Catalysing science-based action on SCP

Task group

20 February 2020
1. Overview of the inputs received (10 min)
   Cecilia Lopez y Royo, coordinator, 10YFP secretariat
   Maria Jose Baptista, Economic Affairs Officer, IRP secretariat

2. Discussion on key questions emerging from the inputs (45 min)
   task group members

3. Participation to IRP Steering Committee and One Planet network
   Executive Committee (5 min)
   Maria Jose Baptista & Cecilia Lopez y Royo

4. Wrap-up and next steps (10 min)

5. AOB
**Aim:** increased uptake of the International Resource Panel’s reports by the One Planet network (governments, business, and other stakeholders) and beyond

**Focus:**
- Natural resource use trends in key sectors and value chains: Construction, Agri-Food and potentially textiles.
- Strengthen the understanding on the critical role of sustainable resource management for climate, biodiversity and socio-economic development;
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5. **AOB**
Extracting actionable key messages from the IRP reports

Guiding questions for the identification of key messages

- What are the most relevant messages for you and your work in this report?
- Why do you consider these key messages as the most relevant?
- Are these messages actionable? How will you use them in your work?
- Is there anything missing in the report that you would have expected to find and/or would have been useful to you in your work?

Report volunteers

- Global Resources Outlook 2019. Volunteer: WRF
- G7 report - Potential and Economic Implications, 2017. Volunteer: South Africa
- Key Messages for the Group of 20, 2018– Volunteer: CRB
- Food Systems and Natural Resources, 2016. Volunteer: WWF
- Resource Efficiency and Climate change, 2019 – Volunteer: Finland
<table>
<thead>
<tr>
<th>Report</th>
<th>Most relevant?</th>
<th>Actionable?</th>
<th>Missing?</th>
</tr>
</thead>
</table>
| GRO        | • data on resource use, trends and impacts<br> • Provides an overview and analysis of issues and challenges<br> • Decoupling is possible<br> • Connects resource, climate, health and biodiversity impacts<br> • Raises inequality issues in resource use patterns | • Relevant to raise awareness<br> • General guidance on solutions<br> • Not actionable at the micro level (what stakeholder should do what)<br> • Not actionable at meta-level: does not require target group to act<br> • Can support awareness raising | • the policy recommendations are too high level. Analytical part of the report is much richer and useful that the recommendations /policy one.  
• Sectoral policy options  
• Information on what needs to be done, actions to prioritise or introduce, gaps, timeframe  
• Data to integrate RE in other policies (e.g. Climate change) |
| G7 report  | • Highlights global impact of climate change<br> • Best practices and approaches according to national context.<br> • Estimates micro and macro economic costs of resource efficiency<br> • Highlights the need to coordinate across sectors, boundaries and value-chains for a RE transition<br> • Shows multiple benefits of resource efficiency (climate, economic, social) | • they are reflected in South African policies like the Industrial Policy Action Plan or the SCP and RECP programmes. | • How will G7 work with developing economies in the transition towards Resource Efficient models |
## Overview of inputs

<table>
<thead>
<tr>
<th>Report</th>
<th>Most relevant?</th>
<th>Actionable?</th>
<th>Missing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>G20 report</td>
<td>• Shows socio-economic and climate co-benefits of resource efficiency for the</td>
<td>- Policy engagement and advocacy</td>
<td>• Pathways for RE (with policies and actions)</td>
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<tr>
<td></td>
<td>G20</td>
<td>- Science-based development of action plans</td>
<td>• Country examples</td>
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<td></td>
<td>• Helps make the case to integrate RE targets and indicators in climate policy</td>
<td>- Mobilization of multiple stakeholders</td>
<td>• Concrete collaborative processes to shift CP</td>
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<td></td>
<td>• Shows the importance of LCA and sectoral information on material use for</td>
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<td>• How to fund these actions?</td>
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<td></td>
<td>evidence-based policy making</td>
<td></td>
<td>• Challenges and failures</td>
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<td></td>
<td>• Shows disparities of resource use and beneficiaries in the G20 (High v.</td>
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<td></td>
<td>Low-Middle Income groups)</td>
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<tr>
<td></td>
<td>• GDP grows under RE scenarios</td>
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<tr>
<td></td>
<td>• Sustainable food systems can help reduce GHG emissions and result in health</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>benefits</td>
<td></td>
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<tr>
<td>RE and Climate Change</td>
<td>• Helps make the case for the integration of resource efficiency into NDCs.</td>
<td>• Can be used as a valid source of information about the connections</td>
<td>• Description of modelling assumptions (including assumptions and</td>
</tr>
<tr>
<td></td>
<td>• Provides data on potential reductions in largest global emitters</td>
<td>between RE and climate in a policy document</td>
<td>development context)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Cost implications and trade-offs of material efficiency strategies</td>
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<td></td>
<td></td>
<td></td>
<td>• More tailored policy options for emerging and G7 countries</td>
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<td></td>
<td></td>
<td></td>
<td>• Linkages to SDG narrative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Other policy measures for more intensive use</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>• Other ideas for car and house sharing systems.</td>
</tr>
<tr>
<td>Report</td>
<td>Most relevant?</td>
<td>Actionable?</td>
<td>Missing?</td>
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</tbody>
</table>
| Cities | • Cities as a priority since most consumption happens/will happen therein.  
• There is great potential to significantly decrease emissions and resource use (land, water, metals) if we decouple at the city-level.  
• Concrete targets are provided e.g. 6–8 tonnes of materials per capita per year.  
• Introduces core concepts of urban metabolism and strategic intensification for city planning | • identifies very concrete principles for integrated urban planning and provides ideas on how to shape collaborative governance systems. | • Define more concretely “construction sector”  
• More local facts could be added |
| Food   | • Makes the case for efficient use of natural resources to be the analytical basis for nature-based solutions for food systems  
• Awareness that for food system transformation a shift in diets is essential  
• Urban Food Systems  
• Biodiversity and ecosystem services are crucial natural resources for food production | • Reforming agricultural subsidies  
• Support of agro-ecological approaches  
• Re-thinking future of protein  
• Reducing food loss and waste | • True cost accounting of food Production  
• Measure impact of food on climate |
Emerging overarching points from inputs

1. Data and trends on resource use is rich and useful

2. The reports are useful for awareness raising and engagement

3. Mostly the recommendations are too general and high level to result in action or prioritization

4. The report introduces concepts and principles (e.g. decoupling and targets) **but it seems difficult to visualize how to use these** (e.g. requests for examples of concrete processes and cases, localized data)

5. Sectoral reports seem to provide more specific recommendations

6. Other?

From IRP experts on inputs provided: there seems to be a general tendency to look for the positive information, but the situation is not positive.
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4. **Wrap-up and next steps (10 min)**

5. **AOB**
<table>
<thead>
<tr>
<th>Resources</th>
<th>Food</th>
<th>Buildings /construction</th>
<th>Textiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>per capita resource use</td>
<td>• Quantified health benefits</td>
<td>• Urban demographics</td>
<td>• Increase in the chemicals used in textile processing</td>
</tr>
<tr>
<td>• Global resource use numbers</td>
<td>• Quantified GHG reduction</td>
<td>• Productivity of urban system</td>
<td>• 20% of wastewater pollution originates from textile industry</td>
</tr>
<tr>
<td>• temporal trends</td>
<td>• True cost?</td>
<td>• Quantified impact of global urban population on resource use</td>
<td>• Hazardous chemicals can leach out of textiles</td>
</tr>
<tr>
<td>• Micro and macro economic costs of RE</td>
<td></td>
<td>• Concrete targets are provided e.g. 6–8 tonnes of materials per capita per year.</td>
<td>• Economic benefit of eliminating negative health impacts from poor chemicals management</td>
</tr>
<tr>
<td>• Quantified distribution of resource use</td>
<td></td>
<td>• Cities inputs and outputs?</td>
<td>• Impact of micro/nano plastics from laundering of synthetic clothes on freshwater and marine ecosystems</td>
</tr>
<tr>
<td>• Quantification of GDP growth in relation to RE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Quantification of RE impact on GHG emissions reduction. Biodiversity, health</td>
<td></td>
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</tr>
</tbody>
</table>
Data and trends for awareness raising: Examples from the IRP

The multiple benefits of resource efficiency

- reduce natural resource use globally by **28%** by 2050
- reduce global greenhouse gas emissions globally by **63%** below 2015 levels by 2050
- more than offset the economic costs of ambitious climate action
- deliver annual economic benefits of USD **2 trillion** globally by 2050
Data and trends for awareness raising: Examples from the IRP

**Cities** can play a role in decoupling. They are centres of innovation where transport, water, sanitation, waste, energy and housing can be provided more efficiently to improve the lives of growing populations.

Currently:

- 80% of global GDP is produced in cities.
- Cities consume 60-80% of global energy.
- Cities generate 75% of carbon emissions.
- Cities consume more than 75% of the world’s natural resources.

But, city dwellers – at comparable income levels – need fewer resources than rural dwellers. Against century-long trends, higher density cities are more energy and resource efficient, when sustainable development policies are put in place.

**ME strategies can reduce GHG emissions in the material cycle of residential buildings in 2050**

- G7 countries: reduce 80-100%
- China: reduce 80-100%
- India: reduce 50-70%
What type of information would be useful for prioritization or action?
"Actionability": Example from the IRP

04. In the absence of urgent and concerted action, rapid growth and inefficient use of natural resources will continue to create unsustainable pressures on the environment.

From 2015 to 2050, Historical Trends:

- More than doubles
- Increases by 43%
- Increases by more than 20%
- Increases by 25%
- Reduces by over 10%
- Reduces by around 20%

05. The decoupling of natural resource use and environmental impacts from economic activity and human well-being is an essential element in the transition to a sustainable future.

Absolute decoupling in high-income countries can lower average resource consumption, distribute prosperity equally, and maintain a high quality of life. Relative decoupling in developing economies can result in increased welfare levels of natural resource consumption until a socially acceptable quality of life is achieved. Decoupling will not happen spontaneously, but will require well-designed and concerted policy packages.

06. Achieving decoupling is possible and can deliver substantial social and environmental benefits, including repair of past environmental damage, while also supporting economic growth and human well-being.

Well-designed and concerted policy packages can lead to:

- Lower material extraction
- Lower greenhouse gas emissions
- Lower area of agricultural land
- Lower global forest area
- Lower area of other natural habitat
- Increase in well-being
- Increase in resource recycling
- Increase in environmental pressures & impacts

07. Policymakers and decision makers have tools at their disposal to advance worthwhile change, including transformational change at local, national and global scales.

Towards Sustainability and Decoupling

08. International exchanges and cooperation can make important contributions to achieving systemic change.

International exchanges and cross-country cooperation can accelerate transitions towards sustainable natural resource use, support national decision-making, and create a level playing field for goods and services from different countries.

These different aspects call for a global discussion.

Key messages

01. The use of natural resources has more than tripled from 1970 and continues to grow.

- Global population: \(x^2\)
- Global gross domestic product (GDP): \(x^4\)
- Global per capita GDP: \(x^3\)
- Global extraction of materials: \(x^{1.3}\)
- Material demand per capita: \(x^{1.7}\)

- Global population: \(27 \text{ billion tonnes to } 92 \text{ billion tonnes}\)
- Annual extraction of materials: \(1.4 \text{ tonnes to } 12.2 \text{ tonnes}\)

02. Historical and current patterns of natural resource use are resulting in increasingly negative impacts on the environment and human health.

- Climate change impacts
- Water stress
- Land-use related biodiversity loss
- Particulate matter health impacts
- Water stress

03. The use of natural resources and the related benefits and environmental impacts are unevenly distributed across countries and regions.

- Domestic material consumption per capita
- Material footprint per capita

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Absolute decoupling in high-income countries can lower average resource consumption, distribute prosperity equally, and maintain a high quality of life. Relative decoupling in developing economies and economies in transition can raise average income levels and eliminate poverty, while still increasing levels of natural resource consumption until a socially acceptable quality of life is achieved. Decoupling will not happen spontaneously, but will require well-designed and concerted policy packages.

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Different Material Efficiency Strategies reduce emissions from different stages of the lifecycle

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Application in transportation (light-duty vehicles)</th>
<th>Type of emissions reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smaller, trip appropriate vehicles</td>
<td>Segment shift from large vehicles (light trucks, sports utility vehicles) to smaller ones (passenger cars).</td>
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<tr>
<td>Material Substitution</td>
<td>Replacing steel with aluminium (considered here) or carbon fiber, magnesium, high-strength steel</td>
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</tr>
<tr>
<td>More intense use</td>
<td>Car sharing (shift from the personal car to cars from a shared fleet) and ride sharing (driving patterns where people with same or similar driving destinations share a ride)</td>
<td></td>
</tr>
<tr>
<td>Product lifetime extension and reuse</td>
<td>Lifetime extension (of electric vehicles): Better design (facilitating repurposing of a product), increased repair, enhanced secondary markets</td>
<td></td>
</tr>
<tr>
<td>Enhanced end-of-life recovery and fabrication yield improvements</td>
<td>Reduce the amount of material scrap used in the fabrication and manufacturing process</td>
<td></td>
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<tr>
<td></td>
<td>Improvement of the share of materials salvaged as scrap from discarded products and recycling</td>
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</tbody>
</table>
C. Pathways for resource-efficient and inclusive urban development in the ASEAN region

This report highlights five strategic infrastructure pathways for resource-efficient and inclusive urban development. Building upon UN Environment International Resource Panel’s (IRP) global report, The Weight of Cities: Future Resource Requirement of Future Urbanization (2016), these pathways have great potential to be applied to diverse cities across the ASEAN region, as demonstrated by several successful case studies drawn from ASEAN cities and from urban areas in China and India. These pathways offer important opportunities to advance resource efficiency, providing opportunities for resource savings, economic savings, inclusive and equitable development, pollution mitigation and disaster resilience, and enhanced overall well-being of people and the planet.

**PATHWAY #1**
Undertake national and cross-ASEAN urbanization planning to balance economic growth across a range of city sizes while preserving high-value agricultural lands and ecosystem services.

**PATHWAY #2**
Promote compact, mixed-use, accessible, and inclusive urban form through urban-regional and city-level planning to reduce land expansion, streamline infrastructure provision, and promote diverse sustainable mobility options.

**PATHWAY #3**
Develop zero slum cities through inclusive land use planning that prevents slum formation, and in situ (or nearby) rehabilitation of existing urban slums in resource-efficient and disaster-resilient multi-storey construction.

**PATHWAY #4**
Promote resource-efficient and resilient buildings and electric grid systems by leveraging advanced and vernacular building technologies, engaging user behaviours and cultural norms, and linking renewable energy in cities with the cross-ASEAN electric grid.

**PATHWAY #5**
Promote resource efficiency at the systems level across the city through innovative and profitable exchanges of "waste" energy and materials across industries and residential-commercial sectors.

The following pages present a brief on each of the pathways, outlining specific actions at multiple levels of government.

**FINDINGS FROM THE GLOBAL WEIGHT OF CITIES REPORT**
The Weight of Cities report recommends five broad urban land use and infrastructure strategies including:

- Avoiding urban area expansion onto agricultural lands and high value natural assets.
- Planning for strategic intensification and limiting urban sprawl.
- Promoting energy efficiency strategies in single sectors.
- Supporting cross-sectoral efficiency across urban areas and infrastructure systems.
- Advancing urban experimentation to innovate on sustainable behaviour change, urban finance and multi-sector governance.

The report argues that a factor of ten reduction in energy and material use is possible from an original “business as usual” (BAU) scenario (representing 100 per cent resource use) through the above strategies (IRP 2018).
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5. AOB
IRP and One Planet exchanges

IRP Panel and Joint meetings: 5-7 May, Bangkok

Executive committee: 19-20 May, Paris

- All task group members are invited to both
- Participation of 2 task group members per meeting can be sponsored (2 One Planet members to IRP steering committee, 2 IRP members to One Planet executive committee
- Selection will be made on the basis of regional and stakeholder group balance, as well as level of participation in the task group.
- Please send your expression of interest by 6 March
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