic model in collaboration with key stakeholders is that assumptions can be clarified and agreement reached on common goals, expected outcomes, realistic measures, and pathways to success.

Define program-level indicators based on the logic model

Program champions, with stakeholder input, should consider what program-level indicators they will track, and for what purposes. While there are many indicators that a program *could* track, we recommend focusing on what is important for the program, who will use the indicators data, and how.

- Purchasing champions should explore differences in the importance and use of various program-level indicators across different audiences. The input gathered on measurement from stakeholders in the Enlist stage, as well as in the creation of a logic model, will provide insight. For example, the organization's SPP team may be especially interested in the extent to which sustainable purchasing is embedded in the institution, internal senior leaders may be interested in internal benefits such as cost savings generated by the program, and NGO partners may be interested in environmental or social external benefits being generated.
- In thinking through various types of potential indicators, program champions and stakeholders should differentiate among at least three different types of indicators: embedment/ institutionalization indicators[40]; output indicators (e.g., number of contracts[41]); and outcome indicators (e.g., greenhouse gas reductions).
- The program logic model can help guide the selection of indicators by highlighting important outcomes, as well as intermediate measures of success. For example, while the program's end goal may be to transform the market to increase demand for more energy efficient appliances and thereby reduce GHG emissions from the use of such appliance, a key intermediate step may is to increase the proportion of energy-efficient products purchased by the agency itself. While it may take years before the program can measure market transformation, it should begin to measure the portion of energy-efficient purchases within a year (or less) of its launch. Therefore, measuring the portion of energy-efficient products purchased can show the program whether it is "on track" to meet its longer-term goals.
- Be aware that most programs will have multiple "intermediate steps" between their activities and their short-term, medium-term, and long-term outcomes. Identifying these steps early on – and agreeing on when different types of results are likely to be achieved – can help program champions and stakeholders prioritize which indicators to focus on at different stages of the program's development.

Consider the scope of what will be measured

In thinking through the design of the program, stakeholders should begin to consider the exact scope of activities/benefits that will be measured. For example, measurement could cover all procurement activities or selected product/service categories. Similarly, they should determine whether or not measurement activities will include purchases through sub-contracts or service-level agreements.

39 Industrial Economics Inc (2011) Evaluation of the EPA's Environmentally Preferable Purchasing (EPP) Program. See Page 1-4 (Exhibit 1-1) See: http://www.epa.gov/evaluate/pdf/pesticides/eval-epp-program.pdf Accessed Online March 5, 2015.

40 As noted in the Working Group 2A report, *Recommendations on Monitoring SPP* (2nd Draft, November 2014), institutionalization/ embedment indicators may include: SPP policies and action plans; leadership and coordination arrangements; identification of priority areas and sustainability criteria; integration of SPP in procedures, platforms and software's; provision of information, training and capacity building; engagement with suppliers; and existing monitoring and reporting mechanisms.

41 As noted in the Working Group 2A report, when monitoring actual publication of sustainable tenders, purchase of sustainable products or contracting of sustainable enterprises, indicators should be expressed as absolute value (total amount) and percentage over all analyzed procurement processes, purchased products or contracted enterprises. The units used should be both in financial value and in absolute number of processes, products or enterprises.

Conduct a preliminary analysis of tracking systems and inventory current and needed data sources for measurement

Program champions and stakeholders should conduct a preliminary analysis of existing tracking tools – including data infrastructure for tracking spending, product use, and/or end-of-life disposal – and identify any gaps that will need to be addressed.

As noted in the 2A Workgroup's report, programs should "prioritize data sources that are directly available, centralize information (e.g., e-procurement platforms), and require the input of the least number of people to minimize errors, eliminate bias and be less time-consuming for the organization as a whole."[42] In keeping with the 2A Workgroup's recommendations, consideration should also be given to how SPP monitoring and reporting requirements will be integrated into existing managerial processes and software.[43]

Lay the foundation for program evaluation

Beyond figuring out what information to track, and how, champions and stakeholders should also consider how the data will be used to measure and evaluate success. In this early stage of program development, we recommend champions and stakeholders begin asking the following types of questions that will pave the way for robust measurement and evaluation:

- How will we set the programmatic baseline to measure our program? In other words, what is the "starting point" from which we will measure changes? More advice on setting baselines is provided in the 'Plan' step (7) below.
- Which expected outcomes or results will warrant a more in-depth assessment (beyond routine monitoring), either because of their importance or due to difficulty in measuring?
- Based on the assumptions in our logic model, what evidence should we collect and analyze to determine our influence on expected benefits?
- What standard of evidence will different stakeholder groups accept? For example, will audiences respond to qualitative narratives or will they expect quantitative data (may vary by audience)?
- Who should conduct evaluation activities? Is there value in an independent review provided by an external program evaluator? The answer will depend on the size of the program, the degree of interest of stakeholders, and the need for external validation of results.

▷ Output of the 'Design the Program' Step

The output of the Design step is a program plan document that captures the group's ideas in a format that can be presented to management. The program plan should articulate the group's shared vision of goals and pathways to success (in the form of a logic model, or otherwise), and a plan for measurement, data gathering, and evaluation of the SPP program as a whole. More detailed planning to implement selected SPP strategies are covered in the "Plan" step (7) below.

4. COMMIT TO THE PROGRAM

The purpose of this step is to win senior leadership/management commitment required for the successful implementation of the program plan. This step involves planning the request, making the request, and announcing the commitment. In addition to securing commitment for the program's activities (as the SPLC Guidance v1.0 recommends), program champions should:

- *Ensure management's commitment to measuring and reporting results.* Program champions, stakeholders, and managers should agree on how they will measure and communicate results. Managers should commit resources to measurement and communication activities when they commit to the program plan.
- *Encourage managers to review and use measurement data as part of a continuous improvement cycle.* For example, once managers have some results from the initial strategy cycle (see below), they should use them as input for the second round of the strategy cycle, and so on.

42 *Recommendations on Monitoring SPP* (2nd Draft, November 2014).

43 As further noted in the 2A report, "When purchases are decentralized, the provision of mandatory reporting requirements and clear instructions to all units on what and how to track and report data is key to ensure consistent and comparable data."

This will help ensure that the measurement data collected by the program becomes a driver for continuous improvement.

▷ Output of the 'Commit to the Program' step

The output of the Commit step is an announcement of senior leadership/management's commitment to the program and accompanying measurement and reporting activities.

5. LAUNCH

As the first step in the strategy cycle, the Launch includes: defining the scope of work to be undertaken in the cycle, identifying and inviting stakeholders, holding a kick-off meeting, and finalizing the scope.

This step provides an opportunity to engage new stakeholders in measurement and communication discussions, which will serve the purpose of refining the program's measurement and communication of benefits.

The kickoff meeting agenda suggested by SPLC Guidance v1.0 should include discussion about plans for measuring and reporting, what results will be measured, and how.

Decisions reached at the kickoff meeting should be reflected in the final scope of work.

▷ Output of the 'Launch' Step

The output of the Launch step should include a plan and budget estimate for measuring and communicating benefits of the SPP program.

6. ANALYZE

During the Analyze step, sustainable purchasing champions: create a shared understanding of spend analysis options; choose spend analysis methods; collect purchasing data; and conduct a spend analysis. Based on their interpretation of the results, and feedback from stakeholders, program champions prioritize areas for strategic focus and planning. Ideally, spend-analysis methods such as EIO LCA44 will be selected that cover impacts over the lifecycle of a product or service; so as to ensure that SPP activities do not result in trade-offs or un-anticipated effects.

A spend analysis can: (1) inform prioritization of product/service categories (as the case is made in the SPLC *Guidance*), and (2) set a baseline for future evaluation of benefits (the focus here).

Use spend analysis to inform the baseline for evaluation

Data collected for a comprehensive spend analysis can also inform measurement of the program's baseline. Setting a measurement baseline is discussed in more detail in the Plan section below, as it forms a fundamental step in being able to measure results.

In brief, the results of a spend analysis recommended by SPLC *Guidance* v1.0 can be used to inform measurement of benefits in the following ways:

- Determining the characteristics, impacts generated from, and purchase categories of conventional spending before an SPP program is launched.
- Determining if in fact any sustainable, socially responsible, and/or green spending is already taking place. If so, that would inform the baseline.
- Highlighting purchasing trends that may affect the measurement results (when completed) – if, for example, there was an overall increase in spending in the period, or an increase in spending in any particular purchasing categories that may influence, augment, or negate the benefits being achieved by the SPP program.
- If the SPP program were to choose to reduce spending as a strategic intervention, then the spend analysis data would be helpful for knowing what was spent before.

44 The Economic Input-Output Life Cycle Assessment (EIO-LCA) method estimates the materials and energy resources required for, and the environmental emissions resulting from, activities in our economy. It is one technique for performing a life cycle assessment, an evaluation of the environmental impacts of a product or process over its entire life cycle. The method uses information about industry transactions - purchases of materials by one industry from other industries, and the information about direct environmental emissions of industries, to estimate the total emissions throughout the supply chain. See: http://www.eiolca.net/

▷ Output of the 'Analyze' Step

The output of the Analyze step should include a spend analysis that provides input to prioritize the focus for planning activities, as well as informing the setting of a measurement baseline.

7. PLAN

The purpose of this step is to develop a strategy plan with one or more projects that address the environmental, social, and/or economic conditions of the purchasing activities prioritized in the previous Analyze step. In the Plan step, the strategy team: selects decision criteria for choosing potential projects; creates, investigates, and refines a "short list" of projects for implementation; creates a timeline, indicators, targets, and milestones; develops a communication strategy; and drafts the strategy document.

Although preliminary planning for measurement was conducted in the Design step for the program as w hole, this step is an opportune time to plan in detail for the measurement and communication of benefits of the selected activities/ projects.

Important measurement considerations include: developing a benefits classification framework; defining the scope and level of measurement activities; developing performance indicators to track progress toward achieving selected benefits; and developing a data collection and reporting strategy.

Develop a framework to classify benefits.

Depending on the number and scale of initiatives in the program's strategy plan, a program may have a long list of potential benefits, and an even longer list of potential performance indicators. Given the time and resource limitations facing many SPP programs, we do not recommend tracking every benefit for every project or activity. Instead, we suggest that programs map their activities to their respective benefits, using the activity-output-outcome connections illustrated in the program's logic model (recommended in the Design Step).

For example, suppose a program has two overarching strategic objectives: (1) reduced greenhouse gas emissions, and (2) improved health and comfort of building occupants and custodians. Based on the prioritization exercise conducted in the Analyze step, this program identified two priority areas: paper and cleaning products. While the program could theoretically track the greenhouse gas and human health impacts of paper and cleaning products, a more streamlined approach would to track greenhouse gas impacts for paper only, and human health impacts for cleaning products only.

Associating a program's purchasing strategies with their corresponding benefits will allow the program to prioritize and track those benefits that are most relevant for each strategy, and that have relevance to stakeholders (based on the input received in the Enlist and Design Steps). Rather than tracking all indicators for every project, the program can focus its attention on the subset of indicators that are most relevant, while minimizing the time and effort to collect data for non-essential indicators.

Define the scope and level of measurement activities for each SPP activity selected.

After defining the benefits associated with each purchasing category, project or strategy, program champions need to further narrow down and plan for the exact level and scope of measurement needed. For example, will the program track cleaning products purchased by cleaning service providers, or only those purchased in-house? Will the program attempt to measure changes in the health and safety of building occupants, or overall improvements in air quality? Will the program focus on purchasing changes within its organization, or will it also attempt to measure changes in the market where it has had an influence?

The following considerations may help program champions think through the scope and level of measurement activities.

▷ Importance

Programs should prioritize the benefits that are most important to measure, but note that different

benefits may be relatively more important to different audiences. For example, managers may be most interested in cost savings, while SPP champions may be more heavily focused on environmental benefits. Also, benefits may be important for different reasons – e.g., to secure or sustain funding for the program, to manage the program more effectively, and to communicate with the public. While the relative importance of benefits will vary across programs, every program should consider importance within this broad context.

▷ Level of control

Programs should also consider the extent to which they can directly influence environmental, economic, and social conditions. In general, outputs and short-term outcomes (e.g., reduction in the volume of paper purchased, and increased rates of recycling within an organization) are more directly within the program's control than long-term outcomes (e.g., transform the market to increase the overall energy efficiency of products made and sold). This does not mean that programs should avoid measuring long-term outcomes; on the contrary, demonstrating long-term results may be necessary to validate the program's purpose and justify existence. However, programs should consider their level of control when setting expectations and performance targets. Also, considerations about levels of control may influence the timing and method of data collection. For example, programs may collect and report their purchasing data on a routine basis, but may in some cases defer quantification of greenhouse gas impacts to more in-depth program evaluations.

▷ Expected timing of outcomes

The fact that many environmental, social, and economic outcomes take time to materialize raises a similar consideration as the level of control. For example, while a program may ultimately seek to influence the market to adopt more sustainable products and services, years may pass between when an organization "greens" its internal purchasing strategy and broader market impacts. To develop their measurement strategy and manage expectations, programs should articulate the expected timing of their medium- and long-term outcomes. If certain outcomes are not expected to occur until well into the future, programs should identify leading indicators – i.e., performance indicators that indicate whether the program is on track to meet its long-term goals based on factors that can drive or predict long-term outcomes. For example, a significant increase in the portion of environmentally preferable cleaning products purchased by a federal government may be a precursor to a similar shift in the consumer market.

Develop SMARRT performance indicators

After associating benefits with each purchasing category and defining the scope of measurement, programs should develop performance indicators (or metrics) for each benefit.

For example, performance indicators for the improved health and comfort of building occupants and custodians may include (among others):

- Changes in the incidence and severity of cleaning-related accidents within a given time period.
- Changes in the percentage of building occupants reporting asthmatic episodes.
- Changes in the annual number of sick days per worker or student.

While individual indicators will vary across benefit categories, we recommend that programs generally follow the principles for "SMARRT" performance indicators, as shown in Exhibit 15.[45]

Note that SMARRT performance indicators can be expressed as absolute measures or efficiency measures. Absolute measures refer to the total (absolute) size of the impact, while efficiency measures express the impact relative to something else. The appropriateness of using absolute versus relative measures depends on the intended use. As noted in the SPLC Guidance v1.0, efficiency measures can be misleading when setting program targets, because activities may be efficient without offering meaningful absolute improvements. On the other hand, absolute

45 In some variations of the "SMARRT" acronym, one of the "R's" stands for Relevant. In other words, performance indicators should address targets that are important, timely, and worthwhile.

measures can also be misleading in some cases, particularly when used to measure performance on an ongoing (or retrospective) basis. For example, if an organization is re-structured and half of its employees now work for a different agency, the absolute volume of paper used by the organization would fall dramatically. However, the volume of paper used per employee might have stayed the same, or even increased, during the same time period. This would be captured in the relative measure of paper-per-employee, but not in the absolute measure of total paper used.

Exhibit 15. Characteristics of *SMARRT* Performance Indicators

Specific

What condition or situation is the program targeting for improvement? How will the program influence the situation?

Measurable

How much influence or change do you expect to achieve (quantify if possible)? How will you know when you achieve your target?

Actionable

What steps can your program take to achieve your target? To what extent can your program influence the outcome?

Results-based

What tangible benefits will result from achieving your target? How will these benefits materially affect the condition or situation you are aiming to improve?

Realistic

How attainable is the target? What is the probability of success?

Time-bound

By what date (or how far in the future) do you expect results to occur?

In general, absolute measures may be useful for setting goals and describing a program's overall impact; efficiency measures can adjust for changes that are unrelated to the program (e.g., a re-structuring of agencies), "smooth" over purchasing peaks and troughs related to budget cycles, and provide an indication of the program's cost-effectiveness (e.g., return on investment).

Programs should also consider practical issues when deciding which performance indicators to track, such as: the availability of pre-intervention and post-intervention data; availability of methods and tools for quantification and monetization; and ability to communicate meaning to stakeholders. If data are not available and are not feasible to collect, the program should balance the importance of the measure with the effort required to collect the indicators data.

Determine a baseline

To measure and attribute benefits of an SPP program and/ or specific SPP program activities, a baseline time frame is needed. This means characterizing the conditions, the spending, the activities, and/or the performance ideally before the intervention occurred, and at a given point in time. A baseline time frame should be chosen carefully, with consideration given to the following key factors:

- The type of benefits you seek to measure and communicate.
- The indicators you will to measure against.
- The availability of data.
- When the significant SPP activity is expected to occur or already occurred.
- The type of method you intend to apply in order to measure the baseline.

Ideally, a baseline is chosen and data collected prior to the initiation of the program or the activities. If this is not feasible, baseline data should be collected as soon as possible.

Often, programs and program activities have already commenced before measurement activities take place. For organizations that have implemented

various SPP activities already, a baseline should still be chosen. Keep in mind that some of the measured benefits may have occurred due to a mix of previous and current previous activities (as well as due to other drivers). It can be helpful to look at the trends that were already underway before the SPP program started. For example, if the portion of "green" product purchases within an agency has risen by 5% per year for each of the last 3 years, this should be factored into the evaluation of the program's impact. If the SPP program gets underway today, and a year later, an evaluation finds that green purchasing increased by 5% from the previous year, you cannot attribute that 5% to the program in absence of clear data to the contrary. While it might be tempting to claim the 5% as an indication that the program is successful, really this should be tempered by the fact that green spend was already rising by 5% per year even before the program started.

A baseline can be set as be a single point in time (such as a given month, year) to provide a snapshot, or can be set for a longer period of time (for example, an average over multiple years).

Exhibit 16. Examples of Absolute and Relative Indicators

Benefit (internal)

Improved health of building occupants

Indicator

Total number of sick days (absolute measure); sick days per occupant (efficiency measure).

Benefit (external)

Reduce contribution to climate change

Indicator

The absolute volume of CO_2 emissions associated with paper (absolute measure); or paper-related CO_2 emissions per employee (efficiency measure).

Programs can also set different baselines for different product categories if work on these categories started at different times.

Another option is to choose a baseline year that is in the past, however be advised that the further back you go, the harder it can be to find relevant data to form the baseline. In general, we recommend setting a baseline only one or two years prior to the SPP activity, and no more than five years in the past. If baseline data exist prior to the start of a project or activity, additional data collected over the life of the project should be collected in a consistent manner in order to facilitate comparisons.

Characterize the baseline conditions

A mix of qualitative and quantitative methods can be used to characterize or describe the baseline conditions for SPP. Methods and data gathered to form the baseline should fit to the overall goal and mission of the SPP work, the expected benefits being measured which are recommended to have been scoped in the planning and design steps above. For example, if the goal is to reduce the carbon footprint of the organization through its purchasing of green electricity, then the baseline that is measured would be the carbon footprint of the organization's spending on conventional electricity sources prior to the SPP activity. If, for example, the goal of the organization is to more broadly influence industry towards creating more sustainable products and services, then the baseline would be formed by a market characterization of the conventional products and services' available on the market in the baseline year.

In general, the greater the specificity of the program goals and definition of "sustainable" goods and services purchased, the more concrete the benefits measurements will be. This will enable the measurement of "green" versus "non-green" spending by purchase category.

Develop a data collection and reporting strategy

Program champions also need to consider how they will obtain and use the data required to

assess progress on each performance indicator. Consideration should also be given to the data's intended use. Addressing these issues in the early stages of the program can avoid significant time and cost later on. We recommend that programs develop a data collection and reporting strategy that includes the following elements for each category/activity in the strategy plan:

- Standard product/service categories and benefit categories.
- Expected benefits – internal, external, or both.
- Link between benefits and organizational goals.
- Assessment of pre-intervention (baseline) conditions.
- Definition of the intervention and scope of the SPP activity.
- Performance indicators.
- Measurement methods (see Annex 5: Landscape of Methods and Calculators for Measuring SPP Benefits).
- Data sources and reporting responsibilities.

Regarding the last point, we encourage programs to follow the 2A Work-Group's advice: "Consider the integration of the monitoring in the awarding process of each tender to allow the collection of relevant data in a routinely manner, reducing the monitoring burden."

To ensure consistency in reporting across vendors and over time, we suggest that programs develop and use a standard reporting template for each product category. The report can be developed in a simple Excel spreadsheet, and the reporting requirements should be referenced in the tender document (see Exhibit 17 for an example). The program should also consider ways to enforce the reporting requirements – for example, by providing incentives for timely reporting, and/or withholding payment until the required data are received. For one-time orders, it is preferable for public agencies to have an e-procurement system that collects these data, and save vendor reporting for contracts where vendors are providing continuous orders of goods/services.

The data collected from awardees should be stored in a database to preserve the data and facilitate analysis. We recommend an electronic database that is widely known and used such as MS Access.[46] While the structure and content of the database will vary across programs, in general, we recommend the following design principles:

- *Use the database to categorize projects/ activities and identify benefit categories.* As discussed above, we suggest that SPP programs develop a classification framework that assigns specific types of benefits to specific purchasing categories, projects, or activities. Programs may use a database to assign projects to the appropriate categories, and to ensure that performance indicators associated with the most

46 We recommend establishing the data system as early as possible. While programs may upgrade their systems over time, it should be noted that changes in tracking systems during the course of the strategy cycle may require retraining staff in the new system, and may complicate efforts to compare data before and after the upgrade.

Exhibit 17. Example Reporting Requirements

The contractor/supplier must document that the products supplied under this contract comply with key environmental criteria noted above. On a quarterly basis, the supplier shall submit a Product Worksheet to the Contracting Officer. The report shall include:

- Contractor
- Date of solicitation
- Product or service type
- Model
- Number of sustainable units sold
- Price per sustainable unit
- Number of non-sustainable units sold
- Price per non-sustainable unit
- Total cost – sustainable products
- Total cost – non-sustainable products
- Supporting information for sustainable products (e.g., eco-label certified, and name of the eco-label)

relevant benefits are prioritized over other, ancillary benefits. For example, once the program specifies the relevant benefits for a particular project, the database should only require performance data for the selected benefit categories. This approach minimizes the time and effort spent collecting data for tertiary benefits; in addition, automating the classification process ensures consistency in how projects are classified.

- *Capture changes in project status and performance while preserving original records.* In most cases, for each selected performance indicator, programs should collect baseline data at the outset and review performance data on a periodic basis (e.g., quarterly). This will enable programs to measure and communicate how values for key indicator have changed since the baseline. The database should allow the program to create a new record when conditions change, without overwriting the previous records. In other words, the database should contain multiple records for each project – one record for each point in time (i.e., the baseline value and each quarterly observation), and the date when the record was created. Preserving earlier data is essential for conducting trend analysis and measuring impacts.
- *Assign each project, activity, and/or contractor a unique identifier.* To locate all of the relevant information for a given project, activity, or contractor quickly and reliably, each entity should be assigned a unique identifier. This eliminates the need to manually search through records, and avoids problems that typically result from manual data entry. Assigning unique identifiers allow programs to query all relevant information from the database for a particular entity.
- *Use the database to facilitate reporting and analysis.* To help ensure data quality and make reporting easier, programs may develop automated queries and standard reports for key performance indicators. For example, in MS Access, queries can be written (and saved) to show cumulative purchasing data, and/or new purchases since the previous quarter. These queries can be run on a periodic basis without considerable time or effort, as opposed to developing new reports from scratch each time. In addition, queries can be used to identify potential issues with the quality of the data. For example, a query could flag purchases that exceed a maximum value (e.g., $1,000 per quarter), thereby alerting program managers to possible reporting errors.

  The level of analysis and sophistication of the database will depend on factors specific to each program, such as program size, tracking and reporting needs, and access to financial and technical resources. Programs can tailor the approaches outlined in this section to their specific organizational needs and capabilities.

▷ Output of the 'Plan' Step

The output of the Plan step is a strategy plan with timelines, indicators, targets and milestones, baseline set, data and reporting templates, a reporting database, and a communication and reporting strategy given the different timelines.

8. COMMIT TO THE STRATEGY

This is the second round of commitment suggested by SPLC Guidance v1.0. The purpose of this step is to obtain and maintain the management support required for the successful implementation of the plan.

This should include a commitment to measuring and communicating benefits.

▷ Output to the 'Commit to the Strategy' Step

The output of the Commit to the Strategy Step is to ensure that measurement and communication of benefits is a part of management's commitment to the strategy.

9. IMPLEMENT THE STRATEGY

In this step, the program implements the activities in its strategy plan.[47]

Ensure that data are collected in accordance with the plan

The main focus of measurement activities in this stage is to ensure that data are collected in accordance with the plan. As noted above, we recommend to continue collecting "green" and "non-green" spend data to enable comparative analysis, and adjust for fluctuations in the purchasing cycle.[48]

On a periodic basis (for example, once each quarter), program champions (or their staff) should review the data generated for completeness and quality. By "completeness," we mean that all data that should be available are available: the e-procurement system is providing data as planned and/or suppliers (contractors) report all of the data they were required to report. If data are overdue or missing, the program should follow up to fill in the gaps. By "quality," we mean that the data make sense and tell a logical story. While data-quality procedures may vary in their level of sophistication and rigor depending on the organization, even a relatively cursory check can help identify anomalies and ensure accuracy.

For example, if an awardee who typically provides $1,000 of a product each month suddenly reports $10,000, this may reflect a typographical error rather than an actual jump in sales. On the other hand, if an awardee reports identical information in multiple reporting periods (e.g., 1,002 units sold in each of the last three quarters), this suggests the awardee may be "auto-filling" (or copying and pasting) data from previous reports. In either case, the program should follow up with awardees to ensure the data are accurate and current. As discussed in the Plan step, an electronic database can support reporting and analysis, including reviews of the data to ensure completeness and quality.

47 The SPLC Guidance, Version 1.0 provides implementation guidance mainly in the purchasing category section (Chapter 4); however, here we emphasize program-level measurement implementation issues.

48 For example, an organization with a five-year capital budget might purchase most of its computers in the first two years. Looking only at "green" (e.g., EPEAT) computer purchases would show a drop in "green" purchasing in years 3-5. Looking at EPEAT purchases as a percentage of total purchases would control for fluctuations in spending patterns.

▷ Output of the 'Implement the Strategy' step

The output of the Implement the Strategy step is to generate data about the SPP program's implementation activities to inform the measurement and communication of benefits that are achieved over time.

10. REPORT RESULTS

In this step, the program reports on the results achieved for each indicator in the strategy plan during a specified timeframe (e.g., the previous year).

The Working Group 2B Baseline Study and feedback from workshop participants highlighted a number of issues and recommendations for reporting and communicating on SPP benefits. Here we identify the main themes and provide guidance for each area.

Assign attribution

To the extent feasible, observed benefits should be compared with an estimate of what would have happened if the program had not existed; otherwise, the observed changes cannot necessarily be attributed to the program and agencies should be cautious in making such claims. For example, if a new law that requires sustainable product manufacturing was passed during the same timeframe in which the SPP program was rolled out, the benefits may not be (entirely) attributable to the SPP program. And as mentioned previously, if your agency has trend data on green vs. non-green spending prior to SPP program, that trend data may also provide insights into the role of the program in changing purchasing behavior. Programs should be especially attentive to attribution issues when reporting on indirect benefits, such as

health improvements or economic/market effects, as there may be numerous factors that contribute to an observed change. Program evaluation is a useful method in understanding the attribution of realized benefits to program activities. If evaluation is not feasible, results should be reported with the caveat that they cannot necessarily be attributed to the SPP program. See additional of evaluation below.

Contextualize and translate the benefits

In communicating on the benefits of the SPP program, converting the benefits into units and measures that lay audiences can understand aids in developing an understanding of SPP benefits. Contextualization methods include:

- Converting findings into a common unit, such as expressing an environmental benefit with a dollar amount. For example, energy savings and water use savings are commonly monetized to communicate internal benefits to an organization. To the extent you can monetize your results, you can get to common units and compare apples to apples across categories.
- Using equivalents and "social math," such as expressing electricity savings using the number of homes that can be powered for a year by those savings, or the cars "taken off the road" for a year.
- Comparing the benefits to costs, and measuring whether the benefits that have been achieved outweigh the costs. This can be done using a cost-benefit analysis or a return on investment (ROI) methodology.
- Aggregating results across projects. This depends on being able to convert benefits into common units; in addition, care should be taken to avoid "double counting" (i.e., reporting the same benefit more than once).

Benchmark

Results and evaluation methods can be compared to other organizations as a learning tool for future strategy-cycles and planning for measurement and evaluation. Comparing and benchmarking to other organizations, to benefits achieved in previous years by the same organization, or between business units can shed insight into what is achievable. Care should be chosen in selecting a relevant benchmark – an organization with a similar spending size and profile is ideal, as is one that uses a common measurement framework and indicators.

Report on SPP benefits

Factors to consider in reporting on SPP benefits include:

- The intended effect of your communication (e.g., to maintain or increase funding, to influence policymakers, etc.).
- The degree of transparency concerning the methods, data, assumptions, scope, calculations, and missing information.
- The perceived credibility of the organization or individual doing the reporting.
- The perceived neutrality/bias of the individual or organization conducting the evaluation. As with certification and auditing assessments, program evaluations are generally rated higher if conducted by neutral and external experts.
- The format of the reports and communication materials that enable non-expert audiences to appreciate the benefits being achieved and the value of the program relative to other activities and policies.

Seek external recognition

It can be very helpful to SPP programs to gain external recognition for the results being achieved. The planned SPLC rating system or other such independent bodies will help to provide such recognition and validate the approaches taken.

Tailor communications to diverse audiences

Finally, agencies should remember that a good communications strategy starts with the end user of the communications in mind. Factors to consider include:

- Who are the audiences for the communication?
- What do they want to know, and why?

- What else do they need to know before they can interpret the findings?
- What decisions may be taken as a result of the communication (if any)?
- Would they find external validation and/or recognition from a third party important?

In the case of SPP benefits, there are many audiences, some internal to the organization and some external. These audiences hold a variety of different preconceptions and biases about the value of SPP, and also vary in their understanding of measurement approaches applicable to SPP. Programs may want to provide layers of information and in different formats, tailored to the specific needs of different audiences. External validation and/or recognition can be helpful to meeting the goals of the communication. Communicating effectively to a wide range of audiences may bolster support for continuing and expanding SPP programs.

▷ Output of the 'Report Results' Step

The output of the Reporting step is a tailored, clear, contextualized, and credible communication and reporting of the SPP benefits achieved.

11. ADDITIONAL STRATEGIC CONSIDERATIONS

We identified additional strategic considerations for measuring and communicating SPP benefits, and SPLC expects to more fully integrate these considerations into future versions of its *Guidance*.

Use program evaluation to support strategic planning and communications

Program evaluation involves a systematic study of how well a program is working and why. While performance data alone show *what* is happening, program evaluation explains *why* the program is (or is not) achieving its goals.

Evaluations can support learning and program improvement by identifying:

- The extent to which a program is achieving its goals.
- Which program designs are most effective.
- What could make the program more effective and efficient.

In addition, evaluations can address attribution in ways not possible with performance data alone – by looking at other factors (outside the program) that could be influencing results, and using a rigorous methodology to assess the program's contribution to observed outcomes.

Evaluations can also support accountability, by showing whether a program did what it said it would do, how well the program is working, and what results have been achieved. In this context, managers or external stakeholders may use the evaluation results to make funding decisions. In the context of government programs that utilize taxpayer funds, ensuring accountability is especially important.

In some cases, having results reviewed and validated by an external third party evaluator helps to build the case for the program, providing more certainty on the benefits measured and reported. Analogous to gaining third-party audit or certification, an independent organization can either be contracted to conduct the evaluation or to check the results prior to publication. External evaluators can review methods, check calculations, validate assumptions and provide greater certainty to the effort, lending their name and credibility to the results reported.

How evaluation results are communicated depends on the evaluation's primary purpose and audiences. If the evaluation's primary aim is to support management decisions, the results may be kept internal to the organization that commissioned the study. If the evaluation is intended to support accountability and funding decisions, the results may be shared with senior managers, external funders, policymakers, or the general public. The format of the results also depends on the audience's needs. For example, senior managers will likely prefer a PowerPoint briefing, while the SPP champion and staff with day-to-day implementation responsibilities may be interested in the full report. Similarly, executive

summaries and fact sheets may meet the needs of external funders; however, program staff might prefer an interactive (electronic) format that lets them "drill down" and manipulate the data. In general, the communication principles discussed above also apply when communicating evaluation results.

Use measurement as a management tool to support continuous improvement

As programs gain experience with measurement, they should build to using measurement as a management tool to inform strategic decisions. For example, measurement data can show program managers whether they have achieved, exceeded, or missed their targets in particular areas. Thoughtful use of measurement data can support a portfolio management approach – e.g., by guiding managers to expand activities in successful areas, address persisting barriers in underperforming areas, or to exit categories with barriers that are beyond the program's ability to influence.

Using measurement data to support management decisions requires taking a step back to reflect on the results. While this can occur at any point in the strategy cycle, it may be particularly timely during or immediately after the Report step, prior to launching the next strategy cycle. Discussions should include program managers, the SPP champion, implementation team members, strategy team members, and other key stakeholders. Programs may find it beneficial to compile relevant data into tables, charts, graphs, and/or bullet points prior to the discussion; questions and decisions during the discussion should be memorialized in a memo or short report. Ultimately, strategic decisions based on the measurement data should be reflected in the next strategy cycle.

Increase the sophistication of measurement activities as the program builds up experience, data, and expertise

Like sustainable purchasing itself, measurement of SPP benefits should be refined and strengthened through ongoing learning and experience. Organizations that are new to sustainable purchasing and measurement might want to start with a relatively streamlined set of benefits, indicators, and tracking systems. Over time, programs may identify new measurement needs – and capabilities – based on knowledge gained during implementation. Measurement can be timed to correspond to the program cycle; for example, as a program assesses results at the end of its first strategy cycle, it should also consider ways to refine or expand its measurement activities. Mature programs may already be conducting measurement activities, but they too can benefit from new data, tools, and experience. In either case, the program should continually reassess and refine its approach to measuring SPP benefits just as it continually assesses and refines its strategies.

▷ Output of the 'additional considerations' steps

The outputs of the additional measurement steps include: program evaluations conducted periodically to provide accountability and improve program performance; use of measurement to inform continuous improvement and planning for further SPP program activities; and increased sophistication in measurement and communication.

4. Pilot Questionnaire Results

About the Pilot

Members of the Working Group 2B piloted the Guidance Framework to test its utility, gaining input from different types of organizations.

Two types of pilots were designed, each requiring a different level of work by pilot participants:

- *High Engagement Pilot*: Project staff benchmarked the Guidance Framework to the outcomes measurement work that was produced by the participating government agency. Only one participant, KEITI, Korea chose this option, however, analysis of the material supplied by KEI was not conducted and reviewed in time to be included in this Report. It will later be provided as an additional Annex to the study.
- *Low Engagement Pilot*: Working Group participants and other members of the SPLC and UNEP 10YFP SPP Programme were invited to Pilot participants reviewed the Guidance Framework (or a portion of it), and provided feedback via an online questionnaire.

There was no cost associated with participating in either type of pilot. Exhibit 18 lists the organizations that participated.

Exhibit 18. Participants in the Guidance Framework Pilot Survey

Organization	Name	Country
CEGESTI	Sylvia Aguilar	Costa Rica
China Environmental United Certification Center	Wang Cheng	China
Collaborating Centre on Sustainable Consumption and Production (CSCP)	Johannes Reidel	Germany
ECPAR	Audrey Some	Canada
Green Purchasing Network	Gakuji Fukatsu	Japan
Green Purchasing Network India	Romil Bajaj	India
Independent expert	Cristina Gazulla	Spain
Indian Railways	Sanjay Kumar	India
Korea Environmental Industry and Technology Institute	Hyunju Lee	Republic of Korea
OECD	Despina Pachnou	France
SCPRAC	Dafne Mazo	Spain
State of California, Department of General Services	Charleen Fain Kelser	USA
Swedish Competition Authority	Annie Stålberg	Sweden
U.S. General Services Administration	Kevin Funk	USA

Exhibit 19 shows the range of stakeholder types that the fourteen pilot respondents represented.

Pilot Results: Questionnaire

The following section summarizes the results of the Questionnaire. Minor adaptations to The Guidance Framework, presented in this report, we subsequently made.

Exhibit 20 shows that most pilot respondents replied that relative to other issues in SPP, the measurement and communication of benefits is "very important, we need to focus on it." Of course, we should caution that the response is based on the small sample size of those participating in the pilot, and is subject to the self-selection bias given that participants volunteered to participate in the Working Group 2B project and pilot.

Several pilot respondents recognized that the Guidance Framework needed to be general covering many of the measurement and communication issues that may surface for public sector organizations, but that these organizations vary widely in the degree of

Exhibit 19. Pilot participants' perspectives

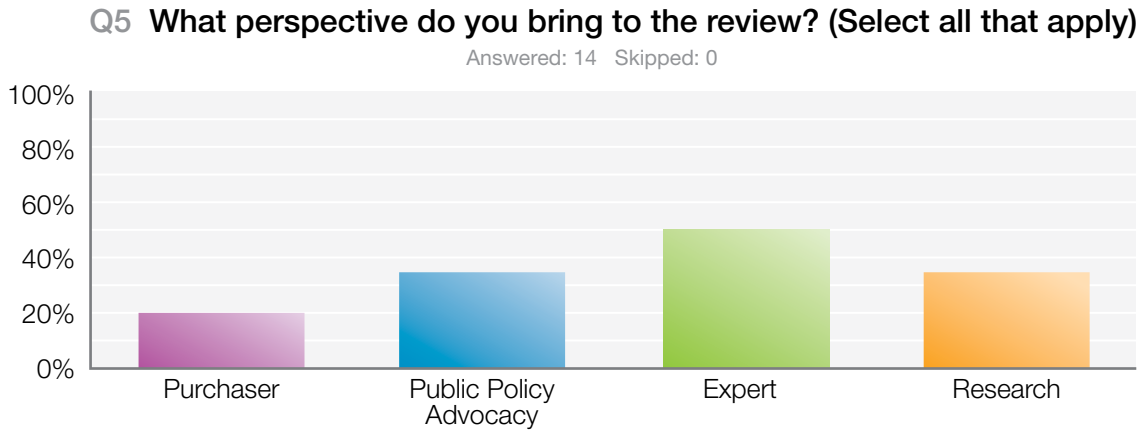
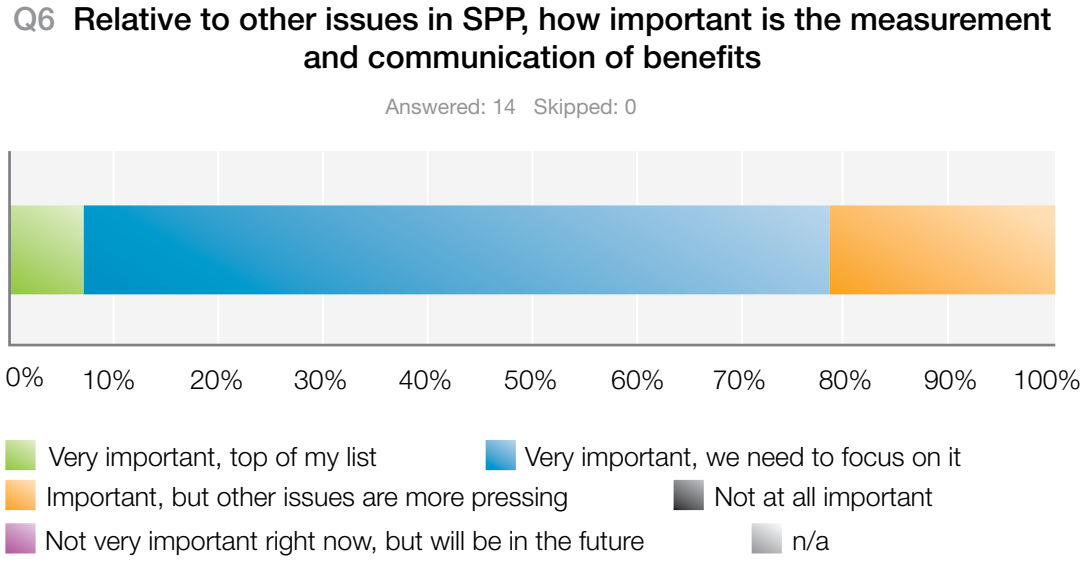


Exhibit 20. Importance of topic relative to other SPP issues



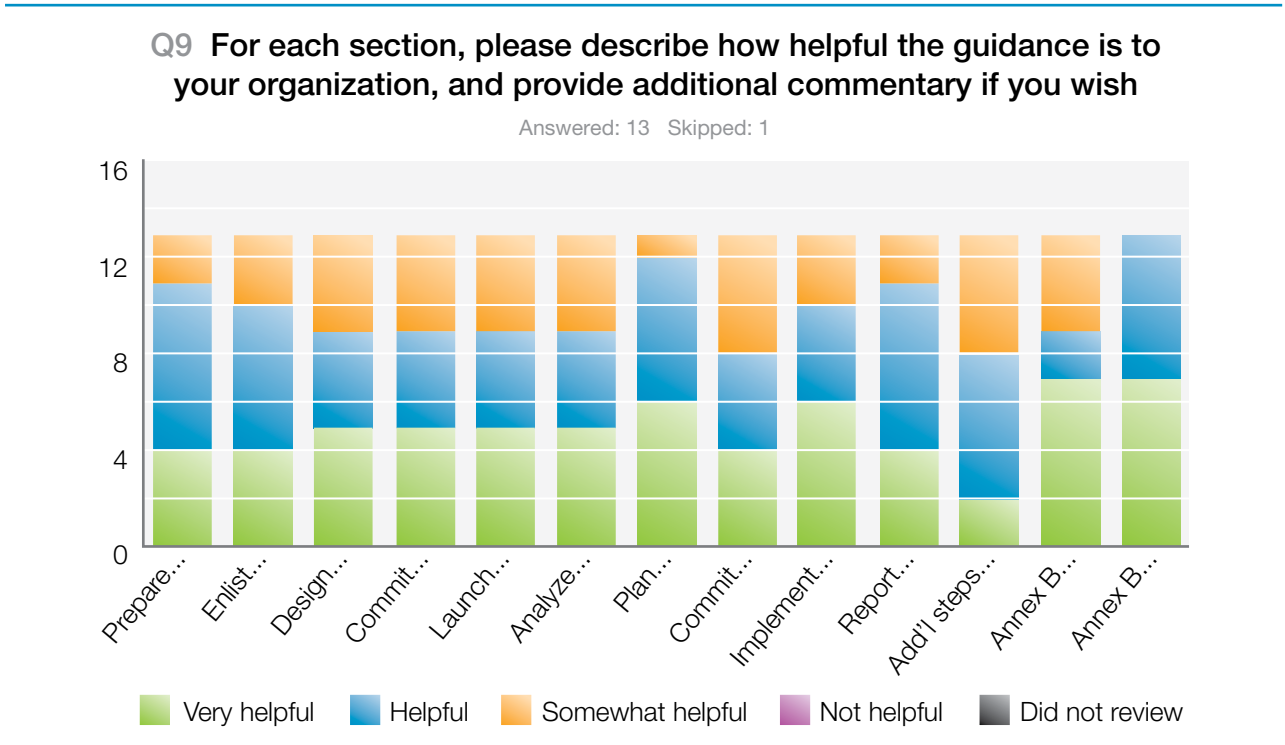
sophistication of their SPP programs, as well as the resources (budget and staff time) available to dedicate to the purpose of measuring and communicating SPP. For example, one respondent wrote that: "*The Guidance was useful for us, but we need to adjust it to our specific circumstances.*" Another respondent stated that "*More clarification on how different governments can uniformly measure and/or rate their leadership in sustainability purchasing given different economies, laws, processes and impacts would be helpful.*"

Some helpful suggestions were also made for conducting additional research and development of the Guidance Framework, and tailoring it to better fit specific audiences, either regionally, by size, and/or by type of organization using it.

Some of the more specific findings included:

- The pilot questionnaire asked whether the structure of the Guidance Framework was "logical and easy to follow." The vast majority (82%) of respondents agreed that it was logical and easy to follow. One respondent commented that their existing knowledge of the SPLC Guidance helped, and that for newer to the field, it may be confusing as the Guidance Framework assumes knowledge of the SPLC strategy cycle approach, which is a larger topic. One respondent recommended greater integration of references in the Guidance Framework to the tables provided, as this information is valuable and shows what methods and tools are already available. Other recommendations on structure included providing short case examples throughout the text to illustrate key concepts with real world examples, and to further engage the reader in the topic.
- We asked respondents to consider, for each section of the Guidance Framework, whether the material provided was "very helpful, helpful, somewhat helpful or not very helpful" to their work. Exhibit 21 shows the results by Section. On average across all sections, the Guidance Framework was considered by respondents to be either very helpful or helpful 70 percent of the time. No one section was selected as "not very helpful" by any pilot participants.

Exhibit 21. Results of the Section-by-Section review of the Guidance



The five sections of the Guidance Framework that were considered to be the most helpful (that were selected the most often as either very helpful or helpful by participants) were:

- Section 1. Prepare the Vision.
- Section 7. Plan.
- Section 9. Implement.
- Appendix A: Landscape of methods and calculators for measuring SPP benefits by type of benefit (now found in Annex 5)
- Appendix B: List Calculators for Measuring SPP Benefit (in this report, this information is provided in Annex 5).

There were mixed opinions as to the utility and scope of the information provided on Landscape of Methods and Calculators for Measuring SPP Benefits and this information was also nominated the most often as needing further work in a subsequent question. Several respondents found that the information was very helpful, while one respondent commented that it was too biased towards English language sources and US specific approaches. For example, one respondent recommended that "*benefits should have a specific method clearly explained (or if the method does not exist some further explanations about its difficulties of implementation).*" Another responded commented that "*some of the benefits (e.g. avoids supply chain disruption, grows revenue, reduces risk, improve supplier engagement, etc.) are not easy to understand as to how they relate to SPP*".

Other recommendations for future work on this topic have been incorporated into the "Next Steps" section of the Report below. Recommendations from the respondents included:

- Researching and documenting more examples of SPP benefits measurement and communications by different governmental agencies (several respondents made this suggestion).
- Researching and creating country-specific versions of Annex 5 (methods and calculators) showing the specific calculators, metrics, or processes that are required by that country in its SPP implementation.
- Improve the integration and explanation of methods in Annex 5 (methods and calculators), with more detailed explanations of the methods and how they could be applied to SPP program measurement.
- Provide more advice on gathering data using existing e-procurement platforms.
- Further investigation into social benefits metrics and methodologies.
- Research the unit cost/price of environmental resources and pollutants at the global level.

5. Next Steps: Recommendations for Future Research and Work on SPP Outcomes

The Working Group 2B project delivered Guidance Framework that provides recommended steps for measuring and then communicating the outcomes of SPP programmes, following the key steps for SPP programs as provided by the SPLC Leadership in Sustainable Purchasing Guidance.

While the Guidance Framework – and the baseline review that preceded it – covers the key concepts and factors to be considered, addition research and development work would augment and improve its utility. Further testing and refinement would also help to make this a more practical guide for a range of organizations. Further detailed instruction on 'how to' apply some of the specific methods, metrics and calculators would help public agencies, as well as other types of organizations, utilize existing tools. And more short and long case studies of organizations that have done this work would help bring the Guidance Framework "to life." All of these recommendations would serve SPP leaders in overcoming the many and various barriers to conducting this work that the Baseline Review described, and help organizations to better measure and communicate the benefits their sustainable purchasing activities.

In this section, we provide some thoughts on future directions for this work.

▷ Further research and methodology development

- As many organizations, including the public sector, face pressure to demonstrate the economic benefits of their sustainable purchasing work, further research into how and when *economic benefits* may be achieved would be especially helpful in making the case for SPP. These benefits should be balanced by research also into costs, so that SPP practitioners can make a realistic and robust case for action, grounded in sound economic argument. Case examples of SPP savings achieved would complement this work; and illustrations of how to use existing cost calculators and gather evidence would also be helpful in building up the "business case" for SPP, where it exists.
- Similarly, given the current policy focus on climate change and GHG emissions, an opportunity exists to focus in on the benefits being generated by SPP programs in *reducing GHG emissions,* encouraging low or no-carbon alternatives, and ultimately contributing to global climate change mitigation efforts. Leading into the COP 21 deliberations in 2015, policy makers –armed with data on how their organizations are 'leading by example' and helping to transform markets for climate friendly products-- are well positioned to make the case for stricter limits on the known causes of climate change.
- As was shown in the Baseline Review, more work needs to be done in investigating and building methods to measure and communicate on *social benefits* being generated by SPP. As data sources and impact categories are oftentimes different than for environmental benefits, it may make sense to launch a work stream specifically on social impact and benefit measurement, and to build up a library of viable case examples from around the world.
- Further guidance on how to *effectively gather and analyze data* is of interest to many SPP practitioners, especially those trying to work on setting baselines, and measuring and communicating benefits. Research could take a closer look at data collection practices from a range of large and small public agencies, and for- and non-profit organizations. As information technologies and e-procurement systems revolutionize the practice of procurement, it opens up an opportunity for greater insight into

SPP outcomes. However, for many organizations, it also poses somewhat of a challenge as the sheer quantity and complexity of spend-data can be difficult to triage.

- Develop a common classification of product and service categories of sustainability impacts, outcomes, and benefits indicators would be helpful to those working directly on SPP and to their stakeholders with whom they are communicating.

▷ Further Testing and Adaptation of the Guidance Framework

- One immediate outcome of the Working Group 2B project is that sections of Guidance Framework and Annexes will be integrated into a revised version of the SPLC Guidance for Leadership in Sustainable Purchasing (following review and agreement by the SPLC Technical Advisory Committee). The SPLC Guidance is intended to lay the groundwork for a future rating system, that aims to evaluate and recognize leadership in sustainable purchasing practices, across organizations[49]. Part of the SPLC rating system will be an evaluation on how well organizations have measured and communicated the benefits they generated from their work, and then will evaluate the actual outcomes and benefits that were generated by their sustainable purchasing activities. Further work will be done by the project team to ensure that relevant concepts from the Guidance Framework generated here are considered by the SPLC, and that some of the technical and organizational barriers articulated in the Baseline Review are also considered in that process.
- Two of the pilot respondents recommended that the Guidance Framework could be made more useful if it was adapted and refined to suit their specific country, size of agency, and region. Different guidance documents, based on the same framework document, could be developed and refined by stakeholders to improve its utility and better match country-specific and or regional policy priorities. In doing so, it would be nonetheless helpful for benchmarking and comparison purposes, if each Guidance Framework used the same metrics and measurements, as well as the same basic framework. Likewise, private sector and non-profit sector versions of the Guidance Framework could be produced.
- Several pilot participants and experts from the workshop recommended that a more interactive version of the Guidance Framework be created. This would enable SPP practitioners with different levels of expertise in the subject to navigate the Guidance Framework and find the sections and or tools or examples that are most helpful to them.
  - » For example, if an organization determines that they wish to focus on GHG emissions and cost savings, the relevant methods, metrics, tools and cases could be shown to them. This filtering of information would help to streamline the Guidance Framework and make it more accessible to technical and non-technical audiences.

▷ Further Testing and Refinement of the Guidance Framework

- The pilot conducted as a part of this project was not comprehensive, and no single organization was able to implement and test each step that is recommended. The testing and review that was conducted produced important considerations – some methodological and some practical. We expect that further pilot type testing will continue to improve the robustness and utility of future versions of the Guidance Framework.

▷ Collecting and Sharing Best Practices

- The collection and publication of examples, methods, tools and calculators on measuring and communicating SPP benefits will greatly help the community of SPP practitioners.
- An interactive, online database of these examples and tools would be especially helpful so that SPP leaders can easily find and use this material.

49 A description of the SPLC rating system description can be found at: https://www.sustainablepurchasing.org/blog/2015/07/22/rating-system-and-technical-advisory-group-info-session/

- Providing shorter and longer case examples within the Guidance (or at least linking to them in an easily accessible format) would enliven the material, making it more tangible and less technical/academic.
- Over time, building and sharing a library of knowledge on the subject to continue to expand collective learning on how to do this, and do it credibly.

The Working Group 2B outputs as presented in this report and associated annexes highlights the need to communicate the outcomes of the SPP programs and make them more accessible to practitioners. This is an ambitious task, and one that will greatly benefit from the collective effort from a diverse set of experts and organizations. Doing so is an important step in the complex but rewarding journey of transforming purchasing activities into a driving force for sustainable development.

List of Annexes

1. List of Working Group 2B Members as of July 31, 2015
2. Annotated Bibliography
3. Interview Guides
4. Expert Workshop Summary Report (Expert Workshop January 2015)
5. Landscape of Methods and Calculators for Measuring SPP Benefits
6. Benefit Categories in the 22 SPP Reports Reviewed for the WG 2b Baseline Study
7. Guidance Framework Summary of Steps
8. Example of a Logic Model for the US EPA's Environmentally Preferable Purchasing (EPP) Program

Annex 1. List of Working Group 2B Members as of July 31, 2015

Name	Organization	Country
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Angela HELMAN	Industrial Economics	USA
Annalisa ASCHIERI	Ph.D. Candidate	Italy
Anne-Marie SAULNIER	ECPAR	Canada
Anoucheh KHANBABAI	UNEP	France
Audrey SOME	ECPAR	Canada
Aure ADELL	Ecoinstitut	Spain
Bettina SCHAEFER	Ecoinstitut	Spain
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Carlos ARANGO	CNPMLTA	Colombia
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Hector MORENO	Columbian Government	Colombia
Hyunju LEE	KEITI	Korea
Irina UZUN	Consultant, UNEP DTIE	France
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Kevin FUNK	US General Services Administration (GSA)	USA
Kristen SEBASKY	Industrial Economics	USA
Kristina NEUMANN	Convention on Biological Diversity	Canada
Kristina VONOELREICH	Swedish EPA	Sweden
Laksmi DHEWANTHI	APRSCP	Thailand
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Nnamdi UMUNNA	Federal University Otuoke	Nigeria
Orsolya DIFASI	Survive	Hungary
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Paulo MAGINA	OECD	France
Prasad MODAK	Academy for Applied Development	India
Prudence MWALI	Bank of Zambia	Zambia
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Sebastian Jerry ACKOTIA	Ghana Public Procurement Authority	Ghana
Stephan SYLVAN	US Environmental Protection Agency (EPA)	USA
Sudhir SHARMA	Indian National Railways	India
Sujeesh KRISHNAN	PeerAspect	USA
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Sylvia TREVINO	Semarnat	Mexico
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Name	Organization	Country
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Thomas LEHMANN	GIZ	Germany
Thumrongrut MUNGCHAROEN	Asia pacific Roundtable for Sustainable Consumption and Production (APRSCP)	Thailand
Ulf JAECKEL	Ministry of Environment, Germany	Germany
Cheng WANG	China Environmental United Certification Center (CEC)	China
Xiaodan ZHANG	China Environmental United Certification Center (CEC)	China
Xiaohu ZHANG	China Environmental United Certification Center (CEC)	China

Annex 2. Annotated Bibliography (Baseline Review)

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
Adam Wilkinson and Associates	Measurement of Sustainable Procurement	All Product Categories	Method/Guidance
Adam Wilkinson and Associates	Public Procurement - Quantifying Economic Value in the North East	All Product Categories	Other Reports and Articles
Adjei, A.B.	Sustainable Public Procurement: A New Approach to Good Governance	All Product Categories	Other Reports and Articles
AEA (Report to the European Commission)	Assessment and Comparison of National Green and Sustainable Public Procurement Criteria and Underlying Schemes	All Product Categories	Other Reports and Articles
Anthony Collins Solicitors LLP	Social Value and Public Procurement: A Legal Guide	All Product Categories	Other Reports and Articles
Brammer and Walker	Sustainable procurement in the public sector: an international comparative study	All Product Categories	Other Reports and Articles
Briceno, T. Peters, G. Solli, C. and Hertwich, E.	Using Life Cycle Approaches to Evaluate Sustainable Consumptions Programs: Car-sharing	Transportation	Result/Example
BT	Net Good (part of their Better Future program)	Electronics	Other Reports and Articles
BuySmart Network	Guide to the Business Case and Benefits of Sustainable Purchasing	All Product Categories	Result/Example
Castka and Corbett	Stringency, governance, media coverage and diffusion of environmental and social labeling schemes	All Product Categories	Other Reports and Articles
CEGESTI	Webpage “Compras Responsables”	All Product Categories	Other Reports and Articles
CEPS/College of Europe	Monitoring the uptake of Green Public Procurement in the EU Presentation	All Product Categories	Other Reports and Articles
CEPS/College of Europe	The Uptake of Green Public Procurement in the EU27	All Product Categories	Other Reports and Articles
City of Ghent	Ecoprocura- City of Ghent Addressing Broader Policy Objectives Through Procurement: Sharing Knowledge Between Pioneers in Europe	Furniture	Result/Example
Clean Air Cool Planet	Campus Carbon Calculator (CarbonMAP)	All Product Categories	Tool/Calculator
Commonwealth of Massachusetts EPP Program	EnviroCalc	Miscellaneous	Tool/Calculator

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
Congressional Research Service	Green Procurement: Overview and Issues for Congress	All Product Categories	Other Reports and Articles
CSR Europe; Epson	Sustainable Public Procurement	All Product Categories	Other Reports and Articles
Dagiliūtė, R. & Anikanova, K.	Green Public Procurement in Lithuania: Volumes and Possibilities for Environmental Impact Reduction	All Product Categories	Result/Example
Dell	Dell 2020 Legacy of Good Plan	Electronics	Other Reports and Articles
Department of Navy	Green Procurement Program Implementation Guide	All Product Categories	Result/Example
Dragos, A. Richman, S. Sartorius, K and Sutherlin, E.	Sustainable Supply Chain Management: A Framework to Assess and Reduce Environmental Impacts from UCSB Procurement	All Product Categories	Result/Example
ECO-Buy/netbalance foundation	Green Purchasing in Australia 2009	All Product Categories	Result/Example
Ecovadis/ORSE	Sustainable Procurement reporting by Major International Groups	All Product Categories	Other Reports and Articles
Eindhoven University of Technology	Specifying Desired Societal Impact	Electricity/Energy	Other Reports and Articles
Environmental Paper Network	Paper Calculator	Paper Products	Tool/Calculator
European Commission	Options to improve the uptake of Green public procurement in the EU: impact assessment	All Product Categories	Result/Example
European Commission	Buying Social: A Guide to Taking Account of Social Considerations in Public Procurement	All Product Categories	Other Reports and Articles
European Commission	CHP Technical Background Report/CHP GPP Product Sheet	Electricity/Energy	Other Reports and Articles
European Commission	Hard Floor Coverings Technical Background Report/Hard Floor Coverings GPP Product Sheet	Building & Construction	Other Reports and Articles
European Commission	Mobile Phones Technical Background Report/ Mobile Phones GPP Product Sheet	Electronics	Other Reports and Articles
European Commission	Road Construction and Traffic Signs Technical Background Report/Road Construction and Traffic Signs GPP Product Sheet	Transportation	Other Reports and Articles
European Commission	Street Lighting and Traffic Signals Technical Background Report/Street Lighting and Traffic Signals GPP Product Sheet	Transportation	Other Reports and Articles

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
European Commission	Thermal Insulation Technical Background Report/Thermal Insulation GPP Product Sheet	Building & Construction	Other Reports and Articles
European Commission	Wall Panels Technical Background Report/ Wall Panels GPP Product Sheet	Building & Construction	Other Reports and Articles
European Commission	Windows Technical Background Report/ Windows GPP Product Sheet	Building & Construction	Other Reports and Articles
European Commission	National GPP Strategies	All Product Categories	Other Reports and Articles
European Commission	Success Stories in Socially Responsible Public Procurement	All Product Categories	Other Reports and Articles
European Commission	Good Practice in Socially Responsible Public Procurement	All Product Categories	Other Reports and Articles
European Commission	Verifying Social Responsibility in Supply Chains	All Product Categories	Other Reports and Articles
European Commission Joint Research Center	The International Reference Life Cycle Data System (ILCD) Handbook	All Product Categories	Other Reports and Articles
European Federation of Engineering Consultancy Associates	Issues on implementation of the new directive on public procurement (2014/24/EU)	All Product Categories	Other Reports and Articles
FairPhone	FairPhone	Phones	Other Reports and Articles
Forum for the Future, WWF UK, and the Climate Group	The Net Positive Group (and Net Positive Report)	All Product Categories	Other Reports and Articles
Global Environmental Management Initiative (GEMI)	Enhancing Supply Chain Value Through Environmental Excellence	All Product Categories	Other Reports and Articles
Global eSustainability Initiative (GeSI)	GeSI SMARTer 2020: The Role of ICT in Driving a Sustainable Future	Electronics	Other Reports and Articles
Government of Japan	Basic Policy on Promoting Green Purchasing	All Product Categories	Other Reports and Articles
GPP 2020	Carbon savings calculator for energy contracting	Electricity/Energy	Tool/Calculator
GPP 2020	Carbon savings calculator for ICT-Office equipment	Electronics	Tool/Calculator
GPP 2020	Carbon savings calculator for street lighting	Electricity/Energy	Tool/Calculator
GPP 2020	Carbon savings calculator for vehicles	Transportation	Tool/Calculator
GPP 2020	GPP 2020 Annual Monitoring Report	All Product Categories	Result/Example
GreenBiz Group	State of Green Business 2012	All Product Categories	Other Reports and Articles
GSA/Facilities Solutions Group	Life Cycle Assessment of Federal Procurement	All Product Categories	Method/Guidance

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
Healthy Building Network	The Pharos Project	Building & Construction	Other Reports and Articles
HEC/EcoVadis	Whitepaper based on the 2011 HEC/EcoVadis European Sustainable Procurement Barometer	All Product Categories	Result/Example
Henkel	Henkel Factor 3 strategy	Cleaning Products/ Services, PersonalCare, Building & Construction	Other Reports and Articles
ICLEI	LCC-CO_2 (beta version) Tool	All Product Categories	Tool/Calculator
IIIEE Lund University & European Environment Agency	Environmental benchmarking for local authorities: From concept to practice	All Product Categories	Other Reports and Articles
IISD	Life Cycle Costing in Sustainable Public Procurement: A Question of Value	All Product Categories	Other Reports and Articles
IISD	Life Cycle Costing: A Question of Value	All Product Categories	Other Reports and Articles
IISD and the Global Green Growth Forum	Procurement, Innovation and Green Growth: The story continues…	All Product Categories	Result/Example
Impact Measurement Ltd.	LM3 Online	All Product Categories	Tool/Calculator
Impact Measurement Ltd.	SV Online	All Product Categories	Tool/Calculator
Impact Measurement Ltd.	Impact Manager (IM)	All Product Categories	Tool/Calculator
Impact Measurement Ltd.	Impact Predictor	All Product Categories	Tool/Calculator
INSEAD/Ecovadis/ PricewaterhouseCoopers	Value of Sustainable Procurement Practices report	All Product Categories	Result/Example
Institute for Applied Ecology/ICLEI	Costs and Benefits of Green Public Procurement in Europe: Part 1: Comparison of the Life Cycle Costs of Green and Non Green Products	All Product Categories	Result/Example
Investment Strategy Northern Ireland	Delivering social benefits through public procurement: A Toolkit	All Product Categories	Method/Guidance
IPU, CASA and IÖW for the European Commission	Development of Indicators for an Integrated Product Policy	All Product Categories	Other Reports and Articles
London Fire Brigade	FIRED-uP	Fire Service Fleets	Other Reports and Articles
Makower, J.	Makower write-up	All Product Categories	Other Reports and Articles
McCrudden, C	Using public procurement to achieve social outcomes	All Product Categories	Other Reports and Articles
McDonough, W and Braungart, M.	The Upcycle	All Product Categories	Other Reports and Articles

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
McKinsey & Company	SMART 2020: Enabling the low carbon economy in the information age	Electronics	Other Reports and Articles
Meehan and Bryde 2011	Sustainable Procurement Practice	All Product Categories	Other Reports and Articles
Michelsen, O. and de Boer, L.	Green procurement in Norway; a survey of practices at the municipal and county level	All Product Categories	Other Reports and Articles
Ministry of Infrastructure and the Environment (Netherlands)	Cradle to Cradle and Sustainable Public Procurement	All Product Categories	Other Reports and Articles
National Recycling Coalition	Conversionator	Miscellaneous	Tool/Calculator
NETpositive	NETpositive	All Product Categories	Other Reports and Articles
NIST Engineering Laboratory	Building for Environmental and Economic Sustainability (BEES) Software	Building & Construction	Tool/Calculator
Nordic Council of Ministers	Benefits of Green Public Procurement	All Product Categories	Result/Example
Nordic Council of Ministers	Mainstreaming GPP in the Nordic countries – a scoping study	All Product Categories	Other Reports and Articles
Norris, G.	An Introduction to Handprints and Handprinting	All Product Categories	Other Reports and Articles
Northeast Recycling Council (NERC)	NERC Environmental Benefits Calculator	All Product Categories	Tool/Calculator
O'Neill, D	Article	All Product Categories	Other Reports and Articles
OECD	The Environmental Performance of Public Procurement	All Product Categories	Other Reports and Articles
OECD	Methodology for Assessing Procurement Systems (MAPS)	All Product Categories	Other Reports and Articles
OECD Environment Policy Committee	Improving the Environmental Performance of Public Procurement: Report on Implementation of the Council Recommendation	All Product Categories	Result/Example
P&G	Supply Chain Environmental Sustainability Scorecard	All Product Categories	Tool/Calculator
Pacific Northwest Pollution Prevention Resource Center (PPRC)	EPP Rapid Research How can we set goals for an Environmentally Preferable Procurement (EPP) program that make sense and what is the best way to measure progress?	All Product Categories	Method/Guidance
PASS (Procurement and Sustainable Supply)	Sustainable Procurement Cupboard	Transportation	Tool/Calculator

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
PriceWaterhouseCoopers for the European Commission	Public procurement in Europe: Cost and effectiveness	All Product Categories	Other Reports and Articles
PriceWaterhouseCoopers, Significant and Ecofys	Collection of statistical information on Green Public Procurement in the EU	All Product Categories	Result/Example
Procura+/ICLEI	The Procura+ Manual	All Product Categories	Result/Example
Raymond, J.	Benchmarking in public procurement	All Product Categories	Other Reports and Articles
Ready for Business (rfb), Social Value Lab, One Scotland	Embedding Social Value through Sustainable Procurement	All Product Categories	Method/Guidance
RESOLVE	Toward Sustainability: The Roles and Limitations of Certification	All Product Categories	Other Reports and Articles
Responsible Purchasing Network	Green Cleaning Pollution Prevention Calculator	Cleaning Products/ Services	Tool/Calculator
Responsible Purchasing Network	Hybrid calculator: Responsible Purchasing Network	Transportation	Tool/Calculator
Responsible Purchasing Network	Responsible Purchasing Trends 2010	All Product Categories	Other Reports and Articles
Responsible Purchasing Network	RPN Paper Standards Comparison Chart	Paper Products	Other Reports and Articles
Roos, R.	Sustainable Public Purchasing: Mainstreaming sustainability criteria in public procurement in developing countries	All Product Categories	Other Reports and Articles
Roos, R.	Sustainable Public Procurement in LICs: Implications for the Ongoing World Bank Procurement Review	All Product Categories	Other Reports and Articles
SEAD/Ecoinstitut	Appendix. International Procurement Program Monitoring, Data and Evaluation Studies: Overview of Literature.	All Product Categories	Method/Guidance
SEAD/Ecoinstitut	SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs	All Product Categories	Result/Example
SMART SPP consortium, c/o ICLEI	LCC-CO_2 Tool: Visual guide to using the life-cycle costing and CO_2 assessment tool (LCC-CO_2 tool): User Guide	All Product Categories	Other Reports and Articles
SMART SPP consortium, c/o ICLEI	Working with the Market to Procure Sustainable Solutions: Five Case Studies …	Electricity/Energy	Other Reports and Articles
SmartBIM	ecoScorecard	Building & Construction, Furniture	Other Reports and Articles

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
SMART-SPP consortium c/o ICLEI	Results and achievements of the European project: "SMART SPP – Early market creation of innovative highly energy-efficient technologies through smarter engagement with the market in the pre-procurement phase"	All Product Categories	Result/Example
Sound Resource Management	Measuring Environmental Benefits Calculator (MEBCalc)	Miscellaneous	Tool/Calculator
Sustainability and Health Initiative for NetPositive Enterprise (SHINE	Handprinter (net benefit)	All Product Categories	Other Reports and Articles
Sustainable Europe Research Institute (SERI)	Indicator-based evaluation of interlinkages between different sustainable development objectives (INDI-LINK)	All Product Categories	Method/Guidance
Swedish Environmental Management Council (SEMCo)	Green Procurement: Taking it to the Next Level	All Product Categories	Method/Guidance
Swedish Environmental Management Council (SEMCo)	Climate Information for Green Procurement	All Product Categories	Method/Guidance
Swedish Environmental Management Council (SEMCo)	Socially Responsible Purchasing in the Supply Chain: The Present State in Sweden and Lessons for the Future	All Product Categories	Other Reports and Articles
Thai National Science and Technology Development Agency (NSTDA)	Approach on Life Cycle Costing and its Benefits	All Product Categories	Result/Example
The Chartered Institute of Purchasing & Supply/ TRAIDCRAFT	Taking the lead: A guide to more responsible procurement practices	All Product Categories	Result/Example
The Federal Government Commissioner for Information Technology	UfAB	All Product Categories	Other Reports and Articles
Thomson and Jackson	Sustainable Procurement in Practice: Lessons from Local Government	All Product Categories	Other Reports and Articles
U.S. D.O.D.	SCLA Tool	All Product Categories	Tool/Calculator
U.S. Department of Defense	Streamlined Life Cycle Assessment Process for Evaluating Sustainability in DoD Acquisitions (version 1.2)	All Product Categories	Method/Guidance
U.S. DOE	Flex Fuel Cost Calculator: U.S. DOE	Transportation	Tool/Calculator
U.S. DOE	Federal Automotive Statistical Tool (FAST)	Transportation	Tool/Calculator
U.S. DOE	FuelEconomy.gov General Website	Transportation	Other Reports and Articles

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
U.S. EPA	Promoting Green Purchasing: Tools and Resources to Quantify the Benefits of Environmentally Preferable Purchasing	All Product Categories	Method/Guidance
U.S. EPA	ReCON tool	Miscellaneous	Tool/Calculator
U.S. EPA	WARM model	Miscellaneous	Tool/Calculator
U.S. EPA	Electronics Environmental Benefits Calculator (EEBC) (EPEAT Calculator)	Electronics	Tool/Calculator
U.S. EPA	Office Carbon Footprint Tool	All Product Categories	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR appliance calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR air-source heat pump calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR leasing water cooler calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR purchasing water cooler calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR central AC calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR commercial kitchen equipment calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR consumer electronics calculator	Electronics	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR furnace calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR light fixture and ceiling fan calculator	Building & Construction, Electricity/Energy	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR light bulb calculator	Electricity/Energy	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR pool pump calculator	Appliances	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR exit sign calculator	Electronics	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR office equipment calculator	Electronics	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR programmable thermostat calculator	Electronics	Tool/Calculator
U.S. EPA and DOE	ENERGY STAR room AC calculator	Appliances	Tool/Calculator
U.S. EPA, Office of Transportation and Air Quality	Fuel Savings Calculator: Fuel Economy	Transportation	Tool/Calculator
U.S. EPA, Office of Transportation and Air Quality	My Plug-in Hybrid Calculator: Fuel Economy	Transportation	Tool/Calculator
U.S. EPA, Office of Transportation and Air Quality	Trip Calculator: Fuel Economy	Transportation	Tool/Calculator
UK Department for Environment, Food and Rural Affairs (Defra)	Sustainable Procurement in Government: Guidance to the Flexible Framework	All Product Categories	Method/Guidance

Organization or Author	Initiative, Methodology, Tool or Report	Product/Service Category	Type of Publication
UNDP/UNEP	Sustainable Public Procurement: Briefing Note	All Product Categories	Other Reports and Articles
UNEP	The Impacts of Sustainable Procurement: Eight Illustrative Case Studies	All Product Categories	Result/Example
UNEP	Sustainable Procurement Guidelines for Office Furniture: Background Report	Furniture	Other Reports and Articles
UNEP/UNOPS/ILO/ITC-ILO	Buying for a Better World: A Guide on Sustainable Procurement for the UN System	All Product Categories	Method/Guidance
UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (CSCP)	Green Purchasing (in Japan)	All Product Categories	Other Reports and Articles
UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (CSCP)	Saving for a Bright Future: A Manual for Efficient Lighting Procurement in UN Agencies	Electricity/Energy	Other Reports and Articles
UNOPS	Balancing social, environmental and economic considerations in procurement (Supplement to the 2012 Annual Statistical Report on United Nations Procurement)	All Product Categories	Other Reports and Articles
Virage/Centre for Environmental Studies/Global to Local/ Macroscopio/SYKE	Green Public Procurement in Europe: Conclusions and recommendations	All Product Categories	Other Reports and Articles
World Resources Institute	Carbon Value Analysis Tool (CVAT)	Electricity/Energy	Tool/Calculator

Annex 3. Interview Guides (Baseline Review)

Interview Questions to Tool Providers

Background/History

1. Why was this tool created?
2. When was it created?
3. Who created it?
4. When was it initially created, and how often has it been updated since then?

Scope

1. What product/service categories can it be used for?
2. What are the key underlying assumptions of the tool:
   a. The baseline
   b. Impact categories
   c. Data & data quality

Audience/Users

1. Who was the intended audience for the tool, and what were they expected to use it for?
2. Who else is using it and how?
3. Have you seen any public reporting that is based on the tool's calculations?

Functionality

1. What data does the user need to add to get a result from the tool?
2. How much technical knowledge does a user need to apply the tool?

Application to Purchasing

1. Do you know of any use of the tool to calculate the impact of greener purchases?
2. If yes, when and how? What was learnt?
3. If no, could it be used to this end? How?
4. What data would be needed to apply this in a purchasing context?

Challenges/ Improvements to their tool

1. If you were to start over, what would you do differently in designing this tool?
2. What has been the greatest challenge in designing it? Running it? How did you solve for those challenges

Measurement

1. If you, as an expert in measuring sustainability, were to read a report that claimed a sustainability benefit from purchasing:
   a. What questions would you be asking yourself as you read it?
   b. What would you find credible or not so credible?
   c. What level of detail would you need to know on methods, data and scope to determine whether its credible or not?
2. What other tools and methods would you recommend that we review for this purpose (of measuring and communicating SPP benefits)?

Advice

1. What methods would you advise purchasers use in trying to measure the benefits/impacts of their greener purchasing?
2. What would you caution them on doing/ not doing?

Interview Questions to Experts in Sustainability Measurement

Background/History

1. Have you seen any examples of tools that measure the sustainability benefits of sustainable purchasing?
   a. If yes, what did you think of them?
   b. If no, why are there not many examples today?

Why measure SPP sustainability benefits:

1. Why would public sector organizations want to measure the program performance of their SP programs?
2. Why would public sector organizations want to measure the outcomes of their SP programs?
3. Who is the main audience for the results of the measurement? Why would they care?
4. Do you think this audience differs significantly from non-government/private sector?

Scope: What should be measured?

1. What impact categories do you think should be measured when addressing sustainability outcomes of SPP? Why?
2. Do you think a different methodological approach is needed to measure tehse impact categories?
3. What spend categories do you think should be measured when addressing sustainability outcomes of SPP?
   a. All categories, just some of them?
   b. Why these ones?
   c. How would you select a shortlist of spend categories to focus on?

How to measure it (tools and methods)

1. What methods do you think would be most applicable to measuring the benefits generated from sustainable purchasing?
2. For each of the methods you cited just now:
   a. How could this be applied to purchasing?
   b. What would be the main challenges in doing applying them to purchasing?
   c. What concerns would you have in using any of the above methods?
3. How would you deal with attribution?
4. How would you deal with setting a baseline?
5. What data would be needed?
6. Do you think a new approach or method is needed beyond what is already available?

Evaluation

1. If you, as an expert in measuring sustainability, were to read a report that claimed a sustainability benefit from purchasing:
   a. What questions would you be asking yourself as you read it?
   b. What would you find credible or not so credible?
   c. What level of detail would you need to know on methods, data and scope to determine whether its credible or not?

Advice

1. Based on what is out there today, what methods would you advise purchasers use in trying to measure the benefits/impacts of their greener purchasing?
2. What would you caution them on doing/ not doing?
3. What other tools and methods would you recommend that we review for this purpose (of measuring and communicating SPP benefits)?
4. What examples or cases do you think are insightful and should be highlighted?
5. Who else should we be talking to for this project?

Interview Questions for Purchasers

Background/History

1. What is the current scope of your sustainable purchasing program?
   a. What product categories are covered
   b. Who does the work?
2. Is your sustainable purchasing program tied to a policy? If yes, when what that adopted and at what level?

Performance of your sustainable purchasing program

1. Relative to your peers, would you consider your organization a beginner, or advanced in its implementation for sustainable purchasing (or in between?)
2. What has been the greatest challenge in implementing your SP program?
3. Do you currently measure the progress of your program? How?
4. Do you currently measure the outcomes of your program? Why? How?
5. What tools do you already use, would you want to use in doing this type of measurement?

Audience/ Communications

1. Who cares about the program outcomes of your sustainable purchasing program?
2. Who cares about the sustainability outcomes of your sustainable purchasing program?
3. Do these people/groups have a big influence on your program?
4. Are they especially interested in one or another impact categories?
    a. Social
    b. Environmental
    c. Economic
5. Would they be more or less interested in information on:
    a. Internally realised sustainability benefits
    b. Externally benefits sustainability benefits
6. In what format would you, or do you already, publish this type of information?

Data

1. What data do you collect currently on your organizations' SP program?
2. How is this done, and how often?
3. How reliable is this data?
4. Are there any big gaps that concern you?
5. What kinds of data do you wish you had?

Evaluation

1. If you, as an expert in SP, were to read a report that claimed a sustainability benefit from purchasing:
    a. What questions would you be asking yourself as you read it?
    b. What would you find credible or not so credible?
    c. What level of detail would you need to know on methods, data and scope to determine whether its credible or not?
2. Would you evaluate the report differently if it were a private sector vs public sector organization? Why?

Need

1. Do you see the need for the development of a way to measure and communicate SP benefits?
2. Why/why not?
3. Relative to other activities that also need doing in SP, how urgent or important is this?
4. How important is it that there is a common framework and approach to doing this work that more than one organization can use?

Advice

1. What benefit categories do you think we should focus on in this study? Why?
2. What product categories?
3. What do you think will be the biggest challenge in measuring and communicating SPP benefits?
4. What methods would you advise purchasers use in trying to measure the benefits/impacts of their greener purchasing?
5. What would you caution them on doing/ not doing?
6. What other tools and methods would you recommend that we review for this project?
7. What organizations should we look at for case studies, pilots?

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Measuring and Communicating the Benefits of Sustainable Public Procurement (SPP): Workshop Summary

A REPORT FOR WORKING-GROUP 2B OF THE UNEP 10YFP SPP PROGRAMME

Workshop Date: January 14, 2015

Report Date: 20 February 2015

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4. CONCLUSIONS AND NEXT STEPS

1A. WORKSHOP AGENDA

8:40 a.m. – 8:50 a.m. Welcome Address

- Farid Yaker, UNEP 10YFP SPP Program
- Alison Kinn Bennett, US EPA EPP Program

8:50 a.m. – 9:00 a.m. Review of Purpose, Agenda and Workshop ground-rules

- Dr. Anastasia O'Rourke, Industrial Economics, Inc. (IEc)

9:00 a.m. – 9:35 a.m. Introduction Round-Robin

9.35 a.m. – 9.45 a.m. Sustainable Purchasing Leadership Council (SPLC) Guidance

- Jason Pearson, SPLC

9:45 a.m. – 10:15 a.m. Baseline Study Results Presentation

- Dr. Anastasia O'Rourke & Daniel Kaufman, IEc.

10:15 a.m. – 10:45 a.m. Keynote Presentation

- Dr. Chris Pyke, GRESB.com/United States Green Building Council (USGBC)

10:45 a.m. – 11:15 a.m. Discussion

- Moderated by Angela Helman, IEc.

11:15 a.m. – 11:30 a.m. Break

11:30 a.m. – 12:00 p.m. Presentation and Moderated Group Discussion

- Dr. Anastasia O'Rourke, IEc.

12:00 p.m. – 1:00 p.m. Lunch Break

1:00 p.m. – 1:20 p.m. Set-up of Workshop Break-out Sessions

- Session 1 on measurement; Session 2 on communication.

1:20 p.m. – 2:40 p.m. Breakout Session 1: Measuring Benefits of Different SPP Strategies

2:40 p.m. – 3:00 p.m. Short Break

3:00 p.m. – 4:15 p.m. Workshop Breakout Session 2: Communicating Benefits

4:15 p.m. – 5:00 p.m. Wrap-Up Discussion and Project Next Steps

- Moderated by Dr. Anastasia O'Rourke, IEc.

1B. WORKSHOP PARTICIPANTS: IN PERSON AND VIA WEBINAR

Exhibit 1 lists the workshop participants, and indicates whether each person participated in person or via the webinar.

EXHIBIT 1. WORKSHOP PARTICIPANTS

FIRST NAME	LAST NAME	ORGANIZATION	IN PERSON	WEBINAR
Jorgette	Marinez	Business for Social Responsibility (BSR)	•	
Sylvia	Aguilar	CEGESTI, Costa Rica		•
Juan	Liu	China Environmental United Certification Center Co., Ltd (CEC)		•
Cheng	Wang	China Environmental United Certification Center Co., Ltd (CEC)		•
Dmitriy	Nikolayev	Commonwealth of Massachusetts	•	
Aure	Adell	EcoInstitut Barcelona	•	
Isabelle	Lessard	ECPAR, Montreal		•
Audrey	Some	ECPAR, Montreal		•
Craig	Cammerata	Enviance	•	
Romil	Bajaj	Green Purchasing Network India		•
Angela	Helman	Industrial Economics, Inc (IEc)	•	
Daniel	Kaufman	Industrial Economics, Inc (IEc)	•	
Anastasia	O'Rourke	Industrial Economics, Inc (IEc)	•	
Kristen	Sebasky	Industrial Economics, Inc (IEc)	•	
Scot	Case	Natural Marketing Institute (NMI)	•	
Debora	Bonner	Pacific Gas and Electric (PG&E)		•
Sujeesh	Krishnan	PeerAspect	•	
Kristina	Neumann	Secretariat of the Convention on Biological Diversity	•	
Charleen	Fain-Keslar	State of California, Department of General Services		•
Sam	Hummel	Sustainable Purchasing Leadership Council (SPLC)	•	
Jason	Pearson	Sustainable Purchasing Leadership Council (SPLC)	•	
Christopher	Cooke	The Sustainability Consortium (TSC)	•	
Cuchulain	Kelly	United Nations Environment Programme (UNEP)		•
Farid	Yaker	United Nations Environment Programme (UNEP)	•	
Chris	Pyke	GRESB.com / United States Green Building Council (USGBC)	•	
Paul	Yaroshack	US Department of Defense (DOD)	•	
Shabnam	Fardanesh	US Department of Energy (DOE)	•	
Josh	Silverman	US Department of Energy (DOE)	•	
David	Widawsky	US Environmental Protection Agency (EPA)	•	
Ted	McDonald	US Environmental Protection Agency (EPA)	•	
Nathan	Wittstruck	US Environmental Protection Agency (EPA)	•	

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FIRST NAME	LAST NAME	ORGANIZATION	IN PERSON	WEBINAR
Priscilla	Halloran	US Environmental Protection Agency (EPA)	•	
Holly	Elwood	US Environmental Protection Agency (EPA)	•	
Alison	Kinn Bennett	US Environmental Protection Agency (EPA)	•	
Harry	Lewis	US Environmental Protection Agency (EPA)	•	
David	Sarokin	US Environmental Protection Agency (EPA)	•	
Kelly	Scanlon	US Environmental Protection Agency (EPA)	•	
Stephan	Sylvan	US Environmental Protection Agency (EPA)	•	
Brennan	Conaway	US General Services Administration (GSA)		•
Kevin	Funk	US General Services Administration (GSA)	•	
Cynthia	Cummis	World Resources Institute (WRI)	•	
Mervyn	Jones	WRAP, UK		•

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2. WORKSHOP PRESENTATIONS

2A. WELCOME: FARID YAKER, UNEP 10YFP SPP PROGRAM, AND ALISON KINN BENNETT, US EPA

Mr. Yaker welcomed participants to the workshop and described the high degree of interest in this project and topic of SPP benefits measurement in the 10YFP SPP program community. He thanked EPA, SPLC and IEc for hosting and organizing the workshop, and wished everyone a productive day.

Ms. Kinn Bennett, Senior Advisor, US EPA's Environmentally Preferably Purchasing Program, also welcomed workshop participants, and expressed how pleased she and others at EPA were to host such an illustrious group on such an important topic.

2B. WORKSHOP INTRODUCTION, DR.ANASTASIA O'ROURKE AND ANGELA HELMAN, IEC

Dr. O'Rourke welcomed all participants to the workshop, and provided an overview of who was attending in person, and via webinar. She walked through the workshop purpose, that is, to:

1. Review the draft baseline findings, providing expert input on methods, tools, and examples for measuring and communicating the benefits of SPP.
2. Present a "straw man" conceptual map and approach & generate feedback on it
3. Provide input on Phase 2 of the project in terms of development of a framework and piloting that framework.
4. Contribute to building the community of people working on the measurement of SPP.

Dr. O'Rourke provided some context for the project in terms of project partners and where this workgroup fits into the activities of UNEP 10YFP SPP Programme and SPLC's programs. She then provided an overview of the 2B project steps, and demonstrated where the expert workshop fit into this workplan.

Ms. Helman offered some workshop "ground rules" for the day, including Chatham House rules, and the decision to hold on questions and discussions until after the presentations.

Ms. Helman facilitated each workshop participant – including those participating via webinar – to introduce themselves and their organizations. They also answered the question:

- What would be a valuable outcome from this workshop today?

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A range of responses to that question were provided, from learning best practices, improve the consistency of how SPP benefits are measured, create a common yardstick of measuring results, understand how to motivate more SPP by improved communications, learn what tools are already out there to do measurement and where there are gaps, connect to private sector initiatives on sustainable purchasing, and contribute to overcoming some of the challenges articulated in the Baseline Study.

2C. PRESENTATION BY JASON PEARSON, SPLC

Jason began by providing an overview of how and why SPLC was formed. He reviewed a timeline of key activities in SPLC's formation and first year of work. SPLC released its Principles for Leadership in Sustainable Purchasing in April 2014, and the Guidance v1.0 for Leadership in Sustainable Purchasing in January 2015. SPLC plans to pilot its recently released Guidance and to release a rating system in late 2015/early 2016.

Jason highlighted the section of the Guidance for Leadership in Sustainable Purchasing v1.0 on running a program, which is illustrated in the Exhibit 2 below (and is a diagram from the Guidance). He specifically focused on the reporting section, as it is most relevant to the 2B workgroup project and the workshop. He discussed various results and benefits that may occur as a result of sustainable purchasing, including internal and external benefits.

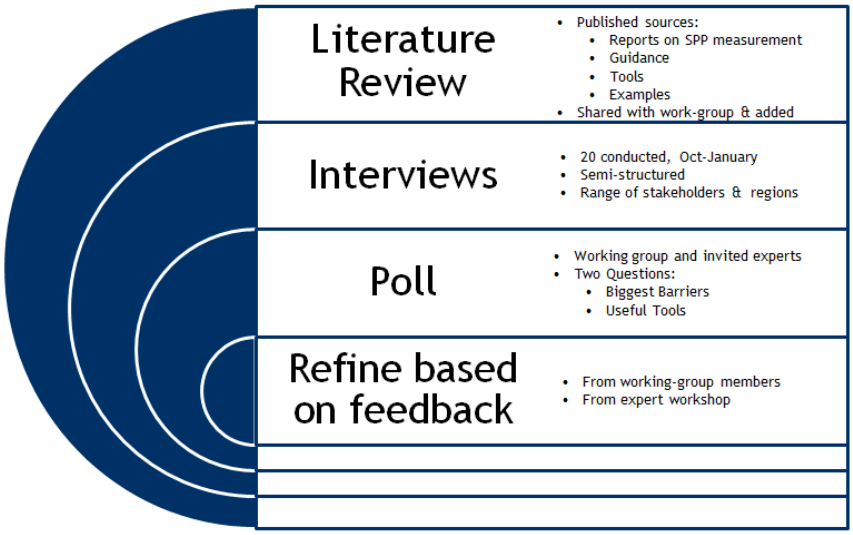
EXHIBIT 2. SPLC GUIDANCE V1.0 OVERVIEW OF PROGRAM ACTIVITIES. SOURCE: SPLC GUIDANCE FOR LEADERSHIP IN SUSTAINABLE PURCHASING, V1.0. JAN. 15, 2015.

2D. PRESENTATION OF BASELINE STUDY, ANASTASIA O'ROURKE AND DANIEL KAUFMAN, IEC

Dr. Anastasia O'Rourke and Daniel Kaufman presented the results of IEc's Baseline Study. IEc conducted an extensive literature review along with interviews to determine what methods and tools are currently available for measuring and communicating the benefits of SPP.

Dr. O'Rourke described the methods employed by IEc in the baseline review, a summary of which is shown in Exhibit 3.

EXHIBIT 3. METHODOLOGY OVERVIEW FOR THE BASELINE REVIEW



Dr. O'Rourke then described the main limitations of the review as:

- Reviewed only publications in English and those in the public domain
- When looking for examples, we did not conduct a comprehensive review of all known reports and communications on SPP by government agencies.
- There are likely more examples and approaches than reported here.
- Some regional and technical bias based on the interview sample coming mainly from North America and Europe, and experts largely being environmental specialists.

Mr. Kaufman presented the main findings of the baseline review. He first provided an overview of the literature found by IEc, as shown in Exhibit 4.

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EXHIBIT 4. LITERATURE SOURCES REVIEWED BY IEC IN THE BASELINE REVIEW

RESOURCE CATEGORY	COUNT	PERCENT
Method/guidance	12	8%
Calculator*	44	28%
Outcome example	22	14%
Other report	80	50%
TOTAL	158	100%

*Note that this category includes 15 ENERGY STAR calculators for various products, which sometimes employ different methods so were counted as individual tools

IEc focused in particular on what benefits have been associated with SPP in the literature, how to measure those benefits, and the barriers associated with measurement. IEc found that there are many calculators available for measuring benefits products in particular categories, but not many examples of organizations reporting the results of their SPP programs.

Mr. Kaufman presented a summary of the Electronic Environmental Benefits Calculator (EEBC) (often described as the EPEAT calculator).

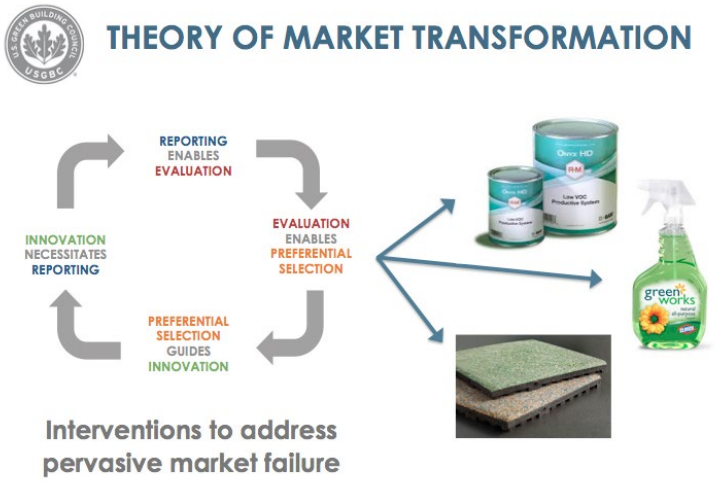
Additionally, IEc found that cost savings and GHG emissions reductions are the most commonly cited benefits in both calculators and reports of program results. See the draft of the Baseline Study for more detail.

2E. PRESENTATION BY CHRIS PYKE, USGBC

Dr. Pyke was introduced by Ms. Kinn Bennett from the US EPA.

Dr. Pyke began by directly relating buildings to public procurement, by stating that "a building is nothing other than purchasing." He then described the history of LEED credits and how they affect the market as a way of understanding this programs' impact. USGBC initially focused on credits that addressed single attributes, such as VOCs in paint and recycled content, and prior to that, eliminating smoking in work environments. These types of credits have generally been successful in driving changes in the market; increased demand for products with these attributes has led to innovation and wider availability. While mostly successful, there have been some unintended consequences such as manufacturers increasing the total weight of a product in order to increase its recycled content.

EXHIBIT 5. USGBC'S THEORY OF MARKET TRANSFORMATION. SOURCE: CHRIS PYKE'S PRESENTATION, JANUARY 14, 2016



Dr. Pyke then showed how USGBC is able to track the uptake of its credits through its Information Gateway (http://www.gbig.org/). USGBC tracks how many buildings achieve each credit by award type (certified, silver, gold, platinum) and this helps them determine whether a credit is working as intended. Dr. Pyke described how the market decides the adoption rate of each credit within about 18 months, and this rate stays the same for many years.

Dr. Pyke discussed how USGBC is currently focused on creating a material ingredients credit under LEED v4, requiring full disclosure of materials in products and associated health hazards. They are relying on Environmental Product Declarations (EPDs), which provide the materials in the finished product (not materials used during manufacturing, etc.).

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EXHIBIT 6. OVERVIEW OF HOW USGBC V4 CONSIDERS MATERIALS HEALTH ISSUES. SOURCE: CHRIS PYKE PRESENTATION, JAN. 14TH, 2015.

2F. QUESTION AND ANSWER SESSION

Q: Is USGBC's focus on making information on materials publicly transparent, or just privately?

A: Private. It is often easier to get transparency at the private level (through individual requests to suppliers).

Q: We have found three things that might be relevant to environmental product declarations (EPDs): 1) suppliers need a consistent declaration process; 2) need to protect proprietary data; 3) list theory: does the product include a "bad" material. Does this reflect USGBC's approach?

A: LEED v4 recognizes the Green Screen approach. This provides information on potential health hazards associated with material ingredients. Generally, LEED does not emphasize the use of red lists, partially out of concern for many instances of unfortunate substitution (substitution theory: manufacturers may use something else that's bad in lieu of the red-listed ingredient).

Q: What is the growth rate in LEED-certified buildings outside of the United States? Also, what role does price play?

A: More than half of new LEED-certified buildings are outside of the United States; this market is growing rapidly. Major growth centers are Brazil and China. USGBC participates in a 25-member international roundtable. There are so many policies regimes and standards, it's challenging to align. Australia has Green Star, Japan has CASBEE, German standards are tightly coupled to the EU standards. Price is always the elephant in the room with respect to the selection of products. Second-tier early

adopters (early majority) ask: why would we pay more for these more transparent products; we have a fixed budget, so what attributes will we sacrifice to get greater transparency?

Q: How can we be sure not to send signals to buyers and suppliers to focus on transparency in lieu of higher-impact issues? Is it right to push so hard on transparency vs. other priorities?

A: USGBC pushes in multiple places. The end goal is better products. If we get better products, but they're less transparent, is that good? According to market efficiency principles, transparency should result in buyers and suppliers having more information about sustainability attributes, which they will factor in to their decision-making.

Q: Are there any tools available to help purchasers/specifiers deal with information overload?

A: Yes tools are emerging, such as Pharos dashboards; in-house tools like Google's; and Green Wizard (a supply chain tool). But these tools are relatively small and still niche (small adoption rates) compared to mainstream specification tools like McGraw Hill's widely-used Sweets catalog of building materials. USGBC's role is not to develop new tools, but to use and promote what's available. And it would be helpful to consolidate existing tools and reduce duplication.

Q: What has been the role of research around benefits and outcomes in USGBC's growth? What outcome-based research does the sustainable purchasing community need now (what do you wish USGBC had 20 years ago)?

A: Information and research is not what wins the day. LEED's success is based on: 1) differentiating good buildings from bad buildings; and 2) making this distinction simple and accessible enough for the market to understand. People are not deciding to get their buildings LEED-certified based on return on investment (ROI) or specific benefit calculations; they just want a better building. The information matters as a yardstick that can be validated by a third party; rating certification is the language. Without this language, people don't know if the building is good or bad.

Q: For Environmental Product Declarations (EPDs), do you use a specific standard for how to do this? Have you been working with EPA on standards/guidelines?

A: We look to ISO and other references; there are multiple third-party standards for adequate EPDs, but companies often want to use their in-house brands. EPA and USGBC are still well-aligned in pushing transparency.

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3. WORKSHOP OUTCOMES

3A. CONCEPTUAL MAP PRESENTATION AND DISCUSSION, ANASTASIA O'ROURKE, IEC

Dr. O'Rourke walked through the conceptual map from the Baseline Study, presented in Exhibit 7 below. The workshop participants engaged in a discussion about this map and provided feedback for IEc to incorporate. In general, the workshop participants thought that the map covered most of the concepts applicable to SPP programs, specifically to measuring and communicating the benefits of SPP. The participants also provided useful edits for the map and additional comments, which are listed below.

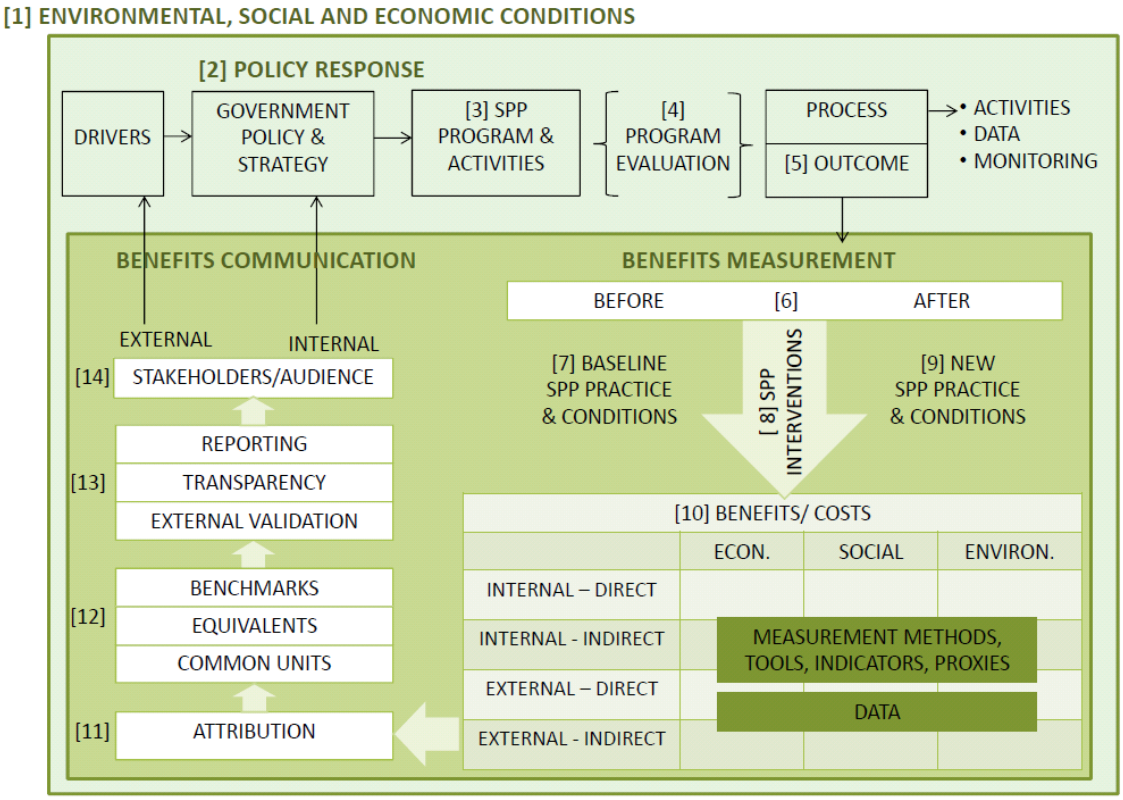
Edits to conceptual map:

- Add a step at the start of the cycle that is about mission and strategy of the agency. This reflects the more active leadership stake being carved out that is not captured by the current "policy response to drivers" description.
- Add a box for communications effectiveness (between reporting and stakeholders; consider the messenger, communications channel, and audience needs)
- Combine 4 and 5 on program evaluation (put a branch between the two)
- Incorporate defining "green" as a step
- Clarify "data", which includes process measurement and verification
- Clarify that it is a cross-functional team working across the whole process; not different groups at each stage
- Consider program total cost of ownership (TCO) (in addition to product TCO)

Additional comments:

- Consider intangibles (e.g. DOD put LEDs on Navy ships, which led to increased space and quality of light)
- Attribution is harder when looking at market impacts and ambient environmental conditions
- DOD has figured out that they need to address financial impacts over the product lifecycle (not just environmental impacts)
- People care most about money and GHG emissions
- A lot of standards haven't covered social impacts because they are harder to describe and quantify.

EXHIBIT 7. CONCEPTUAL MAP



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3B. SUMMARY OF BREAKOUT SESSION 1: MEASURING BENEFITS OF DIFFERENT SPP STRATEGIES

In the afternoon, the workshop participants broke out into groups to discuss different aspects of measuring and communicating SPP benefits. The first breakout session covered measuring benefits of different SPP strategies, and each group discussed a different strategy. Participants self-nominated for each group, and each group had a moderator from IEc or EPA. Each group also chose a rapporteur to summarize the discussion for the wider group. A summary of each group's discussion is provided below.

Group 1: Strategies for buying different products and services

The group chose to focus on electronics as this is the rare product category that has standards & mandates for purchasing green & tracking systems & calculators available.

- The group worked through the conceptual map for electronics:
  - 1. How to define green
    - Standards: IEEE, UL, NSF
  - 2. Identify green products for purchasers
    - EPEAT product registry
  - 3. Require procurement of green products
    - EO 13514, FAR 23.704
  - 4. Track purchases
    - OMB E&S scorecard (report on how many EPEAT products they buy)
    - FPDS (Federal Procurement Data System)
    - ITI (everything that is shipped that is EPEAT registered by their members)
  - 5. Calculate results
    - Electronics Environmental Benefits Calculator (EEBC) calculates environmental benefits achieved from purchasing a particular number of units and provides social math equivalencies
  - 6. Share results
    - Reports to OMB
    - GEC annual report
    - EPA/EPEAT portal page
  - 7. Expand and improve

  - Found that verification needed to be added as a step; to determine whether a product is actually green and whether the declaration system works

- Measurement considerations
  - How to choose what to measure is difficult; need to align to the organization's policies
  - Standards may or may not cover the material or relevant issues to your organization; so if you let a standard drive all of your measurement needs, it may not cover the issues you would like to measure progress on. .
  - Need to consider unintended consequences (e.g. switching from lead to other types of solder may result in using more hazardous substances that are less known)
  - What do you do when there is no standard to measure by?
    - People tend to use tools like LCA that are universal
    - Hard to have a baseline when you don't have a standard
    - Can try to make the "more sustainable" decision between a number of products
  - The value of a well-developed standard with quantifiable points is that it puts everyone on the same page, especially when there is a calculator linked to the standard.
  - It is hard to report success of program across different product categories with different standards
  - Sometimes calculators aren't connected to standards at all; this is a challenge.
  - It is difficult to put outcomes in perspective of global environmental issues.

Group 2: Strategies of servicizing, buying product-service systems

The group focused on the example of outsourcing chemical management to one service provider and assumed that:

  - Chemicals would be purchased from one provider who would do training of staff using the chemicals or may provide staff themselves, track inventory and take care of end of life issues
  - A number of organizations have done this including Lansing schools in Michigan and the Accelerator Center

- Process measures include OSHA violations; accidents; incidents
- Benefits to outsourcing chemical management (internal and external):
  - Reduced hazardous waste
  - Reduced waste management/reduced associated costs

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  - Reduced administrative costs from working with fewer suppliers
  - Reduced chemical use (suppliers are incentivized to use fewer chemicals)
  - Reducing chemical risks on site (and some risks can be monetized)
  - Increasing available floor space
  - Increasing demand for greener chemicals (service provider has incentive to use chemicals that require less end of life management)
- Challenges
  - No existing standards
  - Need an upfront cost benefit analysis to determine whether this is appropriate for your facility; there are no calculators for this and would require a lot of upfront work
  - Costs and benefits need to be very clear to you and your supplier; this will enable you to establish metrics upfront that will help in defining metrics
  - This would require a complex contract, and you would need training for procurement officials
  - Value proposition may not be there for your organization, particularly if you have low chemical spend
  - Attribution issues
  - At DOE, found that if chemical use is too high, this model doesn't work. Need a high volume of routinely used chemicals (like in the auto industry), which isn't common in a laboratory setting.
  - Need to make sure the service company is doing better sustainably; need to avoid just shifting the impacts/risks

Group 3: Strategies of engaging suppliers and supply chains

The group chose to focus on measuring social impacts in the supply chain, and strategies to engage suppliers to improve their performance (rather than switching suppliers). After discussing general approaches and some specific constraints for government agencies to conduct engage suppliers directly, the group turned to measuring results.

- Process measures included:
  - Number of contracts with social requirements imposed on suppliers
  - Require supplier codes of conducts in contracts, and measure how often they are in contracts
  - Can measure how often you are doing contractual practices that affect the supply chain (e.g. making last minute changes that apply pressure on suppliers)
  - Can measure how often or whether you are training procurement staff

  - Can conduct audits and measure audit activity
  - Can track if suppliers get an increase in their business if they respond to the engagement.
- Outcome measures
  - Can look at audit reports and see if results are improving (audits don't tell the whole story, but can be augmented with other methods)
  - Can ask suppliers to certify that they know the impacts of the supply chain with direct surveys.
- Barriers
  - It is difficult (for government in particular) to do supplier engagement and the degree to which they can do so varies internationally. For example, in the US you can ask suppliers' questions but only at certain points in procurement cycle. In the EU, questions are limited to the thing being purchased, and may not concern the operations or activities of the organization producing it.
  - There is a need for standardization; customers are requesting information from suppliers in various formats and there is supplier survey fatigue. There is a need to figure out a way to provide that information to everyone in the same way rather than dealing with individual requests.
  - What is acceptable on a social level also depends on the location.
- Groups like SPLC could recognize those purchasers asking about the supply chain to motivate them to do so, and recognize good social supply chain practices.
- Need to be strategic about where it makes sense to spend time. Should prioritize categories that have the most impact through a social hotspots analysis.

Group 4: Buying more efficiently strategies

The group first discussed the strategy of buying more efficiently.

  - Variations on "buying less" include: buying second-hand; buying remanufactured; sharing; extending product longevity; servicizing; and finding alternative uses for surplus property.
  - A spend analysis should be conducted at the outset to identify high-impact product or service categories. The analysis should include unit-level purchase data in addition to dollars spent, since a decline in dollars spent does not necessarily translate to reductions in use.
    - Example: Spending could decline due to a decline in price rather than a reduction in the number of products purchased.
  - Paper was selected as the product category for this exercise; suggested activities included:

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- Work with the central supply organization to understand how much paper is coming into the building.
- Identify which parts of the organization use the most paper, and why, in order to target the biggest users (80/20 rule).
- Encourage electronic transmission (e.g., email) instead of printing.
- Use double-sided printing.
- Develop a policy for print management.
- Signal a top-down commitment to reduce the use of paper.
- Recruit partners and convene stakeholders, including but not limited to those who directly purchase paper.
- Use network printers.

- Scope and Type of Benefits Measured:
  - Consolidating and simplifying the number of printers uses less property, plant, and equipment; this results in simpler and more efficient maintenance and servicing.
  - Using centrally located network printers instead of individual desktop printers consolidates and simplifies purchases and maintenance. In addition, centralized printing may result in a lower cost per page.
  - Cost savings: Less paper and less printers/cartridges used.
  - Environmental benefits: Large, centralized printers use less energy per page and make it easier to centralize power management.
  - Should measure and communicate benefits and costs.
  - Need a calculator development framework: a standard set of unit inputs, outputs, and equivalents.
- Metrics:
  - Reduction in the total amount of paper purchased by the organization
  - Reduction in the amount of paper used by the "big users"
  - Percent of printers automatically enabled for double-sided printing

- Data:
  - Some organizations have decentralized purchasing, making it difficult to track.
  - May obtain the number of units sold from vendors.
  - Most paper calculators are built for tons rather than units; how to calculate tons?
  - "Calculation fatigue": knowing the weaknesses in the analysis may discourage organizations from communicating the results. What is "good enough" evidence?
- Other Concepts Not Addressed in the Framework:
  - Upfront analysis prior to choosing categories and/or strategies should be reflected in the conceptual map.

3C. SUMMARY OF INPUT FROM BREAKOUT SESSION 2: COMMUNICATING BENEFITS

The second breakout session covered communicating benefits to various internal and external groups. Each breakout group focused on communicating to a different audience. Participants self-nominated for each group, and each group had a moderator from IEc or EPA. Each group also chose a rapporteur to summarize the discussion for the wider group. A summary of each group's discussion is provided below.

Group 1: Internal - Communicating Up (to management, to legislature)

The group discussed internal senior audiences for communicating benefits; and the need to communicate "up" on the outcomes of SPP activities.

- Need to establish what is important for your audience and when, and try to give them what they need (e.g. if they care about budgets, focus on cost savings)
- Publicize external recognition/awards and emphasize this up the chain so there is a positive association with these activities
- Tie recognition/awards to mission and goals; frame in terms of risk or compliance issue
- Look at what other agencies are doing to start the conversation and create healthy competition (competition between agencies within Massachusetts increased the success of their program)
- Have sound-bytes ready for when a higher office (e.g. Governor) is looking for quotes, facts and figures
- There are stories to be told even if they aren't backed by hard data; stories of agency successes are more marketable than your data reporting
- Can push to differentiate from prior administration
- Reports in the baseline study had different audience; need to understand audience for the reports and why the data were collected, because programs

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are doing things for different reasons and tracking metrics for different reasons

- Need a quantitative goal for the numbers to make sense
- Purchasing and procurement aren't ends in themselves. Need to push the idea that purchasing goals are a way to get to energy and GHG goals

Group 2: Internal - communicating out to internal stakeholders

This group focused on communicating SPP to internal stakeholders – communicating laterally to other teams and individuals in an organization such as purchasing departments.

- Need to link SPP to organization mission. Example: DOE was able to move their fleet management program forward by connecting it to their mission of reducing petroleum use and increasing national security
- Purchasers also respond to connections to cost savings (may work for other audiences as well)
- Purchasers tend to be risk averse; need to push the message that SPP is the cost effective, safe, and right thing to do; highlight social benefits
- Purchasers are already very busy, so communications on SPP need to be simple
    - Contract language is often out of date and too long; someone needs to streamline and simplify
    - Make sure there are no contradictions in what you are asking procurement staff to do versus their existing rules
- Healthy competition can spur changes in behavior
- Ask for purchasers' opinions and build a relationship (DOE has done this)
- The purchasers often aren't the ones making the procurement decisions; also need to look at consumers and encourage them to specify to procurement staff that they want something more sustainable
- Also try to move conversation to management level where strategic priorities are being set

Group 3: External - communicating to social/environmental groups and public

This group focused on communicating to the general public the outcomes of SPP programs.

- The first step is to try to figure out what story you're trying to tell and what the public cares about (e.g. children's health, not the organization mission)
- It is important to have a compelling narrative (not necessarily entirely data-focused) and link the SPP program to desired change (e.g. SPP program resulted in improvements to air quality so children can breather easier)
    - Focus on benefits that impact the public; rather than saying x number of electronics led to y environmental benefits, discuss improvement in environmental conditions in general or in the economy

    - Expressing benefits as equivalents using social math
    - May want to highlight different benefits depending on the audience; some audiences may care more about environmental issues while others care more about cost savings
- It is important to have a trusted messenger (e.g. there was an effort in MA to have ministers talk to their congregation about being stewards of creation to promote environmental issues)
- There are risks to both communicating and not communicating; government agencies often err on the side of not communicating due to how the public might respond, but the big risk to not communicating is that agency may lose support/funding for not showing results
    - Not all audiences are sympathetic and they can be very critical of ways money is being spent

Group 4: External – communicating to other SPP programs and Suppliers

This group focused on communicating to external stakeholders such as other SPP programs, and or to suppliers.

- Why would SPP programs want to communicate?
    - To learn from each other
    - Combine together to send more powerful market signal
    - Friendly competition to drive internal program improvement
    - Communicate progress together
    - Align with measurement standards and ease fragmentation
    - Amplify message of why this needs to be done
- When/how to communicate?
    - Formal versus informal; talked more about informal and how there are lots of opportunities for informal communication (teach each other, mentor, share expertise)
- Do we need to standardize what's reported in order for it to be valuable?
    - Did not come to a conclusion on this
    - There definitely needs to be more work done in this area
    - There seems to be a desire to standardize
    - Because of differing needs and values, the group concluded that will never be a single clean solution.

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4. CONCLUSIONS AND NEXT STEPS

Dr. O'Rourke presented two options for next steps on the workgroup 2B project, which are described in section 5 of the Baseline Study report. Option A involves taking a broad framework approach covering all benefit categories, while Option B involves taking a narrower and deeper approach on a single benefit category and/or product categories. The workgroup participants discussed these options and provided the following input:

- A process framework (option A) would probably be more useful for someone running an SPP program; or those at an earlier stage in their SPP program's development.
- It would be helpful to pick product categories with common standards, though this may be difficult to do on an international level.
- GHG emissions are an important topic, and we need harmonization between methodologies and calculators. However, focusing on one impact is difficult when talking about sustainability as a whole. It would not capture trade-offs.
- It would be useful if IEc could document what is important for a robust calculator, come up with common vocabulary across product categories, and address other challenges in the Baseline Study.

Following a review of the input received on the baseline study and the feedback received at the expert workshop, IEc will update the Baseline Study and share with working group members and expert workshop participants. In addition, the path forward for the project will be communicated to the group and this workshop summary report shared.

Annex 5. Landscape of Methods and Calculators for Measuring SPP Benefits

The following table provides an overview of potential economic, social, and environmental benefits that may result from sustainable public procurement (SPP) activities. For each potential benefit, the scope of the benefit (internal, external, or internal/external) is indicated, as well as: general and specific methods—including cross-category

Economic Benefits

Economic Benefits	Scope	General Methods
Avoids supply chain disruption	Internal	Supplier risk assessment; supply chain analysis
Grows revenue	Internal	Financial statement analysis
Improves employee satisfaction	Internal	Interviews and surveys; review employment records payroll (measuring turnover)
Improves reputation	Internal	Brand equity; brand valuation modelling; conjoint analysis; consumer surveys; intangible asset of balance sheet; royalty release method; financial statement analysis
Reduces costs	Internal	Break-even analysis; LCC; NPV; payback period; ROI; total cost of ownership
Reduces risk	Internal	Insurance analysis; qualitative risk analysis; quantitative risk analysis; SWOT analysis
Improves supplier engagement	Internal / External	Audits; qualitative analysis: supplier surveys, interviews
Increases competition	Internal / External	Cost effectiveness; market-share measurement; production efficiency analysis; productivity analysis; supplier /market assessment; value-analysis
Increases compliance	Internal / External	Compliance assessments; environmental management system assessments; financial report analysis; other third party audits; studies of incidents, sanctions, fines
Develops markets for sustainable products and services	External	Market characterization analysis; market impact analysis; market share analysis

and product-specific calculators that may be available—for measuring the benefit. TBD indicates information that was not available for this report.

Specific Methods & Cross-category Calculators	Examples of Product Specific Calculators
TBD	TBD
Impact Predictor; LM3 Online	TBD
TBD	TBD
Supply Chain Environmental Sustainability Scorecard	TBD
EnviroCalc; LCC-CO_2 tool (beta version); Supply Chain Environmental Sustainability Scorecard; Sustainable Procurement Cupboard; TCO Calculator	Building for Environmental and Economic Sustainability (BEES) Software; Clean Fleet LCC tool; ENERGY STAR Calculators (air-source heat pump; leasing water cooler; water cooler; central air conditioning, commercial kitchen equipment; consumer electronics calculator; furnaces; light fixture and ceiling fan; light bulb; pool pump; office equipment calculator; programmable thermostat calculator; room Air conditioning; exit signs); Federal Automotive Statistical Tool (FAST); Flex Fuel Cost Calculator; Fuel Savings Calculator; Hybrid calculator; My Plug-in Hybrid Calculator; Trip Calculator
Supply Chain Environmental Sustainability Scorecard	TBD
TBD	TBD
TBD	TBD
Supply Chain Environmental Sustainability Scorecard	TBD
TBD	TBD

Economic Benefits	Scope	General Methods
Economic development for less developed countries	External	Benchmarking; economic impact analysis; investment analysis (of FDI); socio-economic analysis; trade and export analysis
Promotes innovation	External	Market characterization studies; learning curve/cost progress analysis; patent analysis; technology commercialization tracking
Promotes regional economic development	External	Benchmarking; investment analysis; regional economic impact analysis; socio-economic analysis; trade and export analysis
Promotes small business development	External	Sales and employment analysis of SMEs

Social Benefits

Social Benefits	Scope	General Methods
Improves Occupational Health and Safety (OH&S)	Internal / External	Audits; insurance costs; liability/injury claims; safety reports
Improves public safety	Internal / External	Analysis of police records; public safety incidents
Reduces corruption	Internal / External	TBD
Advances human rights	External	Analysis of media; audit reports; compliance assessments; document review of CSR, audit and annual reports; due diligence; policy review; social LCA; supplier assessments
Creates skills and training opportunities	External	Surveys and interviews; training effectiveness assessments
Generates employment opportunities	External	Job creation studies; unemployment rates
Improves product sustainability communications	External	Market research; media analysis; surveys
Improves social inclusiveness	External	TBD
Promotes economic opportunity for indigenous people	External	Access to capital; employment analysis; local entrepreneurship drivers; policy content analysis
Promotes equal opportunity (employment)	External	Employment analysis; supplier assessment
Promotes fair and ethical trade	External	Fair trade assessment; social LCA
Provides community services	External	TBD
Supports SMEs and social enterprises	External	Competitiveness; new company formation, SME growth

Specific Methods & Cross-category Calculators	Examples of Product Specific Calculators
TBD	TBD
Supply Chain Environmental Sustainability Scorecard	TBD
Impact Predictor; LM3 Online; IMPLAN	TBD
TBD	TBD

Specific Methods & Cross-category Calculators	Examples of Product Specific Calculators
TBD	TBD
TBD	TBD
TBD	TBD
TBD	TBD
TBD	TBD
TBD	TBD
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TBD	TBD
TBD	TBD
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TBD	TBD
TBD	TBD

Environmental Benefits

Environmental Benefits	Scope	General Methods
Decreases energy use	Internal	Energy systems analysis; EIOLCA; ecolabels; EPDs; LCA, environmental management systems; supplier assessments and audits
Decreases ecosystem noise	Internal / External	Decibel measurement; environmental impact assessments
Improves human health	Internal / External	Quality adjusted life years; value of a statistical life; morbidity analysis
Improves water efficiency	Internal / External	EIOLCA; environmental management systems; LCA; water consumption assessments; water footprint
Promotes efficient use of materials	Internal / External	EIOLCA; industrial ecology/ circular economy; LCA; material flow analysis
Reduces waste generation	Internal / External	LCC, LCA; measurement of waste volumes; recycling rates
Reduces hazardous substances	Internal / External	LCA
Decreases ecological toxicity	External	Environmental impact assessments
Reduces GHG emissions	External	Avoided emissions; CO_2 equivalents; ecolabels; environmental management systems; emissions inventories (Scope 1, 2 and 3); EPDs; global warming potential; LCA; LCA-EIO; offsets; third party verified product data sheets
Improves air quality	External	Air quality testing; ambient monitoring; ecolabels; emissions measurement; environmental management systems; indoor air quality testing; LCA
Improves water quality	External	Water quality monitoring (BOD/TSS)

Specific Methods & Cross-category Calculators	Examples of Product Specific Calculators
Carbon Value Analysis Tool (CVAT); EnviroCalc; EU Ecolabel- the Carbon Footprint Measurement Toolkit; Flex Fuel Cost Calculator; Measuring Environmental Benefits Calculator (MEBCalc); NERC Environmental Benefits Calculator; ReCON tool; SCLA Tool; Supply Chain Environmental Sustainability Scorecard; Sustainable Procurement Cupboard	Building for Environmental and Economic Sustainability (BEES) Software; Campus Carbon Calculator (CarbonMAP); Carbon savings calculator for energy contracting; Carbon savings calculator for ICT-Office equipment; Carbon savings calculator for street lighting; Carbon savings calculator for vehicles; Electronics Environmental Benefits Calculator (EEBC); ENERGY STAR appliance calculator; hybrid calculator; Office Carbon Footprint Tool; Paper Calculator
SCLA Tool	TBD
Measuring Environmental Benefits Calculator (MEBCalc); SCLA Tool	Building for Environmental and Economic Sustainability (BEES) Software
LCC-CO_2 tool; SCLA Tool; Supply Chain Environmental Sustainability Scorecard	Building for Environmental and Economic Sustainability (BEES) Software; Electronics Environmental Benefits Calculator (EEBC); ENERGY STAR appliance calculator; ENERGY STAR commercial kitchen equipment calculator; Paper Calculator
Conversionator; EnviroCalc; NERC Environmental Benefits Calculator; SCLA Tool; Supply Chain Environmental Sustainability Scorecard	Building for Environmental and Economic Sustainability (BEES) Software; Electronics Environmental Benefits Calculator (EEBC); Paper Calculator
Supply Chain Environmental Sustainability Scorecard; WARM model	Electronics Environmental Benefits Calculator (EEBC); Paper Calculator
TBD	Electronics Environmental Benefits Calculator (EEBC); Green Cleaning Pollution Prevention Calculator; Paper Calculator
Measuring Environmental Benefits Calculator (MEBCalc); SCLA Tool	Building for Environmental and Economic Sustainability (BEES) Software
Carbon Value Analysis Tool (CVAT); Catalina Government's GHG emissions calculator; EnviroCalc; EU Ecolabel- the Carbon Footprint Measurement Toolkit; Flex Fuel Cost Calculator; Footprint Expert; LCC-CO_2 tool; Measuring Environmental Benefits Calculator (MEBCalc); NERC Environmental Benefits Calculator; ReCON tool; SCLA Tool; Supply Chain Environmental Sustainability Scorecard; Sustainable Procurement Cupboard; Value Chain Manager; WARM model	Building for Environmental and Economic Sustainability (BEES) Software; Campus Carbon Calculator (CarbonMAP); Carbon savings calculator for energy contracting; Carbon savings calculator for ICT-Office equipment; Carbon savings calculator for street lighting; Carbon savings calculator for vehicles; Clean Fleet LCC tool; Electronics Environmental Benefits Calculator (EEBC); ENERGY STAR appliance calculator; hybrid calculator; Office Carbon Footprint Tool; Paper Calculator
SCLA Tool	Building for Environmental and Economic Sustainability (BEES) Software; vehicle emissions calculator
Measuring Environmental Benefits Calculator (MEBCalc)	Building for Environmental and Economic Sustainability (BEES) Software

Environmental Benefits	Scope	General Methods
Maintains biodiversity	External	Ecosystem service analysis; environmental impact assessment
Promotes sustainable operations of suppliers	External	Supplier audits

Other Benefits

Other Benefits	Scope	General Methods
Demonstrates sustainability to private sector purchasers	External	Replication analysis at policy level; citation analysis; content analysis
Energy source scarcity, reliability, availability, recovery	External	Payback analysis; security analysis; (Tbd)

Specific Methods & Cross-category Calculators	Examples of Product Specific Calculators
TBD	Building for Environmental and Economic Sustainability (BEES) Software
Supply Chain Environmental Sustainability Scorecard	TBD

Specific Methods & Cross-category Calculators	Examples of Product Specific Calculators
TBD	TBD
SCLA Tool	TBD

Annex 6. Benefit Categories in the 22 SPP Reports Reviewed for the WG 2b Baseline Study

		Economic					Environmental					Social	
Title	Case Study Focus	Cost	Economic Activity	Risk	Innovation	Other	Energy	GHG/CO_2	Waste	Water	Other	Job Impacts	Other
The Impacts of Sustainable Procurement	Brazil: Foundation for Education Development		x						x	x	x		
	The Institute of Electricity of Costa Rica	x						x			x		
	France: Ministry of Education	x				x			x			x	
	Hong Kong SAR: Transport Department	x					x						
	Italy: Municipality of Ferrara, Emilia Romagna							x			x		
	England: Local government bodies	x							x		x		x
	Scotland: Government of Scotland	x				x							
	United States: Portland, Oregon		x					x			x		
SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs	France: Commission for Sustainable Development						x	x			x		
	Chile: Directorate of Public Procurement										x		
	Korea: Ministry of Environment	x						x				x	
	United Kingdom: DEFRA						x	x	x	x	x		
	United States: Department of Energy										x		
Value of Sustainable Procurement Practices	Various companies and agencies	x		x	x	x							
Sustainable Procurement – Back to Management!	Europe: based on Sustainable Procurement Barometer	x		x	x						x		x
Green Procurement Program Implementation Guide	United States: Department of Navy	x						x					

Title	Case Study Focus	Economic					Environmental					Social	
		Cost	Economic Activity	Risk	Innovation	Other	Energy	GHG/CO_2	Waste	Water	Other	Job Impacts	Other
Collection of Statistical Information on SPP in the EU	UK, Austria, Sweden, Finland, Denmark, Germany, Netherlands	x						x					
Costs and Benefits of Green Public Procurement in Europe, Part 1	European public procurers	x											
Options to Improve the Uptake of Green Public Procurement in the EU	European Union	x			x	x		x		x	x	x	
Improving the Environmental Performance of Public Procurement	OECD				x	x					x	x	x
GPP in Lithuania	Lithuania							x					
Taking the Lead: A Guide to More Responsible Procurement Practices	Various private companies			x		x							x
Green Purchasing in Australia, 2009	Eco-Buy Membership										x		
	Toyota Australia Organizational Green Purchasing					x	x	x	x	x	x		
	Melbourne Airport – Cost	x					x		x				
	Fuji-Xerox Australia – Supply Chain			x		x							x
	Whitehorse City Council – Staff Training												x
	Queensland Government Chief Procurement Office	x				x	x	x					
	Victorian Department of Treasury and Finance						x		x		x		x
Results and Achievements of the European Project: SMART SPP	Europe	x						x					

Title	Case Study Focus	Economic					Environmental					Social	
		Cost	Economic Activity	Risk	Innovation	Other	Energy	GHG/CO_2	Waste	Water	Other	Job Impacts	Other
The Procura+ Manual: A Guide to Cost-Effective SPP	European focus	x			x						x	x	x
Benefits of Green Public Procurement	Scandinavia	x			x			x					
Life Cycle Approaches to Evaluate Sustainable Consumption Programs	Norway							x					
Sustainable Supply Chain Management	University of California, Santa Barbara (UCSB)							x					
Approach on Life Cycle Costing and its Benefits	Thai Green Public Procurement	x				x		x					
Procurement, Innovation and Green Growth: The story continues…	World (15 case studies from various countries such as Brazil, China, Australia, and Denmark). Partial list of benefits; may not be inclusive.	x						x					x
Guide to the Business Case and Benefits of Sustainable Purchasing	Business case for SPP benefits (general)	x	x	x	x	x		x	x		x		x
GPP 2020 Annual Monitoring Report	European Union							x					
Ecoprocura – City of Ghent	City of Ghent	x				x			x				

Annex 7. Guidance Framework Summary of Steps

Creating a Strategic Sustainable Purchasing Program

1. Prepare the Vision

Relevance of this Step to Benefits Measurement

Preparation is the first step in developing a sustainable purchasing program, and communication about the potential or expected benefits of SPP will support making the case for a dedicated SPP program.

In this step of the SPLC Guidance, sustainable purchasing champions articulate the need for the program, summarize the program's potential benefits, and develop a vision and pathway for achieving those benefits.

Actions Relevant to Benefits Measurement

- Identify relevant benefit categories:
  - » Which are relevant to your organization?
  - » How will achieving these benefits support our agency's mission?
  - » Are there any results from previous SPP activities or from other agencies that can be used to demonstrate benefits already achieved?
- Classify the benefits and tailor the communications:
  - » Identify the benefits that are most important to each group of stakeholders you hope to enlist.
- Start preparing for measurement:
  - » Confirm measurement approach and expectations.

Outputs Relevant to Benefits Measurement

A list of potential benefits that are:

a. most relevant to the organization and important stakeholders, and

b. expected to be measured.

2. Enlist Stakeholders

Relevance of this Step to Benefits Measurement

Sustainable purchasing champions can use the list of benefits developed in the Preparation step to enlist key stakeholders.

During the Enlist step, program champions: identify key stakeholders; plan the engagement process; invite stakeholder participation; and finalize the list of stakeholders or continue the process.

Actions Relevant to Benefits Measurement

- Test assumptions of what benefits stakeholders want to achieve and measure.
- Collect input on the importance of various measures.
- Gather information on the types of communication that will resonate with different audiences.

Outputs Relevant to Benefits Measurement

Refined list of benefits measures that will resonate with key stakeholders.

3. Design the Sustainable Purchasing Program		
Relevance of this Step to Benefits Measurement The Design step focuses on developing a shared vision and determining the best pathway for starting an SPP program. During the Design step, the sustainable purchasing champion and key stakeholders hold initial planning discussions about the program's objectives, structure, indicators for success, and resource requirements. This is also a good time to design how the program will measure the benefits it will achieve in more detail..	**Actions Relevant to Benefits Measurement** • Formalize the SPP program with a logic model (or similar) that connects planned activities to outputs and outcomes. • Generate input on the logic model from key stakeholders, discuss strategic outcomes and pathways to success. • Define program-level metrics based on the logic model. • Consider the scope of what will be measured (for the program as a whole). • Conduct a preliminary analysis of tracking systems and inventory current and needed data sources for measurement. • Lay the foundation for program evaluation by considering: baselines, expected outcomes, strength of evidence required, and internal or external evaluation/recognition.	**Outputs Relevant to Benefits Measurement** Program plan document containing: a. Logic model (or similar) showing pathway to achieve goals. b. A plan for measurement, data gathering, and evaluation.
4. Commit to the Program		
Relevance of this Step to Benefits Measurement The purpose of this step is to win senior leadership/management commitment required for the successful implementation of the program plan. This should include ensuring management's commitment to measuring and reporting results and encouraging managers to review and use measurement data as part of a continuous improvement cycle.	**Actions Relevant to Benefits Measurement** • Ensure management's commitment to measuring and reporting results. • Encourage managers to commit to reviewing and using the measurement data as part of a continuous improvement cycle.	**Outputs Relevant to Benefits Measurement** Inclusion of a commitment to measurement as part of management's commitment to the SPP Program.

Running a Strategic Sustainable Purchasing Program (Using Strategy Cycles)

SPLC's Guidance proposes the "strategy cycle" as a structured process to help organizations prioritize strategies for a sustainable purchasing program or for an initiative within that program. The strategy cycle involves six steps: (1) launch, (2) analyze, (3) plan, (4) commit, (5) implement, and (6) report. While the steps should typically be performed sequentially, they are also iterative. That is, organizations should continuously refine their strategies in subsequent stages based on new learning and updated data. Chapter 3 of the SPLC Guidance contains a wealth of information for defining and using the strategy cycle. Here we introduce actions and outputs that could integrate with a strategy cycle to improve measurement and communication of benefits of sustainable public procurement (SPP).

1. Launch the strategy		
Relevance of this Step to Benefits Measurement	**Actions Relevant to Benefits Measurement**	**Outputs Relevant to Benefits Measurement**
The Launch step includes: defining the scope of work to be undertaken in the cycle, identifying and inviting stakeholders, holding a kick-off meeting, and finalizing the scope. This step provides an opportunity to engage new stakeholders in measurement and communication discussions, which will serve the purpose of refining the program's measurement and communication of benefits. The kickoff meeting agenda suggested by SPLC's Guidance should include discussion about plans for measuring and reporting, what results will be measured, and how.	• Engage new stakeholders in measurement and communication planning. • The kickoff agenda and report-out should include a plan and budget for measuring and communicating results.	Kick-off meeting agenda and report includes a plan and budget estimate for measuring and communicating benefits.
2. Analyze and prioritize potential action		
Relevance of this Step to Benefits Measurement	**Actions Relevant to Benefits Measurement**	**Outputs Relevant to Benefits Measurement**
During the Analyze step, sustainable purchasing champions: create a shared understanding of spend analysis options; choose spend analysis methods; collect purchasing data; and conduct a spend analysis. Based on their interpretation of the results, and feedback from stakeholders, program champions prioritize areas for strategic focus and planning. Spend analysis can be used to: (1) inform prioritization of purchasing categories (as in the SPLC Guidance), and (2) set a baseline for future evaluation of benefits achieved (the focus of the rest of this section).	• Conduct a spend analysis to inform prioritization and to set a baseline for future evaluation of benefits achieved.	Spend analysis results.

3. Plan the strategy

Relevance of this Step to Benefits Measurement

The purpose of this step is to develop a strategy plan with one or more projects that address the environmental, social, and/or economic conditions of the purchasing activities prioritized in the Analyze step.

In the Plan step, the strategy team: selects decision criteria for choosing potential projects; creates, investigates, and refines a "short list" of projects for implementation; creates a timeline, indicators, targets, and milestones; develops a communication strategy; and drafts the strategy document.

This is an opportune time to plan in detail for the measurement and communication of benefits of the selected activities/ projects. Important measurement considerations include: developing a benefits classification framework; defining the scope and level of measurement activities; developing performance indicators to track progress toward achieving selected benefits; and developing a data collection and reporting strategy.

Actions Relevant to Benefits Measurement

- Create a strategy plan that includes plans for measuring and communicating benefits.
- Develop a framework to classify benefits.
- Define the scope and level of measurement activities for each SPP activity selected.
- Develop SMARRT performance metrics/ indicators.
- Determine a baseline.
- Characterize the baseline conditions.
- Develop a data collection and reporting strategy.
- Create database or data repository to categorize projects/activities and identify benefit categories.
- Capture changes in project status and performance while preserving original records.
- Assign a unique identifier to each project, activity, and/or contractor.
- Use the database to facilitate reporting and analysis.

Outputs Relevant to Benefits Measurement

A SPP activity strategy plan with:

- Timelines
- Metrics
- Targets
- Milestones
- Baseline
- Communication plan
- Data repository
- Reporting templates.

4. Commit to the strategy

Relevance of this Step to Benefits Measurement

This is the second round of commitment suggested by SPLC's Guidance. The purpose of this step is to obtain and maintain the management support required for the successful implementation of the plan.

This should include a commitment to measuring and communicating benefits.

Actions Relevant to Benefits Measurement

- Include a commitment to measurement and communication of benefits.

Outputs Relevant to Benefits Measurement

- Management's commitment to the strategy includes measurement and reporting of benefits.

5. Implement the strategy

Relevance of this Step to Benefits Measurement

In this step, the program implements the activities in its strategy plan.

The main focus of measurement activities in this stage is to ensure that data are collected in accordance with the plan.

Actions Relevant to Benefits Measurement

- Collect data in accordance with your plan.
- Conduct regular reviews of your data to make sure you're getting what you think you're getting, and to flag/follow up on any gaps or inconsistencies.
- Make sure you track green AND non-green spend so that you can do comparative evaluation later.

Outputs Relevant to Benefits Measurement

- Generate data about the SPP program's implementation activities & outputs.

6. Report on the strategy

Relevance of this Step to Benefits Measurement

In this step, the program reports on the results achieved for each indicator in the strategy plan during a specified timeframe (e.g., the previous year).

The Working Group 2B Baseline Study and feedback from workshop participants highlighted a number of issues and recommendations for reporting and communicating on SPP benefits.

Actions Relevant to Benefits Measurement

- Assign attribution.
- Contextualize and translate the benefits.
- Benchmark results.
- Report on SPP benefits.
- Seek external recognition for results achieved.
- Tailor communications to diverse audiences.

Outputs Relevant to Benefits Measurement

- Communication and reporting of the SPP benefits achieved.
- Benchmarking of results.
- External validation.
- External recognition.

Additional Strategic Considerations

Relevance of this Step to Benefits Measurement

The Framework includes additional strategic considerations for measuring and communicating SPP benefits.

SPLC expects to more fully integrate these considerations into future versions of its Guidance.

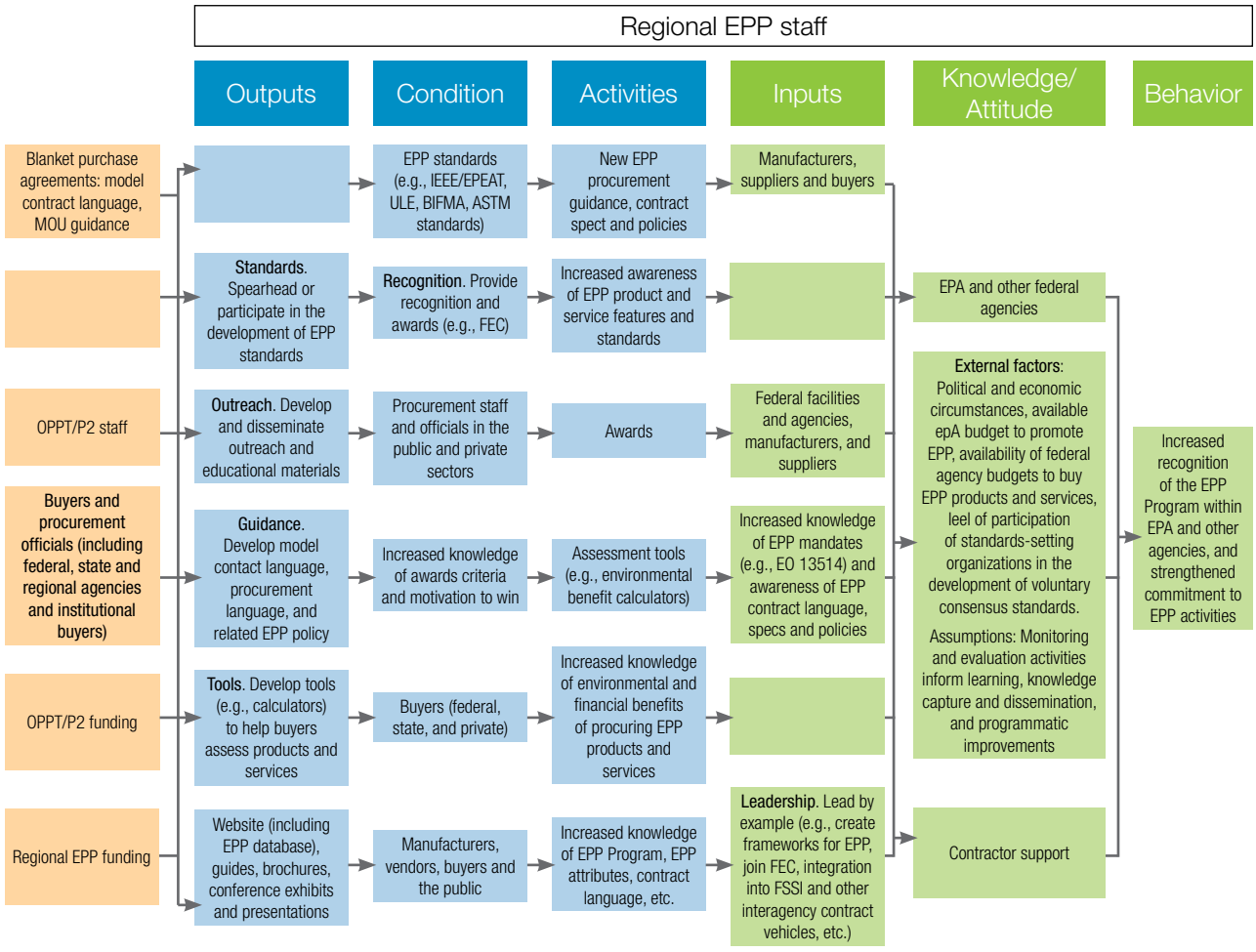
Actions Relevant to Benefits Measurement

- Conduct comprehensive program evaluations to characterize program impacts and attribution issues.
- Use measurement as a management tool to support continuous improvement and new strategy cycles.
- Increase the sophistication of measurement activities as the program builds up experience, data, and expertise.

Outputs Relevant to Benefits Measurement

- Program evaluations conducted periodically.
- Measurement informs continuous improvement and planning for further SPP program activities.
- Increased sophistication in measurement and communication over time.

Annex 8. Example of a Logic Model for the US EPA's Environmentally Preferable Purchasing (EPP) Program



Environmental Benefits

- Reduced hazardous materials released, incorporated into products, or used in processes
- Reduction in total chemical use and hazardous chemical use
- Energy conservation
- Water conservation

Financial Benefits

- Cost savings through pollution prevention improvements, energy and water conservation

About the UNEP Division of Technology, Industry and Economics (DTIE)

Set up in 1975, three years after UNEP, the Division of Technology, Industry and Economics (DTIE) provides solutions to decision-makers and helps change the business environment by offering platforms for multi-stakeholder dialogue and cooperation, innovative policy options, pilot projects and creative market mechanisms to improve the quality of the environment and the well-being of citizens.

Within UNEP, DTIE has the mandate of delivering on environmental sustainability through technology, industry and economic policy by addressing environmental issues at global and regional levels, providing leadership and encouraging partnerships, and by informing and enabling nations and people to improve their quality of life without compromising that of future generations.

DTIE plays a leading role in three of UNEP's seven strategic priorities, namely in climate change, chemicals and waste, and resource efficiency.

The Office of the Director, located in Paris, coordinates activities through:

- The **Chemicals and Waste Branch** (Geneva, Paris and Osaka), which catalyses global actions to bring about the sound management of chemicals, the improvement of chemical safety and the management of waste.
  - » The **International Environmental Technology Centre - IETC** (Osaka) promotes the collection and dissemination of knowledge on Environmentally Sound Technologies with a focus on waste management. The broad objective is to enhance the understanding of converting waste into a resource and thus reduce impacts on human health and the environment (land, water and air).
  - » **OzonAction** (Paris) supports the phase-out of ozone depleting substances in developing countries and countries with economies in transition to ensure implementation of the Montreal Protocol.
- The **Economy and Trade Branch** (Geneva), which helps countries to integrate environmental considerations into economic and trade policies, and works with the finance sector to incorporate sustainable development policies. This branch is also charged with producing green economy reports.
- The **Energy, Climate, and Technology Branch** (Paris, Nairobi, and Copenhagen), which fosters energy and transport policies for sustainable development and encourages investment in renewable energy and energy efficiency.
- The **Sustainable Lifestyles, Cities and Industry Branch** (Paris), which delivers support to the shift to sustainable consumption and production patterns as a core contribution to sustainable development.

DTIE works with many partners (other UN agencies and programmes, international organizations, governments, non-governmental organizations, business, industry, the media and the public) to raise awareness, improve the transfer of knowledge and information, foster technological cooperation and implement international conventions and agreements.

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UNEP

Even though Sustainable Public Procurement (SPP) is now recognized as an effective tool to improve consumption and production patterns, a standardized and comprehensive methodology for measuring and communicating the benefits of these programs remains elusive. The purpose of this report is therefore to provide the ever increasing number of governmental organizations engaged in SPP with a step-by-step guide to planning, measuring and communicating on the benefits they are creating through the implementation of their sustainable procurement programmes and activities.

This report includes a Baseline Review on "Measuring and Communicating the Benefits of SPP", a Guidance Framework and supporting methodologies, indicators and recommendations for implementation. Private sector organizations engaged in sustainable purchasing activities should also find the report useful.

DTI/1947/PA