



**OECD GLOBAL FORUM ON
ENVIRONMENT**

Focusing on

**SUSTAINABLE MATERIALS
MANAGEMENT**

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Chair's Summary

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The Global Forum on Sustainable Materials Management brought together more than 140 experts, from 30 OECD and developing economies, representing governments, private sector and NGOs, and produced a dynamic and productive discussion on the topic of sustainable materials management. The main elements of the discussion are summarised in the following.

The need for urgent action

The past 100 years have seen an unprecedented growth in materials use. With global population set to rise to 9 billion by 2050, the demand for materials will continue to rise rapidly. These developments contribute to biodiversity loss and climate change, lead to depletion of natural resource stocks and overexploitation of land and water, and ultimately threaten long term economic development. Some resources are already noticeably getting scarcer, inducing competition for access to these resources and increasingly volatile and difficult to predict prices. Materials use also needs to be seen in conjunction with the social impacts that it generates, as the extraction and use of materials can have implications for working conditions, health and safety, protection of human rights, and so on.

The challenge our economies face is clear. We urgently have to change the way in which we use materials. Without a new approach, we will exceed the earth's capacity to provide us with the resources that we need. Sustainable Materials Management (SMM) is key to lowering our footprint. It proposes a shift from policies focused on isolated aspects of the material chain, causing leakages and unintended side effects, to an integrated policy approach that embraces the full life cycle of products and materials.

In many countries, there are still many low hanging fruits that can be collected, which would significantly contribute to limiting environmental degradation due to materials use and to preserve natural capital, at relatively low cost. There is large potential for diverting waste from landfills, for stepping up recycling, and for more environmentally sound waste management. This can be realised by making use of well-known and proven waste management policies, including the use of economic instruments to encourage recycling and reuse. Developing economies need support for building up the necessary infrastructure and need assistance in the form of capacity development, and the transfer of know-how and technology.

However, optimised waste management will not suffice to make our materials use truly sustainable. Even countries with advanced waste management policies do not succeed in achieving absolute decoupling of economic growth from materials use and the resulting environmental impacts. To give one example, soaring demand for aluminium and other metals will lead to more mining of primary metals even if high recycling rates can be achieved. In other words, a drastic increase in resource efficiency is needed, massive enough, so that it is not outpaced by rising consumption.

In order to do so, we need to move beyond waste management policies that only address the end of life phase of products and advance to a life cycle approach. We have to address the cause rather than the symptom, and thus shift the focus from product cycles to material and product value chains.

Four key principles of SMM

To progress to a more sustainable society, we need to turn this vision into action. The research efforts by the OECD point out that SMM policy should be based on four key principles.

The first principle of SMM should be the preservation of natural capital, on which humans and societies depend, and which is needed to foster long-term sustainability. Strategies to preserve natural capital include improving information about material flows and environmental impacts, increasing resource productivity, reducing material throughput, and stepping up reuse and recycling of materials.

The second SMM policy principle is to design and manage materials from a life cycle perspective. It is at the design phase that decisions are made that determine impacts on health and on the environment throughout the life cycle. Design strategies that support SMM are detoxification, dematerialization and design for recovery.

Third, to shift societies towards more sustainable materials management governments have to leverage a variety of policies and policy instruments including regulations, economic incentives and taxes, trade, R&D and innovation policies, procurement policy, information sharing, and education.

Finally, SMM policy should try to engage all parts of society to take active responsibility. Material flows involve many stakeholders throughout the supply chain and from various sectors of society. Because of the complexity of SMM, outcomes can be improved by the engagement of all actors in collaborative efforts to come to innovative solutions.

Life cycle thinking

When seeking to promote the sustainable use of materials, we need to embrace life cycle thinking. A life cycle approach can provide policy makers with new insights that a fragmented policy approach restricted to one phase of the life cycle cannot. A life cycle approach enables policy makers to identify policy priorities, based on an understanding of material flows and associated impacts. It reveals connections between actions in different phases of the life cycle as well as the relation between economic issues and environmental impacts. It helps in identifying costs and benefits and the associated tradeoffs. Life cycle thinking avoids shifting problems from one life cycle stage to another, from one geographic area to another and from one environmental medium (for example, air quality) to another (for example, water or land).

Better measurement, better management

A prerequisite for developing sound SMM policies is better data and better exchange of information on materials. Gaps in data on material flows and their environmental, social and economic impacts need to be filled. Data gathering has to become more consistent. There is a need for more transparency and traceability on the way materials move through global supply chains, so that governments and actors in the chain can make better decisions. Good SMM practices - for instance aimed at greening the supply chain, closing the material loop, eco-design or replacing products by services – have to be disseminated and shared among industry sectors and among countries.

Shared responsibility

Translating SMM into concrete actions will not be easy. While awareness is growing everywhere that we need to make the shift to an economy that uses materials more sustainably, we have little experience with putting SMM into practice. What is certain is that the responsibility to manage materials in a sustainable way is a shared responsibility. International organisations, like the OECD, the European Union or the United Nations cannot do the job alone. National governments and industry are the actors with the capacity and responsibility to implement concrete measures. Consumers also need to buy into the concept of SMM if it is to have an impact. NGOs have an important role in helping to raise awareness and providing support in the form of information.

SMM implies that we no longer ask ourselves ‘how can we manage waste in the most environmentally-responsible manner’ but ‘how can we manage material cycles in such a way that they respect the limits of our finite planet’? To achieve this requires to look beyond the toolbox of classical environmental policies, as SMM is a truly cross-cutting issue and requires reinforced cooperation and a common agenda between policy makers in different policy fields, such as environment, energy, economy, innovation, trade, industry and development cooperation. We also need to think about what the appropriate instrument mix is to tackle the complex and global challenge of materials management. There is no one-size-fits-all solution for SMM and we will have to learn how to deploy a wide range of policy tools in the most effective combination to actually manage the challenge ahead of us.

Long term thinking

Developing a strategy on SMM requires a long term vision that provides a framework for policy making and investment, with a clear set of measurable objectives. Therefore a time path until at least 2050 needs to be laid out and long term tentative objectives need to be set. Based on usable data sets, as discussed above, these objectives should allow us to define the role of governments, producers and consumers, as their integrated actions should provide the basis for a sustainable green economy and a sustainable way of life.

What do a successful economy and a high quality life-style look like, if they are not built on vast energy and material demands? SMM can make an important contribution to discussions on alternative models of growth, and in particular to those on green growth. To support these efforts different SMM scenarios for a sustainable economy in 2050 could be developed.

New governance models

Translating SMM into concrete action will among other things require a new type of governance, in which governments and enterprises transcend their traditional roles. Governments will have to use both the carrot and the stick when seeking to implement SMM. In their role as guide and regulator, governments can contribute to SMM via setting prohibitions, standards, targets and indicators, as well as through the use of economic instruments (e.g., one of the first steps could be to reform environmentally harmful subsidies in order to improve the incentive framework for SMM). Governments could also lead by setting an example. For instance, green public procurement can stimulate the market for sustainable products and services. Governments could also act as facilitators, as they have an important role to play in bringing together stakeholders along the value chain (raw material producers, manufacturers, retailers, consumers,

waste managers) to find joint solutions towards closing material cycles. Governments can foster innovation and make available the necessary financial means to support technological and non-technological innovation towards SMM. Finally, as mentioned before, governments can support the transition towards SMM by giving long-term direction.

New business models

The transition to SMM will also require a new way of doing business that integrates life cycle thinking in the way that enterprises operate. New business models need to be developed, which focus on the establishment of green supply chains, on finding low impact substitutes for high-impact materials, goods and services, as well as on redesigning material and value cycles in more sustainable ways. Industrial entrepreneurs ought to become life cycle managers, who assess the impacts of materials usage and seek to minimise these impacts.

New lifestyles

We need to think creatively about how we can shift the focus from possessing goods to fulfilling needs when judging our quality of life. We have to enable consumers to make informed choices by ensuring that they receive correct information on the environmental and social impacts of their consumption. Furthermore, sustainable consumption behaviour can be mainstreamed via price signals and choice editing.

Role for the OECD in furthering SMM

As a producer of economics-based analysis and policy recommendations, the OECD has a major role to play. It could support the implementation of SMM by developing policy guidance on SMM, i.e. based on the identification and dissemination of good practices and by developing an operational SMM toolkit. The OECD could particularly work on tools that help to internalise externalities.

The OECD could also help make the economic case for sustainable materials management in order to convince governments and business to invest in SMM practices and other parts of Government to get involved. As an economic oriented organisation, the OECD can contribute significantly to integrating SMM into economic policy.

More links could also be established between the OECD's work on SMM and other international initiatives directly or indirectly related to materials management. SMM could be incorporated more explicitly in the OECD's green growth strategy. Also, linkages with other international initiatives such as the UNEP Resource Panel, the Marrakesh process on Sustainable Consumption and Production, the Commission on Sustainable Development, and the UNEP SETAC Life Cycle Initiative could be reinforced.

Further work by the OECD on SMM could be laid out in a concrete and feasible SMM action plan accompanied by a roadmap.