Technology Executive Committee **26 August 2011**
First meeting **TEC/2011/1/2**

Briefing note on the development and transfer of technologies under the UNFCCC process

Summary

- The note presents a brief introduction on the evolution of the issue of technology development and transfer under the UNFCCC process. It also include as annexes to this note some key decisions adopted and major documents prepared on technology development and transfer.

I. Negotiation process of the development and transfer of technologies under the Convention

1. The Convention, which entered into force in 1994, provides an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. The provisions of the Convention on the development and transfer of technologies are articulated by Article 4, paragraphs 1(c) and 5, of the Convention.

Box 1. The Convention and its Kyoto Protocol text on the development and transfer of technology

- **Article 4, paragraph 1(c)**, of the Convention stipulates that all parties shall "promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors". Furthermore, Parties included in Annex I to the Convention shall (**Article 4, paragraph 2(e)(i)**, of the Convention) "coordinate as appropriate with other such Parties, relevant economic and administrative instruments developed to achieve the objective of the Convention".
- Regarding technology transfer, **Article 4, paragraph 5**, of the Convention stipulates that "The developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies."
- Similar provision are found in **Article 10(c)** of the Kyoto Protocol: all Parties shall cooperate in the promotion of effective modalities for the development, application and diffusion of, and take all practical steps to promote, facilitate and finance as appropriate, the transfer of, or access to, environmentally sound technologies, practices and processes pertinent to climate change, in particular to developing countries.

2. Since 1994, at each session of the Conference of the Parties (COP), Parties have taken decisions on the development and transfer of environmentally sound technologies. Furthermore, the development and transfer of technologies is a standing agenda item of both the Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA). The evolution of the issue over time is illustrated in figure 1. Four main periods can be identified:

(a) The Berlin mandate and work on various separate issues (COP 1–4);

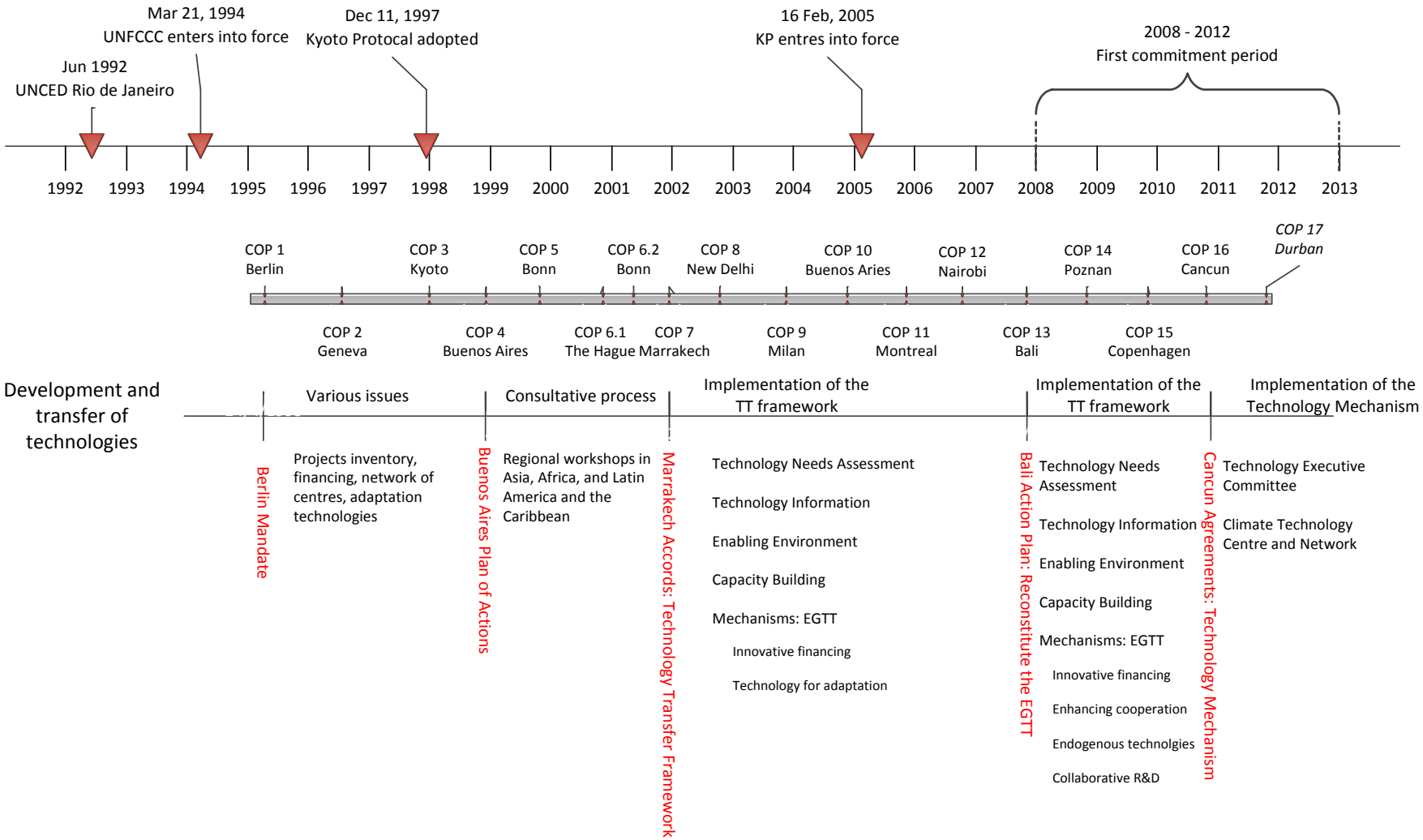
(b) The Buenos Aires Plan of Action and the consultative process on technology transfer (COP 4–7);

(c) The Marrakesh Accords and implementation of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention (COP 7–12), referred to hereinafter as the technology transfer framework;

(d) The Bali Road Map process and the Technology Mechanism established by the Cancun Agreements.

Figure 1

Development and transfer of technologies under the Convention



3. A series of decisions made by the COP mark the milestones in the evolution of discussions on the development and transfer of technologies under the UNFCCC process. Some of these key decisions are listed in table 1 and are included in annexes of this note.

Table 1. Key decisions regarding developments and transfer of technologies

Decision	**Key outcomes related to development and transfer of technologies**
Decision 1/CP.1	Decided to review at each session of the Conference of the Parties the implementation of Article 4, paragraphs 1(c) and 5, of the Convention as a separate agenda item under "Matters relating to commitments"
Decision 4/CP.4	Established a consultative process to achieve agreement on a technology transfer framework
Decision 4/CP.7	Adopted the technology transfer framework
Decision 3/CP.13	Reconstituted the Expert Group on Technology Transfer and adopted the set of actions as set out in the recommendation for enhancing the implementation of the technology transfer framework
Decision 4/CP.13	Decision on the development and transfer of technologies under the Subsidiary Body for Implementation
Decision 2/CP.14	Adopted the Poznan strategic programme on technology transfer
Decision 1/CP.16	Established the Technology Mechanism

II. Implementation of the technology transfer framework

4. Concrete actions on technology development and transfer to enhance the implementation of Article 4, paragraphs 1(c) and 5, of the Convention are currently defined by the technology transfer framework, which comprises a set of activities agreed as part of the Marrakesh Accords (decision 4/CP.7) and enhanced as part of the Bali Action Plan (decisions 3/CP.13 and 4/CP.13) for the period 2008–2012 and beyond.

5. The technology transfer framework covers five key themes, namely:

(a) Technology needs assessments (TNAs): to date, some 68 TNAs have been reported and published on the technology information clearing house (TT:CLEAR) website.[1] Two synthesis reports[2] have been prepared by the secretariat that present information on technology needs for mitigation and adaptation to climate change contained in 68 TNAs and 39 national communications submitted to date. The synthesis reports highlight priority technology needs identified in various sectors to reduce greenhouse gas emissions and facilitate adaptation to the adverse impacts of climate change and also include a regional analysis of the sectors covered and technologies addressed.

The Poznan strategic programme on technology transfer was established in 2008 by the Global Environment Facility (GEF) to scale up the level of investment for technology transfer in order to help developing countries to address their needs for environmentally sound technologies. Under the programme, a funding window of USD 9 million was proposed to support TNAs, as elaborated in detail in chapter IV below.

To help Parties to conduct TNAs, the United Nations Development Programme, in collaboration with the secretariat, the Expert Group on Technology Transfer (EGTT) and the Climate Technology Initiative, developed the updated *Handbook for Conducting*

[1] <http://unfccc.int/ttclear/jsp/CountryReports.jsp>.
[2] FCCC/SBSTA/2006/INF.1 and FCCC/SBSTA/2009/INF.1.

Technology Needs Assessment for Climate Change.[3] The updated TNA handbook was made available to Parties as an advance document in June 2009 and the latest version was published in November 2010. It provides specific guidance on identifying technology needs for mitigation of and adaptation to climate change, including two innovative supporting tools: the software tool TNAssess to support analyses, store data collected, and assist sector and technology prioritization processes, and the ClimateTechWiki online database, which provides basic information on environmentally sound technologies with specific project examples;[4]

(b) Technology information: TT:CLEAR was developed, operated and maintained by the secretariat to facilitate the implementation of this theme. TT:CLEAR acts as a gateway to technology information that enables users to find relevant information related to the development and transfer of technologies;

(c) Enabling environments: the enabling environments component of the technology transfer framework focuses on government actions, such as fair trade policies, the removal of technical, legal and administrative barriers to technology transfer, sound economic policy, regulatory frameworks and transparency, all of which create an environment conducive to private- and public-sector technology transfer. A technical paper was prepared by the secretariat on enabling environments for the development and transfer of technologies,[5] a workshop on enabling environments[6] was held in Ghent, Belgium, in 2003, and a senior-level round-table discussion was organized at COP 9;

(d) Capacity-building: capacity-building is considered as a cross-cutting activity by the EGTT. Hence the implementation of activities identified in this key theme has occurred in other thematic areas as well, such as the development of training tools and training activities for conducting TNAs and preparing technology transfer projects for financing;

(e) Mechanisms for technology transfer: under this theme, the EGTT was established as an institutional arrangement to facilitate the implementation of the technology transfer framework. The EGTT has provided its annual report to inform Parties on the status and progress of its work and the SBSTA considered and endorsed its proposed work programme for the following year.

At COP 13, some sub-themes were added to this theme, including on innovative options for financing the development and transfer of technologies. As part of the latter, a guidebook on preparing technology transfer projects for financing[7] was developed, which could be used as a tool to enable developing countries to convert project ideas resulting from TNAs and other sources into project proposals for financing. In addition, a series of regional workshops on project preparation was organized aimed at enhancing the capacity of project developers in developing countries in preparing project proposals for financing. Further, a training package on project preparation[8] was developed for trainers, which built on the experiences and lessons learned from the regional workshops.

6. More information on the implementation of the technology transfer framework could be referred to in the publication of "Expert Group on Technology Transfer: five years of work" as attached to this note.

III. Expert Group on Technology Transfer

7. The EGTT was established as part of the technology transfer framework to contribute towards its implementation. The EGTT comprised 19 experts from different regions nominated by Parties.

[3] <http://unfccc.int/ttclear/pdf/TNA%20HANDBOOK%20EN%2020101115.pdf>.
[4] <http://climatetechwiki.org>.
[5] FCCC/TP/2003/2.
[6] <http://unfccc.int/ttclear/jsp/EventDetail.jsp?EN=WshpGhent>.
[7] <http://unfccc.int/ttclear/jsp/Training%20material.jsp#guidebook>.
[8] <http://unfccc.int/ttclear/jsp/Training%20material.jsp>.

Generally, the EGTT met twice a year, with some additional meetings as needed to consider various issues as contained in its work programme approved by the SBSTA and the SBI.

8. At its thirteenth session, the COP agreed to reconstitute the EGTT for a further five years and that the EGTT should provide advice as appropriate to the subsidiary bodies. The EGTT took on a more prominent role, and its work on future financing options and the long-term strategy for technology development and transfer was highly regarded and contributed to negotiations under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA). It was also requested to elaborate on options for operational modalities for the proposed Technology Mechanism, for consideration by the AWG-LCA.

9. Some documents prepared by the EGTT recently are listed in table 2. More information about the work of the EGTT can be found on the UNFCCC website.[9]

10. With the establishment of the Technology Mechanism, the COP decided to terminate the mandate of the EGTT at the conclusion of its sixteenth session. The Technology Executive Committee (TEC) established under the new Technology Mechanism was mandated to further implement the technology transfer framework.

Table 2. Some major documents prepared by the EGTT

Symbol	Title
EGTT/2010/13	Preparing for the implementation of the proposed Technology Mechanism: a working paper of the Expert Group on Technology Transfer
FCCC/SBSTA/2010/INF.11	Report on options to facilitate collaborative technology research and development. Note by the Chair of the Expert Group on Technology Transfer
FCCC/SB/2009/2	Recommendations on future financing options for enhancing the development, deployment, diffusion and transfer of technologies under the Convention. Report by the Chair of the Expert Group on Technology Transfer
FCCC/SB/2009/3	Strategy paper for the long-term perspective beyond 2012, including sectoral approaches, to facilitate the development, deployment, diffusion and transfer of technologies under the Convention. Report by the Chair of the Expert Group on Technology Transfer
FCCC/SB/2009/4	Performance indicators to monitor and evaluate the effectiveness of the implementation of the technology transfer framework. Final report by the Chair of the Expert Group on Technology Transfer

IV. Poznan strategic programme on technology transfer

11. A key issue affecting the implementation of the technology transfer framework has been limited financial support for technology-related actions identified by developing country Parties. In this context, the GEF, as an operational entity of the financial mechanism under the Convention, was requested by the COP at its thirteenth session to elaborate a strategic programme to scale up the level of investment for technology transfer in order to help developing countries address their needs for environmentally sound technologies, specifically considering how such a strategic programme might be implemented, along with its relationship to existing and emerging activities and initiatives regarding technology transfer. A strategic programme with USD 50 million initially, named the Poznan strategic programme on technology transfer, was established by the GEF and welcomed by the COP at its fourteenth session.

[9] <http://unfccc.int/ttclear/jsp/EGTT.jsp>.

12. The Poznan strategic programme on technology transfer currently contains three funding windows:

(a) TNAs;

(b) Pilot priority technology projects;

(c) Dissemination of GEF experience and successfully demonstrated technologies.

13. With regard to the pilot priority technology projects, by end of 2010, 14 proposals for technology transfer pilot projects were prioritized for funding out of 39 proposals submitted to the GEF secretariat. Total GEF resources requested for these 14 projects amount to USD 36.8 million from the Poznan strategic programme on technology transfer, with a additional USD 21.2 million requested from the GEF Trust Fund. Total GEF funding for the 14 pilot projects amounts to USD 58 million, and total co-financing for these projects comes to more than USD 195 million.

14. The technologies targeted by these projects for development and transfer are diverse and innovative. They include technologies on renewable energy (solar, biomass, wind, wave, and hydrogen production and storage), energy efficiency (insulation materials, and efficient and hydrofluorocarbon-free appliances), transport ('green' trucks), composting, carbon capture and storage from sugar fermentation, and membrane drip irrigation for adaptation.

15. The projects take place in the following countries: Brazil, Cambodia, Chile, China, Colombia, Cook Islands, Côte d'Ivoire, Jamaica, Jordan, Kenya, Mexico, Russian Federation, Senegal, Sri Lanka, Thailand and Turkey. The project proposals are available on the GEF website.[10]

16. The TNA project under the TNA window was developed and implemented by the United Nations Environment Programme, which has the objective of providing targeted financial and technical support to assist 35 to 45 developing countries in developing and/or updating their TNAs. Fifteen countries were selected as first-round participating countries in early 2010: Argentina, Bangladesh, Cambodia, Côte d'Ivoire, Costa Rica, Georgia, Guatemala, Indonesia, Kenya, Mali, Morocco, Peru, Senegal, Thailand and Viet Nam.

17. Details of progress on the implementation of the Poznan strategic programme on technology transfer can be found in progress reports[11] prepared by the GEF and on the GEF website.[12]

18. The long-term implementation of the programme is under consideration by the GEF, as requested by the COP, which is being addressed in the context of the fifth replenishment of the GEF. The GEF was invited to provide reports on the progress made in carrying out its activities under the programme for consideration by the SBI at its thirty-fifth and subsequent sessions.

V. A review of the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5, of the Convention

19. The COP, by its decision 4/CP.13, requested Parties to submit their views on elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5, in accordance with decision 13/CP.3, regarding the division of labour between the SBI and the SBSTA.

20. The SBI, at its twenty-ninth session, agreed on the terms of reference[13] for the review and assessment of the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5, of the Convention. The COP, by its decision 2/CP.14, paragraph 3, invited Parties and relevant organizations to make submissions to the secretariat, by 16 February 2009, in accordance with paragraph 9 of the terms of reference for the review and assessment of the effectiveness of the

[10] <http://www.thegef.org/gef/gef_projects_funding>.
[11] FCCC/SBI/2010/25.
[12] <http://www.thegef.org/gef/TT_poznan_strategic_program>.
[13] FCCC/SBI/2008/19, paragraph [please provide para No.].

implementation of Article 4, paragraphs 1(c) and 5, of the Convention, contained in the annex to document FCCC/SBI/2008/L.28.

21. A report[14] on the review and assessment of the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5, of the Convention was prepared by the secretariat for the thirty-second session of the SBI. The review and assessment was completed by the SBI at its thirty-second session. The SBI emphasized the usefulness of the findings and conclusions contained in the report, with a view to enhancing action on the implementation, including the review process, of the development and transfer of technology. The SBI also noted the challenges faced in relation to data availability and data collection in support of the review and assessment.

VI. Technology Mechanism

22. A Technology Mechanism, under the guidance of and accountable to the COP, was established by the sixteenth session of the COP. The Technology Mechanism is expected to facilitate the implementation of enhanced action on technology development and transfer in order to support action on mitigation and adaptation to climate change.

23. The Technology Mechanism consists of the following two components:

(a) A TEC;

(b) A Climate Technology Centre and Network (CTCN).

24. During the course of negotiations under the AWG-LCA in 2011, Parties will continue elaborating the following issues, with a view to the COP taking a decision at its seventeenth session in order to make the Technology Mechanism fully operational in 2012:

(a) The relationship between the TEC and the CTCN, and their reporting lines;

(b) The governance structure of and terms of reference for the CTCN and how the Centre will relate to the Network;

(c) The procedure for calls for proposals and the criteria to be used to evaluate and select the host of the CTCN;

(d) The potential links between the Technology Mechanism and the financial mechanism;

(e) Consideration of additional functions for the TEC and the CTCN.

25. An expert workshop[15] on the Technology Mechanism was held on 4 and 5 of April 2011, in conjunction with the first part of the fourteenth session of the AWG-LCA in Bangkok, Thailand, to discuss the issues mentioned in paragraph 24 above.

26. The COP, by decision 1/CP.16, decided that the TEC shall convene its first meeting as soon as practicable following the election of its members and shall elaborate its modalities and procedures taking into account the need to achieve coherence and maintain interactions with other relevant institutional arrangements under and outside of the Convention.

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[14] FCCC/SBI/2010/INF.4.

[15] <http://unfccc.int/meetings/awg/items/5928.php#TMws>.