

ISSUES AND QUESTIONS PROPOSED FOR DISCUSSION
in Workshops 1 and 2

Technology needs of developing countries

In accordance with the request expressed by world leaders in “The future we want”¹, the UN agencies have identified options for a facilitation mechanism that promotes the development, transfer and dissemination of clean and environmentally sound technologies.² Bearing in mind the contributions that have already been submitted, and summarised in the Secretary-General’s report A/67/348, participants are invited address the following issues:

- *What are the most common difficulties still faced by a significant number of developing countries in terms of access to fundamental science and R&D underpinning clean and environmentally sound technologies?*
- *What are the most common difficulties still faced by a significant number of developing countries in fostering the diffusion and widespread adoption of clean technologies?*
- *In particular, what messages arise from Technology Needs Assessments carried out for developing countries in the area of clean and environmentally sound technologies?*
- *What are the complementarities and conflicts between developing countries’ technology constraints in addressing global commons (or boundaries) issues and their needs in addressing poverty eradication and socio-economic development?*

Focus on the technology cycle:

How should international technology transfer mechanisms take account of it?

The Secretary-General’s report on “Options for a facilitation mechanism...”³ highlighted the importance of addressing constraints at different stages of the life cycle in the development, demonstration and diffusion of technologies in the market place. It also stressed the difficulties that companies, organisations and countries have in bridging gaps between these technology stages and observed that, typically, the role of government is progressively reduced in moving from research to diffusion.

- *Should international efforts to enhance developing country access to clean technology seek to equalise all developing countries’ capabilities along the entire technology life cycle within a policy-relevant time horizon?*
- *Or, is there evidence suggesting that difficulties faced by developing countries in specific segments of the technology life cycle should be prioritised?*

Options for addressing the technology needs of developing countries

- *What success stories can be cited of national or international efforts to address developing countries’ technology needs?*
- *What other major on-going national or international efforts deserve greater awareness and further support?*
- *What other new and additional international initiatives can help address the technology needs of developing countries?⁴*
- *What lessons can be cited from international efforts to support technology development and transfer in developing countries that have fallen short of their declared objectives?*
- *Are there significant examples of “technology leapfrogging” achieved by developing countries that are replicable in other national contexts? Subject to what policy pre-conditions or reforms?*
- *Are there significant examples of “technology leapfrogging” achieved in relatively lower income or smaller economies?*

What has evolved since the first Rio Summit in 1992?

The participation of developing countries in science, technology and innovation activity has evolved considerably since the 1992 Rio summit on sustainable development. While some poorer and/or smaller economies continue to be severely challenged in this respect, some developing countries have become active participants in new technology development. The share of GDP devoted to R&D in developing countries has gone up from about a quarter of the share in developed countries in 1996 to nearly half of it in 2007.⁵

In addition to gaps in the availability and quality of data (see below), it is possible this overall picture hides an important dispersion of developing country experiences, with the larger and more advanced developing economies accounting for the bulk of the overall growth of R&D in developing countries.

- *In participants' view, what new opportunities and challenges do the evolving scientific and technological capabilities in a number of developing countries present for enhanced international technology cooperation?*⁶
- *What lessons arise from experience to date on "South-South" and "triangular" cooperation for the development, transfer and dissemination of clean and environmentally sound technologies?*

What issues remain on the table?

Historically, developing countries have had limited capability in indigenous technology development. While developing countries present a diverse picture in terms of their industrial development performance in the last two decades, the modalities of technology transfer from developed countries have been an enduring development cooperation controversy.

- *What barriers, constraints and conditions affect the international transfer of clean and environmentally sound technologies? How have these evolved in recent decades?*
- *What innovative solutions have worked in terms of overcoming barriers associated with international technology transfer? What further initiatives can be proposed?*
- *Given the continuing challenges faced by many lower income or smaller economies in accessing and utilising clean and environmentally sound technologies, what options and priorities exist regarding further international efforts to strengthen technology transfer?*

Knowledge gaps

Data on countries' innovation efforts and outcomes has improved in recent decades.⁷ But significant gaps continue to exist in terms of availability or international comparability of data, especially on developing countries.

- *What options exist to help bring a large number of developing countries closer to international best practice regarding data and information on science, technology and innovation efforts and outcomes?*

A large share of analytical research on clean and environmentally sound technologies derives its empirical evidence from developments in the renewable energy sector, which has been a priority for publicly supported research in many countries at least since the Kyoto Protocol.

- *Bearing in mind the interconnection of sustainability challenges across sectors such as food, water, energy etc., what should be done to improve empirical understanding on technology needs and options in sectors other than energy?*

NOTES

-
- ¹ A/RES/66/288, paragraph 273, first sentence.
- ² These are listed in <http://sustainabledevelopment.un.org/index.php?menu=1455>.
- ³ “Options for a facilitation mechanism that promotes the development, transfer and dissemination of clean and environmentally sound technologies”, A/67/348, September 2012.
- ⁴ See A/67/348 Section IV. Recommendations for background.
- ⁵ World Bank, World Development Indicators online data:
<http://databank.worldbank.org/ddp/home.do>.
- ⁶ See A/67/348 paragraphs 30 to 42, for a summary of “technology commitments” in UN resolutions since 1992.
- ⁷ See for example UNESCO Institute for Statistics online data:
<http://stats.uis.unesco.org/>.