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Development and transfer of technologies

**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

1. The Conference of the Parties, by its decision 4/CP.13, requested Parties to submit to the secretariat, by 15 February 2008, 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.
2. The secretariat has received nine such submissions. In accordance with the procedure for miscellaneous documents, these submissions are reproduced* in the language in which they were received and without formal editing.
3. The secretariat has also received a submission on this matter from a non-governmental organization. In line with established practice, this submission has been posted on the UNFCCC website at <<http://unfccc.int/3689.php>>.

* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

CONTENTS

	<i>Page</i>
1. ARGENTINA (Submission received 21 February 2008)	3
2. BRAZIL (Submission received 21 February 2008)	4
3. INDONESIA (Submission received 13 February 2008)	7
4. PHILIPPINES (Submission received 15 February 2008)	8
5. SLOVENIA ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES* (Submission received 15 February 2008)	10
6. SOUTH AFRICA (Submission received 3 March 2008)	12
7. SRI LANKA (Submission received 15 February 2008)	13
8. UNITED STATES OF AMERICA (Submission received 18 February 2008)	14
9. UZBEKISTAN (Submission received 14 February 2008)	18

* This submission is supported by Croatia, Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Serbia, Ukraine and Turkey.

PAPER NO. 1: ARGENTINA

Decision -/CP.13

Development and transfer of technologies under the Subsidiary Body for Implementation

The Conference of the Parties requests 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, paragraph 5, and Article 4, paragraph 1 (c), in accordance with decision 13/CP.3;

The Government of Argentina hereby submits its views on different issues on Technology Transfer as requested by Decision -/CP.13.

1. The Government of Argentina agrees with the definition of Technology Transfer as "...the broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change among different stakeholders..." given in the IPCC Special Report Methodological and Technological Issues in Technology Transfer, Summary for Policymakers, and that this definition should be borne in mind during the future work of the Expert Group on Technology Transfer (EGTT).

2. The Government of Argentina stresses the urgent need to create appropriate mechanisms to implement actions leading to technology development, deployment, diffusion, and transfer and to enhance enabling activities such as technology information, capacity building and innovative financing for both mitigation and adaptation technologies.

3. Regarding transfer of technologies for mitigation, we believe that the EGTT should further explore carbon market mechanisms that drive developed countries to finance the full incremental costs of technology application and deployment necessary for the implementation of GHG mitigation activities in developing countries, including the cost of several enabling activities mentioned in paragraph 2 of Decision -/CP.13.

4. The Government of Argentina deems that a sectoral approach that establishes specific means and mechanisms tailored to sector needs, priorities, and GHG contribution offers a logical platform to scale up the level of financing needed to support the massive amount of technology transfer required to meet the UNFCCC's goals.

5. The Government of Argentina supports a revitalization of the implementation of Technology Needs Assessments (TNA) as a tool to highlight priority technology needs to reduce GHG emissions and, in particular, technology needs for adaptation to the adverse impacts of climate change in developing countries. In this sense, the Government of Argentina agrees that in order to favour a thorough completion of TNA appropriate technical and financial assistance should be planned.

6. The Government of Argentina suggests that the set of performance indicators requested of the EGTT to monitor and evaluate the effectiveness of the implementation of Article 4, paragraph 5 of the Convention, should focus on both actions implemented and specific environmental outcomes.

7. Finally, the Government of Argentina emphasizes the importance of articulating UNFCCC's goals with policies and activities of other UN agencies, international organisms and forums not directly related to climate change, such as, inter alia, UNIDO, FAO, multilateral development banks, and WTO. In our view, these institutions should undergo a process of review and reformulation of their development assistance. The goal of such a process would include: promoting synergies with the UNFCCC, increasing financial flows that favour climate-friendly development, and coordinating trade mechanisms and economic instruments to support technology transfer for mitigation of and adaptation to climate change.

PAPER NO. 2: BRAZIL

**SUBMISSION OF BRAZIL ON
DEVELOPMENT AND TRANSFER OF TECHNOLOGIES**

1. The Government of Brazil, in response to the request contained in decision 4/CP.13, paragraph 7, welcomes the opportunity to submit views on elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4, paragraph 1 (c), of the Convention, in accordance with decision 13/CP.3.

2. From the outset, Brazil strongly urges Parties to consider discussion of this issue under Article 4, paragraph 7, of the Convention, which states that: *“The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.”*

3. Facing climate change will require enhanced technological development, deployment and transfer, with an emphasis on the widespread use of new technologies by developing countries. In accordance with Article 4, paragraph 5, of the Convention, the developed country Parties *“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”*, as well as *“support the development and enhancement of endogenous capacities and technologies of developing country Parties.”*

4. The Bali Action Plan further states that “enhanced action on technology development and transfer to support action on mitigation and adaptation”¹ is needed “to enable the full, effective and sustained implementation of the Convention.”² The Action Plan also recognizes that capacity building and technology transfer tools are vital to support developing country actions on mitigation and adaptation, and that parties should consider, *inter alia*, “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 environmentally sound technologies”³.

5. The Government of Brazil believes significant steps must be taken to promote, facilitate and finance the transfer of, access to and development of environmentally sound technologies and know-how⁴, particularly from developed countries to developing countries, for both mitigation and adaptation, in accordance with the principle of common but differentiated responsibilities and respective capabilities.

¹ Bali Plan of Action, paragraph 1 (d)

² Bali Plan of Action, paragraph 1, *caput*

³ Bali Plan of Action, paragraph 1 (d) (i)

⁴ According to the *Methodological and Technological issues in Technology Transfer, A Special Report of IPCC Working Group III, IPCC, 2000*, “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, NGOs and research/education institutions.

6. The Government of Brazil notes that in decision 4/CP.13, Parties recognized that “current institutional arrangements, access to financing and suitable indicators for monitoring under the Convention for the implementation of Article 4, paragraph 5, are limited and should be enhanced to deliver immediate and urgent technology development, deployment, diffusion and transfer to developing countries”.

7. In this context, Brazil welcomes the provisions of decision 4/CP.13, particularly the provisions on access to financing (paragraph 3 and others) and monitoring indicators (paragraph 4). However, the actions adopted and referred to in this decision, as well as those adopted and referred to in decision 3/CP.13 , still require a coherent and comprehensive legal instrument for technology development and transfer under the Convention.

8. Therefore, a specific Protocol to the UNFCCC should be established to foster deeper cooperation on development and transfer of technologies between country Parties, in order to enable developing country Parties to implement the provisions of the Convention. The “framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention” adopted in decision 4/CP.7 and the recommendations adopted in decision 3/CP.13 shall constitute one of the building blocks for a new instrument under the Convention for enhanced action on technology development and transfer. Although this submission does not attempt to cover technical and scientific aspects involved, the Protocol must be comprehensive and effective and shall include, as a minimum, the following provisions:

- a) reinforce north-south, south-south and north-south-south cooperation, including joint development;
- b) promote climate change related new technology development, deployment, and transfer among country parties;
- c) accelerate the transfer of existing environmentally sound technologies and know-how to other country Parties, in special developing country Parties, to support action both on mitigation and adaptation;
- d) promote capacity-building and strengthen the development and autonomous use of technology in developing countries;
- e) stimulate innovative approaches, including strengthening the public availability of government sponsored technologies;
- f) increase the contracting of technological research in developing countries;
- g) consider new approaches that combine intellectual property rights protection and facilitated technological sharing, bearing in mind the example set by decisions in other relevant international fora related to intellectual property rights, such as the Doha Declaration on the TRIPS Agreement and Public Health;
- h) consider incentives to stimulate technology transfer within companies, with a view to strengthening capacity in subsidiary companies located in developing countries;
- i) enhance technology transfer through public companies;

- j) foster the establishment of national/regional technology excellence centers to promote technology development, deployment and transfer, stimulate capacity building, improve access to information, support an innovation culture and establish an appropriate international cooperation environment;
- k) consider mechanisms, including performance indicators, to measure, report and verify the effectiveness of technology transfer to developing countries, taking into consideration, as appropriate, inputs from the work undertaken according to decision 4/CP.13, paragraph 4;
- l) consider the removal of barriers to transfer of mitigation and adaptation technologies to developing country Parties; and
- m) establish new financing mechanisms and tools for scaling up the development, deployment and transfer of technology, in particular privately owned technology, to support action on both mitigation and adaptation to climate change in accordance with Article 4 paragraph 3.

9. The process which will consider the above-mentioned issues must be taken forward in the context of the Bali Action Plan, with the aim of contributing to the ultimate objective of the Convention: the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

PAPER NO. 3: INDONESIA

Indonesia's Submission Regarding Decision-/CP.13
Development and Transfer of Technology under the
Subsidiary Body for Implementation

This submission presents our views on elements for the ToR for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4, paragraph 1(c), in accordance with decision 13/CP.3, as requested in Paragraph-7.

1. It has been acknowledged that the implementation of results of technology needs assessments (TNAs) is a next important step that needs to be established effectively, and stands as a strategic issue in the implementation phase of technology needs assessments. Hence, the paragraph 3.b of the WGTT TOR on the function of the EGTT to help implement results of the TNA should become a priority in the working program. The associated proposed concrete plan is required and needs to be derived as a main substance of the working program in which respective regional needs should be taken into consideration. The working program is expected to be implementable and it would meet the requirement of cost and technology effectiveness.
2. It's expected that a set of performance indicators should be manageable and directly relevant to regularly monitor and evaluate the effectiveness of the implementation of the technology transfer framework, controllable and can be measured quantitatively. Furthermore, the basic principles to derive the Performance Indicators need to be clearly defined and taking into account on their regional characteristics of the parties.
3. The assessment of the strategies and the innovative funding opportunities should be emphasized on the implementation of the proposed framework on country level, including the appropriate financing schemes which shall take into account the need for adequacy and predictability in the flow of funds and clearly show its cost effectiveness as a result of the integration of the available financial resources. An example of the assessment is the viability of the Montreal Protocol scheme under sectoral base approach, whether this scheme could be used as an appropriate form of financial scheme.
4. Last but not least, the priority for developing countries is a set of program that leads to a demonstration project.

PAPER NO. 4: PHILIPPINES

SUBMISSION OF THE PHILIPPINES ON DECISION (X)/CP.13 ON
DEVELOPMENT AND TRANSFER OF TECHNOLOGIES UNDER THE
SUBSIDIARY BODY FOR IMPLEMENTATION (SBI)

The Philippines, in response to the invitation for a submission contained in op. para. 7 of Decision (x)/CP.13 on views on elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4, paragraph 1 (c) of the Convention, would like to submit the following views:

1. that decision 13/CP.3 referred to in the above-mentioned paragraph refers to the division of labour between the two subsidiary bodies of the Convention. It clearly states, in its op. para. 3 (c) that “the SBI will, with inputs from the SBSTA, as appropriate, have the responsibilities for assisting the COP in the assessment and review of the effective implementation of the Convention with respect to the development and transfer of technologies”. It is therefore clear that the elements for the review and assessment of the effectiveness of the implementation of Article 4.5 and Article 4.1 (c) of the Convention to be made by the SBI will take into account the inputs from the SBSTA.
2. **these elements, which will constitute the terms of reference for the review and assessment referred to in the COP13 decision, are contained in the decisions taken by the Conference of the Parties since Decision 13/CP.1, (op.para.1, sub-paras. (a) and (b) on reports to be prepared by the secretariat).**
3. Decision 7/CP.2 took note of the secretariat report (op. para.5) and expressed concern that information on technology transfer from Annex II Parties “differed considerably in format, thoroughness and level of detail and consequently, a comprehensive portrayal of technology transfer activities is not possible at this stage”. Following this, further action was taken by the COP at subsequent sessions, with each decision adding elements that can be taken into account in the review and assessment envisioned by the COP 13 decision.
4. **The secretariat could compile the elements given in each decision, inform the Parties on reports prepared in response to these decisions, and give a listing of these elements which will then constitute the terms of reference for the review and assessment required.** For example, the possible setting-up of national, regional and international technology information centres was made in Decision 9/CP.3; Decision 4/CP.4 mentioned capacity-building and enhanced reports by Annex I Parties, and urged them “in their technology transfer activities to take into account support for the development and enhancement of the endogenous capacities and technologies of developing country Parties.
5. Among other elements, Decision 4/CP.4 requested a “listing of publicly-owned environmentally-sound technologies to be reported in the national communications of Annex II Parties.” Decision 5/CP.5 started a consultative process, through regional workshops, including on “elements of a framework for meaningful and effective action to enhance the implementation of Article 4.5 of the Convention.
6. Decision 4/CP.7 is particularly important as, based on previous decisions, in particular the Bonn Agreement (Decision 9/CP.5 and 5/CP.6), it adopted the framework for meaningful and effective actions to enhance the implementation of Article 4.5 of the Convention, with a review of the progress of work to be done at COP12. **The framework puts together all the elements necessary for a review and assessment of the implementation of Art4.5 of the Convention, and could be used as well to look into the implementation of Article 4.1 (c) which refers in**

particular to cooperation by all Parties in the development, application and diffusion, including transfer, of mitigation technologies, practices and processes, in all sectors.

7. It might be recalled that the EGTT, established under Decision 5/CP.6, also has as its objective “enhancing the implementation of Art. 4.5 of the Convention. It must be noted that the EGTT, after five years of work, in 2007, published its findings and concluded that “while the EFTT has promoted an “understanding of transfer of technology at a conceptual level,” there is now need to move to a “more practical and results-oriented level by providing actions on specific sectors and programs.” A companion brochure of the results of workshops on “Innovative options for financing the development and transfer of technologies” also provided only “theoretical considerations” that still “need to be matched by action on the ground.”
8. An important element was underlined by Decision 6/CP.10, in its operative paragraph 3, which “encouraged Parties to explore the opportunity for future joint research and development programmes/projects between Annex II and non-Annex I Parties for the development of environmentally-sound technologies to respond to the requirements of Article 4.5 of the Convention.
9. Except for the decision to extend the work of the EGTT for one year, taken at the very last minute, there is no important decision taken at COP12.
10. At COP13, therefore, the review and assessment of the implementation of the Article 4.5 of the Convention was therefore brought back to the Subsidiary Body of Implementation which has overall responsibility to do so, in accordance with Decision 13/CP.3, with the addition of a review and assessment of the implementation of Article 4.1 (c).

The elements for the review and assessment of the implementation of Article 4.5 are therefore already in place, and have in fact been the subject of COP decisions since its first session. There is no need to discuss further on “elements for terms of reference” which will only duplicate what has been done for the last thirteen COPs. What needs to be done is, as recommended by the EGTT, moving to a **“more practical and results-oriented level by providing actions on specific sectors and programs.”**

PAPER NO. 5: SLOVENIA ON BEHALF OF THE EUROPEAN COMMUNITY
AND ITS MEMBER STATES

**SUBMISSION BY SLOVENIA ON BEHALF OF THE EUROPEAN
COMMUNITY AND ITS MEMBER STATES**

This submission is supported by Croatia, Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Serbia, Ukraine and Turkey

Ljubljana, 14 February 2008

**Subject: Development and transfer of technologies under SBI
Elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4 paragraph 1 (c) of the Convention**

1. Slovenia, on behalf of the European Community and its Member States, welcomes the opportunity to submit, in response to decision -/CP.13 (Development and transfer of technology / SBI), views on elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4, paragraph 1 (c) of the Convention.
2. The EU emphasises that effective implementation of Article 4, paragraph 5 and Article 4, paragraph 1 (c), of the Convention is important for meeting the overall objective of the Framework Convention. Effective actions to address climate change require a broad portfolio of activities, including the widespread uptake of new and existing technologies and the creation of appropriate enabling environments to facilitate this. The EU notes that a range of important actions and partnerships, including on technology financing, are undertaken by Parties within and outside the Framework Convention, which contribute to the development, deployment, diffusion and transfer of environmentally sound technologies. As reported in a previous EU submission on development and transfer of technologies¹ and in National Communications, the European Community and its Member States, including the private sector, have contributed actively and widely in this respect.
3. With decision -/CP.13 (Bali Action Plan), the Conference of the Parties decided to launch a process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action now, up to and beyond 2012, addressing, among other things, enhanced action on development and transfer of environmentally sound technologies. Given this decision, which will effectively require reviews to be undertaken in relation to all, so-called building blocks, it is the opinion of the EU that a review and assessment of the implementation of Article 4, paragraph 5 and Article 4, paragraph 1 (c) of the Convention, if to be undertaken in a near future, must have the objective to provide input as appropriate to the Bali Action Plan process.
4. Given the links to the Bali Action Plan process, the EU suggests that a review and assessment should be undertaken at the 14th session of the Conference of the Parties, with a view to informing also the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWGLCA).

¹FCCC/SBSTA/2006/MISC.10, pp. 11–27.

5. Furthermore, the EU suggests that the UNFCCC Secretariat, based on information collected from relevant sources, prepare an itemised progress report on the status of international technology cooperation, including concrete activities and good practise undertaken by *all* Parties, including the private sector, as well as relevant international organisations to date for implementing Article 4, paragraph 5 and Article 4, paragraph 1 (c) respectively. The report could focus on, inter alia, the themes and sub-themes of the so-called technology transfer framework (as contained in the annex to Decision 4/CP.7 and complemented with a set of actions, as contained in Annex II to decision - /CP.13 (Development and transfer of technology / SBSTA)):
 - (a) Technology needs assessments
 - (b) Technology information
 - (c) Capacity building
 - (d) Enabling environments
 - (e) Mechanisms, including
 - (i) Innovative options for financing
 - (ii) Co-operation with relevant conventions and intergovernmental processes
 - (iii) Endogenous development of technology
 - (iv) Collaborative/joint research and development of technologies
6. To facilitate the data collection for the progress report referred to in paragraph 5 above, the EU suggests that an in-session workshop on the status of international technology cooperation is held at the third session of the AWGLCA (i.e. August/September 2008). It is the opinion of the EU that Parties to the Convention, as well as representatives of the research community, business community, intergovernmental organisations (including EGTT), international finance institutions and other third parties, should be invited to present, at the workshop, their perspectives and views on the current status of international technology cooperation, including (i) activities underway by Parties as well as actors and processes outside of the UNFCCC on technology development and transfer actions and (ii) supporting activities, mechanisms and policy instruments for technology development and transfer, related to both mitigation and adaptation in different sectors as well as different regions (or groups of countries).
7. It is the opinion of the EU that the UNFCCC Secretariat should submit the report referred to in paragraphs 5 and 6 above, through the Subsidiary Body for Implementation, to the Conference of the Parties for consideration at its 14th session.
8. Finally, the EU would like to stress the need for effectiveness in the review process. Accordingly, due account should be given, as appropriate, to concurrent reviews of other mechanisms and frameworks under the framework Convention that are linked to issues and activities related to development and transfer of technology and related commitments (e.g. Nairobi Work Programme, capacity building, the EGTT assessment of gaps and barriers to financial resources for technology development and transfer, and the fourth review of the financial mechanism).

PAPER NO. 6: SOUTH AFRICA

Submission by South Africa: Development and transfer of technologies under the SBI

South Africa welcomes the opportunity to submit its initial views on elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4 paragraph 1(c) of the Convention. South Africa takes the view that the effectiveness of the review must be judged by the extent to which it helps to accelerate and advance technology transfer and development as agreed under the Bali Roadmap.

South Africa would like to note that the emphasis on private sector financing criteria with its emphasis on profit and economies of scale considerations will delay the acceleration of the transfer of both adaptation and mitigation technologies. The desired acceleration will require new financing and institutional mechanisms

Elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4 paragraph 1(c) of the Convention:

- Weaknesses in the overall framework for the implementation of Article 4.5 as outlined in Decision 4/COP7
- Market penetration of clean technologies in developing countries – scale and rate of deployment of technologies
- The extent of deployment of adaptation technologies identified by developing country parties in their Technology Needs Assessments
- Quantification of the role and effectiveness of financing mechanisms under the UNFCCC, for example, the Global Environmental Fund (GEF) and the Adaptation Fund in supporting technology deployment in developing countries, and means for making the transfer of technology measurable, reportable and verifiable
- The extent of publicly-owned technologies within Annex 1 countries and progress in the transfer of these to developing country Parties
- Enabling environment and effective mechanisms:
 - Effective policies and measures that overcome intellectual property rights (IPR) barriers
 - Policies that foster the development of competitive productive sector
 - Implementation of strategies to 'buy-down' the costs of technologies to enable its wider diffusion through mechanisms such as a Multi-Lateral Technology Acquisition Fund
 - Venture Capital Fund to promote the commercialisation of emerging technologies
- The impact of current agreements and institutional arrangements under the UNFCCC in building human and organisational capacity in developing countries for technology transfer as well as technology development (including co-development). This should include an assessment of current capacity building priorities as compared to the requirements of developing country Parties.

PAPER NO. 7: SRI LANKA

Development and Transfer of Technologies under SBI

Elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, para 5 and Article 4 para 1(c) of the Convention. (Reference decision -/CP.13, FCCC/CP/2007/L.2)

It is necessary to have a range of methodologies that support developing countries to achieve clean and low GHG emission practices in prioritized fields.

In this regard, if developing countries are to establish low emission technologies, they need appropriate technological transfer, rather than technologies indiscriminately imported from developed countries. The technologies should be compatible with our traditional knowledge and practices. Furthermore, technology transfer not supported by capacity enhancement in developing countries will not be sustainable in the long run.

As developing countries are presently upgrading their technologies in power generation, transport and industrial sectors, we hope that transfer of cleaner technologies will be prioritized for these sectors. It is necessary that the new technologies are efficient on a life cycle productivity approach rather than on a point productivity.

Special provisions should be available to ensure that that obsolete technologies of developed countries are not dumped in developing countries as grants or loans.

We would like to record the fact that Annex I countries have been emitting and are still emitting CO₂ above the threshold level. We propose that SBI take steps to make Annex I countries responsible for transfer of technology and capacity for Non Annex I countries without any barriers and embargos.

We believe that the participation of Annex I countries in the CDM process is only in the form of CER buyers. In reality the burden of CDM project development including project risk lies solely with the Non Annex I countries. Sri Lanka looks forward for the establishment of a tool, which would facilitate channeling of a significant portion of funds to the Adaptation Fund from Annex I countries who are historically responsible for GHG emissions.

PAPER NO. 8: UNITED STATES OF AMERICA

**Submission by the United States in
Response to Paragraph 7 of Decision 4/CP.13**

The United States is pleased to submit its views on elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4, paragraph 1 (c) of the UN Framework Convention on Climate Change (UNFCCC). These elements should help define a process to assist Parties to develop a candidate set of indicators for consideration. Possible elements of this process might be some combination of:

- a) A synthesis by the UNFCCC Secretariat of these submissions;
- b) An analytical background paper prepared by an expert(s) to focus 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; and
- c) A workshop to bring together experts, representatives of the private sector, the Expert Group on Technology Transfer (EGTT), and interested Parties to share information and examine practicable approaches and options.

We note that under paragraph 4 of the Decision 4/CP.13, the EGTT has been requested to “develop a set of performance indicators that could be used by the Subsidiary Body for Implementation to regularly monitor and evaluate the effectiveness of the implementation of ...the technology transfer framework... the results of this work should be made available to the subsidiary bodies for consideration at their thirtieth session.”

The United States believes that the basis for any review and assessment of the effectiveness of the implementation of Article 4, paragraph 5 and Article 4, paragraph 1 (c) of the UNFCCC should not be formulated in isolation from the above-mentioned work on performance indicators being considered by the EGTT. These two processes have been agreed to by Parties, and must not produce duplicative and potentially conflicting outcomes. Additionally, Parties should be cognizant that every four years we review the financial mechanism. The GEF provides an annual report reviewing the effectiveness of its technology transfer, capacity building, and GHG mitigation activities. To the extent relevant, this ongoing review of and reporting by the financial mechanism should be taken into consideration during any work on performance indicators.

We wish to acknowledge that much has changed in the 15 years since Article 4 of the Convention was adopted. Besides a growing body of research on the scientific, technological, and methodological aspects of climate change, there have been significant activities undertaken both inside and outside of the Convention that meet the objectives of this important Article. Some of more significant events include:

- 1) Publication of the second, third, and fourth assessment reports by the IPCC. Relevant to this submission, the fourth and most recent assessment determined “there is no international database tracking the flow of environmentally sound technologies... Little is known about how much climate-relevant equipment is transferred, and even less about the transfer of know-how, practices and processes...most international analyses rely on proxy variables.... It is well known that the nature of financial flows from OECD countries to developing countries has changed over the last 15 years.” Based upon the 2005 World Development Indicators, the fourth assessment reports “Overseas development assistance has declined and been overtaken by private sources of foreign direct investments;”

- 2) Establishment under decision 4/CP.4 in 1998 of “a consultative process to consider the issues and questions contained in the annex to this decision, as well as any additional issues and questions subsequently identified by Parties, and to make recommendations on how they should be addressed in order to achieve agreement on a framework for meaningful and effective actions to enhance implementation of Article 4.5 of the Convention;”
- 3) Publication of the IPCC report entitled “Methodological and Technological Issues in Technology Transfer” in 2000;
- 4) Adoption of “...the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention...;”
- 5) Establishment of an expert group on technology transfer nominated by Parties, with the objective of enhancing the implementation of Article 4, paragraph 5, of the Convention, including by analyzing and identifying ways to facilitate and advance technology transfer activities and making recommendation to the SBSTA;
- 6) Decision 3/CP.13 that:
 - a) Agrees that the five themes constituting the technology transfer framework adopted under decision 4/CP.7 “...continue to provide a solid basis for enhancing the implementation of Article 4, paragraph 5, of the Convention;”
 - b) Agrees to reconstitute the EGTT for a further five years with an expanded mandate; and
 - c) Adopts the “set of actions, for consideration by the EGTT in formulating its future work programmes, as set out in the recommendations for enhancing the technology transfer framework contained in annex I, and agrees that these activities would complement the actions in the technology transfer framework;”
- 7) The UNFCCC “Investment and Financial Flows to Address Climate Change” report, which makes the very important point that “When considering means to enhance investment and financial flows, it is important to focus on the role of private-sector investments as they constitute the largest share of investment and financial flows (86 per cent)” with Official Development Assistance funds representing currently less than 1 per cent of investment globally;
- 8) Emergence of a plethora of multilateral and bilateral activities outside the Convention that contribute directly to technology transfer such as:
 - a) The WTO initiative to eliminate tariffs on clean energy technologies;
 - b) The Asia Pacific Partnership on Clean Development and Climate, which engages the governments and private sectors of Australia, Canada, China, India, Japan, the Republic of Korea, and the United States in an innovative effort to promote investment in clean technologies, goods, and services;
 - c) The Clean Energy Technology Fund, which will help bridge the gap between dirty and clean technology in developing countries; and
 - d) The Private Financing Advisory Network, which works to broaden access to financing for climate friendly and technology transfer projects.

9) The significant level of general technology transfer that has occurred over the past 15 years, in particular into rapidly industrializing economies, driven by economic growth fostered through the development of effective markets and the evolution of the necessary enabling environments.

The outcomes of these activities and others have helped reshape the way technology transfer is addressed both inside and outside of the Convention. For example, a practical understanding of effective technology transfer emerged through the consultative process and was reinforced by the 2000 IPCC report—it is a country- driven process integrating multiple elements. These include a clear identification of technology needs and priorities, access to up-to-date information, targeted capacity building, and the necessary enabling environment within the recipient country to attract and retain the internal and external business and financial communities.

The International Energy Agency estimated in its 2006 Energy Outlook that between 2006 and 2030, \$22 trillion will need to be invested in energy-supply infrastructure alone. Estimates of the incremental cost necessary to ensure that investments are made in lower carbon infrastructure vary by long-term emissions goal, but could be \$60 billion per year globally. Among developing countries the figure could be \$30 billion annually. The report emphasizes that these investments will come from the private sector and will be made, in large part, outside the formal purview of the Convention.

The United States therefore believes the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, must have the objective of developing a balanced and robust set of indicators. Specifically, they should enable Parties to recognize and assess all relevant actions that impact technology transfer.

The United States can support the development of a set of indicators that would objectively capture, among other factors, the following:

- Magnitude and trends of private investment flows, along with leveraged private sector investments;
- Extent to which information on technologies and related matters is being made available to a given country and/or region and how this information is being used;
- Extent to which targeted capacity building to promote the adoption of climate-friendly technologies is being made available to a given country and/or region;
- Whether or not a country has submitted national communication(s), prepared comprehensive GHG inventories, identified technology priorities through a technology needs assessment, etc;
- Trends/patterns of political and economic stability within a given country, including any periods of social unrest, monetary stability, rate of inflation, real GDP, etc;
- Governance issues within a given country including degree of political and economic freedom, representative government, voting and open elections;
- Regulatory atmosphere within a given country, including predictability and stability of legal system, consistent enforcement of contracts, clear and transparent policy with regard to the protection and enforcement of intellectual property rights, responsible and consistent environmental policies, etc.;

- Tariff and trade policies within a given country, including restrictions on imports, degree to which there is uniformity in treatment of domestic and foreign suppliers, manufactures, financial entities, and other business activities; and
- Degree of “business friendliness” for a particular country as indicated by trade associations, chambers of commerce, major companies, international NGOs, and other groups that would provide an indication of the willingness on the part of businesses to invest and transact business.

The process should be as inclusive as possible as the scope and content of the terms of reference are being considered. We must take advantage of various existing indices and indicators developed by recognized sources. To promote balance and capture indicators that will enable the review and assessment of the role of enabling environments in enhancing or impeding the flow of technologies, consideration should be given to these and other such existing indices.

A few examples of these include:

- 1). The World Bank’s “Doing Business Project” that provides objective measures of business regulations and their enforcement across 178 countries and selected cities at the sub-national and regional levels. Economies are ranked on the degree to which the regulatory environment is conducive to the operation of business based upon a variety of indicators focused on the following 10 topics: starting a business, dealing with licenses, employing workers, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business. Consideration is being given to including infrastructure and transparency in Doing Business 2009.
- 2). The World Bank’s “Worldwide Governance Indicators” project that report aggregate and individual governance indicators for 212 countries and territories over the period 1996 to 2006 for the following six dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption.
- 3). “The Annual Index of Economic Freedom” published by the Heritage Foundation and the Wall Street Journal. The 14th edition was published in January 2008, and examines the economies of 157 countries with reference to such factors as openness to the world, government limitations on economic activity, property rights, and the rule of law.

The United States wishes to stress that the information on the elements for the terms of reference collected through these submissions should be compiled and synthesized by the UNFCCC Secretariat. It should then be provided to the EGTT as one of multiple inputs to its well-defined process of developing a set of performance indicators. These submissions are an important initial step in the process of identifying potentially useful elements that could benefit the EGTT as it is developing a set of performance indicators to recommend to the SBI. The elements compiled and synthesized from these submissions should not constitute the final list of indicators from which the terms of reference for review and assessment of the effectiveness of technology transfer is drawn.

In closing, development of appropriate and useful indicators is a complex process that should not be rushed. A well-developed set of indicators will measure more than just simple outputs, such as the number of technologies transferred or funds invested. They will need to provide an assessment of the multitude of conditions that enable and enhance sustainable technology transfer. Indicators should also facilitate the review and assessment of the outcomes and impacts of the technology transfer process, including the amount of GHGs avoided and/or sequestered.

Thank you for the opportunity to provide this submission.

PAPER NO. 9: UZBEKISTAN

Opinion of the Republic of Uzbekistan on the elements for the terms of reference for the review and assessment of the effectiveness of the implementation of Article 4, paragraph 5, and Article 4, paragraph 1(c) of the Convention

We would recommend the TOR elements according to the key themes of the technology transfer framework:

1. Technical Needs Assessments (TNAs)

Analyze the current status of implementation of technology needs assessments, the involvement of stakeholders, as well as arising gaps and problems and propose the ways to scale up the relevant activities.

Examine why the previously conducted TNAs was not effective (for instance, from the list of technology transfer project concepts the very few have obtained a follow-up) and propose measures to improve the situation.

Assess how:

- needs at different levels (project, companies, sectors, regions, the whole country) are coordinated;
- dynamics of technology changes and market changes is addressed.

The outcomes might contribute to updating the *Handbook for conducting TNAs*.

2. Technology Information

Discuss the current outcomes of the technology information centers involved in the pilot project on networking to define the barriers that may prevent other countries to join the pilot network in the future.

Assess the scope of applying options of the Technology Transfer clearing house (TT:CLEAR) by both users from developing countries and technical information providers.

3. Enabling Environments for Technology Transfer

Examine the conducted activities on mobilizing capacities of the private sector to supplement finance sources for technology transfer.

Review the level of Research and Development (R&D) activities in developing countries (including the development of endogenous technologies) and the opportunities to jointly participate in such R&D activities, as well as the main barriers to it.

Assess the integration of technology transfer issues into national policies and programmes in developing countries.

4. Capacity Building for Technology Transfer

Assess how the *Guidebook on preparing technology transfer projects for financing* has assisted to improve access to financing for technology transfer projects (e.g. analyze how many projects proposals were submitted for financing and how many of them were granted). Analyze how the workplan on the Guidebook Dissemination and Use is implemented, e.g. progress in conducting:

- regional workshops,
- training courses,
- “train the trainer” facility,
- on-line training,
- collection of feedback from practitioners, etc.

Define the barriers to effective use of the Guidebook.

Select demonstration projects to be recommended for study at training workshops in developing countries.

5. Mechanisms for Technology Transfer

Analyze the joint research and development programmes on technology transfer and development to define the problems and gaps.

Prepare an in-depth review of international financing institutions that are capable to provide a venture capital for investment of technology transfer projects, which have risks higher than in common investment projects but also high development potential.

Examine the scope of involvement of carbon funds in financing technology transfer projects.

Analyze the Non-Annex I countries experience on implementation of CDM projects as an activity relevant to technology transfer.

Assess the level of cooperation with relevant conventions (Convention on Biological Diversity, Convention to Combat Desertification, Montreal Protocol, etc.) and intergovernmental processes (by World Trade Organization, International Energy Agency, etc.).

Beside all these recommendations, we find it useful to address the performance indicators to be developed by the Expert Group on Technology Transfer on monitoring the effectiveness of the implementation of technology transfer framework.
