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Development and transfer of technologies

**Proposed terms of reference for a report on performance indicators
and for a report on future financing options for
enhancing technology transfer**

Note by the Chair of the Expert Group on Technology Transfer

Summary

This note presents proposed terms of reference for the Expert Group on Technology Transfer (EGTT) for developing a set of performance indicators to regularly monitor and evaluate the effectiveness of the implementation of the technology transfer framework and for identifying, analysing and assessing existing and potential new financing resources and relevant vehicles in supporting development, deployment, diffusion and transfer of environmentally sound technologies in developing countries.

The Subsidiary Body for Scientific and Technological Advice may wish to consider and endorse the proposed terms of reference, and, if necessary, to provide further guidance to the EGTT.

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I. Introduction

A. Mandate

1. The Conference of the Parties (COP), by its decision 3/CP.13, agreed to reconstitute the Expert Group on Technology Transfer (EGTT) for a further five years with the terms of reference contained in annex II to that decision. As specified in its terms of reference, the EGTT shall make available for consideration by the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its twenty-eighth session:

- (a) Terms of reference for developing a set of performance indicators that could be used by the Subsidiary Body for Implementation (SBI) to regularly monitor and evaluate the effectiveness of the implementation of the technology transfer framework,¹ taking into consideration related work under the Convention and by the other bodies. A draft report with the set of performance indicators should be proposed to the subsidiary bodies for consideration at their thirtieth sessions, in order that a final report can be made available to the COP at its fifteenth session;
- (b) Terms of reference for identifying and analysing existing and potential new financial resources and relevant vehicles in supporting the development, deployment, diffusion and transfer of environmentally sound technologies (ESTs) in developing countries and, based on this analysis, assessing gaps and barriers to the use of, and access to, these financial resources. A report with recommendations on future financing options necessary for enhancing the implementation of the technology transfer framework under the Convention should be proposed for consideration by the subsidiary bodies at their thirtieth sessions.

B. Scope of the note

2. This note presents the terms of reference developed by the EGTT, referred to in paragraph 1, including objectives and scope of the work, the approach to organizing the work, and deliverables and key dates. This note should be read in conjunction with the work programme of the EGTT for 2008–2009 (FCCC/SB/2008/INF.1).

C. Possible action by the Subsidiary Body for Scientific and Technological Advice

3. The SBSTA may wish to consider and endorse the proposed terms of reference, and provide further guidance to the EGTT, if necessary.

II. Preparation of the terms of reference by the Expert Group on Technology Transfer

A. Introduction

4. The COP, at its thirteenth session, requested² the secretariat to organize a special meeting of the EGTT to enable the group to promptly undertake its activities as requested by decisions 3/CP.13 and 4/CP.13. This special meeting was held on 10–11 March 2008 in Bonn, Germany. Representatives from the Global Environment Facility, the United Nations Development Programme and the United Nations

¹ Contained in decision 4/CP.7, annex I, complemented with the set of actions set out in decision 3/CP.13, annex I.

² FCCC/CP/2007/6, paragraph 79.

Environment Programme (UNEP) were invited to participate in the meeting as resource persons. The special meeting focused on the development of the rolling programme of work of the EGTT for 2008–2009, on the development of terms of reference for the work on performance indicators, and on options for the financing necessary to enhance the implementation of the technology transfer provisions of the Convention. The group also discussed possible approaches to undertaking its work on developing a strategy paper, including sectoral approaches, on a long-term perspective beyond 2012 to facilitate the development, deployment, diffusion and transfer of technologies under the Convention.

5. In reviewing all mandated activities requested by the COP at its thirteenth session, the EGTT noted links and possible input that its work could provide to support ongoing discussion among Parties under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA). The EGTT therefore agreed to make efforts to expedite its work with a view to making its interim reports on performance indicators available at the thirtieth sessions of the subsidiary bodies and its interim report on future financing options available at the twenty-ninth sessions of the subsidiary bodies.

B. Terms of reference for developing performance indicators

6. At its special meeting, the EGTT exchanged views on possible elements of the terms of reference for developing the set of performance indicators. The EGTT members observed that the set of performance indicators should focus on monitoring and evaluating the effectiveness of the implementation of the technology transfer framework and its follow-up activities contained in the set of actions endorsed by decision 3/CP.13.

7. Some members also referred to the links between this work and other activities under the Convention, including the submissions from Parties of 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, of the Convention³ to be considered at the twenty-eighth session of the SBI, and the ongoing discussion on technology-related matters under the AWG-LCA. The EGTT agreed on the terms of reference for this work and decided to provide interim results to the subsidiary bodies at their twenty-ninth sessions, so that the EGTT could contribute to the discussion under the AWG-LCA. It agreed to provide an interim report at the thirtieth sessions of the subsidiary bodies and a final report at COP 15.

C. Terms of reference for identifying, analysing and assessing existing and potential new financing resources and relevant vehicles

8. At its special meeting, the EGTT discussed possible elements of the terms of reference for identifying, analysing and assessing existing and potential new financing resources and relevant vehicles in supporting development, deployment, diffusion and transfer of ESTs in developing countries. The EGTT members noted the importance of this activity, and the close links between this activity and the AWG-LCA process, and recognized that the results of this activity could provide valuable input into the AWG-LCA process.

9. With regard to the identification and analysis of financial resources and relevant vehicles, several members of the group recommended building on existing work completed recently on this matter, such as the work of the EGTT on innovative financing, the secretariat paper on investment and financial flows⁴ and work by the Sustainable Energy Finance Initiative of UNEP. The focus of this work will be to

³ FCCC/SBI/2008/MISC.1 and Add.1.

⁴ Dialogue working paper 8 (2007)

<http://unfccc.int/files/cooperation_and_support/financial_mechanism/financial_mechanism_gef/application/pdf/dialogue_working_paper_8.pdf>.

prepare a report with recommendations on future financing options necessary for enhancing the implementation of the Convention with regard to the technology transfer, as mandated by decision 3/CP.13. The EGTT agreed to provide an interim report at the twenty-ninth sessions of the subsidiary bodies and a final report at the thirtieth sessions.

Annex I

**Terms of reference for the Expert Group on Technology Transfer
for developing a set of performance indicators to regularly
monitor and evaluate the effectiveness of the implementation
of the technology transfer framework**

A. Mandate

1. The Conference of the Parties (COP), by its decision 3/CP.13, annex II, requested the Expert Group on Technology Transfer (EGTT) to develop, as part of its future programme of work, a set of performance indicators that could be used by the Subsidiary Body for Implementation (SBI) to regularly monitor and evaluate the effectiveness of the implementation of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention (the technology transfer framework¹), taking into consideration related work under the Convention. The terms of reference for this work should be available for consideration by the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its twenty-eighth session, so that an interim report with the set of performance indicators can be made available to the subsidiary bodies for consideration at their thirtieth sessions, and a final report can be made available to the COP at its fifteenth session.

B. Background

2. Several relevant activities were completed recently or are under way within the UNFCCC process:
- (a) The EGTT, in response to a request in decision 6/CP.10 for the EGTT to make recommendations for enhancing the implementation of the technology transfer framework, conducted a review of the implementation of the technology transfer framework and assessed the progress of work in various areas under each key theme of the framework. The results of this assessment are contained in document FCCC/SBSTA/2006/INF.4, which describes progress and effectiveness in the implementation of the framework and identifies gaps and barriers to its implementation;
 - (b) The COP, by its decision 4/CP.13, requested Parties to submit to the secretariat, by 15 February 2008, for synthesis and compilation, 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, of the Convention, in accordance with decision 13/CP.3. These submissions are contained in document FCCC/SBI/2008/MISC.1 and Add.1, and the synthesis of the submissions is contained in document FCCC/SBI/2008/7;
 - (c) At the thirteenth session of the COP, Parties agreed to consider, under the Bali Action Plan, effective national and international action on mitigation of climate change, including consideration of nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner;²

¹ Contained in decision 4/CP.7, annex I, complemented with the set of actions set out in decision 3/CP.13, annex I.

² Decision 1/CP.13, paragraph 1 (b) (ii).

- (d) The COP, at its thirteenth session, requested the secretariat³ to convene a meeting before its fourteenth session, to discuss experiences in using performance indicators for the monitoring and evaluation of capacity-building at the national level, consistent with the capacity-building framework, taking into account a technical paper containing approaches to monitoring and evaluation at different levels that will be prepared by the secretariat for consideration by the SBI at its twenty-ninth session.⁴

3. The work of EGTT on this matter would benefit from the findings of the activities undertaken by the secretariat and the Parties, and from the findings of, and experiences and lessons learned from, activities undertaken outside the UNFCCC process.

C. Objectives of the work

4. The overall objective of this work is to develop and test a balanced and robust set of performance indicators that could be used by the SBI to monitor and evaluate the effectiveness of the implementation of the technology transfer framework.

5. The outcome of this work could provide inputs to:

- (a) The work of the SBI on reviewing and assessing the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5, of the Convention, in accordance with decision 13/CP.3;
- (b) The work of SBI on considering the role of new financing mechanisms and tools for scaling up development and transfer of technology;
- (c) Negotiations under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), particularly on the activities mentioned in paragraph 2 (c) above.

D. Scope of the work

6. The work is divided into three tasks. To some extent these tasks could be conducted in parallel.

Task 1: Develop a set of candidate performance indicators

7. Performance indicators should measure intended changes defined by the technology transfer framework. They are used to observe progress and to measure the results achieved against the results required. Performance indicators are usually expressed in qualitative or quantitative terms, and should be objectively verifiable (e.g. numeric values, percentages, scores and indices).

8. Included among the analyses to be performed using such performance indicators would be an analysis of possible influences on financial flows for supporting the development and transfer of technologies. In that regard, based upon multiple data sources, such an analysis would determine the levels of annual investments of various kinds (e.g. official development assistance, foreign direct investment, the clean development mechanism and the Global Environment Facility (GEF)) that have

³ FCCC/CP/2007/6, paragraph 88.

⁴ A proposal for the collection, processing and dissemination of information on monitoring capacity and capacity-building activities in developing countries is contained in document FCCC/SBI/2006/5. Document FCCC/SBI/2007/5 contains a possible framework for the monitoring and evaluation of capacity-building, including sample indicators and sources of data.

been made in individual countries and would identify and test indicators that can reliably reflect what could be influencing these patterns of investment.

9. Key activities in this task are:

- (a) Elaborating the concept of performance indicators and their application within this activity of the EGTT and compiling a set of candidate performance indicators for, inter alia, the thematic areas and sub-areas of the technology transfer framework. These indicators would show, inter alia, the following:⁵
 - (i) How greenhouse gas (GHG) inventories are prepared, and how technology priorities are identified through a technology needs assessment (TNA);
 - (ii) How TNAs are implemented;
 - (iii) How information on technologies and related matters is being made available to, and used in, a given country or region;
 - (iv) The extent to which targeted capacity-building to promote the adoption of climate-friendly technologies is being made available to a given country or region;
 - (v) Trends and patterns of enabling environments for technology transfer, such as trade policies, technical, legal and administrative barriers to technology transfer, economic policy, the regulatory framework and transparency;
 - (vi) The magnitude and trends of technology investment flows from the public sector, the GEF, international financial institutions and the private sector;
- (b) Developing criteria to select indicators that will measure the implementation of the technology transfer framework. These criteria should include measurability or observability, meaningfulness, validity, verifiability, cost-effectiveness and relevance to the technology transfer framework. It may be useful to cluster indicators into categories such as inputs, processes, outputs, outcomes and impacts;
- (c) Selecting the most effective indicators. Some questions to be addressed when selecting the indicators are summarized in table 1;
- (d) Disseminating the outcomes (e.g. interim report and background papers).

⁵ These factors would need to be further refined. And the submissions mentioned in paragraph 2 (b) above may include proposals for additional factors that could be taken into account.

Table 1. Questions to be addressed when selecting indicators

Criteria to be considered	Questions to be asked
Features and limits of the indicators	Are they specific, measurable (or observable), achievable, realistic, comparable across the themes of the framework, meaningful, valid, verifiable, cost-effective and relevant to the technology transfer framework of the Convention, easy to interpret, timely? Do they enable change to be tracked over time?
Data collection and processing	Who collects and processes the data? Are the data readily available in the appropriate format at the times they are needed? How much does it cost to collect and process the data?
User or user group	Are the indicators useful for the SBI, the EGTT and Parties? Are the indicators used in an optimal way?
Purpose of use	For which purposes are Parties using the indicators (what do they measure)? Are there other good uses?
Related objectives/results/targets	Is the indicator related to a target (for example the number of TNAs to be submitted to the secretariat, or the number of copies distributed of the UNFCCC publication <i>Preparing and Presenting Proposals: A Guidebook on Preparing Technology Transfer Projects for Financing</i>)?

Abbreviations: EGTT = Expert Group on Technology Transfer; SBI = Subsidiary Body for Implementation; TNA = technology needs assessment.

Task II: Test the set of performance indicators

10. This task aims to test the use of the proposed performance indicators developed in task I. Key activities in this task are:

- (a) Developing a methodology and related data sheet(s)⁶ for each selected indicator to guide data collection and quantification of the indicator;
- (b) Collecting data for measuring the performance indicators. Possible source of data include official records, surveys, interviews and analysis of the contents of audio, visual and written communication;
- (c) Evaluating and testing the indicators;
- (d) Disseminating outcomes.

Task III: Prepare recommendations for using the indicators

11. This task would build on experiences gained from testing the performance indicators as well as from the outputs of specific events organized to support this work (see para. 13 (c) below). Key activities in this task are:

- (a) Analysing the potential efforts and resources required to implement the performance indicators;
- (b) Analysing potential linkages between this work and other relevant work of the SBI, the AWG-LCA and the SBSTA;

⁶ These sheets will specify the objective, activities and expected results for each theme/sub-theme of the framework.

- (c) Preparing recommendations based on the outcomes of tasks I and II, taking into account the outcomes of other relevant activities. These recommendations will include a list of indicators, the methodology and data sheets and examples of how the indicators could be used;
- (d) Proposing a programme of work for assessing the effectiveness of the technology transfer framework and developing best practices for using the indicators;
- (e) Summarizing and disseminating the outcomes of all three tasks.

E. Approach for organizing the work

12. The approach for conducting this work should take into account:
- (a) The need to avoid duplication and to develop synergy with relevant activities. The approach should take advantage of various existing indices and indicators developed by recognized sources;
 - (b) The strong link between this work and the work on the review and assessment of the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5, of the Convention, the review of the financial mechanism of the Convention and the annual report of the GEF to the COP.⁷ Cross-references could be made to the other ongoing and upcoming activities under relevant agenda items, including:
 - (i) The strategic programme to scale up investment on technology transfer by the GEF;
 - (ii) The work of the EGTT on identification, analysis and assessment of financing support for development, deployment, diffusion and transfer of environmentally sound technologies in developing countries;
 - (iii) The strategy paper to be prepared by the EGTT on scaling up development and transfer of technology for the long-term perspective beyond 2012 (including sectoral approaches);
 - (iv) Negotiations under the AWG-LCA building blocks on technology and finance;
 - (c) The views submitted by Parties 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, of the Convention;
 - (d) The social acceptance of the technologies being transferred.
13. Elements for conducting the work could include:
- (a) Preparing a concise background paper focusing on the issues and practicalities of identifying, developing and applying various indicators and sharing the existing body of work in this field, such as that on indicators of capacity-building;

⁷ The annual report of the GEF reviews the effectiveness of technology transfer, capacity-building and GHG mitigation activities supported by the GEF.

- (b) A process for the EGTT to review the background paper and to prepare:
 - (i) An interim report to the subsidiary bodies at their thirtieth sessions;
 - (ii) A final report to COP at its fifteenth session;
 - (c) Organizing one or two events that may include:
 - (i) An expert meeting to develop the set of candidate indicators, bringing together experts, representatives of the private sector, the EGTT and interested Parties to share information and examine practicable approaches and options;
 - (ii) A side event at COP 14 to present interim results of the work.
14. The work should be based on information contained in the following documents:
- Recommendations of the Expert Group on Technology Transfer for enhancing the implementation of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention (FCCC/SBSTA/2006/INF.4);
 - Synthesis report on technology needs identified by Parties not included in Annex I to the Convention (FCCC/SBSTA/2006/INF.1);
 - Synthesis report on technologies for adaptation identified in the submissions from Parties and relevant organizations (FCCC/SBSTA/2007/6);
 - Development and transfer of technologies: Technology and technology information needs arising from the survey of developing country Parties (FCCC/SBSTA/1998/INF.5);
 - Results of the survey on the effectiveness of the use of the UNFCCC technology information clearing house (TT:CLEAR) (FCCC/SBSTA/2004/INF.8);
 - TT:CLEAR usability study, reports of findings and recommendations (final report) <<http://ttclear.unfccc.int/ttclear/pdf/GETFReport.pdf>>;
 - Enabling environments for technology transfer (FCCC/TP/2003/2);
 - Innovative options for financing the development and transfer of technologies (FCCC/TP/2006/1);
 - Synthesis of 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, of the Convention (FCCC/SBI/2008/7);
 - Application of environmentally sound technologies for adaptation to climate change (FCCC/TP/2006/2);
 - 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, of the Convention. Submissions from Parties (FCCC/SBI/2008/MISC.1 and Add.1);
 - A possible format for reporting on the regular monitoring of the implementation of the capacity-building framework in accordance with decision 2/CP.7, paragraph 9 (FCCC/SBI/2007/5).

15. This work should also draw on other relevant documents such as:
- *Measuring Results from Climate Change Programs* (GEF);
 - *Programme Manager's Planning Monitoring and Evaluation Toolkit; Performance Monitoring Indicators: A Handbook for Task Managers; Doing Business Project; Worldwide Governance Indicators; Performance Monitoring Indicators Handbook; and Institutionalization of monitoring and evaluation systems to improve public sector management* (World Bank);
 - *Handbook on Monitoring and Evaluating for Results* (United Nations Development Programme);
 - *Renewables 2007: Global Status Report* (Renewable Energy Policy Network for the 21st Century (REN21));
 - *Managing for Impact in Rural Development: A Guide for Project M&E* (International Fund for Agriculture Development).

F. Deliverables and key dates

16. The time frame for the completion of the work, based on the mandated deadlines, is shown in table 2.

Table 2. Schedule of key activities

Activity	Time frame	Comments
Review and finalize the proposed terms of reference	SBSTA 28	Possible input from the GEF strategic programme and AWG-LCA discussions on technology
Task I	Late June 2008 to late September 2008	Interaction with options for financing technology transfer Possible input to inform the AWG-LCA process
Expert meeting	October/November 2008	Review status of work and make recommendations
Interim report (draft set of candidate performance indicators)	COP14/ SBSTA 29/SBI 29	
Side event at COP 14	COP14/ SBSTA 29/SBI 29	The side event will provide an opportunity to present the progress of this work
Task II	December 2008 to May 2009	Possible input to inform the AWG-LCA
Interim report (proposed performance indicators)	SBSTA 30/SBI 30	
Task III and final report	Early June 2009 to December 2009	Final report at COP 15 Possible input to the preparation of the EGTT long-term strategy paper Possible input to inform the AWG-LCA

Abbreviations: AWG-LCA = Ad Hoc Working Group on Long-term Cooperative Action under the Convention; COP = Conference of the Parties; EGTT = Expert Group on Technology Transfer; GEF = Global Environment Facility; SBI = Subsidiary Body for Implementation; SBSTA = Subsidiary Body for Scientific and Technological Advice.

Annex II

Terms of reference for the Expert Group on Technology Transfer for identifying, analysing and assessing existing and potential new financing resources and relevant vehicles in supporting development, deployment, diffusion and transfer of environmentally sound technologies in developing countries

A. Mandate

1. The Conference of Parties (COP), by its decision 3/CP.13, annex II, requested the Expert Group on Technology Transfer (EGTT), as part of its first two-year programme of work (2008–2009), to identify and analyse existing and potential new financing resources and relevant vehicles in supporting the development, deployment, diffusion and transfer of environmentally sound technologies (ESTs) in developing countries. The COP also requested the EGTT to assess, based on the above identification and analysis, gaps and barriers to the use of, and access to, these financing resources in order to provide information to Parties to enable them to consider the adequacy and predictability of these resources.
2. By the same decision, the COP requested the EGTT to develop terms of reference for this work (identification, analysis and assessment) for consideration by the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its twenty-eighth session, with a view to proposing a report with recommendations on future financing options necessary for enhancing the implementation of the Convention with regard to the technology transfer framework,¹ to the subsidiary bodies at their thirtieth sessions.
3. The COP, by its decision 4/CP.13, decided that the following points are important for funding through existing vehicles and new initiatives:
 - (a) The implementation of technology needs assessments;
 - (b) Joint research and development programmes and activities in the development of new technologies;
 - (c) Demonstration projects;
 - (d) Enabling environments for technology transfer;
 - (e) Incentives for the private sector;
 - (f) North–South and South–South cooperation;
 - (g) Endogenous capacities and technologies;
 - (h) Issues associated with meeting the agreed full incremental costs;
 - (i) Licences to support the access to and transfer of low-carbon technologies and know-how;

¹ Contained in decision 4/CP.7, annex I, complemented with the set of actions set out in decision 3/CP.13, annex I.

- (j) A window for, inter alia, a venture capital fund related to, or possibly located in, a multilateral financial institution.

4. By the same decision, the COP agreed that the EGTT, through the SBSTA, should, based on the identification and analysis of existing and potential new financing resources and vehicles, assess gaps and barriers to the use of, and the access to, these financing resources; and that the results of this work (identification, analysis and assessment) should be made available to the Subsidiary Body for Implementation (SBI) not later than its thirtieth session, with a view to considering the role of new financing mechanisms and tools for scaling up development and transfer of technologies.

B. Background

5. The EGTT, under the theme of mechanisms for technology transfer, has undertaken some work on innovative options for financing the development and transfer of technologies. This includes:

- (a) Organizing two workshops that: generated critical learning and common understanding on means of financing technology needs in developing countries, and on possible innovative ways to engage the private sector in technology transfer activities under the Convention; and stimulated establishment of financing advisory networks;²
- (b) Preparing a technical paper “Innovative options for financing the development and transfer of technologies”³ with the support of the secretariat; this document was submitted for consideration by the SBSTA at its twenty-fifth session;
- (c) Working closely with the secretariat, and numerous practitioners involved in project development and financing to prepare a guidebook on technology transfer projects for financing, in order to assist project developers in developing countries, and relevant stakeholders, in preparing project proposals that will meet the standards of international finance providers.

6. Technology and financing were major thematic areas addressed by Parties under the dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention (the Dialogue). Relevant documents prepared under the Dialogue include:

- (a) A working paper “Report on the analysis of existing and potential investment and financial flows relevant to the development of an effective and appropriate international response to climate change”. The paper contains an estimate that global additional investment and financial flows of USD 200–210 billion will be necessary in 2030 to return global greenhouse gas emissions to 2004 levels; 46 per cent of these funds will be needed by Parties not included in Annex I to the Convention.⁴ The paper provides information on financial flows for technology deployment and for research and development;
- (b) A technical paper on the review of the experience of international funds, multilateral financial institutions and other sources of funding relevant to the current and future investment and financial needs of developing countries prepared by the secretariat for further consideration of this issue by the COP at its thirteenth session.⁵ The paper

² FCCC/SBSTA/2004/11 and FCCC/SBSTA/2006/3.

³ FCCC/TP/2006/1.

⁴ A detailed analysis can be found in the background paper “Investment and financial flows to address climate change” <http://unfccc.int/cooperation_and_support/financial_mechanism/items/4053.php>.

⁵ FCCC/TP/2007/4.

provides details on investment by sector and region, including for research and development.

7. The COP, at its thirteenth session:
- (a) Invited Parties to consider, under the Bali Action Plan:
 - (i) Effective mechanisms and enhanced means for the removal of obstacles to, and provision of financial and other incentives for, scaling up of the development and transfer of technology to developing country Parties in order to promote access to affordable ESTs;⁶
 - (ii) Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation, and on technology cooperation;⁷
 - (b) Requested the Global Environment Facility (GEF) to elaborate a strategic programme to scale up the level of investment for technology transfer to help developing countries address their needs for ESTs;⁸
 - (c) Invited Parties to submit to the secretariat, by 21 March 2008, their views on the documents mentioned in paragraph 6 above, on the report on the assessment of the funding necessary to assist developing countries in meeting their commitments under the Convention over the next GEF replenishment cycle (FCCC/SBI/2007/21) and on options for scaling up the international financial response to climate change, based on national experiences and on available relevant documents.⁹ The COP also requested the SBI to consider these submissions at its twenty-eighth session with a view to proposing a draft decision on the assessment of the funding necessary to assist developing countries, for adoption by the COP not later than at its fifteen session.
8. This work would benefit from the findings of activities undertaken by the secretariat, as well as the findings and experiences and lessons learned from activities undertaken outside the UNFCCC process.

C. Objectives of the work

9. The overall objective of the work is to propose recommendations on options for future financing necessary for enhancing the implementation of the Convention with regard to the technology transfer framework.
10. The outcome of this work could provide:
- (a) Inputs to enable the SBI to consider the role of new financing mechanisms and tools for scaling up development and transfer of technology;
 - (b) Inputs into negotiations under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), particularly on the topics of technology and finance, with regard to the provision of financial and other incentives for scaling up the development and transfer of technologies to developing countries;

⁶ Decision 1/CP.13, paragraph 1 (d) (ii).

⁷ Decision 1/CP.13, paragraph 1 (e).

⁸ Decision 4/CP.13, paragraph 3.

⁹ Decision 6/CP.13, paragraph 2.

- (c) Background information for the preparation of a strategy paper on the development and transfer of technology for consideration by the subsidiary bodies at their thirtieth sessions;
- (d) Relevant information for use by the COP in its fourth review of the financial mechanism of the Convention, particularly in examining relevant sources and means of financing for the development of endogenous technologies in developing countries.

D. Scope of the work

11. The work is divided into three tasks. To some extent tasks I and II could be conducted in parallel; they should draw on work already undertaken within and outside the UNFCCC process, but without repetition. Task III will be informed by the first two tasks and will be the major focus of this work.

Task I: Identify and analyse existing and potential new financing sources and relevant vehicles in supporting the development, deployment, diffusion and transfer of technologies for mitigation and adaptation in developing countries

12. This task will identify and analyse the financial sources and possible vehicles that aim to provide support for development and transfer of ESTs for mitigation and adaptation to climate change. Key activities in this task are:

- (a) Establishing the boundaries of, and the main elements to be considered in, the analysis, which may include activities inside and outside the UNFCCC process, the type of technology and sectors, the stage of technology development,¹⁰ existing and new financing sources and relevant vehicles, and national, regional and international efforts;
- (b) Developing criteria to identify financing activities relevant for development and transfer of technologies. The criteria shall be based on the important points for funding through existing and new vehicles mentioned in paragraph 3 above as well as other criteria, and could be specific for some vehicles, such as the GEF programme and clean development mechanism (CDM) projects;
- (c) Establishing the time frame for the identification, analysis and assessment that will make the analysis relevant, taking into account the availability of data for analysis;
- (d) Conducting the identification and analysis, to show, inter alia:
 - (i) The magnitude and trends of international financial flows for supporting development and transfer of technology, including the GEF, international financial institutions, bilateral funding activities, private sector investment flows (directly or leveraged by public funding) and market mechanisms (e.g. the CDM). This analysis should not group together all technology-related funds; instead, it should show what the resources are used for (development, deployment and diffusion of technology);
 - (ii) International technology cooperation activities and their contribution to technology transfer (e.g. International Energy Agency (IEA), Asia-Pacific Economic Cooperation, Carbon Sequestration Leadership Forum, International

¹⁰ For example, the challenges in funding technology research and development are very different from those relating to funding deployment of existing technologies through mitigation projects.

Partnership for the Hydrogen Economy, Asia-Pacific Partnership on Clean Development and Climate, Methane to Markets Partnership);

- (iii) Innovative options for development and transfer of technologies, particularly involving small and medium-sized enterprises and bundling small-scale projects;
 - (iv) Vehicles for bilateral technology transfer and cooperation (North–South and South–South);
 - (v) Collaborative research and development on technologies and endogenous development of technologies, such as setting up institutions of national innovation systems;
 - (vi) Differences between technologies for mitigation and technologies for adaptation; and between projects with a low internal rate of return and projects with a high internal rate of return;
- (e) Summarizing lessons learned and experiences with specific technologies and financing vehicles, and preparing the deliverables;
 - (f) Disseminating and sharing the outcomes (e.g. interim report and background paper);
 - (g) Identifying policies and supportive institutional frameworks that facilitate the flow of technologies to developing countries, and supporting capacity-building at national and local levels.

Task II: Assess gaps in and barriers to the use of, and access to, these financing resources

13. This task will draw on experiences from other relevant activities, including the United Nations Environment Programme (UNEP) Sustainable Energy Finance Initiative (SEFI) programme. Key activities in this task are:

- (a) Developing a conceptual framework for assessing the gaps by taking into consideration, inter alia:
 - (i) The needs for mitigation and adaptation technologies as expressed by Parties in their technology needs assessments (TNAs) and in other national reports such as national communications and national adaptation programmes of action (NAPAs);
 - (ii) Technologies or stages of technological development that are not covered or are inadequately covered by existing financing sources;
 - (iii) Gaps in vehicles for financing (e.g. absence of a mechanism to reward technology transfer, specific technologies that are not covered by some vehicles such as carbon capture and storage and the CDM and lack of funds for mitigation of financial risks);
 - (iv) Specific gaps in technologies for adaptation;
- (b) Analysing the gaps and identifying associated barriers and potential ways to overcome them;
- (c) Preparing and disseminating outcomes.

Task III: Prepare recommendations on future financing options and risk mitigation tools necessary for enhancing the implementation of the Convention with regard to the technology transfer framework

14. This task could build on innovative ideas that could strengthen current funding sources, for example, enhanced partnership with the private sector, implementing TNAs, leveraging and complementarities, scaling up financing advisory networks, venture capital, funding sources for endogenous technologies and joint research and development. Key activities in this task are:

- (a) Analysing the possible relationship between existing and emerging funding sources relating to: scaling up the development and transfer of technologies; access to affordable ESTs; and research and development of current, new and innovative technologies;
- (b) Elaborating potential functions that new funding sources and relevant vehicles could fulfill (e.g. concessional lending and other forms of financing, credit enhancement, risk management and mitigation tools);
- (c) Preparing the recommendations on, inter alia, options for innovative vehicles to leverage additional private financing based on public financing, and their potential roles;
- (d) Summarizing and disseminating the outcomes of all three tasks.

E. Approach for conducting the work

15. Activities needed to conduct this work include:

- (a) Preparing three background papers:
 - (i) A review of existing and potential new financing resources and relevant vehicles in supporting the development, deployment, diffusion and transfer of technologies for mitigation and adaptation in developing countries;
 - (ii) An assessment of gaps in and barriers to the use of, and access to, financing resources in supporting the development, deployment, diffusion and transfer of technologies for mitigation and adaptation in developing countries;
 - (iii) Possible financing options to scale up the development and transfer of technology;
- (b) Establishing a process for the EGTT to review the background papers and to prepare:
 - (i) An interim report to the subsidiary bodies at their twenty-ninth sessions. This report could also help inform the AGW-LCA process;
 - (ii) A final report to the subsidiary bodies at their thirtieth sessions;
- (c) Organizing events in conjunction with work done under the AWG-LCA. Such events may include:
 - (i) An expert meeting to set up the conceptual frameworks of the work with comments and inputs from the GEF, relevant intergovernmental organizations and international financial institutions, and representatives of the private sector and of various funding initiatives;
 - (ii) A side event at COP 14 to present the interim results of the work.

16. The work may take into account and summarize previous relevant work under the Convention on development and transfer of technologies and financial mechanisms, including synthesis reports and technical papers on TNAs, innovative options for financing the development and transfer of technologies, analysis of existing and potential investment and financial flows, and the review of the financial mechanism of the Convention. The following documents are relevant to the work:

- Synthesis report on technology needs identified by Parties not included in Annex I to the Convention (FCCC/SBSTA/2006/INF.1);
- Innovative options for financing the development and transfer of technologies (FCCC/TP/2006/1);
- Synthesis report on technologies for adaptation identified in the submissions from Parties and relevant organizations (FCCC/SBSTA/2007/6);
- Application of environmentally sound technologies for adaptation to climate change (FCCC/TP/2006/2);
- Report on the analysis of existing and potential investment and financial flows relevant to the development of an effective and appropriate international response to climate change (Dialogue working paper 8 (2007));¹¹
- Background paper on “Investment and financial flows to address climate change” prepared for the Dialogue;¹²
- Review of the experience of international funds, multilateral financial institutions and other sources of funding relevant to the current and future investment and financial needs of developing countries (FCCC/TP/2007/4);
- Analysis of Technology Transfer in CDM Projects;¹³
- Programming to Implement the Guidance for the Special Climate Change Fund adopted by the Conference of the Parties to the United Nations Framework Convention on Climate Change at its Twelfth Session;¹⁴
- Arrangements for the Establishment of the New Climate Change Funds.¹⁵

17. This work should also draw on other relevant documents from outside the Convention such as the IEA Energy Technology Perspective 2008 and the World Energy Outlook, the World Bank Clean Energy Investment Framework, the UNEP SEFI programme, the Stern Review¹⁶, and the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

¹¹<http://unfccc.int/files/cooperation_and_support/financial_mechanism/financial_mechanism_gef/application/pdf/dialogue_working_paper_8.pdf>.

¹²<http://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/background_paper.pdf>.

¹³<<http://cdm.unfccc.int/Reference/Reports/TTreport/report1207.pdf>>.

¹⁴<http://thegef.org/uploadedFiles/Documents/LDCFSCCF_Council_Documents/LDCFSCCF2June_2007/LDCF.SC.CF.2.4%20SCCF%20Programming%20Paper.pdf>.

¹⁵<http://thegef.org/Documents/Council_Documents/GEF_C19/C.19.6_Climate_Change_Funds.doc>.

¹⁶ Stern N. 2007. *The Economics of Climate Change: The Stern Review*. Cambridge: Cambridge University Press.

18. Cross-references could be made, as appropriate, with other ongoing and forthcoming activities, including:

- (a) The strategic programme to scale up investment on technology transfer by the GEF;
- (b) Development of performance indicators for the implementation of the technology transfer framework by the EGTT;
- (c) Preparation by the EGTT of a strategy paper to promote development and transfer of technology for the long-term perspective beyond 2012;
- (d) Negotiations on action areas of technology and finance under the AWG-LCA;
- (e) The fourth review of the financial mechanism of the Convention at COP 14.

19. The EGTT will conduct periodic reviews of the interim outcomes.

F. Deliverables and key dates

20. The time frame for the completion of the work, based on the mandated deadlines, is shown in table 3 below:

Table 3. Schedule of key activities

Activity	Time frame	Comments
Review and finalize the proposed terms of reference	SBSTA 28	Possible input from the GEF strategic programme and AWG-LCA discussions on technology and finance
Task I	Early July 2008 to late September 2008	Interaction with development of performance indicators Possible input to inform the AWG-LCA process
Task II	Early October 2008 to Early December 2008	Possible input to inform the review of the financial mechanism of the Convention and the AWG-LCA process
Expert meeting	October	To review status of work and make recommendations
Interim report (identification, analysis and assessment)	COP 14/ SBSTA 29/SBI 29	
Side event at COP14	COP 14/ SBSTA 29/SBI 29	The side event will provide an opportunity to present the progress of this work
Task III and final report	Early January 2009 to June 2009	Final report to SBSTA 30/SBI 30 Possible input to the preparation of the EGTT long-term strategy paper

Abbreviations: AWG-LCA = Ad Hoc Working Group on Long-term Cooperative Action under the Convention; COP = Conference of the Parties; EGTT = Expert Group on Technology Transfer; GEF = Global Environment Facility; SBI = Subsidiary Body for Implementation; SBSTA = Subsidiary Body for Scientific and Technological Advice.
