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**SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE**

**Twenty-fourth session**

**Bonn, 18–26 May 2006**

**Agenda item 4**

**Development and transfer of technologies**

## **Development and transfer of technologies**

### **Draft conclusions proposed by the Chair**

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) welcomed the recommendations by the Expert Group on Technology Transfer (EGTT) for enhancing the implementation of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention (hereinafter referred to as the technology transfer framework), contained in document FCCC/SBSTA/2006/INF.4. It noted the progress made in the implementation of the above-mentioned framework as assessed by the EGTT.
2. The SBSTA recognized that the EGTT recommendations mentioned in paragraph 1 above, which are included in the annex to these conclusions, constitute a set of possible actions for enhancing the implementation of the technology transfer framework, contained in the annex to decision 4/CP.7, that could be considered by the Conference of the Parties (COP) for a possible decision on this issue at its twelfth session (November 2006) or in any future sessions. It endorsed the recommendation that the five themes listed in the framework, and the structure, definitions and purpose of the current technology transfer framework, continue to provide a solid basis for enhancing the implementation of Article 4, paragraph 5, of the Convention, and welcomed in particular the sub-themes that the EGTT had identified under the fifth theme, on mechanisms for technology transfer.
3. The SBSTA expressed its appreciation for the assistance provided by the Government of Belgium in hosting a special working session of the EGTT on 9–11 March 2006 in Brussels, Belgium, and for the financial support provided by the Governments of Belgium and Norway, by the European Community and the Climate Technology Initiative (CTI) for the implementation of the EGTT work programme for 2006.
4. The SBSTA also noted with appreciation the synthesis report prepared by the secretariat on technology needs identified by Parties not included in Annex I to the Convention (non-Annex I Parties) (FCCC/SBSTA/2006/INF.1). It acknowledged the completion of technology needs assessments (TNAs) by 23 non-Annex I Parties, as reflected in this synthesis report, and encouraged other non-Annex I Parties to complete their TNAs.

5. The SBSTA further noted that, based upon the above-mentioned synthesis report, sectors with commonly identified technology needs were energy, industry, and transport for mitigation technologies and agriculture and coastal zones for technologies to adapt to climate change, highlighting the need for Parties to consider the advantages of implementing the results of the TNAs on a sectoral basis. From the 23 TNAs analysed, the most frequently identified barriers to technology transfer related to economic and market barriers (including lack of financial resources) and lack of information and awareness regarding environmentally sound technologies (ESTs). The SBSTA recognized the need to share information on the results of TNAs at the national, regional and international levels, including related experiences and lessons learned by countries in conducting their TNAs.

6. The SBSTA noted that TNAs provide a solid basis for enhancing the implementation of Article 4, paragraph 5, of the Convention. It recommended that summaries of the TNAs be included in the national communications of non-Annex I Parties and that the full TNAs be submitted to the secretariat for posting on the UNFCCC technology information clearing house (TT:CLEAR).

7. The SBSTA urged Parties included in Annex II to the Convention (Annex II Parties), relevant international organizations, and international financial institutions, in a position to do so, to provide technical and financial support to non-Annex I Parties to conduct, further identify and help implement their prioritized technology needs, taking into account the key findings contained in document FCCC/SBSTA/2006/INF.1.

8. The SBSTA invited the Subsidiary Body for Implementation to request the Global Environment Facility, when providing support for TNAs in accordance with decisions 4/CP.9 and 5/CP.9, to take into account actions to address barriers and constraints as well as the creation of enabling environments and capacity gaps, identified by the non-Annex I Parties in the above-mentioned synthesis report.

9. The SBSTA welcomed the technical paper on the application of technologies for adaptation to climate change prepared by the secretariat (FCCC/TP/2006/2). It acknowledged the usefulness of the information it contained on the role of technology and technology transfer in the context of adaptation to climate change and on experiences and lessons learned, and case studies in five sectors – coastal zone, water resources, agriculture, public health and infrastructure.

10. The SBSTA recognized the importance of addressing actions relating to technologies for adaptation to climate change, including the barriers to financing these technologies, and any further action on this issue should take into account:

- (a) The outcomes of the seminar on technologies for adaptation to climate change held in Tobago, Trinidad and Tobago, on 14–16 June 2005;<sup>1</sup>
- (b) The technical paper on the application of technologies for adaptation to climate change;
- (c) The SBSTA five-year work programme on impacts, vulnerability and adaptation to climate change;
- (d) The deliberations of the EGTT on the related work item under technologies for adaptation in its programme of work for 2006;
- (e) The forthcoming technical paper on innovative options for financing the development and transfer of technologies.

11. The SBSTA took note of the report prepared by the secretariat on the outcomes of the workshop on innovative options for financing the results of TNAs, held on 20–21 October 2005 in Bonn, Germany

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<sup>1</sup> FCCC/SBSTA/2005/8.

(FCCC/SBSTA/2006/3). It further noted that the workshop provided a useful forum for providing practical information for enhancing the capacity of project developers in developing countries to prepare project proposals based on the results of TNAs and other sources. The SBSTA looked forward to the release at SBSTA 25 of the technical paper on innovative options for financing the development and transfer of technologies.

12. The SBSTA took particular note of the forthcoming practitioners' guide for preparing and presenting project financing proposals, which furthers the results-oriented work by the EGTT on finding innovative options to finance the development and transfer of technologies, including those associated with technology priorities identified in countries' TNAs and welcomed the plan of the EGTT and the secretariat to launch the guide at COP 12. The SBSTA also noted that such a document complements the practical, hands-on efforts being pursued by the EGTT in cooperation with the CTI in providing technical support through coaching and training programmes for project developers in developing countries and countries with economies in transition to transform project ideas resulting from TNAs into project proposals that meet the standards of the international finance providers. It encouraged Annex II Parties to provide resources to support coaching and training activities using the practitioners' guide, and to strive for bankability of those projects identified in TNAs and national communications.

13. The SBSTA also noted the continued interest of Parties in participating in collaborative research and development (R&D) efforts. To increase the amount of such interaction, the SBSTA encouraged Parties to make available, through TT:CLEAR and other means, information on ongoing and planned publicly funded R&D activities where there are opportunities for non-Annex I Parties to jointly participate in such activities, together with the terms under which Parties might participate and the steps necessary to establish such collaborative R&D, as recommended by the EGTT.

14. The SBSTA also noted the ongoing work by the secretariat on its pilot project on networking between TT:CLEAR and national and regional technology information centres.

15. The SBSTA requested its Chair, with the assistance of the secretariat, to hold informal consultations among Parties before the twenty-fifth session of the SBSTA, resources and time permitting, to consider the set of possible actions for enhancing the implementation of the technology transfer framework contained in the annex to these conclusions, including submissions from Parties on the review of the EGTT, due on 4 August 2006, as requested by decision 6/CP.11, with a view to facilitating discussions on this issue at COP 12.

Annex<sup>1</sup>**Recommendations for enhancing the implementation of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention**

1. The purpose of the recommendations presented in the annex is to identify specific actions for enhancing the implementation of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention (referred to hereinafter as the technology transfer framework), as requested by decision 6/CP.10.
2. These recommendations were developed taking into account:
  - (a) Experience and lessons learned from the implementation of the technology transfer framework since its adoption by the Conference of the Parties (COP) at its seventh session (decision 4/CP.7);
  - (b) Progress of the work and the activities completed since the inception of the Expert Group on Technology Transfer (EGTT) in 2001 and the outcomes of its deliberations;
  - (c) Relevant ongoing activities relating to the development and transfer of technologies of various national, regional and international organizations, governments and the private sector, in different forums;
  - (d) That the work on advancing the uptake of mitigation technologies and technologies for adaptation to climate change involves cross-cutting activities and, as such, normally is implemented under multiple key themes of the framework;
  - (e) The need to promote a broader involvement of Parties, international organizations, the private sector (in particular business and industry as well as the financial community), technology practitioners and other relevant stakeholders for the implementation of the framework;
  - (f) The need to strike a balance between strategic and operational actions, whereby the strategic actions are implemented by organizing technical workshops and expert meetings. These lead to the preparation of reports, technical papers and other tools on specific issues that provide technical inputs and operational guidance for the benefit of Parties and other users.
3. The existing structure, five thematic areas of work, definitions and purpose under the current technology transfer framework contained in the annex to decision 4/CP.7 continue to provide a solid basis for implementing the provisions of the Article 4, paragraph 5, of the Convention.
4. Given that technology is one of the important elements for discussions on the future long-term cooperative actions to address climate change by enhancing implementation of the Convention, the suggested time frame for the implementation of the actions outlined below is for the medium term covering the period between 2007 and 2012 or until the eighteenth session of the COP (2012). These recommendations address the medium-term work, pending the results of the Dialogue on long-term cooperative actions on climate change by enhancing implementation of the Convention (Dialogue).

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<sup>1</sup> This annex was taken from FCCC/SBSTA/2006/INF.4, pages 21–27.

5. The implementation of the recommendations presented below should be considered as further actions for enhancing the implementation of Article 4, paragraph 5, of the Convention set out in the technology transfer framework.
6. Work developed under each key theme has evolved to a more practical and results-oriented level and should continue to do so by promoting actions in specific sectors and regions. Therefore, there is a need to undertake periodic review on implementation of the framework and its effectiveness.
7. The EGTT recognized the need for financial and technical support to enable the Parties not included in the Annex I to the Convention (non-Annex I Parties) to implement the recommended actions below. In this regard Parties, when considering these recommendations, may wish to consider ways and means to address these needs.

#### **A. Technology needs and needs assessments**

8. Most of the actions described in paragraph 7 of the technology transfer framework under the theme of technology needs assessments (TNAs) have been completed as described in paragraphs 16–21 of the main part of this document.<sup>2</sup> Based on lessons learned in the implementation of this theme, the following recommendations are made to enhance the implementation of this key theme:
- (a) To encourage non-Annex I Parties that have not yet undertaken or completed their TNAs, to do so as soon as possible, and to make these reports available to the secretariat for posting on the UNFCCC technology information clearing house (TT:CLEAR);
  - (b) To encourage non-Annex I Parties to provide updated information on their technology needs in their second national communications and other national reports and to make them available to the secretariat;
  - (c) To request the secretariat to prepare a synthesis report(s) of the information mentioned in paragraph 8 (a) and (b) above for consideration by the Subsidiary Body for Scientific and Technological Advice (SBSTA);
  - (d) To request the Global Environmental Facilities (GEF) and its implementing agencies, other intergovernmental organizations (IGOs), international financial institutions (IFIs), Climate Technology Initiative (CTI) and Parties that are in a position to do so to provide capacity-building for non-Annex I Parties to conduct, report and use TNAs;
  - (e) To request that, not later than 2009:
    - (i) The secretariat, in collaboration with the EGTT, United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and CTI, update the handbook for conducting technology needs assessments before SBSTA 28, taking into account experience and lessons learned indicated in the synthesis report on technology needs prepared by the secretariat,<sup>3</sup> cross-referencing the work on innovative financing and technologies for adaptation, and widely disseminate the updated handbook to Parties through TT:CLEAR and other means in different United Nations official languages;
    - (ii) The EGTT, with the assistance of the secretariat, prepare a report on good practices for conducting TNAs in collaboration with UNDP, UNEP and CTI for

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<sup>2</sup> FCCC/SBSTA/2006/INF.4.

<sup>3</sup> FCCC/SBSTA/2006/INF.1.

consideration by the SBSTA, and disseminate it to relevant stakeholders and practitioners;

- (f) To make available the results of TNAs, related experience and lessons learned in the TNA process and sharing them at national and international levels through the network of technology information centres, including through the organization of workshops by the secretariat in collaboration with relevant international organizations and initiatives;
- (g) The secretariat to provide regular updates on progress of the implementation of the results of technology needs identified in TNAs, including success stories for consideration by the SBSTA at its subsequent sessions, as appropriate;
- (h) To invite the EGTT to cooperate closely with the other expert groups constituted under the Convention, especially the Consultative Group of Experts on National Communication from Parties not included in Annex I to the Convention (CGE), with the aim of coordinating activities relating to TNAs and national communications.

9. The main actors in this work are Parties, the EGTT, the secretariat, the GEF and its implementing agencies, and CTI in collaboration with relevant national and international stakeholders.

### **B. Technology information**

10. The actions identified under this theme of the technology transfer framework were mainly completed as described in paragraphs 27–34 of the main part of the document.<sup>4</sup> Based on lessons learned in the implementation of this theme, the following recommendations are made to enhance the implementation of this theme:

- (a) To maintain, update and further develop TT:CLEAR taking into account relevant conclusions of the SBSTA at its twentieth session and client surveys;
- (b) To enhance outreach activities by the secretariat to increase the numbers of users of TT:CLEAR from developing country Parties;
- (c) To share experiences and lessons learned among national and regional experts participating in the pilot project on TT:CLEAR networking through the organization of expert meetings;
- (d) To use TT:CLEAR and the network of technology centres developed through the current pilot programme to share technical information on technologies for adaptation and the associated capacity-building to meet the needs for technology information of vulnerable communities and countries;
- (e) To encourage the link between TT:CLEAR and technical information providers, including the private sector, in technology transfer;
- (f) To encourage the organization of training programmes and workshops by the secretariat in collaboration with the EGTT and relevant national, regional and international organizations for building capacity of experts in the creation of their national technology information databases;
- (g) To encourage Parties to provide more information on their technology transfer activities in their national communications.

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<sup>4</sup> FCCC/SBSTA/2006/INF.4.

11. The main actors in the work are the secretariat, Parties and their national and regional technology centres, relevant international organizations, and the private sector.

### **C. Enabling environments for technology transfer**

12. Based on lessons learned in the implementation of this theme, the following recommendations are made to enhance the implementation of this theme:

- (a) Preparation of technical studies on barriers, good practice and recommendations for developing enhanced enabling environments that accelerate the development and transfer of environmentally sound technologies (ESTs), at the national and international levels. This should cover related trade issues, technology development (including endogenous technologies), and technology push and market pull factors for consideration by the SBSTA;
- (b) To encourage Parties to avoid trade and intellectual property rights policies, or lack thereof, restricting transfer of technology;
- (c) To encourage Parties to make available through TT:CLEAR and other means information on ongoing and planned publicly funded research and development (R&D) activities where there are opportunities for non-Annex I Parties to jointly participate in such R&D activities, along with the terms under which Parties might participate and the steps necessary to establish such a collaborative relationship;
- (d) Close cooperation with public and/or private partnerships that focus on improving enabling environments for accelerating development and transfer of ESTs and which have been established in the context of processes such as the World Summit on Sustainable Development, the Group of Eight, and other initiatives (Renewable Energy and Energy Efficiency Partnership, Johannesburg Renewable Energy Coalition, Carbon Sequestration Leadership Forum, and CTI and other International Energy Agency implementing agreements);
- (e) To encourage Parties to integrate the objective of technology transfer into national policies and to enhance the interaction between governments and the private sector.

13. The main actors in this work are Parties, the secretariat, relevant international organizations and initiatives, and the private sector.

### **D. Capacity-building for technology transfer**

14. Activities relating to capacity-building are also listed under other sections of these recommendations. Based on lessons learned in the implementation of this theme, the following additional recommendations are made to enhance its implementation:

- (a) To encourage Parties, IGOs and other institutions and initiatives to support capacity-building activities to promote technology transfer, at the regional and national levels, that are targeted to respond to priority capacity-building needs identified by non-Annex I Parties in their TNAs, national communications and other national reports;
- (b) The secretariat to prepare periodic reports containing information relating to capacity-building needs for the development, deployment, application and transfer of technologies from all relevant sources of information, such as national communications of non-Annex I Parties, reports of TNAs, and National Capacity Self Assessment reports supported by the GEF for consideration by the SBSTA. To the extent possible those

reports could identify key elements for successful capacity-building for development and transfer of technologies for both mitigation of and adaptation to climate change;

- (c) To increase communication and outreach with regard to technology transfer activities under the framework and the work of the EGTT by creating learning centres (tools and methods) and partnership fairs (opportunities) in parallel with subsidiary body sessions and side events;
- (d) To encourage Parties, IGOs and other institutions and initiatives to organize training in management and operation of climate technologies; to establish/strengthen relevant organizations/institutions in developing countries for capacity-building for technology transfer; to establish/strengthen training, expert exchange, scholarship and cooperative research programmes in relevant national and regional institutions in developing countries for transfer of ESTs; and to organize seminars/training/workshops on capacity-building for adapting to the adverse effects of climate change.

15. The main actors in this work are Parties, the EGTT, the secretariat, the GEF and its implementing agencies, and relevant international organizations and initiatives.

### **E. Mechanisms for technology transfer**

16. The following recommendations were built on ongoing work of the secretariat and the EGTT in different areas for enhancing the implementation of the technology transfer framework.

#### **1. Innovative options for financing the development and transfer of technologies**

17. The recommended actions in this area are:

- (a) To invite relevant international organizations and initiatives, such as CTI, in collaboration with the EGTT and the secretariat, to provide technical support through coaching and training programmes for project developers in developing countries and countries with economies in transitions (EITs) to transform project ideas resulting from TNAs into project proposals that meet the standards of the international financial providers;
- (b) To disseminate the new UNFCCC practitioners' guide for preparing and presenting project financing proposals to Parties and practitioners in developing countries and encourage its use in the activity mentioned in paragraph 14 (a) above; post the guide on TT:CLEAR for distance learning purposes and for use in other training programmes;
- (c) To request the EGTT to promote success stories in financing technology transfer projects in emerging markets involving the private sector, including carbon funds, corporate-social-responsible, and triple-bottom-line<sup>5</sup> investors;
- (d) To encourage Parties to create an environment conducive for private sector investments by providing such incentives as greater access to multilateral sources and other sources of targeted "smart" subsidy schemes that trigger private sector co-financing;
- (e) To encourage Parties to scale up and/or develop innovative public-private financing mechanisms and instruments that increase access to developing country project and business developers that play a role in the transfer, development, and/or deployment of ESTs, focusing in particular on:

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<sup>5</sup> These measure the economic, social and environmental benefit of a project.



- (i) Increasing the potential of public funds to leverage private sector capital;
- (ii) Increasing options for sharing and mitigating risks and for bundling small-scale projects to bridge the distance between large-scale infrastructure investors and small-scale project and business developers;
- (iii) The role that small and medium-sized enterprises, particularly joint ventures, can play in transferring, deploying and developing environmentally sound technologies;
- (iv) Providing options for integrated technical assistance to help developing, managing and operating EST projects and businesses;
- (v) Promoting enterprise and corporate driven R&D, innovation, and cost reductions;
- (f) To strengthen the dialogue between government and industry to encourage discussions between relevant ministries in recipient countries and private sector organizations to enhance the investment conditions for climate friendly technologies;
- (g) For the EGTT to report regularly on the implementation of the mechanisms for technology transfer as spelled out in this document on a regular basis with a view to recommending new approaches that will further enhance technology transfer.

18. The main actors in this work are Parties, the EGTT, the secretariat, the GEF and its implementing agencies, public and private funding institutions, relevant international organizations and initiatives, and the private sector.

2. Possible ways and means to enhance cooperation with relevant Conventions and intergovernmental processes

19. The recommended actions in this area are:

- (a) For the EGTT to explore possible ways to enhance cooperation between the UNFCCC and other multilateral environmental agreements (MEAs), through, inter alia, the Joint Liaison Group and other intergovernmental processes, in particular the Commission on Sustainable Development, where technology transfer is considered. It may be useful to look beyond MEAs and look for synergy with other intergovernmental processes (e.g. World Trade Organization, International Energy Agency (IEA), the Group of Eight, Asia-Pacific Economic Cooperation);
- (b) For the UNFCCC to be proactive in sharing information and experiences relating to the transfer of technologies, in particular for adaptation;
- (c) For the COP to encourage Parties, when formulating climate change strategies programmes and projects, to take into consideration objectives of other MEAs;
- (d) Identification of areas for potential cooperation and formulation of clear objectives for this cooperation.

20. The main actors in this work are Parties, the EGTT, the secretariat, and relevant international organizations and processes.

3. Promotion of endogenous development of technology through provision of financial resources and joint R&D

21. The recommended actions in this area are:

- (a) To invite non-Annex I Parties to provide information on barriers encountered in the development of endogenous technologies. And to invite Parties to share good experiences in the promotion of endogenous technologies in non-Annex I Parties;
- (b) To consider options for encouraging the setting up of institutions such as national systems of innovation that could lead to the endogenous development of technologies in developing countries and countries with economies in transition;
- (c) To share lessons learned in endogenous technology development through TT:CLEAR;
- (d) To report regularly to the SBSTA on endogenous technology development and seek further guidance from the SBSTA and the COP.

22. The main actors in this work are Parties, the EGTT and the secretariat.

4. Promotion of collaborative research and development on technologies

23. The recommended actions in this area are:

- (a) To provide guidance for TNA reporting on joint R&D needs and use of information in the national communications and TNAs to identify needs and opportunities for R&D;
- (b) To provide opportunities for reporting joint R&D agreements, including voluntary agreements, on TT:CLEAR;
- (c) To invite relevant intergovernmental organizations (e.g. Intergovernmental Panel on Climate Change, United Nations Development Programme, United Nations Environment Programme, United Nations International Development Organization, Food and Agriculture Organization of the United Nations) and international organizations (e.g. IEA) to provide information on supported R&D activities relating to climate change;
- (d) To consider options for promoting regional research platforms, making use of existing networks of centres of excellence, where possible;
- (e) To prepare periodic stock-taking papers on status, opportunities, and needs for further R&D;
- (f) To invite governments to encourage academia and industry to develop research programmes to address climate friendly technologies and to promote investment in climate change.

5. The Expert Group on Technology Transfer

24. The COP may wish to take into account the work of the EGTT and the recommendations contained in this document when reviewing the EGTT at its twelfth session.

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