



**OECD GLOBAL FORUM ON
ENVIRONMENT**

Focusing on

**SUSTAINABLE MATERIALS
MANAGEMENT**

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Summary Paper 2:

Summary of SMM Linkages

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NOTE FROM THE SECRETARIAT

This paper explores the linkages between the OECD's SMM related activities and a selection of leading multi-lateral initiatives, and tries to identify connections between these initiatives that can advance the adoption of SMM and find ways in which SMM can help support these other initiatives.

This summary paper has been prepared by Kevin Brady from Five Winds International, to support the discussion of session 3 of the Global Forum on "Putting SMM into a Broader Perspective".

The opinions expressed in this paper are the sole responsibility of the author and do not necessarily reflect those of the OECD or the governments of its member countries.

OBJECTIVE

The objective of this paper is to support the discussions at the Global Forum by exploring the linkages between Sustainable Materials Management (SMM) and relevant multi-lateral initiatives such as the OECD Council Recommendation on Resource Productivity [C(2008)40], the Declaration on Green Growth by OECD ministers in June 2009 and the Kobe 3Rs Action Plan. The linkage of Sustainable Materials Management to the UN effort to promote Sustainable Consumption and Production and the European Union's Integrated Product Policy efforts are also examined.

INTRODUCTION

Over the last twenty years there have been many concepts, tools and policy initiatives developed to support government, industry and civil society in making progress towards sustainable development. Examples include the 3Rs (reduce, reuse, recycle), eco-efficiency, industrial ecology, life cycle management, integrated product policy, extended producer responsibility, product stewardship, and more recently the subject of the Global Forum, Sustainable Materials Management. Although many of these concepts, tools and initiatives have been initiated in different countries and by different organizations, they have been developed with a similar ultimate objective in mind: to decouple growth and development from environmental impacts and to do it in ways that enhance social well being for current and future generations. Therefore it is not surprising to find that there are some strong linkages and overlaps among the concepts and initiatives. This situation can make it challenging for policy makers, industry and civil society groups, to understand the relationships among various activities and to identify ways to improve the linkages and reduce overlaps.

This paper explores the linkages between the OECD's SMM related activities and a selection of leading multi-lateral initiatives, and tries to identify connections between these initiatives that can advance the adoption of SMM and find ways in which SMM can help support these other initiatives.

DEFINING THE RELATIONSHIP OF RESOURCES, MATERIALS AND SUSTAINABLE MATERIALS MANAGEMENT

To avoid confusion, it is important to understand the distinction between resources, materials and SMM. Below are some proposed definitions.

The OECD Glossary of Statistical Terms defines **natural resources** as follows:

“Natural resources are natural assets (raw materials) occurring in nature that can be used for economic production or consumption”.¹

It further notes that natural resources are:

“The naturally occurring assets that provide use benefits through the provision of raw materials and energy used in economic activity (or that may provide such benefits one day) and that are subject primarily to quantitative depletion through human use. They are subdivided into four categories: mineral and energy resources, soil resources, water resources and biological resources.”

Materials are not defined in the OECD glossary, but they can be thought of as the transformation of resources into physical substances/materials and products to meet economic and social needs. A material can be in anything, from an unprocessed raw material (primary zinc), to a processed material (zinc sheet), to a final product (zinc rain gutters), to a waste (building and construction waste). In the context of sustainable materials management, the waste material is ideally recovered and utilized in the same or another product system (*e.g.* using waste in the production of more zinc sheet). A distinction is often made between raw materials (resins, metals, chemicals) and products (consumer goods); however, for the purposes of this paper products are considered within the scope of sustainable materials management as products are a prime source of secondary materials(*e.g.* steel recovered from an automobile).

It is important to remember that different materials have different attributes and life cycles that can affect the sustainable management of the material. For example, most metals can be recovered and infinitely recycled, fuels are consumed during use and cellulose-based material can be recycled, but not indefinitely as the fibre breaks down. Consequently, sustainable management of fuels needs to focus on impacts of production and minimizing emissions during the use phase, whereas sustainable management of metals would need to focus on production and optimizing recovery of the material from the economy.

¹ <http://stats.oecd.org/glossary/detail.asp?ID=1740>

Sustainable Materials Management

As noted in the OECD's report *Front-Runners' Experience on Sustainable Materials Management (SMM): Report of the 2nd SMM Workshop [ENV/EPOC/WGWPR(2008)4/FINAL]*:

“Sustainable Materials Management (SMM) is a relatively new policy approach that represents a shift from waste management to materials management in support of sustainable development. Historically, governments have focused on managing wastes as a means of managing the impact of materials on the environment. While much success has been achieved with waste management policies, research has shown that waste management is often not the key process, nor is it the most efficient and effective process, for controlling material flows in the industrial and economic systems. SMM elevates the focus of governments, industry and consumers from individual material, product or process attributes, to the entire system of material flows and associated life-cycle impacts.”

The OECD Working Group on Waste Prevention and Recycling has agreed on the following working definition for SMM:

“an approach to promote sustainable materials use, integrating actions targeted at reducing negative environmental impacts and preserving natural capital throughout the life-cycle of materials, taking into account economic efficiency and social equity”.

Figure 1 illustrates the relationship between resources, materials and SMM.

Figure 1. The Relationship between Resources, Materials and SMM

Resources: the stock of natural capital (in the lithosphere and biosphere) that underpins sustainable development (energy resources and minerals, water, soil, forests, fish stocks....)	Materials – the transformation of resources to meet economic and social needs (timber, food, steel, combined in consumer products...)			
	Example of initial transformation	Example product or good	Illustrative use profile	example end-of life scenario (illustrative percentages only)
	Ore to metal	Steel beam	Building and Construction component with 80 year life span	95% recycled 5% to landfill
	Oil to plastic resin	carpet	Building and Construction component with 15 year life span	50% recycled 25% converted to energy 25% to landfill
	Raw log to lumber	Roof truss	Building and Construction component with 80 year life span	75% recycled 25% to landfill
Sustainable Materials Management: is an approach to promote sustainable materials use – reducing impact and preserving natural capital across the life cycle while taking into account economic efficiency and social equity				

Using Figure 1 as a guide, applying an SMM approach would focus actions on not only developing infrastructure to ensure efficient recycling and recovery of materials (typical waste reduction focused policies), but also actions that would:

- Improve the sustainability of the transformation of the resource into a material (*e.g.* reducing carbon intensity of energy inputs), by supporting research on new processes;
- Optimize the design of the product to ensure best use of materials, and optimal use and end-of-life profile, etc.

Direct actions to ensure sustainability of the resource base would be outside the scope of SMM but this would be indirectly supported though end-of life actions to recover materials.

SUMMARY OF RELATED INITIATIVES

Below is a brief summary of the many multi-lateral initiatives identified by the OECD Working Group on Waste Prevention and Recycling as having potential linkages to SMM. Annex 1 provides more details on the major activities under these initiatives.

Green Growth Strategy

At the OECD Ministerial Council Meeting of June 2009, the development of a Green Growth Strategy was endorsed to bring together economic, environmental, social, technological and development aspects into a comprehensive framework. The following are the major objectives of the initiative:

- Provide specific tools and recommendations to help OECD and non-OECD governments to identify policies for a shift to a greener economy at the least economic cost;
- Ensure that the economic crisis is used to facilitate the shift towards green growth and identify opportunities for job creation; and
- Promote international coordination and dialogue on green growth issues.

The Green Growth Strategy aims to identify policies that would promote both economic efficiency and environmental integrity, while ensuring social equity. The Strategy guides government intervention across broader green growth policy areas, covering fiscal, innovation, trade, labor and social policies; as well as, in key sectors such as energy, transport, agriculture and fisheries. The initiative also focuses on four environmental areas, including: 1) climate change, 2) biodiversity and quality of eco-systems, 3) use of natural resources, and 4) materials management.

Integrated Product Policy (IPP)

Integrated Product Policy (IPP) is an initiative developed by the European Commission that aims to reduce the environmental burden of products and services throughout their life cycle using a toolbox of policy instruments. The major objectives of this initiative include:

- Identifying the products with the greatest environmental impact from a life-cycle perspective consumed in the EU;
- Identifying ways to reduce the life-cycle environmental impacts of some of the products with the greatest environmental impact; and
- Seeking to address policy measures for the products that are identified as having the greatest potential for environmental improvement at the least socio-economic cost.

As IPP is related to sustainable development, the initiative considers all environmental and socio-economic impacts in product chains, but is not limited to any particular sector, or material. The purpose of the initiative is to strengthen product-focused environmental policies and assist the growth of a market for greener products within EU member states. Specific activities related to IPP include the 2001 Green Paper, a 2003 Communication that focuses on conditions to improve the life cycle profile of products, and the 2009 Commission Staff Working Document that reports on the state of implementation of IPP.

SUSTAINABLE CONSUMPTION AND PRODUCTION – MARRAKECH PROCESS

The Marrakech Process is a United Nations process to support the creation of a 10-Year Framework of Programs (10YFP) on sustainable consumption and production.² It was called for at the World Summit for Sustainable Development and included in the Johannesburg Plan of Implementation.³ The goals of the process are to:

- to assist **countries** in their efforts to green their economies;
- to help **corporations** develop greener business models; and
- to encourage **consumers** to adopt more sustainable lifestyles.

In May 2010, a document titled Paving the way to Sustainable Consumption and Production was produced highlighting the work and concrete outcomes of the Marrakech Process. The document includes elements for a 10YFP that support implementation of SCP at all levels (national, regional and global) and focus on the following priority sectors: energy, agriculture, housing, transport, tourism, waste and water. Knowing that SCP has different meanings and presents different challenges around the world, development of the 10YFP also focuses on building regional strategies and implementation mechanisms.

Negotiations on a 10YFP document are likely to begin shortly with a goal of completion at the May 2011 meeting of the UN Commission on Sustainable Development. This document will feed into the UN Rio+20 meeting, to be held in 2012. This process will likely include a major global discussion.

3R Initiative

The 3R Initiative was developed by the G8 as a platform for governments and international organizations to promote the “3Rs” (reduce, reuse and recycle) globally to build a sound-material-cycle society through the effective use of resources and materials and minimization of environmental impacts. At the G8 Environment Ministers Meeting held in Kobe on May 24-26, 2008, the Kobe 3R Action Plan was agreed upon and three major goals were established to encourage further 3R development among G8 states:

- Prioritize 3Rs Policies and Improve Resource Productivity;
- Establishment of an International Sound Material-Cycle Society; and
- Collaborate for 3Rs Capacity Development in Developing Countries.

The 3R Initiative has been promoted as part of the 10YFP on Sustainable Consumption and Production Patterns. While the scope is not limited to any particular sector, material or geographical location, the initiative specifically focuses on reducing waste and managing the environmental impacts of waste management using a life cycle approach. This initiative is valuable for SMM activities as it provides examples of international activities being implemented that promote a material-cycle society. The OECD has been requested to prepare a progress report to the G8 on the 3R Initiative in 2011.

² SCP may be defined as: “the use of services and related products which respond to the basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product, so as not to jeopardize the needs of future generations.”

³ <http://esa.un.org/marrakechprocess/>

Recommendation of the Council on Resource Productivity

The *Recommendation of the Council on Resource Productivity* was adopted by the OECD Council on March 28, 2008, during the Meeting of the Environment Policy Committee (EPOC) at Ministerial Level focusing on Environment and Global Competitiveness. The objective of this initiative is to promote resource productivity by strengthening the Member countries' capacity for upgrading the extent and quality of data on material flows within and among countries and the associated environmental impacts, and implementing measures to prevent natural resource degradation and reduce negative environmental impacts throughout the entire resource cycle.

The initiative focuses on the environmental management of natural resources and materials, and on the areas and policies that are not yet adequately covered under well-established activities in OECD or other international organizations. The scope of the Recommendation is limited to minerals (metallic and non-metallic industrial minerals), and biomass. Energy resources (*e.g.* coal, oil, gas), water resources and fishery resources are excluded and are only covered to the extent that they are part of an integrated approach to the entire resource cycle. The Recommendation calls for a report to the OECD Council in 2013.

Belgian EU Presidency SMM Proposal

Although the scope and focus of SMM are still under development, the recent working paper, *Sustainable materials management for a resource efficient Europe: Integrated approaches within reach*, provides some insights into how SMM might be implemented in the EU and provides some potential lessons for this OECD effort. The paper was prepared as a basis for debate at the informal Environment Council of 12-13 July, 2010 under the Belgian EU Presidency and it proposes a rational policy direction and a set of activities for urgent action on SMM in the EU. Components of SMM identified under the Belgian proposal include:⁴

- Selective waste collection and recycling;
- Re-use and repair;
- Collection and re-use/recycling/recovery of industrial residues;
- Closed loop industry systems for residues (ensuring all viable waste from one system are used in the production of other products);
- Ecodesign (integrating environmental considerations into product design);
- Product Service Systems (moving from the production of products to provision of lower impact services);
- Cradle to Cradle (ensuring management of materials from earth back to earth or into other product systems);
- Choice Editing (not selecting certain materials or products based on their footprint);
- Biomaterials and natural ecosystems;
- Transition Towns;
- Knowledge Networks for Transitions; and
- Information Technology(IT) in SMM.

⁴ Sustainable materials management for a resource efficient Europe: Integrated approaches within reach. Working Paper for the Informal Meeting of the EU Environment Ministers in Ghent, 12-13 July 2010.

The paper also recommends three main policy directions:

Integration - moving from dispersed policy domains and decisions towards better integration and synergies. This includes bringing SMM into policy development and existing programmes, as well as an overall shift to policies focused on the full product systems rather than life cycle stages (*e.g.* waste). Integration also requires a greater focus on cross-departmental cooperation on SMM in the European Commission and the Council and more international dialogue on SMM at the UN.

Vision - moving from short-term policy and narrow indicators to long-term objectives and comprehensive indicators for SMM. This includes setting long-term strategic objectives and targets for SMM, developing comprehensive indicators to support decision-making and measuring progress, and continued focus on how to integrate environmental and social aspects into measures of wealth such as the GDP.

Innovation – moving from incremental technological innovation to fundamental systems innovation. This includes funding R&D aimed at systems innovation (breakthrough changes that radically reduce the impacts of production and consumption), and supporting the multi-disciplinary networks and initiatives needed to foster such innovation.

LINKAGES AND RELATIONSHIP ANALYSIS

From a policy perspective it is important to understand the existing and potential linkage between SMM and the initiatives outlined above. This understanding can help direct actions and rationalize activity (*e.g.* focus collaboration). Table 1 below illustrates the focus of the different initiatives using a life cycle framework (*N.B.: as the scope and focus of SMM under the Belgian EU Presidency is still under development, the Belgian Proposal has been excluded from Table 1*). The analysis shows that almost all of the initiatives have a focus on:

- Reducing the impacts of manufacturing;
- Reducing the impacts of consumption; and
- Enhancing recycling and the recovery of valuable materials.

Other areas of overlap include enhancing resource efficiency and productivity in materials production, reducing greenhouse gas emissions during distribution of materials/products and optimizing materials recovery and reuse.

Table 1 – Scope Comparison (Life Cycle Stages Considered in Major Activities/Policy Areas)

		Green Growth Strategy	IPP	Resource Prod.	Sust. Cons. & Prod.	3R Action Plan	SMM Initiative
Material Production	↑ Resource Productivity ⁵	✓		✓		✓	✓
	↑ Resource Efficiency ⁶			✓	✓	✓	✓
	↓ Pollution	✓		✓	✓		✓
Manufacturing/ Construction	↑ Resource Efficiency		✓	✓	✓	✓	✓
	↓ Pollution	✓	✓	✓	✓	✓	✓
	Product/ Technology Innovation	✓	✓	✓	✓	✓	✓
	↓ Packaging		✓			✓	✓
Distribution	↓ GHG Emissions	✓	✓		✓		✓
Use/Reuse	Greener Consumption (↓ cons. & purchase greener goods & services)	✓ (fossil fuel cons.)	✓	✓	✓		✓
End of Life	Material/ Resource Recovery	✓		✓		✓	✓
	Hazardous Waste Mgmt					✓	✓
	Recycle		✓	✓	✓	✓	✓
	↓ Pollution	✓				✓	✓
	↓ illegal trans-boundary movement of waste					✓	✓
	Reuse Materials			✓	✓	✓	✓
	Import waste from developing countries (for treatment/recovery)					✓	✓

⁵ Resource productivity contains both a *quantitative* dimension (e.g. the quantity of output produced with a given input of natural resources) and a *qualitative* dimension (e.g. the environmental impacts per unit of output produced with a given natural resource input) (OECD, 2008 - Recommendation of the Council on Resource Productivity).

⁶ Resource efficiency is defined by the UNEP as maximizing the useful goods and services we derive from resources, while minimizing the depletion of our natural capital and any pollution associated with that resource use (Cropper, 2009).

Another way to compare these initiatives is to examine the objectives of the initiatives and identify areas of common interest. In Table 2 the main elements of the OECD Green Growth strategy framework are used to characterize and compare the activities of the five initiatives. SMM and the Belgian EU Presidency SMM Proposal are not included in this table as the scope of the recommended actions/activities are still under development.

Table 2 – Comparison of Major Objectives

		Green Growth Strategy	Integrated Product Policy	OECD Resource Productivity	Sustainable Cons. & Production	3R Action Plan
Strengthen Collaboration	International Cooperation	✓	✓	✓	✓	✓
	Knowledge Sharing & Tech Transfer	✓		✓	✓	✓
	Educating Consumers	✓	✓		✓	✓
	Involve stakeholders	✓	✓		✓	✓
	Integrate policies/regulations	✓	✓	✓		
Promote Trajectory Shift	Accelerate Technological Innovation	✓		✓	✓	✓
	Encourage R&D, certification & standards	✓	✓ (LCA)	✓	✓	✓
	Promote SMM in development projects & strategies	✓		✓	✓	✓
Support Transition/Remove Barriers	Create green jobs	✓				
	Improve worker skills	✓				
	Stimulate demand for green goods/services	✓	✓		✓	
	Provide monetary incentives (subsidies, taxes, price products appropriately)	✓	✓		✓	✓
	Public Green Procurement	✓	✓		✓	✓
	Facilitate international trade of green goods/services	✓	✓			✓
	Facilitate import of waste for recycling, recover, treatment, etc.					✓
	Support development of national/regional strategies		✓		✓ (hosts regional workshops)	
Measure Progress	Develop indicators	✓		✓	✓	
	Measure Impacts & Progress Towards Targets	✓	✓	✓	✓	✓

Table 2 illustrates that there is potential opportunity for greater collaboration among the initiatives in achieving the following objectives:

Strengthening Collaboration

Collaboration with stakeholders, communication with consumers, information sharing and technology transfer, as well as cooperation across government departments, are common to most of the programs. An analysis of how the various initiatives could collaborate to achieve these common objectives would be useful.

Promoting Trajectory Shift

- Encouraging R&D, certifications and standards – developing internationally relevant standards and certifications that are scientifically sound is challenging. With respect to R&D, cooperation does occur in some areas (*e.g.* biomaterials) but could be enhanced.
- Accelerating sustainable/green technological innovation – a common element in most of the initiatives.
- Promoting SMM in development projects and strategies – as development agencies (*e.g.* World Bank, IADB, ADB) are already integrating sustainability, this could be a complimentary activity if OECD country development programs introduced a common approach to integrating SMM into funding programs and strategies.

Support Transition / Remove Barriers

Public procurement is a key leverage point that could be a very useful collaboration area. However, there are many challenges in fostering cooperation across governments. Provision of monetary incentives (subsidies, taxes, price products appropriately) is another key area of collaboration since it interfaces with trade rules.

Measuring Progress

Establishing a means of measuring progress is also common to most initiatives and cooperation here could help reduce the proliferation of different indicators and methodologies for measuring progress.

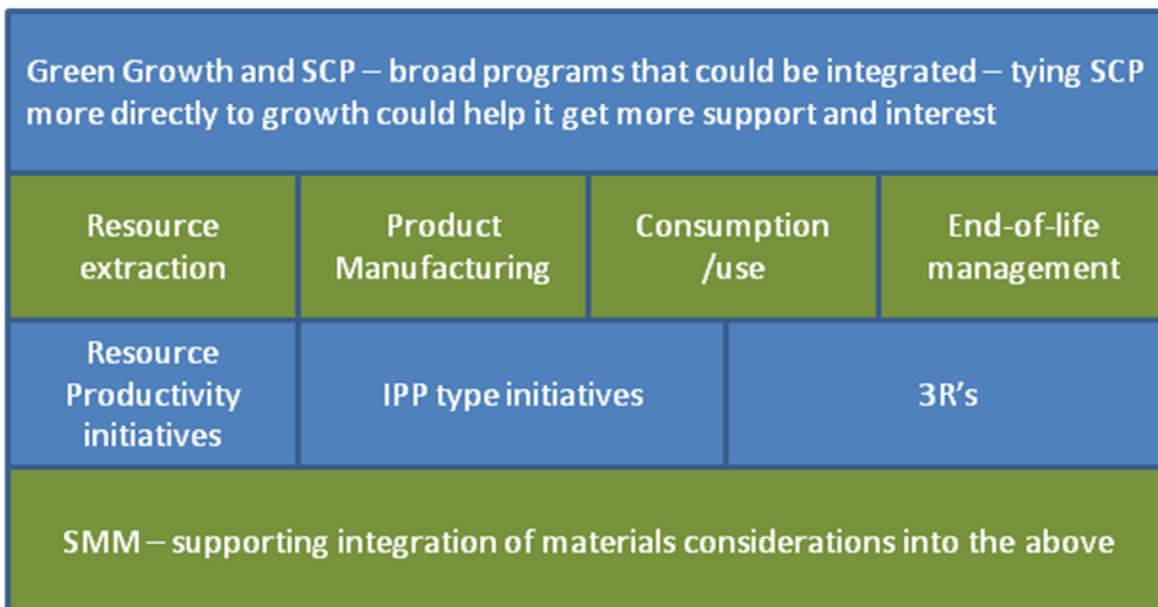
CONCLUSIONS

In order to advance cooperation and progress toward sustainable development, we can conclude the following from this brief review of some of the major multi-lateral initiatives in play:

- Although the initiatives have different names there is substantial overlap in scope and objectives;
- Opportunity exists for greater collaboration and cooperation as well as efficiency gains in terms of resources applied to the initiatives;
- SMM as it is currently defined can support almost all objectives of the existing initiatives and it covers the full scope of the initiatives (all life cycle stages). Therefore, it might be useful for OECD to focus on how SMM can support and be integrated into the existing efforts;
- The green growth strategy and SCP framework for action provide comprehensive approaches that are intended to guide OECD government actions. It would be useful to look at improving the integration of these two initiatives, and to map how IPP, 3R, SMM and Resource Productivity activities/initiatives could be more focused to support specific aspects of these framework programs with eye to optimizing collaboration and minimizing overlap; and
- Those who have been working in the OECD SMM initiative can usefully play an active role in the UN 10YFP-SCP process during the coming months.

Figure 2 below provides an illustration of how that might look.

Figure 2. Illustrative example of how to focus existing initiatives to minimize overlap and increase collaboration



FUTURE OECD EFFORTS

In addition to coordination and collaboration activities, the role of the OECD in SMM could address a number of key knowledge gaps, including those listed below:

1. What are the agreed upon priority materials and what is the state of the information base on these materials? Some possible considerations in determining the priority materials include:
 - Which materials are critical for economic development? (in some jurisdictions efforts to identify critical materials are already underway)
 - Which materials have the greatest footprint?
 - Which materials contribute, or have greater potential to contribute to, more sustainable forms of production and consumption?
2. For each priority material effort will be needed to:
 - Define their flows globally;
 - Define the potential impacts at each critical life cycle stage;
 - Identify the actors along the value chain who can take action to promote sustainable management of the material;
 - Identify what is the best mix of policies and programmes required to foster SMM?
How does this mix shift for countries whose economies are more reliant on production of materials versus consumption of materials?
3. How can OECD countries promote collaborative initiatives that result in sustainable management of materials, while ensuring adherence to international trade rules?
4. What data and information on materials should be tracked to inform SMM? What indicators are needed to evaluate how member states are progressing on the sustainable management of materials?
5. What actions are needed to foster cooperation with non-OECD countries?

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ANNEX 1: KEY ACTIVITIES OF MAJOR SMM RELATED INITIATIVES

Green Growth Strategy (OECD)

* OECD will deliver Green Growth Strategy Synthesis Report in 2011 at the Ministerial Council Meeting – will provide specific tools and recommendations for policies to promote green growth

Major Activities (in 2010 Interim Report)

1. Remove barriers to green growth

- Reform environmentally harmful subsidies (*e.g.* environmentally-harmful subsidies to fossil fuels, agriculture, forestry or fisheries)
- Remove barriers to trade in environmental goods and services
- Strengthen policy coherence

2. Promote trajectory shift

- Implement market-based instruments to promote green growth (*e.g.* taxes, charges and fees, tradable permits, removal of environmentally harmful subsidies)
- Use instruments that influence the behaviour of firms, households or individuals (*e.g.* command-and-control regulations, policies to support green technologies and innovation)
- Accelerate the innovation and diffusion of green technologies
- Encourage measures for greener consumption and develop innovative financial mechanisms

3. Support the transition

- Smooth reallocation of labor through key labor market and training policies
- Upgrade workers' skills and competencies
- Address distributional effects of the associated structural change

4. Strengthen international Co-operation

- Improve financing mechanisms for global public goods
- Enable pro-poor green growth
- Address potential competitiveness issues
- Promote technology transfer and R&D co-operation

5. Measure Progress

- Develop a new accounting framework and a set of green growth indicators
- Track and measure impacts of specific policies

Integrated Product Policy (EU)

Major Activities

1. Integrate life cycle thinking into policy and legal instruments in EU

Examples of IPP-related activities in place before 2003 Communication:

- Eco-label Regulation
- EMAS Regulation
- Directive on Packaging and Packaging Waste
- Waste Electrical and Electronic Equipment (WEEE) Directive
- End-of-Life Vehicles Directive (ELV)
- Batteries Directive
- RoHS Directive

Examples of IPP-related activities implemented after 2003 Communication:

- Thematic Strategies on the Sustainable Use of Natural Resources
- Elements of SCP/SIP Action Plan
- Ecodesign Directive
- Ecolabel Regulation
- Directive on Energy Performance of Buildings
- Waste Framework Directive
- European Platform on Life Cycle Assessment

2. Working with the market

Examples of IPP-related activities:

- Ecodesign Directive
- Mandatory Energy Labelling
- Voluntary Ecolabels
- Green Public Procurement
- Elements of SCP/SIP Action Plan (*e.g.* Energy Label, Ecolabel and the Retail Forum)
- Member States providing financial incentives for environmentally preferable products

3. Stakeholder Involvement

Examples of IPP-related activities:

- IPP Regular Meetings
- European Platform on Life Cycle Assessment (handbook of technical guidance documents for LCA includes 16 formal agreements with key European Industry Associations, Memorandum of Understanding with several key trade partners, and 2 international advisory groups)
- Establishment of national dialogue processes or platforms on SCP in Member States (*e.g.* Germany, France, Belgium, Netherlands, Sweden)
- Development of systematic database of stakeholders in the context of SCP in the U.K.

4. Continuous improvement of products

Examples of IPP-related activities:

- Ecodesign Directive
- Ecolabel
- EMAS Regulations
- Green Public Procurement Communication
- Elements of SCP/SIP Action Plan
- National Sustainable Development Strategies of Member States (*e.g.* Finland, France)
- EIPRO and environmental IMPROvement of PROducts (IMPRO) studies

5. Co-ordinated use of policy instruments

Examples of IPP-related activities:

- Voluntary approaches (*e.g.* Eco-label and EMAS Regulations)
- Mandatory measures (*e.g.* Ecodesign, Energy Labelling, Energy Performance of Buildings, RoHS and WEEE Directives)
- Policy instruments used by Member States (*e.g.* Green Public Procurement, labeling)

Paving the Way to Sustainable Consumption and Production (UNEP)

Major Activities Completed To Date

1. Developed seven voluntary task forces led by governments

- Sustainable Public Procurement (*e.g.* developed policy tools and programs for Green Public Procurement)
- Sustainable Tourism (*e.g.* Green Passport Campaign)
- Co-operation with Africa (*e.g.* African Eco-Labeling Mechanism)
- Sustainable Lifestyles (*e.g.* conducted global survey)
- Education for Sustainable Consumption (*e.g.* developed guidelines)
- Sustainable Buildings & Construction (*e.g.* conducted baseline study of energy efficiency in buildings)
- Sustainable Products

2. Developed regional strategies/programmes and identified regional priorities

- 22 regional meetings/roundtables organized world-wide (*e.g.* African 10-Year Framework of Programmes on SCP, Latin American and Caribbean Regional SCP Strategy, Arab Regional Strategy on SCP)

3. Mainstreamed SCP in national development plans

- Developed guidelines for national SCP programmes
- Supported the development of SCP programmes at the national level (*e.g.* in Brazil, Ghana, Indonesia, Dominica, etc.)
- Hosted regional and country workshops

Major Activities Highlighted as Priorities Moving Forward

1. Decouple economic growth from resource extraction and environmental degradation

- Improve methodologies and frameworks for designing policies and sectoral priorities (e.g. links with International Panel on Sustainable Resource Management)
 - Improve utilization of policy tools and capacity building
2. Support developing countries in the development transition
 - Encourage partnerships, initiatives and task forces to deliver support
 - Strengthen links among partnerships, networks and communities for greater synergies and knowledge sharing
 3. Stimulate demand for and supply of sustainable goods and services to market
 - Mainstream SCP criteria and resource efficiency into investment planning, cooperation programmes and guidelines
 4. Provide incentives for social and technological innovations
 - Resource- and energy-efficient technology development and deployment
 - Mechanisms for technology cooperation and sharing
 5. Inform and educate consumers and provide affordable and sustainable products and services
 - Cooperate with mass media and school systems to inspire citizens
 - Management of demand-side efficiency and finding a policy mix to counteract the rebound effect

Kobe 3R Action Plan (G8)

Major Actions/Goals

1. Prioritize Implementation of 3Rs Policy
 - Prioritize actions to curb unsustainable consumption and associated environmental impacts
 - Reduce waste
 - Integrate concept of 3Rs into policy areas
 - Utilize environmentally sound waste management practices
 - Internalize external costs so that final prices reflect environmental impacts
 - Track and measure impacts of implementing 3Rs activities
2. Improve Resource Productivity and Set Targets
 - Implement OECD Council Recommendation on Resource Productivity
 - Support international collaborative work related to sustainable resource management
 - Set targets related to optimizing resource cycles (e.g. waste generation, recycling rates)
3. Pursue Co-benefits between the 3Rs and GHG Emission Reductions
 - Seek co-benefits between waste management, 3Rs, and emission reduction activities
 - Encourage the use of waste-to-energy technologies
 - Encourage reuse and recycling of organic waste (e.g. for animal feed, fertilizer)
 - Promote the development of technologies to reduce GHG emissions

4. Promote Science and Technology and Create a Market for 3Rs-related Products
 - Promote technological innovations (*e.g.* encourage R&D, certification and standards)
 - Encourage the market for 3Rs-related technologies and products (*e.g.* via green procurement policies)
5. Collaborate to Promote Sound International Resource Circulation
 - Encourage environmentally sound management of re-usable and recyclable resources
 - Prevent illegal transboundary movements of re-usable and recyclable resources
 - Facilitate the international trade of 3Rs-related goods and services (*e.g.* remanufactured products)
 - Support and collaborate with developing countries
6. Promote International Trade of 3Rs-related Materials, Goods and Products
 - Seek joint solutions to distinguish between waste and non-waste (*e.g.* Basel Convention, OECD work)
 - Encourage multilateral trade in sustainable technologies, products and services
 - Reduce barriers to trade in remanufactured goods (*e.g.* support proposal to liberalize trade in remanufactured goods under the WTO Doha Round)
 - Support international resource circulation (*e.g.* eco-labelling, certification schemes, traceability technologies)
 - Facilitate the import of wastes (hazardous and non-hazardous) for recycling, recovery or treatment
7. Promote Collaboration with Developing Countries
 - Request that aid agencies and private investors promote the 3Rs in development projects and strategies in developing countries
 - Improve 3Rs capacity in developing countries (*e.g.* develop databases, information sharing and monitoring mechanisms)
 - Support capacity building in developing countries (*e.g.* activities of Basel Convention Regional Centres)
 - Seek co-benefits between 3Rs and GHG emission reductions in developing countries (*e.g.* Clean Development Mechanism)
 - Ensure that developing countries have sustainable waste management practices
8. Promote Technology Transfer, Information Sharing and Environmental Education
 - Promote the transfer of environmentally compatible technologies and processes to developing countries
 - Enhance knowledge and research networks for the 3R Initiative
 - Inform industries, NGOs and citizens about 3Rs-related activities
 - Disseminate information on environmental impacts of waste and 3Rs policies and actions
9. Promote Partnership between Stakeholders
 - Promote dialogue and collaboration with all stakeholders
 - Increase the involvement of the business community, including SMEs
 - Promote international cooperation with other governments, international organizations, NGOs and the scientific community

Recommendation of the Council on Resource Productivity (OECD)

Major Activities

1. Promote resource productivity
 - Improve scientific knowledge of environmental impacts and costs of resource use
 - Upgrade the extent and quality of data on material flows
 - Track natural resource stocks and flows and link them to critical environmental cycles
 - Use indicators to assess the efficiency of material resource use
 - Co-operate with non-Member Economies
 - Share OECD experience with analyzing material flows and resource productivity

2. Create policies that encourage efficient uses of natural resources and materials
 - Use information about material flows and their environmental impacts (*e.g.* target setting) for planning purposes
 - Promote life cycle-oriented approaches (*e.g.* 3Rs, SMM, sustainable manufacturing)
 - Promote the use of new technologies and innovations
 - Encourage co-operation and sharing of best practices among enterprises
 - Improve resource productivity through economic instruments
 - Co-operate to ensure that policy measures are efficient, effective and equitable
 - Co-operate with non-Member Economies