

Submission of inputs by the Technology Executive Committee for the in-session workshop on long-term finance

The Technology Executive Committee (TEC) welcomes the opportunity to submit its inputs to the in-session workshop on long-term finance to be organized at the 42nd session of the Subsidiary Bodies, in accordance with decision 5/CP.20, paragraph 14.

With regard to the annual in-session workshops, COP 20 decided that these will focus on the issues of:

- a) Cooperation on enhanced enabling environments and support for readiness activities.
- b) Needs for support to developing country Parties; and
- c) Adaptation finance;

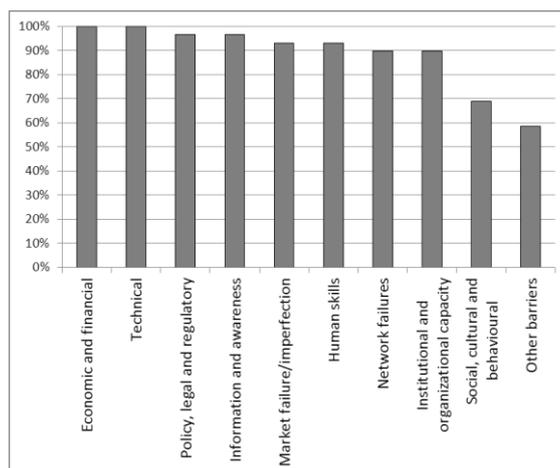
The following provides an overview of the outcomes of current and previous work and activities undertaken by the TEC of relevance to the focus areas of the in-session workshop on long-term finance.

I. Cooperation on enhanced enabling environments and support for readiness activities

Enabling environments and barriers for technology development and transfer

The third synthesis report on technology needs identified by Parties not included in Annex I to the Convention (SR3)¹ synthesizes the information contained in the technology needs assessment (TNA) reports of 31 non-Annex I Parties. It highlights the technology needs of those Parties to mitigate greenhouse gas emissions and facilitate adaptation to the adverse impacts of climate change.

Figure 1: Overview of barriers to technologies for mitigation identified in Parties' TNAs (percentage of Parties).²



In identifying barriers to the development and transfer of the prioritized mitigation technologies, the most commonly reported barriers were economic and financial and technical barriers (figure 1). Within the first category (economic and financial), most of the Parties identified inappropriate financial incentives and disincentives as the main barrier. In the technical barrier category, many of the Parties identified system constraints and inadequate standards, codes and certification as the main barriers.

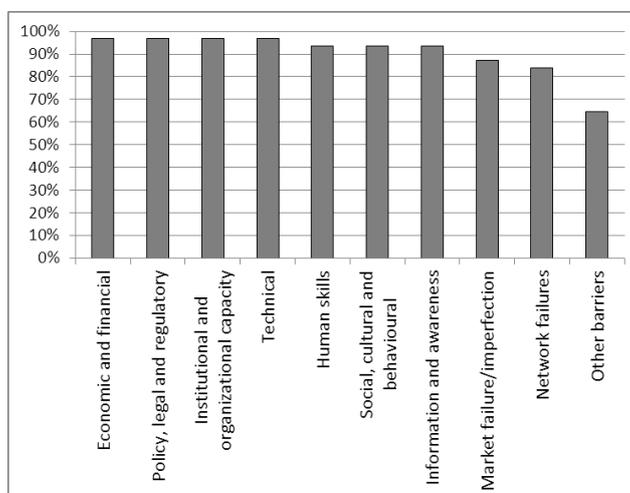
In identifying enablers for the prioritized mitigation technologies, the most commonly mentioned enabler on a cross-sectoral basis was the measure to provide or expand financial incentives for the implementation and use of the prioritized technology. Another commonly mentioned measure was the

¹ FCCC/SBSTA/2013/INF.7.

² FCCC/SBSTA/2013/INF.7, page 25.

formulation or updating of regulations, policies and standards related to the technology. Other commonly mentioned enablers on a cross-sectorial basis were the provision of capacity-building and the establishment of information and awareness programmes to promote and develop capacity with regard to the specific technology.

Figure 2: Overview of barriers to technologies for adaptation identified in Parties' TNAs (percentage of Parties).³



For adaptation, almost all of the Parties identified the following types of barriers to the development and transfer of the prioritized technologies: economic and financial; policy, legal and regulatory; institutional and organizational capacity; and technical (figure 2). Within the category of economic and financial barriers, most of the Parties identified the lack of or inadequate access to financial resources as the main barrier. For the policy, legal and regulatory barrier category, the most common barrier was an insufficient legal and regulatory framework. For the institutional and organizational barrier category, the most reported barrier was limited institutional capacity, while for the technical barrier category the most commonly reported barrier was system constraints.

In identifying enablers for the prioritized technologies for adaptation, the most commonly mentioned enabler was the measure to increase the financial resources available for the technology, by introducing or increasing the allocation for the technology in the national budget or by identifying and creating financial schemes, funds, mechanisms or policies. Another commonly mentioned measure was to strengthen the current relevant institutions, via increased human resources and facilities, in order to accelerate the research and development of the technology.

Key messages on enabling environments

Based on its work on enabling environments and barriers to technology development and transfer, the TEC developed the following key messages for COP 18 of relevance to cooperation on enhanced enabling environments and support for readiness activities:⁴

- a) Collaborative research, development and demonstration (RD&D) should be promoted as a way to share knowledge and experiences between developed and developing countries, including through North–South and South–South collaboration, in order to meet the technology needs of developing countries.
- b) Strengthening national systems of innovation provides an effective and efficient way to enhance national capacity to address climate change.
- c) The capacity of developing countries to assess, absorb and develop technologies needs to be enhanced to address their climate change related development challenges, taking into account their national circumstances and enabling factors.

³ FCCC/SBSTA/2013/INF.7, page 29.

⁴ FCCC/SB/2012/2, paragraph 35.

- d) Activities related to the technology cycle, policy, regulatory frameworks and financing should be considered in an integrated manner.
- e) Engaging the financial and business community, at both the international and the national level, at an early stage is crucial to enhance access to financing for the development and transfer of technologies.
- f) The Technology Mechanism and other international instruments used to promote technology transfer to developing countries should be clearly aligned with the enabling frameworks that facilitate private- and public-sector investment.

Key messages on climate technology financing

Based on its work on climate technology financing, the TEC developed the following key messages for COP 20 of relevance to cooperation on enhanced enabling environments and support for readiness activities:⁵

- a) Project proponents face many challenges in securing financing for technology projects and programmes. Enhanced stakeholder collaboration can contribute to the establishment of appropriate enabling environments and align finance, technologies and project planning to achieve economically, environmentally and socially sound projects and programmes that are implementable.
- b) There is a need to enhance coherence between international institutions, given that different criteria and evaluations of international climate finance and technology support can lead to increased burdens on developing countries' limited institutional capacity to access international finance;
- c) There is a need to integrate technology and financial expertise to address risks, both real and perceived, in order to enhance the economic soundness of climate technology projects;
- d) Past experiences from international financial institutions show that the key elements for successful climate technology proposals are their economic, environmental and social soundness; a demonstrated capacity to deliver impact; the ability to be replicated and scaled up; and stakeholder involvement;
- e) The adaptation and mitigation benefits of technology projects in the earlier stages of the technology cycle may be difficult to quantify and measure. The operational entities of the Financial Mechanism of the Convention should take this into account in the criteria for assessing such projects.

II. Needs for support to developing country Parties

Long-term finance needs for technology development and transfer

According to the report by the Chair of the Expert Group on Technology Transfer on "Recommendations on future financing options for enhancing the development, deployment, diffusion and transfer of technologies under the Convention"(2009),⁶ the "(e)stimates of the financing resources currently available for technology research, development, deployment, diffusion and transfer (...) for mitigation technologies (...) are between USD 70 and 165 billion per year".⁷ This report also stated that "(s)everal estimates are available of the additional financing that will be needed for research, development, demonstration, deployment and diffusion of mitigation technologies in order to stabilize levels of greenhouse gases in the atmosphere. The estimates are sensitive to the baseline and mitigation scenarios used and indicate that current financing for mitigation technologies needs to increase by USD 262-670 billion annually until 2030 (to a total of USD 332-835 billion annually)"⁸ (figure 3).

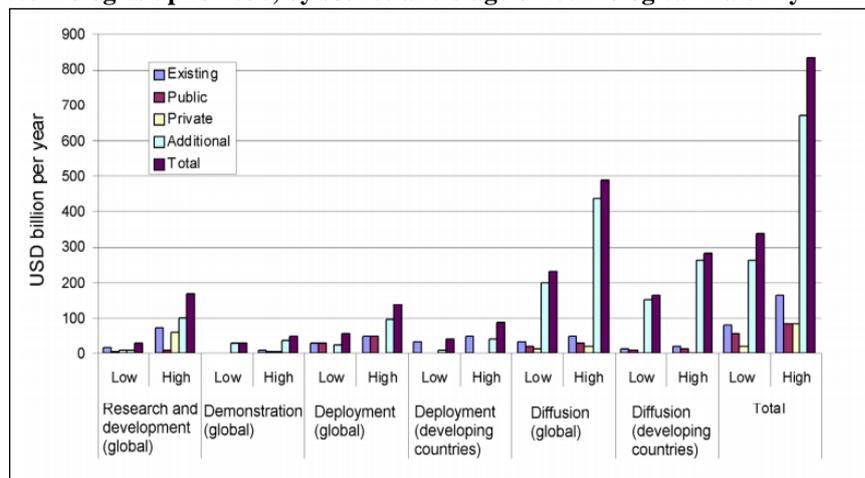
⁵ FCCC/SB/2014/3. paragraph 35 (b).

⁶ FCCC/SB/2009/2.

⁷ FCCC/SB/2009/2/Summary, paragraph 4.

⁸ FCCC/SB/2009/2/Summary, paragraph 5.

Figure 3. Estimates of annual financing needs for mitigation technologies up to 2030, by source and stage of technological maturity⁹



Regarding technologies for adaptation, the same report says that “(f)or technologies for adaptation, R&D is focused on tailoring the technology to the specific site and application; it therefore forms part of the project cost. Current spending on adaptation projects in developing countries is about USD 1 billion per year”,¹⁰ however “(e)stimates of the future spending needs for adaptation range from tens of billions to hundreds of USD billion per year.”¹¹ The report concludes that “(d)espite the uncertain figures (...) current financing resources need to be increased significantly”.¹²

More recently, in the “Report on the workshops of the work programme on long-term finance” (2012),¹³ the findings and recommendations by the co-chairs of the work programme on LTF, informed by inputs and discussions during the work programme, include the following statement: “While estimates of the scale of climate financing needs varies depending upon the assumptions and methodologies used, studies presented during the work programme show that the current scale of finance does not match the level required to fully address the adaptation and mitigation needs of developing countries”,¹⁴ including for technology development and transfer.

Financial needs identified by Developing Countries in the technology needs assessments

As part of the global TNA project, almost all of the Parties developed Technology Action Plans (TAPs), which consist of a group of measures to address the identified barriers to a prioritized technology. The total accumulative estimated budget of Parties for the implementation of their TAPs was USD 5.2 billion for mitigation and USD 2.4 billion for adaptation.

Almost all of the Parties developed project ideas as part of their TNA processes. In the context of their TNAs, Parties envisaged project ideas as concrete actions for the implementation of a prioritized technology. The total accumulative estimated budget of Parties for the implementation of their projects was USD 12.5 billion for mitigation and USD 12.2 billion for adaptation.

Key messages on technology needs assessments

Based on its work on technology needs assessments, the TEC developed the following key messages for COP 20 of relevance to needs for support to developing country Parties:¹⁵

- a) The TNA process should be improved to facilitate the implementation of the project ideas emanating from it. This can be done through the provision of technical assistance and finance

⁹ FCCC/SB/2009/2/Summary, page 4.

¹⁰ FCCC/SB/2009/2/Summary, paragraph 4.

¹¹ FCCC/SB/2009/2/Summary, paragraph 6.

¹² FCCC/SB/2009/2/Summary, paragraph 9(g).

¹³ FCCC/CP/2012/3.

¹⁴ FCCC/CP/2012/3, paragraph 8.

¹⁵ FCCC/SB/2014/3, paragraph 53 (a).

to each TNA process, which should also aim to integrate economic, environmental and social aspects into the development of the TNA. This will help to ensure that the TNA process results in bankable (commercial and concessional) projects, which is one of the objectives of TNAs.

- b) Stakeholders such as technology owners and developers should be encouraged to submit project proposals for technologies prioritized in TNAs with a view to sharing those proposals with potential investors.
- c) Communication of technology action plans and project ideas identified by Parties in their TNA reports should be expanded in order to better engage national and international financial communities and enhance the potential of project implementation.
- d) Technology implementation could benefit from intercountry cooperation, beyond the current regional training support, which could result in an improved coordination of TNAs and requests for international support. The CTCN could play a major role in such coordination, by helping to provide and/or suggest tools and catalyse financial support, thereby supporting national designated entities.
- e) As suggested by the Advisory Board of the CTCN, national designated entities should be encouraged to identify opportunities to coordinate with the national focal points for other UNFCCC processes, such as nationally appropriate mitigation actions, NAPs and low-emission development strategies. These processes should be linked to national planning processes and technology market potential. Such a role provides an opportunity to encourage the bodies and actors involved to align the processes and outputs of their work in a way that will enhance the prospects for successful implementation.

III. Adaptation finance

Financing needs for technologies for adaptation

For the financing needs for technologies for adaptation to support the implementation of TAPs and project ideas, see section II.

Key messages on technologies for adaptation

Based on its work on technologies for adaptation, the TEC developed the following key messages for COP 20 of relevance to adaptation finance:¹⁶

- a) Prioritization of technologies for adaptation that enhance resilience should take into consideration vulnerability and adaptation assessments undertaken during the NAP process.
- b) Technologies for adaptation that have mitigation co-benefits should be identified, encouraged and promoted.
- c) Effective coordination and integration of technologies for adaptation in cross-sectoral planning and policy formulation by local and national governments is essential to ensure the implementation of appropriate adaptation actions.
- d) The integration of hardware, software, and orgware is necessary and should be supported by appropriate policies.
- e) Local stakeholders should be involved and empowered to enable the replication and improvement of local solutions and thus promote the sustainable application of technologies for adaptation.
- f) Parties are encouraged to share experiences and promote regional and international cooperation on successful implementation of policies and measures related to technologies for adaptation, including South–South cooperation, to catalyse the replication and scaling-up of these actions.

¹⁶ FCCC/SB/2014/3, paragraph 53 (c).

IV. Final considerations

Project proponents face many challenges in securing financing for technology projects and programmes. Solutions to these challenges require close stakeholder collaboration to ensure that policies, finance, technologies and project planning are aligned to produce projects and programmes that are economically, environmentally and socially sound.

The TEC acknowledges the need to achieve coherence and maintain interactions with other relevant institutional arrangements under and outside of the Convention. In response to a request from the COP, the TEC delivered its recommendations on linkages between the Technology Mechanism and the Financial Mechanism of the Convention at COP 20.¹⁷ The recommendations elaborate on potential areas of collaboration between the TEC, the operating entities of the Financial Mechanism and the Standing Committee on Finance and linkage modalities with these bodies.

The TEC will further consider assessing the technology and RD&D financing needs, including options to stimulate RD&D investments and to deploy low-carbon technologies, in the preparation of its workplan for 2016-2017. The TEC will include the work it has completed on technology needs assessments, climate technology financing, enabling environments and barriers and technologies for adaptation and mitigation when preparing its annual report and key messages for COP 21.

¹⁷ FCCC/CP/2014/6.