

Dubai PAGE Conference Session Report on

Green Industrial Policies – Shaping the Future of Manufacturing

1. Background

One of the biggest challenges of our age is to achieve a situation where high resource productivity and high levels of social and human development are combined with low per capita resource consumption.

While the expansion of the industrial sector is a central concern for many industrialized, emerging and developing countries in order to reduce poverty, create jobs, deliver goods and services and improve standards of living, it also comes at the cost of environmental degradation and resource depletion. However, there is a large untapped potential for providing the goods and services needed by humankind in ways that use raw materials, energy and water more efficiently, through [Green Industry](#), a process that is both technologically and economically feasible and proven and can contribute significantly to sustainable development and the green economy.

Green Industry is aimed at mainstreaming environmental and social considerations into national policies and the operations of enterprises, while at the same time promoting industrial innovation, entrepreneurship, competitiveness and the creation of green jobs, thereby contributing concretely towards sustainable development and the green economy.

Green industrial policy addresses those issues by integrating environmental, social and economic concerns and promoting the comparative advantage for resource efficient and low polluting sectors of the economy. Green industrial policy instruments include the removal of harmful subsidies, access to finance, provision of eco-efficient infrastructures, the introduction of industry-based standards, as well as eco-labels, the harnessing of environmental technologies, environmental taxes, legal and regulatory frameworks, etc.

2. Content of the Session

The greening of industries by governments is a proactive way to decouple environmental pressures from economic growth. Yet, it is also a cross-cutting exercise, which traverses a range of policy streams. These include industrial policy (e.g. technology development), environmental policy (e.g. resource conservation measures), and regional development policy (e.g. provision of local infrastructures). In this context, the session explored the notion of “greening” industrial policy, in which institutional processes promote the comparative advantage for resource efficient and low polluting sectors of the economy, a green economy. The overall theme addressed by the session was how green industrial policies can be designed to contribute to a socially inclusive green economy that utilizes a country’s potential to its fullest.

The session was co-chaired by H.E. Mr. Chuluunbat Ochirbat, Vice Minister of Economic Development of Mongolia and the UNIDO Director of the East Asia Region, Mr. Edward Clarence-Smith. Panellists of the session were H.E. Ms. Jaqueline Cramer, Former Minister of Housing, Spatial Planning and the Environment of the Netherlands and Director of the Utrecht Sustainability Institute, Mr. René Van Berkel, Chief of UNIDO's Cleaner and Sustainable Production Unit, Mr. Alex Ruzibukira, Director General of Industry and Entrepreneurship Development at the Ministry of Industry of Rwanda and Mr. Gonzalo Cabada Ansola, Director of Territorial Competitiveness at the Ministry of Production of Peru.

The session co-chairs provided the contextual framework, outlining that the key challenge for the industrial sector in relation to the green economy transition is the reduction in resource consumption as the current levels of resource use are highly unsustainable. The subsequent debate focused on the exchange of experience and discussion of policy options available to delink industrial production from increased resource consumption and was guided by the following questions:

1. What constitutes an effective green industrial policy?
2. What are the key components that make a green industrial policy effective?
3. How can PAGE assist countries in developing green industrial policies?

H.E. Ms. Cramer made a convincing case for taking a strategic approach that considers issues in context and in their interrelation with other matters. She outlined the example of the Netherlands' efforts to establish a circular economy through resource efficiency policy that focuses on recycling and waste stream processes as well as food security. Mr. Ansola outlined the main components of Peru's green industrial policy, which focuses on an inclusive process involving all relevant stakeholders and integrating solution strategies holistically across sectors. Mr. Ruzibukira provided a good example of eco-industrial parks and mandatory environmental impact assessment (EIA) as important tools to address environmental challenges in Rwanda. Mr. Van Berkel gave an overview of the main components of a green industrial policy and shared seven key policy messages recently developed by UNIDO in consultation with stakeholders from different countries.

Following the statements of the panelists, the co-chairs H.E. Mr. Ochirbat and Mr. Clarence-Smith led the interactive discussion between the panelists and the floor concerning the identification of key actors and measures as well as lessons-learned from best-practice examples and opportunities for upscaling.

3. Good Practices, Insights and Lessons Learned

State-of-the-art knowledge and good-practice examples

- Governance and a holistic approach focusing on entire products and systems are key to achieving the transition to a greener economy. For instance, the Netherlands, in its effort to become more independent from fossil fuel, to establish a more circular economy through

increased recycling and reuse and to put a stronger focus on food security, realized that the focus cannot lie solely on pollution control at enterprise level but also has to take into account pollution prevention. Recycling can for example only take place if it is considered already in the design phase so that products can be disassembled after use and taken up by a recycling industry that can transform these into re-usable items. This process needs to be guided by governance. Analyzing and targeting entire processes, for instance waste streams, while taking into account context and interrelations with other issues, like overall economic development, helps mobilize the maximum potential. Further, breaking complex issues down into sub-topics is crucial to deal with them in a more effective manner.

- Similarly, the components of Peru's strategy for promoting green industries build on an inclusive and holistic process. Incorporation of green industrial policy across sectors and within ongoing development programmes, as well as the consultation with local and regional authorities as they are the ones that have to integrate the green industry objectives into their work areas, is regarded crucial. This includes capacity building and training at national, regional and local levels for a public administration that is effective in devising laws and enforcing them. Peru's Minister of Production is also consulting with business associations to get the private sector's views as well as the necessary commitment for the formulated objectives.
- Many countries, like for example Rwanda, now face serious costs for environmental mitigation measures because industrial development strategies have not taken environmental aspects sufficiently into consideration in the past. Putting environmental laws which will help to avoid loss of biodiversity and excessive use of natural resources into place remains a challenge. To develop a more environmental sustainable industry and control adverse impacts, all new industries in Rwanda are now required to conduct an EIA. Meanwhile, eco-industrial parks have become the backbone of green industrial policies in the country.
- International partnerships can help overcome challenges. Rwanda has for instance set up a strict policy for the reduction of plastic and the promotion of alternatives for plastic with reduced adverse impacts. Initially, this has provoked difficulties for the country's agro-industry. However, Rwanda's industry is now partnering with foreign enterprises that produce biodegradable plastic. An example for a global partnership on green industry is the UNIDO/UNEP [Green Industry Platform](#), which provides a forum for governments, businesses and civil society organizations to share and profile best practices, as well as to promote research, innovation and deployment of green technologies.

Identified key actions, actors and institutions to harness new opportunities

- As defined by UNIDO, green industrial policy consists of two pillars. One is to encourage industry to continuously improve environmental performance, i.e. the greening of industries.

This requires a set of policies that encourage enterprises to become greener. The other is to promote the industrial supply of environmental goods and services, i.e. the creation of new green industries.

- At its latest [Green Industry Conference](#) held in November 2013, UNIDO, in a consultation process with stakeholders from different countries, developed seven main policy recommendations to foster the uptake of green industry.
- The provision of incentives and scaling up of measures were among the key actions identified to promote green industry. Incentives are necessary to have enterprises buying into the concept. Knowledge and information sharing can help overcome prejudices existing within industry and other forces that fear of losing out when implementing greening strategies. Scaling up is an important element as not only a limited number of enterprises but a considerable amount of businesses should be targeted.
- Government is not the only relevant player but one of the many relevant players. Guidance and target setting are two crucial roles to be taken up by governments. Further, barriers for industry to move to cleaner technologies have to be removed.
- Civil society is another key agent for harnessing new opportunities. With their awareness and interest in changes civil society actors play a crucial role in initiating bottom-up processes. Civil society has the power to influence production chains and request certain production standards from industry.
- Frontrunners play an important role in negotiating a change of management to implement green industrial policy.
- In addition to getting key actors to support a national green industry strategy, it is crucial to ensure that industry is in a position to implement those policies. Key challenges are lack of knowledge, access to finance and innovation, capacity and the sharing of experiences. This proves again that partnerships are important and that issues need to be considered in their context and their inter-linkage with each other. Policy enforcement has to go hand in hand with capacity building and knowledge sharing.

Measures for scaling up knowledge sharing and learning

- There is an urgent need for capacity building for government officials to be effective in devising, implementing and enforcing legislation at national, regional and local levels. Knowledge sharing and learning can be scaled up under PAGE with the development of guiding handbooks on green industrial policy design and enforcement to make best-practice examples and lessons learned available to practitioners globally.
- Session participants called for external support and technology transfer, especially in developing countries where community based industrial development is often characterized

by a lack of knowledge, experience, and access to finance and innovative ideas. International organizations and initiatives such as PAGE are critical to support countries to face those challenges.

4. Key Take Home Points/Recommendation

- A green industrial policy strategy has to break up silos. The greening of industry and the decoupling of natural resource use from economic growth need new partnerships. Many government institutions need to be involved to address such cross-cutting issues as access to and transfer of clean technologies, access to finance, and capacity building at government level. Breaking up silos includes also cooperation between national and local governments as well as cooperation between government, civil society representatives and private sector.
- The enormous global environmental challenges call for a new approach, one that prioritizes systemic change. This requires governments to focus on guiding the change process, working towards clear and shared objectives in which the different players are fully integrated. The change process needs to be guided and supported by a common vision and common objectives. The aim should be to set ambitious targets and commit to measuring progress.
- Champions of green industry who demonstrate good practice and drive negotiations for a change of system have to be identified. Resistance to change is often based on a feeling of threat, particularly among traditional sectors. This can be overcome by showing successful strategies from industry champions.
- Governments should build their systems of change around material flows. Designing new products and processes around materials to promote a circular economy gives a greater logic to breaking up silos and working across sectors.

5. Key Resources for the Session

- [UNIDO Green Industry: Policies for supporting Green Industry, 2011](#)
- [Industrial Policy for Prosperity: UNIDO's Strategic Support, 2011](#)
- [Strategic Industrial Intelligence and Governance, UNIDO](#)
- [Greening Food and Beverage Value Chains: the Case of the Meat Processing Industry, 2013](#)