

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE  
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Agenda item 10

**DEVELOPMENT AND TRANSFER OF TECHNOLOGIES**

**STATUS OF THE CONSULTATIVE PROCESS**

**Addendum**

**DRAFT FRAMEWORK FOR MEANINGFUL AND EFFECTIVE ACTIONS TO  
ENHANCE THE IMPLEMENTATION OF ARTICLE 4.5 OF  
THE CONVENTION (DECISION 4/CP.4)**

**Draft text by the co-chairs of the contact group**

**A. Purposes**

**Option 1**

1. This text shall serve as a framework for the implementation of commitments under Article 4.5 of the Convention. Under Article 4.5, the transfer of environmentally sound technologies and know-how is the commitment of developed country Parties and other developed Parties included in Annex II to 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.

**Option 2**

1. The purpose of this framework is to enhance the implementation of Article 4.5 of the Convention by increasing the flow of environmentally sound technologies (ESTs) and know-how.

**Option 3**

1. This framework has three specific purposes:

(a) To enhance the implementation of Article 4.5 of the Convention by increasing the flow and the quality of transfer of ESTs;

(b) To recommend practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies (ESTs) and know-how (decision 4/CP.4);

(c) To support the development and enhancement of endogenous capacities and technologies of developing country Parties.

## **B. Overall approach**

2. This framework is developed with the recognition that, under Article 4.5, 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. [To 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.]

[3. The [successful] implementation of Article 4.5 requires the [full] cooperation as well as the participation of all stakeholders from both developed and developing country Parties.]

4. The implementation of Article 4.5 takes into account the understanding that technology transfer is a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, non-governmental organizations and research and education institutions.

5. The process of technology [transfer] [needs assessments] should be [equitable], bottom-up, and [demand-] and country-driven in recognition of the diverse environmental, geographic, economic and social characteristics of developing countries and regions. [Some developing countries or regions may give priority to adaptation technologies while others may give priority to mitigation technologies.]

[5b. Technology transfer, as defined in Article 4.5 of the Convention, should focus on the actions which could be taken by Parties, in addition to what is already happening as business as usual in the market, in spite of the fact that the private sector and the market play an important role in disseminating ESTs.]

6. The transfer of [state-of-the-art] environmentally sound technology for mitigation and adaptation to climate change [may][should] include both “soft” and “hard” elements of technology, including capacity-building, and should promote sustainable development and achievement of the ultimate objective of the Convention.

7. The role of governments is crucial in enhancing an enabling environment, including the [removal of barriers][creation of incentives], for the private sector to promote the [transfer] [dissemination] of, and access to, environmentally sound technologies (ESTs), particularly adaptation technologies. [Governments shall take actions to ensure the transfer of technology and to evaluate the extent to which they have met their commitments under Article 4.5.] [The government plays an important role in supporting development and transfer

of ESTs which are commercially less viable and in providing a regulatory framework for creating demand and a market for ESTs.]

[7+8. Governments of developing and developed countries can facilitate and expand cooperation involving their public and private sectors. In this context, barriers and restrictions to the transfer of publicly and privately owned ESTs should be identified, with a view to reducing such constraints, while creating specific incentives, fiscal or otherwise, for the transfer of and access to ESTs, particularly adaptation technologies.]

[8. The private sector in developing country Parties and Annex II Parties plays a critical role in the transfer of technology. However, the EST market in many developing countries, particularly the least developed countries, is in an early stage of development and requires further assistance from Annex II Parties in order to be able to play a meaningful role in the transfer of ESTs.]

[8b. In order to increase the flow and quality of technology transfer, Parties should adopt an integrated approach that focuses on the development of national and or regional strategies for technology transfer. Such strategies should be devised on the bases of a country-driven and sector-specific approach in recognition of the diverse environmental, geographic, economic and social characteristics of developing countries and regions. This integrated approach should include technology needs assessment, identification of barriers and actions to reduce or remove them, enhancement of information provisions and capacity-building.]

9. The transfer of technology requires an [integrated] approach that focuses on [products and techniques][technologies] with multiple benefits that address the objective of the Convention and at the same time [respond to][are consistent with] national development priorities. [such as poverty alleviation, socio-economic development, improvement of public health and reduction of environmental pollution. The integrated technology transfer approach should be developed into a national strategy that takes into account the interests and interactions of the different stakeholders.]

10. The process of technology transfer should build upon and/or incorporate the current activities of the government, private sector, non-governmental organizations, research and academic institutions and bilateral and multilateral institutions. It should also enhance the networks of and partnerships between these stakeholders.

## **C. Key themes and areas for meaningful and effective actions**

### **1. Technology needs and needs assessments**

#### **Areas for activities or action**

11. Technology needs assessments, based on an integrated approach, are an important element of a framework to enhance the transfer of technology under the Convention. The following activities should be considered in the implementation of technology needs assessments:

(a) Identification of technology needs through sectoral analyses which are rigorous and demand-driven aimed at identifying both mitigation and adaptation technologies as appropriate to each country and/or region;

(b) A country-driven process to evaluate and prioritize local needs for ESTs and should embrace a consultative approach and include all stakeholders;

(c) Identification and analysis of barriers to technology transfer and the actions to remove these barriers.

### Means of implementation

12. The following are means of implementing technology needs assessments:

(a) The Chairman of the Subsidiary Body for Scientific and Technological Advice (SBSTA), with the assistance of the secretariat, is requested to organize an experts' meeting, resource permitted, to develop guidelines on needs assessments and to consult with Parties and other relevant international organizations in the development of such guidelines;

(b) Non-Annex I Parties are encouraged to undertake assessments of technology needs and identification of barriers, to meet the needs assessment guidelines;

(c) Developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the conduct of needs assessments in developing country Parties;

(d) All Parties are requested to enhance reporting in their national communications of technology cooperation and transfer activities. In so doing, the Annex II Parties are urged to give particular attention to reporting on technology transfer activities, as specified in part II of the revised guidelines for reporting by Parties included in Annex I to the Convention. Parties not included in Annex I to the Convention that have not already done so are invited to report their technology needs, in their national communication and/or in other relevant report, to the extent possible.

## **2. Technology information**

### Areas for activities or action

13. The framework should improve the flow of, access to and quality of technical, legal and economic information relating to the development and transfer of mitigation and adaptation technologies under the Convention. The following activities should be considered in the implementation of technology information strategies:

(a) Technology information programmes should be demand-driven and result-oriented. They should facilitate public awareness, and informed decision-making and enhance public and private sector capacity to access and utilize relevant technology information;

(b) Information systems at national, regional and international levels should be integrated through existing specialized information centres and networks.

## Means of implementation

14. The following are means of implementing technology information activities:

(a) The Convention secretariat is requested (i) to continue its work on technology information and a project inventory database by consulting with Parties and relevant international organizations and (ii) to develop options for a one-stop database and specialized information system that allows quick access to reliable information on ESTs, know-how, good practice and other information relevant to technology transfer;

(b) The Annex II Parties are requested to take all practical steps to promote, facilitate and finance, as appropriate, the establishment of an international information clearing house with linkage to regional and subregional networks. The clearing house shall have the following objectives:

- (i) To improve information access for Parties on existing technical and financial programmes of technology assistance;
- (ii) To provide donors, the private sector, academia, non-governmental organizations and other stakeholders with information on opportunities related to countries' technology needs;
- (iii) To facilitate information exchange on experience and processes in the development of standards, codes and labelling as well as other relevant legal information;
- (iv) To create an information network on technology inventories, donor programmes and other activities related to technology transfer.

### **3. Enabling environments**

#### Areas for activities or action

15. The following activities should be considered in creating the enabling environments for technology transfer:

(a) The identification and analysis of economic, legal and institutional barriers at each stage of the technology transfer process to ensure private sector participation;

(b) The development of macroeconomic conditions that contribute to sustainable development and economic growth;

(c) The development of effective and efficient legal and regulatory systems, including the development of industry codes, product standards, and certification, as well as regimes for the protection of intellectual property rights and efficient rules for transactions to encourage innovation by the private sector;

(d) The introduction of economic measures that promote research and development of ESTs and the utilization of networks of research institutions.

## Means of implementation

16. The following are means of creating enabling environments for technology transfer:

(a) All Parties, particularly Annex II Parties, are invited to improve the enabling environment, including the removal of barriers to, and establishment of incentives for private sector activities that advance the transfer of technologies to address climate change and its adverse impacts;

(b) All Parties are urged to create or expand commercial markets for ESTs essential to technology transfer and agree to address barriers to the transfer of these technologies through improved legal and regulatory structures, investment policies, pricing structures and incentives;

(c) Developed country Parties are encouraged to develop and implement economic measures, e.g. export credit facilities, government procurement contracts, and tax preferences, as well as appropriate regulations to promote transfer of ESTs;

(d) All Parties are urged to provide intellectual property rights protection and preferential incentives to disseminate ESTs with a view to promoting mutually beneficial win-win partnership between developed and developing countries as well as between the public and private sectors;

(e) Developing country Parties should be encouraged to include climate change technology transfer priorities in their national development strategies;

(f) Developed country Parties, where appropriate, are encouraged to provide access by developing countries to relevant government-owned technologies;

(g) Developed country Parties, in cooperation with developing country Parties, are encouraged to develop joint research and development programmes and to integrate the climate change technology transfer objective of such programmes;

(h) All Parties are encouraged to strengthen, to the extent appropriate, the linkage between the research and development community and the development cooperation agency to facilitate developing country access to public research and development programmes;

(i) Developing country Parties are encouraged to develop and enhance regional and South-South technology transfer partnerships, particularly for adaptation technologies;

(j) All Parties, particularly developed country Parties, are encouraged to establish, as appropriate, programmes for technology testing, certification and labelling.

## **4. Capacity-building**

### Areas for activities or action

17. Capacity-building is a cross-cutting issue, for which overlapping needs and activities extend across many different aspects of activities under the Convention. The following are

activities related to effective capacity-building in technology transfer under Article 4.5 of the Convention:

(a) Capacity-building to support the assessment and prioritization of technology needs, the development of technology implementation plans, and the development of effective enabling environments;

(b) Capacity-building to strengthen institutions such as regulatory, legal and financial institutions, to enable them to promote technology transfer;

(c) Capacity-building to enhance the involvement of developing countries in research and development on climate-related ESTs so as to absorb technologies and adapt them to local conditions.

#### Means of implementation

18. The following are means of building capacities of all stakeholders, particularly of the developing countries:

(a) Developed country Parties are encouraged to support capacity-building and the strengthening of appropriate institutions in developing countries to enable the transfer of environmentally sound technologies and know-how;

(b) Developed countries are urged to establish training, expert exchange and scholarship programmes aimed at enhancing the teaching and research capabilities of higher education and other private and public institutions in developing countries, for the transfer, operation, maintenance, adaptation, diffusion and development of ESTs;

(c) All Parties, particularly developed country Parties, are encouraged to enhance the capacity of financial institutions, public, private and international, to evaluate ESTs on an equal footing with other technology options, addressing perceived risks, scale of projects and other barriers to financing.

### **5. Mechanisms for technology transfer**

19. The objective of mechanisms for technology transfer is to enhance the coordination of the full range of stakeholders in different countries and regions and to engage them in cooperative efforts to accelerate the development and diffusion, including transfer, of environmentally sound technologies, know-how and practices to and between developing countries through technology cooperation and partnerships (public/public, private/public and private/private).

#### Means of implementation

20. To achieve the above-mentioned objectives and carry out the various activities suggested under each theme, the Parties may wish to consider the following actions as part of a framework for the implementation of meaningful and effective actions to enhance the implementation of Article 4.5 of the Convention:

(a) To invite Parties to adopt a coordinated approach to enhancing technology transfer under Article 4.5 which includes: needs assessments, capacity-building, enhancement of information systems, identification of barriers and actions for the removal of barriers in a manner which optimizes the effect of each of these activities;

(b) To establish an intergovernmental technical advisory panel, an innovative mechanism in the context of UNFCCC, to assist developing country Parties to obtain environmentally sound technologies and know-how related to climate change on non-commercial and preferential terms, thus contributing to the ultimate objective of the Convention;

(c) To establish a separate funding mechanism specifically for technology transfer within the Convention;

(d) To establish a revolving EST investment fund to finance EST transfer projects and programmes, with payback to the fund from the proceeds of the projects through profit sharing;

(e) To establish a framework to enhance implementation of Article 4.5 which incorporates a wide range of existing bilateral and multilateral programmes, activities, institutions and financing, including those of the Global Environment Facility (GEF), to improve the availability of information on existing instruments, based on information provided by the national communication of the Parties;

(f) To maintain the Global Environment Facility as the operating entity of the financial mechanism, and to continue GEF activities to promote and finance technology transfer in response to Article 4.5 of the Convention;

(g) To consider the potential role of the clean development mechanism and joint implementation under the Kyoto Protocol as supplemental activities to promote, facilitate and finance the transfer of ESTs for the promotion of sustainable development and the protection of the global climate;

(h) To establish an environmentally sound technology bank or centre that could serve as a vehicle to share and exchange publicly funded technologies and know-how which could be offered on a voluntary basis;

(i) To encourage the Parties to explore the opportunity to use official development assistance as one possible catalyst to encourage the flow of climate change technology transfer to developing country Parties in support of each country's sustainable development priorities;

(j) To request the Parties to encourage the multilateral development banks, through their respective boards and councils, to enhance their programming and lending for activities that support the objective of the Convention;



(k) To encourage Parties to implement practical cooperation programmes and projects to facilitate the transfer of technologies to reduce greenhouse gas emissions and facilitate the adaptation to climate change and its adverse effects, while supporting sustainable development

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