International Fund for Sustainable Materials Management

To completely decouple economic development and material consumption, a strong incentive for sustainable use of resources and dematerialization could be introduced. However, strong policy incentives such as virgin material taxes or taxes for inefficient use of materials in industrial sectors may raise financial concerns as regards international competitiveness, higher dependence on foreign resource supply by shifting material extraction industries, or hollowing out of domestic industries, as well as environmental concerns such as higher incentives for illegal waste exports. To avoid such consequences, it is crucial to maintain harmony and coordinate policy on an international level.

For international collaboration to work, there needs to be a sustainable source of funding, and based on current policy attention on climate issues the most likely international funding opportunity would be through seeking co-benefits with climate mitigation. Conversely, the current climate-related finance and aid tends to focus on end-of-pipe technical solutions such as methane recovery from landfill-site or waste-to-energy approaches, which do not provide a strong economic incentive to promote efficient use of materials.

It is therefore important to initiate discussions on a multilateral funding mechanism for sustainable materials management. The major existing mechanisms for international cooperation on environmental protection, such as the Global Environment Facility (GEF) and the Clean Development Mechanism (CDM), are focused mainly on climate change, POPs and biodiversity and do not fit with the funding needs for SMM. In this context, UNEP’s ongoing consultative process on financing options for chemicals and wastes is a major step forward but it is of great importance that a future fund is designed based on a life-cycle perspective so that it can provide financial support not only to waste and chemical management but also to investments in resource efficiency and dematerialisation.

As a short term approach, reflecting resource efficiency/ productivity with pollution prevention measures in project appraisals by multi-lateral aid agencies or bilateral aid agencies may help here, and in particular, planning tools for improving product/service/project-level material footprinting or communication tools such as ecological footprinting.

As a steering mechanism for a global resource-efficient economy, developed countries could direct part of the recycling fees (or other materials management tax income that the countries involved will collect in order to finance bilateral and multilateral cooperation programmes) as a stimulus for sustainable materials circulation and management (Hotta 2011). Making available such funds for technological development and equipment investment for material recovery activities with pollution prevention measures in developing countries would raise the possibility of changing the current pattern of material usage to one based on higher efficiency and stability.

Conclusion

Without changes in the current pattern of materials use a resource crisis in the near future is inevitable. Thus, innovative approaches are needed to achieve higher productivity in the use of materials and to reduce total environmental impacts from material consumption. This brief argues for introduction of a phased approach adoptable for recycling markets of developing countries and highlights the insufficiency of international funding mechanisms in promoting sustainable materials management to harmonize efficient material use and environmental protection, and, by extension, argues for establishment of a dedicated fund.

The issues presented above will be discussed in more detail in IGES White Paper IV, to be published in July 2012.

Endnotes


UNEP (2011a), Resource Efficiency: Economics and Outlook for Asia and the Pacific, Nairobi: UNEP.


Further Information:

Institute for Global Environmental Strategies (IGES)

Sustainable Consumption and Production Group

Deputy Director, Yasuhiko HOTTA (hotta@iges.or.jp)

2106-1 Kariyama-machi, Hayama, Kanagawa, 240-0110, Japan
Tel: +81-46-853-3700, Fax: +81-46-853-3709 URL: http://www.iges.or.jp/

To download a copy of the IGES Proposal for Rio+20, and other IGES relevant publications, go to http://www.iges.or.jp/en/riso20/

March 2012
Resource Crisis or Sustainable Materials Circulation and Management?

Faced with continuous economic growth and escalating material consumption, international society urgently needs to invest more in systems and technical solutions contributing to decoupling. A recently published UN Environmental Programme (UNEP) report warns that under a business-as-usual scenario the material consumption of the Asia-Pacific region will be at least three times higher in 2050 compared to 2005 (UNEP 2011a); see Figure 1. It also shows that the amount of materials needed to generate one unit of gross domestic product (GDP) has increased in the Asia Pacific region over the last two decades; i.e., that the resource efficiency is dropping.

For Asia and the Pacific Region—dubbed the “factory of the world”—this all means that there is a higher risk of global resource crises emerging in the near future. When coupled with the rising demand for products and infrastructure in developing economies, it is obvious that resource efficiency needs to drastically rise throughout the region.

For example, in the iron and steel sector, although a recently studied IEAG 2012) found that any short-term gaps between supply and demand will mainly be met through increased scrap recycling, it also found that the supply of scrap is nearing its limit. If this trend continues this market will be at the brink of a resource crisis which could precipitate spikes in resource prices. Further, more consumption leads to more waste, and if the means to deal with this waste are lacking, a crisis in waste management will also result, with widespread water and soil contamination from open dumping, worsening air pollution from inefficient burning, or increasing environmental and health impacts on those in the informal materials-recovery sector.

If we are to continue to chase the chalice of Green Economy under the banner of a low-carbon, resource-efficient and socially-inclusive economy (UNEP 2011b), a policy concept that directs investment towards synergising economic development with environment conservation is needed; one that focuses international attention on, in addition to climate change and low carbon, sustainable materials circulation and management. This will avoid the preconditions for resource crises emerging.

Key Challenges for Sustainable Materials Circulation and Management (Hotta 2011)

Table 1 gives examples of legal frameworks for materials circulation and international policies in resource efficiency in Asia.

For a rapidly emerging country the second phase applies, and provides solid economic incentives for the industrial sector to improve material productivity. A specific example is the EPR mechanism, whereby various actors share the associated burden of treating end of life products as recyclables. Examples of policy tools and concepts in this phase are shown below:

For countries with large manufacturing bases the third phase applies, and enables new business models for dematerialisation. For example, Design for the Environment can be applied through closer collaboration between chemical and waste management or materials circulation and natural resource management, which enables safe and easy dismantling of products, materials recovery and dematerialisation. Examples of policy tools and concepts in this phase are shown below:

Considering the looming resource crisis, developed countries need to take a bold direction with policy and greater responsibility towards dematerialisation and socio-economic reforms for a global sustainable circular economy. This would act as a role model for other economies at lower levels of development to find innovative, less resource-intensive development pathways (Figure 2).