Session 2:
Catalysing science-based policy action on SCP

IRP/One Planet Task group
One Planet Executive Meeting
2020
Registered Participants

Argentina, Chair
Switzerland, Vice-Chair

Colombia
Hungary
Israel
Japan
Kenya

One Planet network Board Members
One Planet Executive Meeting 2020
Registered Participants

One Planet network Programme leads

**Sustainable Lifestyles and Education Programme**
- Japan – Ministry of Environment & Institute for Global Environmental Strategies
- Sweden – Ministry of the Environment & Stockholm Environment Institute

**Sustainable Public Procurement**
- China – Environmental Development Center, Ministry of Environmental Protection
- ICLEI – Local Governments for Sustainability
- Netherlands – Ministry of Infrastructure and the Environment
- UNEP – United Nations Environment Programme

**Sustainable Buildings & Construction Programme**
- Finland – Ministry of Environment
- RMIT University
- UNEP – United Nations Environment Programme

**Sustainable Food Systems Programme**
- Costa Rica – Ministry for Livestock and Agriculture
- Switzerland – Federal Office for Agriculture
- WWF – World Wide Fund for Nature

**Consumer Information Programme**
- Germany – Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety
- Consumers International
- Indonesia – Ministry of Environment and Forestry

**Sustainable Tourism Programme**
- Spain – Secretariat of State for Tourism, Ministry of Industry, Trade and Tourism
- France – Ministère de la transition écologique et solidaire
- UNWTO – World Tourism Organization
Catalysing science-based policy action on SCP

Ms. Ligia Noronha
Director, Economy Division
United Nations Environment Programme
Introduction to Session 2
- Agenda
- Task group mandate and composition (10’)

Overview of the Task Group
- Review of the reports of the International Resource Panel (5’)
- Way forward for a systemic and value chain approach (5’)

Know key hotspots: Review of data and information available to identify key hotspots in the prioritised value chains analysed so far
- Food Value Chains (15’)
- Textiles (15’)
- Buildings (5’)
- Q&A

Break-out group discussions on applying a systemic and value chain approach to identify key hotspots and guide solutions
- 8 break-out groups - 3 x food systems, 3 x textiles, 2 x buildings & construction

Plenary discussion
- Reporting back of the break-out groups.

Summary, next steps and close
14.00
14.10
14.10
14.20
14.20
15.00
15.00
15.30
15.30
15.50
15.55
16.00
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- 16.00
UN Environment Assembly resolution on “Innovative pathways to achieve sustainable consumption and production” (UNEP/EA.4/L.2), request to:

Establish an IRP & One Planet network time-limited task group

“Establish, within existing resources and building on work already undertaken without duplication of efforts, a time-limited task group comprising the International Resource Panel and the One Planet Network…”

To provide insights and solutions on natural resource and raw material management re SCP

“To provide insights on the management of natural resources and raw materials in relation to the 2030 Agenda for Sustainable consumption and production, as well as to identify, taking into account national circumstances, technical tools, best practices, policy options, sustainable technologies and innovative business models, and finance flows in this regard. Requests further that the task group…”

Presenting results at UNEA 5 in 2021

“Requests further that the task group completes its work in time to present the results to the United Nations Environment Assembly at its 5th session…”
Aim: increased uptake of the International Resource Panel's reports by the One Planet network (governments, business, and other stakeholders) and beyond

Focus:
1. Identify natural resource use trends in key sectors and value chains: construction, food systems and textiles.
2. Defining and undertaking a consultative process that leads to actionable recommendations

Overview of the Task Group

“Supplier” of scientific evidence and data

Inform
Use
Prioritise
Strengthen

“User” of scientific evidence and data
IRP-One Planet Task Group Composition

Argentina, Chair 10YFP Board
Rodrigo Rodríguez Tornquist, Ministry of Environment & Sustainable Development

Finland
Ms. Merja Saarnilehto, Programme Manager, Ministry of Environment

The Netherlands
Mr. Arthur Eijs, Ministry of Infrastructure & Water Management

South Africa National Cleaner Production Centre
Mr. Ndivhuho Raphulu, Director

European Commission
Mr. Jesus-Maria Alquezar Sabadie, Socio-economic analyst

UN-Habitat
Mr. Christophe Lalande, Leader – Housing Unit

UNEP
Ms. Ligia Noronha, Director, Economy Division

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UN-Habitat
Mr. Christophe Lalande, Leader – Housing Unit

UNEP
Ms. Ligia Noronha, Director, Economy Division

IRP
Mr. Jeffrey Herrick, Soil Scientist, USDA, Agricultural Research Services

IRP
Ms. Stefanie Hellweg, Professor, ETH Zurich

IRP Co-Chair
Ms. Izabella Teixeira, former Minister of Environment, Brazil

Centre for Responsible Business, India
Mr. Rijit Sengupta, Chief Executive Officer

Saudi Green Building Forum, Saudi Arabia:
Mr. Faisal Alfadl, Founder/Chief Representative to United Nations

World Resources Forum
Mr. Bas de Leeuw, Managing Director

WWF-International
Ms. Martina Fleckenstein, Policy Manager, Food Practice
14.00 - 14.10 Introduction to Session 2
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15.50 - 16.00 Summary, next steps and close
Overview of the Task Group

Mr. Bas de Leeuw
World Resources Forum

Ms. Izabella Teixeira
International Resource Panel
Extracting actionable messages from the IRP reports

Guiding questions for 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: World Resources Forum
- 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-International
- Resource Efficiency and Climate change, 2019. Volunteer: Finland
Key points emerging from the review of the reports

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

2. Reports are useful for awareness raising and engagement.

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

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

5. Envisage a systematic process prior to issuing reports, that leads to actionable recommendations.

6. For actionable recommendations: need for contextualisation: per sector, per stakeholder group etc. Sectoral reports seem to provide more specific recommendations.

7. Build on existing reports and process that have led to actionable recommendations e.g.: Addressing Marine Plastics: a systemic approach. Recommendations for action.
Examples of type of information and data needed

Types of resources
- What resources? Name the physical element: water, topsoil, land, minerals, nutrients, fossil fuels, rare earth minerals, forests, fish stocks, sand, etc
- Current state of degradation / depletion of each resource
- How long left based on current rates of extraction / use?
- Which resources are used least efficiently / in which industries and for which products.

Per sector and industry
- Which resources most-used in each of the 3 sectors?
- Rate of virgin natural resource input to output for each sector and industry, in each country (material efficiency / resource efficiency by industry)
- Which industries are least / most resource-intensive / efficient? Which are improving? Which are going backwards? Etc

Per stage of the value chain
- Which resources at each stage of the 3 value chains?
- What environmental consequences of resource use e.g. Pollution, climate change, biodiversity loss
Overview of the Task Group

The systemic and value chain approach

1. **Know key hotspots**
   Most impactful polymers and products, life cycle stages, pathways and fates, impact categories, geography...

2. **Generate holistic solutions**
   Upstream (design and production), midstream (consumption and reuse) and downstream (disposal and recycling), not missing hotspots or creating trade-offs

3. **Coordinate**
   All actors of the value chain while prioritizing leverage areas: government, companies, research institutions, waste sector, finance sector, consumers

4. **Prioritize actions**
   Based on potential impacts, and feasibility of implementation

5. **Reach common goals**
   Resource efficiency, circular economy, reduction of pollution and impacts, and improve prosperity...

Building on existing processes to define a systemic approach for developing recommendations
Objective:
• Identify where problems and opportunities are (and therefore guide solutions)
• Make relevant to things people can relate to: countries, sectors, materials
• Demonstrate what is at stake

3 entry points for the data:
• Resources / materials
• Sectors / value chains
• Countries

Data and information from:
• IRP Reports
• UNEP reports
• SCP-HAT
• Material Flows database
• WESR
• other sources

3 sectors/value-chains:
• food systems,
• construction,
• textiles
Objective:
• Define a process to develop actionable recommendations, building on other initiatives’ experience
• Consultatively develop science-based actionable recommendations in the 3 sectors

Recommendations at levels of:
• Sector
• Stage of the value chain
• Stakeholder
• Product category

2-tier consultations
1. Identifying gaps and entry points in the sectors/value chains: Consultation mainly with experts / Academia - Science / data driven - online: May – July

2. Identifying how stakeholders can help address these gaps: Multi-stakeholder consultations – participants to be identified - in-person or online: September-October
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Know key hotspots: 
Food Systems

Ms. Martina Fleckenstein
WWF-International

Ms. Samantha Webb
10YFP Secretariat
IRP - One Planet Science Policy Task Group
Food Value Chains

19 May 2020
Food across the One Planet network

Introduction to IRP – One Planet Task Force: Food Value Chains

Overview of food value chain, sources, data availability and gaps

Natural resource & environmental impacts use along the value chain

Applying the food systems lens to the value chain
1. Food across the One Planet network
Outcomes and opportunities identified from 2019 Executive Meeting:

- Sustainable Food Systems programme to influence work of other programmes; and other programmes to act as amplifiers or multipliers with different stakeholder groups, in different sectors, and to different audiences.

- Sustainable Food Systems programme to define opportunity for collaboration with Consumer Information, Sustainable Tourism and Sustainable Public Procurement programmes, including within existing core initiatives and the task force on partnerships.

- Sustainable Food Systems Programme to organise meeting with entire network to discuss potential cross-programme collaborations – inviting the leads of the other programmes to share with the larger network what was discussed during the Executive Meeting and define their involvement.
Food across the One Planet network

Total activities on food reported across the six programmes throughout the different reporting periods.
2. Introduction to IRP – One Planet Task Group: Food Value Chains
Most relevant
• 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

Actionable
• Reforming agricultural subsidies
• Support of agro-ecological approaches
• Re-thinking future of protein
• Reducing food loss and waste

Missing
• True cost accounting of food Production
• Measure impact of food on climate
3. Overview of food value chain, sources, data availability and gaps
The Food Value Chain

**Primary production**
Crops, livestock, fishing

**Input industry**
Seeds, fertilisers, pesticides

**Food processing & packaging**
Private food companies

**Transport / logistics**
Trucks, shipping, air, refrigeration

**Food Service**
Restaurants, cafes, takeaway, catering, cafeterias

**Waste / Disposal**
Landfill, pollution, recycling

**Retail**
Supermarkets, markets

**Individual Consumption**
At home, away from home
Sources

International Resource Panel
Food Systems and Natural Resources (2016)

UN Environment Programme
Global Environment Outlook 6 (2019)
Nutrient Management: the issue
Towards a “Great Food Transformation (2019)
Indicators for a Resource Efficient and Green Asia and the Pacific

Food & Agricultural Organisation
State of Food Security and Nutrition (2019)
World Food Day (2018)
Data Availability and Gaps

Stocks, flows and status of natural resources & environmental impacts at country level
Difficult to monitor and measure, huge differences across countries and even within countries, major differences across difference types of food systems (traditional / modern)

Food-product specific resource use and environmental impacts
Data is at a general or ‘agricultural’ level, which makes it hard to translate to how people understand and conceive of food in their own lives, as types and products. As recommendations involve diet, opportunity to connect natural resources with specific foods.

Natural resource use and environmental impacts along the value chain
Data focus is on primary production (where biggest impact is), limited specific data on use at processing, transport, retail, food service, consumption or waste stages

Political economic analysis of food value chain
Good overall description of food value chain and emphasis on its importance, but lacking analysis of the different stages, the governance and institutions that shape their operations, their economic role, points of intervention.
Biomass as a metric

- Measured within material flow accounting - official indicator for SDG 12.2 (along with fossil fuels, metal ores and non-metallic minerals)
- Biomass flow shows food as one of the most material-intensive sectors
- SDG 12.2 on: sustainable management and efficient use of natural resources
- However biomass measures agricultural output, not natural resource input (e.g. land, water, nutrients embedded without biomass)
- E.g. 10kg of cereal crops uses significantly less natural resources than 10kg of red meat.
- As a volume of output per kg, how can biomass capture improvements in resource efficiency of food production?

Five biomass sub-categories:

- **Crops**: sugar crops, cereals n.e.c, oil bearing crops, vegetables, fruits, roots and tubers, rice, wheat
- **Crop residues**: straw, other crop residues, sugar and fodder beet leaves
- **Wood**: wood fuel and other extraction, timber (industrial roundwood)
- **Grazed biomass and fodder crops**: grazed biomass (i.e. livestock)
- **Wild catch and harvest**: wild fish catch, all other aquatic animals, aquatic plants
4. Natural Resource use in food systems along the value chain
Land, soils, landscapes
Land on which to grow crops and graze livestock, soil quality in which to grow food; land for processing factories, supermarkets, restaurants etc

Water
Rainfall and irrigation for crops, water used in food processing, disposal

Biodiversity & Ecosystem services
Pollination, biological pest & disease control, regulation of soil, nutrient recycling

Genetic Resources
Seeds and animal breeding

Many of the resources that are critical to food systems are renewable resources, which means that after exploitation they can return to their previous stock levels by natural processes of growth or replenishment, provided they have not passed a critical threshold or 'tipping point' from which regeneration is very slow (e.g. soil degradation, renewable aquifers), or impossible (e.g. species extinction, finite aquifers).
<table>
<thead>
<tr>
<th>Producing food</th>
<th>Processing &amp; Packaging food</th>
<th>Distributing &amp; Retailing food</th>
<th>Consuming food</th>
<th>Managing waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites for factories</td>
<td>Sites for transport and storage, infrastructure and shops</td>
<td>Sites for landfill</td>
<td>Land, soils, landscapes</td>
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### Water

<table>
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<tbody>
<tr>
<td>Irrigation; aquaculture</td>
<td>Washing; cooking</td>
<td>Cooking</td>
<td>Dumping and removing waste</td>
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<tr>
<td>Biodiversity &amp; Eco-system services</td>
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</thead>
<tbody>
<tr>
<td>Pollination; pest control; water and nutrient regulation</td>
<td>Biomass for paper and card</td>
<td>Livestock for transport</td>
<td>Food variety; charcoal and wood for cooking</td>
<td>Microbes to aid decomposition</td>
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Non-renewable resources face absolute physical limits to their quantity, beyond which the resource will be depleted. Contemporary food systems are also dependent on a number of non-renewable resources, primarily in the form of human-made inputs designed to improve the productivity of agriculture.
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<tr>
<td>P, K, N etc. for fertiliser and feed</td>
<td>Iron, tin, bauxite (Al), kaolin and other resources for packaging</td>
<td>Iron and other resources for transport, infrastructure</td>
<td>Iron and other resources for cooking and storage, equipment</td>
<td>Iron and other resources for incinerators</td>
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<tr>
<td>Fossil fuels</td>
<td>Fertiliser and agrichemical production; machinery</td>
<td>For cleaning; drying; processing; packaging</td>
<td>For transport and warehousing; freezing and cooling; heating and lighting shops</td>
<td>Cooking; cleaning</td>
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<td>GHG emissions</td>
<td>Fertiliser production and use; irrigation; tillage; machinery; livestock, rice, land conversion</td>
<td>Cooking; cleaning; machinery</td>
<td>Trucks, cold chain leakages, outlet heating and lighting</td>
<td>Cooking; catering; restaurants</td>
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<tr>
<td>Air quality</td>
<td>Forest burning and pastures; dust; ammonia emissions (mainly from livestock)</td>
<td>Factory exhausts</td>
<td>Truck exhausts</td>
<td>Cooking smoke</td>
</tr>
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<td>Biodiversity loss</td>
<td>Land conversion; intensification; hunting &amp; fishing; habitat fragmentation</td>
<td>Biomass for paper and card</td>
<td></td>
<td>Charcoal; fuel wood</td>
</tr>
<tr>
<td>Soil quality</td>
<td>Erosion, nutrients, salinisation, compaction, soil organic matter decline, biotic decline</td>
<td>Pollution</td>
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<tr>
<td>Water quality</td>
<td>Eutrophication; pesticide pollution; sediment load</td>
<td>Pollution; litter</td>
<td>Emissions from shipping, coastal degradation</td>
<td>Detergents</td>
</tr>
</tbody>
</table>
More than 80% of food systems emissions come from primary production

Emissions from crop and livestock production grew from 4.7 gigatonnes in 2001 to 5.3 gigatonnes in 2011, with this increase occurring mainly in developing countries.

According to the IPCC land report in 2019, this figure could be as high as 27%.
Environmental Impacts

Primary production
Crops, livestock, fishing

Input industry
Seeds, fertilisers, pesticides

Food processing & packaging
Private food companies

Transport / logistics
Trucks, shipping, air, refrigeration

Food Service
Restaurants, cafes, takeaway, catering, cafeterias

Individual Consumption
At home, away from home

Waste / Disposal
Landfill, pollution, recycling
Socio-economic impacts

Health
Malnutrition, undernourishment, overweight, obesity, antimicrobial resistance, zoonotic diseases, fresh water access

Livelihoods
Right to food, resource conflict, land rights, climate change impacts
5. Applying the food systems lens to food value chains
“The key to a more sustainable and efficient use of resources at the primary production stage is often in the hands of other actors in the food system.”

- IRP
Drivers of food systems

Science & technology
Research & development; innovation; information

Sociocultural
Social norms and values; consumer information, behavior, trends; traditional knowledge

Policies and regulations
Taxes and subsidies, land rights, food safety

Infrastructure
Roads, ports; communication networks, energy grids

Demographics
Population growth, growing middle class, urbanisation

Socioeconomic
Market opportunities, income distribution, education, health

Environment
Natural resources, ecosystem services, biodiversity, climate change

Geo-politics
International trade, international finance, political stability
Consolidation & Vertical Integration

Small number of companies control a significant proportion of the market, and the same company controlling different stages of value chain from farming to processing to retail.
- Top 10 retail companies control 10% of global market
- Top 10 food processing companies control 28% of global market

From public to private governance
Last several decades have seen the ‘rolling back’ of the state, with food systems increasingly controlled by large private players setting standards and contracts in terms of size, quantity, quality of food produced by farmers.

Driven by market dynamics
Strive to be cost-efficient, leading to externalisation of environmental costs and social impacts. E.g., products that are high in calories (from fat and sugar) make more profit, though this leads to obesity and diet-related diseases.

Big business and a big employer
In the EU, food & beverage is the largest manufacturing sector and the largest employer: it contributes 2.1% of GVA, comprises more than 294,000 companies, employs 4.72 million people.

“The global food system … is not a neutral supply chain; actors such as food processing companies and retailers largely shape both supply and consumer demand.” - IRP
Farmers & Fishers

Fragmentation & Weak Position

**One billion farmers**
Globally, there are one billion farmers with around 450 million farms, the majority (85%) small-holder farmers with farms less than two hectares. The number of farmers is much smaller in developed countries, with just 20-24 million farmers across all OECD countries.

**Low prices and shrinking profit**
Farmer share of profit in the food dollar is consistently falling over recent decades. Low profit margins put farmers in precarious position, make them dependent on food companies they sell too, and leave little margin to invest in more sustainable practices.

**Structurally weak position**
Uneven power balance where farmers have few potential customers that they can sell too (due to consolidation), and therefore are in a weaker bargaining position. Farmers are compelled to accept the prices, standards and contract terms offered to them by food companies, with limited capacity to negotiate. Can contribute to food loss.

**Lack of infrastructure & low productivity**
Many farmers in traditional food systems suffer from a lack of infrastructure both physical and institutional to improve both productivity and profitability.

“Those who set the conditions for contracts and/or the standards requirements determine the playing field for the various actors in the food system.” - IRP
Shaped by the food environment

Options determined by physical environment
Consumption decisions of billions of consumers influenced by food environment, including selection of food markets, supermarkets, products, restaurants. Consumers in urban areas largely purchase processed, packaged, refrigerated food that originates from all over the world. In USA, 50% of food is consumed away from home.

Lack of access and skills
Many people do not have the skills or confidence to prepare their own food from fresh ingredients, and therefore rely on processed and pre-prepared options. For many people of limited economic means or time, processed and packaged food can be an affordable way to feed themselves and their families.

Lack of awareness
Individuals have limited information on the consequences of their consumption behaviour, for health, the natural environment and farmer livelihoods. Information on food products can be confusing and misleading, causing consumers to think they are making more sustainable or healthy choices than they actually are.

Influenced by food companies
Food companies, restaurants, & retailers actively tempt consumers to make certain choices, including advertising, packaging and presentation.

“The ‘food environment’ plays a major role in determining food consumption patterns, especially in urban food systems.” - IRP
The Food Value Chain

Primary production
- Crops, livestock, fishing

Transport / logistics
- Trucks, shipping, air, refrigeration

Food processing & packaging
- Private food companies

Food Service
- Restaurants, cafes, takeaway, catering, cafeterias

Waste / Disposal
- Landfill, pollution, recycling

Input industry
- Seeds, fertilisers, pesticides

Retail
- Supermarkets, markets

Individual Consumption
- At home, away from home

Consolidation, structurally powerful, shape both production and consumption

Fragmentation, structurally weak

Fragmentation, limited choice
What types of food we produce and consume:
Vast differences in resources and environmental impacts to produce different types of food along stages of the value chain including production, processing, transportation, and disposal.

How much food we produce and consume:
One-third of all food produced is either lost at the production, transportation, or processing stages, or wasted downstream at the retail, food service, and consumption stages.

How we produce food:
The majority of natural-resource use and environmental impacts take place during production. Changing practices is critical using resources more efficiently and sustainably, while causing less damage to the environment.

Sustainable diets:
Shift to plant-rich, away from ultra-processed foods & meat consumption.

Food loss & waste:
Improved rural infrastructure, reshaping food environment.

Sustainable intensification of yields:
E.g. nutrient management, use of ecosystem services.

Challenges & Opportunities
Need to connect data and narrative around these four key elements.
Know key hotspots:
Textiles

Rijit Sengupta
Centre for Responsible Business, India

Bettina Heller
UN Environment Programme
IRP/One Planet Executive Committee Online Session

Inputs from Task Group on Science based Policy Action on SCP

Perspectives on the Textiles Sector

Rijit Sengupta
Centre for Responsible Business (CRB)
19th May, 2020
ABOUT CRB

Think-tank established in 2011 to promote and facilitate uptake of sustainable business practices across various sectors in India, supported by EVIDENCE (policy & action research), KNOWLEDGE (capacity building & advisory) and NETWORK (multi-stakeholder platform/fora)

VISION

Businesses Integrate Sustainability into their Core Business Practices

THEMATIC AREAS

Circular Economy • Business & Human Rights • Private Sector & SDGs
Voluntary Sustainability Standards • SMEs & Sustainability

SECTORS

Apparel & Textiles ▲ Agro based industries ▲ ICT & Electronics ▲ Minerals & Mining
Gems & Jewellery ▲ Pharma
Annual economic benefits of $2 trillions annually by 2050 — Integrated economic, environmental and climate modelling shows substantial potential to achieve economically attractive resource efficiency, reducing natural resource use and boosting economic growth across G20, to the tune of $2 trillions (combined).

Reduction of GHG Emissions by 15-20% by 2050 — RE activities would improve consumption and production processes, leading lower GHG emissions — thus helping G20 nations reach their INDCs

7% increase in GDP of G20 countries — RE would lead to diversification of modes of production and consumption; renewable energy, technology addressing climate change (mitigation and adaptation), water and energy efficient technologies could attract new investments, leading to a leap in the combined GDP of G20 countries.

Investment of $900 bn could create 9-25 mn jobs in G20 countries — investments in renewable energy, clean tech, electric mobility, etc. would create new jobs; modern paradigms like circular economy might require reskilling of some workers, and redesigning of processes, but have great promise in providing holistic benefits.
• Integration of resource efficiency (RE) indicators and targets (w.r.t to materials, water, land and carbon) in national climate policy would help in meeting the NDCs targets.

• Developing INFO BASE on material use (material intensity across agriculture, forestry, mining, infrastructure, etc.) is crucial for evidence-based RE policy making in these sectors

• GDP grows strongly under Combined RE & Emission Abatement Policies (EFFICIENCY PLUS) till 2050 in G20 countries (2% higher than existing trends).

• Moving towards sustainable food systems could help both in reducing GHG emissions and result in substantial health benefits

• Water decoupling offers a major effective strategy to mitigate GHG emissions
RELEVANCE

Why are these messages most relevant?

- Highlighting benefits (economic benefits, jobs, GHG reduction) from resource efficient policies & initiatives will create the 'business case' for advocating integration of resource efficiency (RE) in the national policymaking circuit.
- Shift towards RE will have to be supported by enabling policy environment – hence identifying possible policy innovations towards RE through an evidence-based scientific process would be key.
- In sectors where material use intensity is high, scientifically derived & time-bound material use reduction targets through a multi-stakeholder process will widen the support for RE initiatives and actions.
- Highlighting contribution of RE indicators and targets (in terms of materials, water, land and carbon) for achieving NDCs will help create political 'buy-in'.
- There is a strong case made for integration of resource efficiency & emission abatement policies (EFFICIENCY PLUS approach). Such policy cohesion and coordination will help achieve effective implementation of RE initiatives.
Sustainability and Circularity in the Textile Value Chain

GLOBAL STOCKTAKING

The Textile Value Chain and its Hotspots

Bettina Heller, bettina.heller@un.org
Claire Thiebault, claire.thiebault@un.org
One Planet network Executive Meeting
The textile industry

- **300 million employees** along the value chain
- Clothing **production** approximately **doubled** in the last 15 years
- < 1% **recycled** into new clothing
- 62% of global fibre production are **synthetic** fibres (2018)
- accounts for 8% of world’s **GHG emissions**
- **water** consumption of 215 trillion liters per year
- 9% of annual **microplastic** losses to oceans
based on

- **research** by United Nations Environment Programme (UNEP) and FICCI

- **multi-stakeholder consultations:**
  - expert workshop by UNEP Jan 2019
  - session during the Fourth United Nations Environment Assembly
  - session at the World Circular Economy Forum (SITRA 2019)

- **peer review** by stakeholders and experts

- **report**: *UNEP, Sustainability and Circularity in the Textile Value Chain. Global stocktaking. Forthcoming (2020)*
Textile Value Chain

- comprises actors and stakeholders
- often represented as linear albeit possible loops
- aspiration to shift to circular system while keeping materials at highest possible value

Source: UNEP, 2020
• stages of low value primarily in Asia and developing/transitioning countries (net exporters)
• with rising value of product the global share diversifies geographically
• latest stages in value chain considerable globally diversified with major players Europe and North America (net importers)
Environmental hotspots

- **Cotton cultivation**
  - fertilizer, herbicides, pesticides
  - land use (biodiversity & habitat loss)
  - high water usage

- **Wet finishing process**
  - coal-based energy
  - chemicals & water pollution

- **Synthetic fibre**
  - fossil fuel

- **Washing & drying**
  - electricity
  - water
  - detergent
  - microfibres

Impact relatively low, but significant resource and economic loss (only 13% recycled) → loss of potential to decrease impacts across all stages

Source: UNEP, 2020
### Environmental Impacts

#### Climate Change

**greatest potential** in reduction in climate impact by **extending the useful life of clothes** and **changing laundry practices**

#### Water Resources

**raw material production, textile production and use** highest in terms of freshwater use **water scarcity footprint** varies per country (e.g. China 34% as cotton grower and high share of yarn and textile production)

#### Ecosystem Quality

**cotton** cultivation and **wet processing** (use of resources and agrochemicals), and textile **finishing** and **use** phase (high fossil energy use) hotspots

#### Land Use

**fibre production** stage has highest impact; primarily cotton and small contribution from cellulosic fibres; albeit natural fibres accounting 1/3 of global fibre production

Source: UNEP, 2020
greatest potential in reduction in climate impact by extending the useful life of clothes and changing laundry practices

> 3.3 billion mT of GHG/ year

Source: UNEP, 2020
**Human Health Damage**

- Cost of *occupational illnesses* due to poor *chemical* management estimated at €7 billion per year (by 2030);
- Extraction/burning of *fossil fuels* for textile finishing and use phase;
- Ingestion/inhalation of *microfibres* poses unassessed risks.

**Social Risks**

- *Fibre production* stage contributes to up to 57% of social risks in general and 68% of *injury* risks;
- Highest social risks in *natural fibre* production;
- *Excessive working* time highest risk in garment *assembly*.

**Value Loss at End-of-life**

- Annual material *loss of USD 100 billion*;
- Re-use of clothes shows *positive environmental* impact but can pose risk at importers’ *local* textile producers and flood badly equipped *landfill* sites.

Due to 3 common practices:
- Demand for short lead times
- Demand for flexibility
- Continual search for lower prices

*Source: UNEP, 2020*
Average social risk considers risk of child labour, corruption, forced labour, gender inequality, high conflict, fragility in the legal system, exposure to toxins and hazards, and sector average wage below country minimum wage.
Summary of hotspots identified

**fibre production**
- fossil fuels (synthetic fibres)
- usage of land, water and agrichemicals (natural fibres)
- unsafe working conditions and fragility of legal system

**yarn and fabric production**
- no hotspots identified

**textile production**
- fossil fuel
- hazardous chemicals
- microfibre release
- unsafe working conditions and fragility of legal system

**use phase**
- electricity use in textiles care (fossil fuels)
- water use and microfibre release (washing)

**end-of-life**
- low recovery rates (high material value loss and non-renewable resource depletion)

Source: UNEP, 2020
UNEP aims to provide leadership and convene partners to develop knowledge and solutions to advance towards sustainable and circular textile value chains, while supporting sound management of chemicals.

- Online consultation workshop mid-2020
- Development of roadmap to guide key actions
Key needs, priority actions & next steps (2/2)

➢ Assessments of sustainable economic models’ potentials to support the transition to SCP in the textile value chain

In support of the implementation of the UNEA-4 resolution on SCP and its operative paragraph 16 requesting UNEP to ‘undertake (...) a study based on a lifecycle approach and profiting from the work of the IRP and the One Planet Network, on the potential of current sustainable economic models for achieving SCP in certain sectors, such as textiles (...), including through value retention processes, such as direct reuse, repair, refurbishment and remanufacturing (...)’

UNEP, in collaboration with the IRP, aims at providing a better understanding how innovative sustainable economic models in the textile value chain can contribute to the overarching goal of advancing SCP patterns.

Objective: Provide evidence and quantitative analyses on the macro-economic, environmental and social impacts of value retention processes and other innovative policy frameworks in the textile value chain.

Timeline: Sept 2020 - Sept 2023
• Catalysing
• Science-based
• Policy Action
### MOVING TOWARDS ACTIONS...

#### Strategies to make the messages more actionable

- **Focus needed on actual pathways/strategies to achieve the potential benefits (CAPACITY BUILDING)**
  - Priority actions at different levels/groups of stakeholders
  - Policy changes (experience - what worked and what didn’t; new ideas)
- **Processes to create “new production paradigms” and redefining “wellbeing” (MULTI-STAKEHOLDER ENGAGEMENT)**
  - Mechanisms to create consensus among key stakeholders; international, legally binding agreements
  - Education and awareness; collaborative processes
- **Challenges and opportunities in funding the shift/transformation (FINANCIAL SUPPORT)**
  - New sources of finance; processes to divert available finance
  - Examples of successes and failures
Various approaches/models adopted by the private sector to support SDG12 (RE and Circularity)

Policy innovation/interventions to trigger and support circular transition in Indian textile & apparel

Some emerging priority areas:
- Recycling of water (for processes like dyeing, washing) and role of Municipalities/Local Authorities
- R&D on alternative fibres - design for recyclability and reusability
- Renewable energy micro-grids
- Reverse Logistics and Traceability

RE actions/interventions promoted by brands/businesses by engaging innovators, scientific/academic

Federal policymaking and implementation structure – State’s interventions (REACTIVE) provides permanency to industry RE/Circular practices (Zero Liquid Discharge for Textiles in Tamil Nadu)

REACTIVE Policymaking and implementation ➔ PROACTIVE Policymaking and implementation

Availability of Data

Engagement of the Small and Medium Enterprises (SMEs)
Know key hotspots:
Buildings and Construction

Mr. Jeffrey Herrick
IRP,
Soil Scientist, USDA,
Agricultural Research Services
The International Resource Panel
The International Resource Panel

Working Groups

- Global Resource Outlook
- Cities
- Land and Soils
- Water
- Food
- Metals
- Mineral Resource Governance
- Decoupling
- Resource Efficiency and Climate Change
- Material Flows
- Integrated Scenario Analysis, etc.
Buildings and Construction: Relevant IRP Reports
Know Key Hotspots
Q&A
Introduction to Session 2
- Task group mandate and composition

Overview of the Task Group
- Review of the reports of the International Resource Panel (5’)
- Way forward for a systemic and value chain approach (5’)

Know key hotspots: Review of data and information available to identify key hotspots in the prioritised value chains analysed so far
- Food Value Chains (15’)
- Textiles (15’)
- Buildings (5’)
- Q&A

Break-out group discussions on applying a systemic and value chain approach to identify key hotspots and guide solutions
- 8 break-out groups - 3 x food systems, 3 x textiles, 2 x buildings & construction

Plenary discussion
- Reporting back of the break-out groups.

Summary, next steps and close
- 5.00
Break-out Group Discussions

Applying a systemic and value-chain approach to identify key hotspots and guide solutions

Google doc for note-taking: bit.ly/session2breakout

**Food Systems and Textiles**

- How does the review of available information inform priorities and actions of programmes? And across programmes?
- Which organisations should be involved in the expert consultations and in the multi-stakeholder consultations? Any fora/events that can be leveraged?

**Buildings & Construction**

- Are you familiar or have you read the IRP reports listed?
- What were the most relevant messages for you and your work in these reports? Why do you consider these key messages as the most relevant?
- What data or reports are you using as reference to prioritise your work in the area of buildings and construction? Why did you choose that source/report?

**Breakout Group Facilitators**

**Food systems 1:** Martina Fleckenstein
**Food systems 2:** Jeff Herrick
**Food systems 3:** Izabella Teixeira & Maria Jose Baptista
**Textiles 1:** Merja Saarnileto
**Textiles 2:** Lee-Hendor Ruiters
**Textiles 3:** Rijit Sengupta

**Breakout Group Facilitators**

**Buildings & Construction 1:** Faisal Alfadl
**Buildings & Construction 2:** Jesus Alquezar Sabadie.
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**Plenary discussion**
- Reporting back of the break-out groups.

**Summary, next steps and close**
- 15.00 - 15.30
- 15.30 - 15.50
- 15.50 - 16.00
Plenary Discussion
Introduction to Session 2
- Task group mandate and composition

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- Review of the reports of the International Resource Panel (5’)
- Way forward for a systemic and value chain approach (5’)

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- Food Value Chains (15’)
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- Reporting back of the break-out groups.

Summary, next steps and close

14.00 - 14.10
14.10 - 14.20
14.20 - 15.00
15.00 - 15.30
15.30 - 15.50
15.50 - 16.00
Summary, next steps and close
Thank You

See you tomorrow for session 3 on addressing plastic pollution across the One Planet network.