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DEVELOPMENT AND TRANSFER OF TECHNOLOGIES

TECHNOLOGY INFORMATION SYSTEM

Submissions from Parties

1. At its fifteenth session, the Subsidiary Body for Scientific and Technological Advice invited the Parties to submit their views to the secretariat (FCCC/SBSTA/2001/8, paragraph 33 (e) (ii)), by 15 February 2002, on:

(a) The technical paper entitled "Technology transfer clearing house and international information network: proposal for activities" (FCCC/TP/2001/2);

(b) The issues identified in the annex to document FCCC/SBSTA/2001/4;

(c) The role of Parties in supporting the technology information system; and

(d) Any feedback on testing the system.

2. Five such submissions* have been received. In accordance with the procedure for miscellaneous documents, these submissions are reproduced in the language in which they were received and without formal editing.

* 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.

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PAPER NO. 1: CANADA

Development and Transfer of Technologies
Submission by the Government of Canada to the UNFCCC
February 2002

Background

The facilitation of the transfer of climate technologies in the international climate change negotiations has long been recognized as an important tool to address climate change. The consultative process, initiated after the Fourth Conference of the Parties (COP 4), November 1998, and which ran over the course of two years , has drawn attention to the importance of access to, and the dissemination of, technology information, including the provision of inventories of available climate change technologies. In keeping with this policy direction, a framework for a technology information system has been put forward by the UNFCCC. Further to the Subsidiary Body for Scientific and Technological Advice (SBSTA)'s request for an elaboration on the preliminary framework, the UNFCCC promulgated a technical paper (FCCC/TP/2001/2) outlining the proposed technology transfer clearing house and international information network, identified as TT: CLEAR, within the UNFCCC process.

The Government of Canada recognizes the importance of the transfer of climate change technologies in the efforts of Parties to effectively address climate change. Many activities are underway in this area by the private sector, the public sector, and international organizations, such as the initiatives undertaken by the UN Secretariat. Canada would like the Secretariat to draw upon these existing technology institutions and networks.

Recognizing the importance of facilitating accessibility to and dissemination of climate change technologies, Canada commends the work undertaken by the Secretariat in this area. Canada had the opportunity to take a look at and comment on TT: CLEAR at CoP7. Canada applauds the actions of the Secretariat, including TT:CLEAR in the area of facilitating technology transfer and looks forward to a system that will enable web-based searches for both adaptation and mitigation technologies. Having said this, Canada would like to take this opportunity to highlight several critical points regarding the development and transfer of technologies.

Reiterating and augmenting our messages at CoP7, Canada would like to affirm the need to:

- Ensure that clients' needs are met
- maximize the use of existing institutions, networks and resources;
- recognize the pivotal role of the private sector in the transfer of climate technologies, as identified through the regional consultative process;
- enhance the needs assessment process by drawing upon existing mechanisms such as information made available from national communications and other related national reports and channels (e.g. National Adaptation Programmes of Action – NAPAs that will be prepared by least developed countries) and through incorporating a tendering system for posting competitions for projects;
- ensure the sustainability of these systems to facilitate technology transfer ;
- look at possibilities for cost recovery through nominal user fees for private firms;
- adopt a communication strategy / outreach program; and
- develop links to Canada's own technology transfer facilities, such as those listed in Annex I, as well as those of other parties

Canada also asserted the necessity to integrate the private sector in the Secretariat's technology information system and highlighted the necessity to include some sort of filtering mechanisms into the system.

Canada would like to note that the Secretariat's technology information system is one mechanism to facilitate the transfer of climate technologies. For example, many excellent institutions, networks and resources already in place in this area include CTI, GREENTIE, CADDET and SANet. Therefore, the Secretariat should streamline its efforts in light of other technology transfer institutions.

Ensuring Client Needs Are Met

As a top priority, TT:CLEAR must ensure client needs. The technical paper is innovative in terms of the complexity of interaction that it proposes. Having said this, it is important to make certain that information on technology transfer is `user-friendly' so that it is accessible to the widest-possible audience. Therefore, any technology information system must not be complicated. In the case of TT: CLEAR, it must be apparent upfront that the system includes both adaptation and mitigation technologies and needs assessments and how to access this information. Indeed, the proposed activities of TT: CLEAR appears very extensive and so run the risk of not producing tangible results. It is therefore important that the Secretariat focus its efforts in the area of technology information and target sustainable solutions. For example, some components appear quite secondary to the actual facilitation of technology transfer and thus should be reconsidered. For instance, the proposed on-line rating system, which will "enable visitors to share their personal experience with a company or individual" seems like an overextension, which may in fact create information distortions (users may provide biased views on competitors, affiliates or even themselves). Also, the forum component of the news module is not integral to the business of technology transfer. It too may invite distorted information and would likely require moderators (additional staffing costs).

Existing institutions, networks and resources

Canada emphasizes the need to build on and develop concurrent efforts and is pleased to see linkage to, and incorporation of, other technology transfer initiatives by the Secretariat. This is important because many entities already in existence possess the capacity, funds and experience in this area. To minimize the duplication of efforts, the maximum utilization of existing technology transfer databases, websites and clearinghouses (such as those listed in Annex O of FCCC/TP/2001/2) should be emphasized as a priority over the creation of analogous components for the TT:CLEAR system. Likewise, the option of entrusting another organization that already possesses advanced technical capacity and expertise in this area (e.g., the Climate Technology Initiative) with the day-to-day management of TT:CLEAR should be explored.

Similarly, Canada believes that the work of the Secretariat should enhance rather than duplicate work already underway in the transfer of climate technologies. TT:CLEAR should not evolve to become one of many technology transfer clearinghouses. It is worthwhile to recognize the unique strengths of existing initiatives and to complement these by charting the development of this technology information system so that it fulfils a niche of its own.

Role of the Private Sector

The focal point of technology transfer is the private sector, as has been recognized through the regional consultative process. After all, the technology transfer process is driven by the private sector. However, regarding the Technical Paper, in a few instances (such as FCCC/TP/2001/2 paragraph 26, where government representatives receive particular attention as the targeted audience) there is a tendency to

lose sight of this fact. The prevailing understanding of the importance of the role of the private sector must be reflected in the document. Likewise, it should be made explicit that the commercialisation of technology is often the optimal method for technology transfer. Indeed, as will be noted below, it is important that the most appropriate people in both the private and public sectors (e.g. practitioners / program managers versus negotiators) are able to access the information on technology. The Secretariat should focus on ensuring these people are aware of this initiative, and other existing mechanisms for technology transfer.

Needs assessments

It is important that the process to identify and prioritize the technology needs of developing countries be host-country driven. The Secretariat should capitalize on existing efforts underway in this area, such as those technology needs identified in the national communications and National Adaptation Programmes of Action – NAPAs – that will be prepared by least developed countries.

It must be more explicitly stated within the technical paper and at the onset of entering TT:CLEAR that the system is about helping countries meet their technological needs both in terms of mitigation and adaptation. Furthermore, the methodologies incorporated into the project should hone in on chains of causality and should factor ancillary benefits into calculations of impact.

A link to information on and access to country needs assessments is provided. However, this feature could be further enhanced by linking to or creating a tendering mechanism allowing potential recipient countries, donor countries, private sector partners and International Financial Institutions (IFIs) to post competitions for specific projects. This enhancement would enable a competitive process whereby technology providers may bid on contracts and recipients and funding agencies may conduct their own evaluations to select the most suitable/feasible bids.

Sustainability of technology information systems

A distinction should be drawn between conducting a technical appraisal (i.e., does the system work as it should?) and assessing TT:CLEAR's impact (does it really facilitate technology transfer?).

A plan to assess the impact of TT:CLEAR should be incorporated into the technical paper. The mere mention of a "review process for the project after each implementation phase" (paragraph 31) and a "Monitoring and Evaluation Plan" (paragraphs 86-88) does not suffice. Rather than postponing the formulation of a detailed evaluation plan during the testing period,, it is recommended that the technical paper spell out several alternatives that consist of clear, detailed evaluation plans consisting of a concrete set of outcome measures.

It is necessary to have a clear understanding of the resource implications of TT: CLEAR. A financial range (with low and high approximations) must be given at the outset. Such an approximation would give parties a sense of future commitments and project designers an approximate target for future budgeting. Meanwhile, a more detailed financial breakdown for present activities of the technology information system is needed.

Cost Recovery

The work of the Secretariat and other existing technology institutions and networks is important and must be sustained. It is therefore necessary for these entities to focus on the sustainability of their activities when developing systems to disseminate technology information and technology needs and needs assessments. One such method is through reducing costs. This can be done by drawing on

existing resources and developing links to these existing technology transfer instruments in an effort to ensure complementarity versus duplication in this area. The possibility of incorporating cost recovery measures should be explored. For instance, nominal charges for the use of some aspects of the system by private sector firms could be levied as a means to supplement current funding for the start-up and to finance maintenance and ongoing modifications.

Communication strategy

The technical paper does not propose a plan to communicate the existence of this project to potential users. In order to facilitate the effectiveness of the technology information system, it is important that the right audience be targeted. While some policymakers are likely to learn of the project by virtue of participating in the climate change process, many relevant officials in the public sector or working in international organizations may remain in the dark about its existence. More importantly, TT:CLEAR may remain relatively unknown to the private sector. In order to ensure a high level of use from all stakeholders, it is recommended that a communication strategy be incorporated into the design of the system.

Canadian facilities

In keeping with its previous submissions, Canada would like to invite the Secretariat and interested parties to draw upon and consult Canadian technology transfer facilities. For a list of such sites, please see Annex I. Other parties should be encouraged to also submit lists of their technology transfer facilities.

Conclusion

Canada believes this submission represents an opportunity to highlight several key points in this area. These include:

- ensuring clients' needs are met
- greater emphasis on incorporating and linking to existing technology transfer institutions;
- a focus on the central role of the private sector in the transfer of technologies;
- greater use of existing needs assessment efforts and methodologies;
- ensuring that technology information systems are sustainable;
- the incorporation of a cost-recovery mechanism; and
- the incorporation of a communications strategy.

In essence, Canada would like to congratulate the Secretariat in their extensive areas in the development of TT: CLEAR. Canada sees this as a tool that can complement the many institutions, networks and resources in the area of technology transfer already in existence. The Secretariat has promoted the active engagement of Parties in the assessment of the technology information system and the development and transfer of climate technologies in general and Canada encourages the Secretariat to continue to do so.

Annex I: Examples of Canadian technology transfer facilities

Industry Canada
Canadian Environmental Solutions (CES): Climate Change
http://strategis.ic.gc.ca/SSG/es00009e.html

Natural Resources Canada
Canadian International Technology Initiative
http://www.climatechange.gc.ca/english/action_plan/na_b14.shtml

Canadian Initiative for International Technology Transfer (CIITT)
http://www.nrcan.gc.ca/es/etb/cetc/ciitt/index.html

Department of Foreign Affairs and International Trade
Canada's Clean Development Mechanism (CDM) and Joint Implementation (JI) Office
http://www.dfait-maeci.gc.ca/cdm-ji/menu-e.asp

Canadian International Development Agency
Canada Climate Change Development Fund (CCCDF)
http://www.acdi-cida.gc.ca/cida_ind.nsf/8949395286e4d3a58525641300568be1/ea60af00a819594b8525697d000971e8?OpenDocument

Environment Canada
Canadian Pollution Prevention Information Clearinghouse (CPPIC)
http://www3.ec.gc.ca/cppic/en/index.cfm

PAPER NO. 2: CHINA

SUBMISSION ON DEVELOPMENT AND TRANSFER OF TECHNOLOGIES: TECHNOLOGY INFORMATION SYSTEM

1. As a response to the conclusion on the development and technology transfer proposed by the Chairman (FCCC/SBSTA/2001/L.7) and adopted by SBSTA at its Fifteenth Session, this submission presents China 's views on issues as follows:

(a) The technical paper entitled "technology transfer clearing house and international information network: proposal for activities"(FCCC/TP/2001/2);

(b) The issues identified in the annex to the document FCCC/SBSTA/2001/4 and feedback on system testing; and

(c) The roles of parties in supporting the technology information system.

General Comments

2. China appreciates the Secretariat's efforts in developing technology information system / clearing house.

3. Well-developed technology information system is helpful to technology transfer in international climate protection, although the system itself does not mean real achievement of technology transfer.

4. The information system should cover all the important aspects related to technology transfer. The mechanism of technology transfer is one of the elements of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention. However, this element is not reflected in the proposed design of the information system, which will surely weaken the effectiveness and function of the information system as a facilitating vehicle for technology transfer. Therefore, a new module focusing on information related to design and operation of technology transfer mechanism should be established and added into the clearing house.

5. The clearing house can only be regarded as an initial prototype in the efforts to develop a technology information system. There is still a lot of work to do in order to make it a one-stop clearing house in sense of information coverage, depth, as well as accuracy. It should be further developed and updated on the basis of continuous reviews by users.

Comments on Technical Paper Entitled "Technology Transfer Clearing House and International Information Network: Proposal for Activities"(FCCC/TP/2001/2)

6. A criteria and methodology should be adopted for selecting technologies and projects for the databases.

7. Methodologies and information on the effectiveness assessment of technology transfer projects are not reflected adequately in the design of the technology information system.

8. Financing and economic information which is crucial to technology transfer is not reflected adequately in the proposed design of the clearing house.

9. Overviews and/or brief introduction should be provided on the home page and at the beginning of each module.

10. There is no elaboration of mechanism for data updates in the technical paper, but this is necessary for a design of clearing house.

Measures to improve the reliability of data and information sources should be taken into account.

11. Complex tools for decision-making analysis are not necessary in the near future, given limited resources and time.

12. In the searching process, the key words are given by the system, rather than entered by users, which is inconvenient for users in many cases.

13. The content table and the web site instruction should show in different versions in UN official languages with the development of the web site .

14. In order to guarantee that most appropriate technologies could be selected from the databases, comparison of technology levels should be made possible not only between technologies in developed and developing countries, but also between advanced and laggard technologies among developed countries.

15. The budget for implementing the proposed activities related to this clearing house should be elaborated in a more detailed manner.

Specific comments on the questions raised in annex to the document FCCC/SBSTA/2001/4

Issues on the Content of the Technology Information System

16. Based upon a preliminary assessment, it can be determined that many projects presented in the project database are not the ones accompanied by real technology transfer. In fact, they are sometimes the ones for capacity building related to technology transfer.

17. The technology inventory provides some useful information on EST by introducing technological, economic, and environmental characteristics of different technologies. However, the roles of these data may be limited because of inadequacy of complementary data on financial and economic analysis, financing, relevant policies, as well as real effectiveness of technology transfer.

18. Given the consideration of easiness and larger feasibility for international technology transfer in the near future, publicly-owned technologies and those difficult for private sector to transfer through market mechanism should be prioritized in technology database. To do so, the criteria for classifying technologies should be adjusted to reflecting the attribute of technology ownership.

19. For the purposes of estimating benefits and costs of technologies and assessing effectiveness of technology transfer projects, analytical tools for cost-benefit and cost-effectiveness analysis are expected to be useful. In addition, some procedures and standard exercises to assess technologies may also be useful.

20. There is a lack of elaboration of availability of financial resources for the maintenance and operation of the clearing house.

21. The “news” service is needed. The service can provide:

- News on policy changes, project progresses, and any activities related to technology transfer;
- Brief guidance of and introduction to the latest scientific findings and technological inventions.

Issues on the Performance of the Technology Information System and Feedback on System Testing

22. It is not smooth to access to the internet-based technology information system from different servers located in Beijing, China. As a result, it is not reliable to get access to the prototype of this clearing house via internet. This partially induces negative influence on in-depth review of the technology information system.

23. In principle, the capability to do side-by-side comparisons of technologies is useful as one of the tools serving for technology comparison, while other complementary tools should also be developed for technology comparison. In this way, the risks of systematic distortions and errors can be avoided more or less. The development of additional tools, as well as the rationales of side-by-side comparisons and criteria for technology classification, should be further elaborated by expert group of technology transfer and parties.

24. The technology transfer web message board can be one of the appropriate means for exchanging experiences and sharing technological know-how. However, it is important to channel various pipelines for experience exchange and knowledge sharing.

25. Because internet is faced with risks in sense of reliability, security, and limitation of access in many developing countries, it is necessary to disseminate the information of technology transfer on CD-ROMs, diskettes, and/or by newsletter.

26. The capabilities of the searching engine fail to meet our expectations. Several improvements and modifications can be made as follows:

- The searching engine for links selections does not work well. This makes the documents searched from outside database linked to this information system inaccessible; and
- Broader links may be established between the searching engine and web sites of more parties, professional and business societies, NGOs, and excellent research institutions.

Parties' Roles

27. It would be helpful for parties to provide and update the data and information regularly. However, developing country parties may have a lack of resources to do so. In this case, financial and technical assistance should be made available to developing country parties to join the process of data update for the technology information system.

PAPER NO. 3: SPAIN
(ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES)

SUBMISSION BY SPAIN ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES, AND BULGARIA, CROATIA, CYPRUS, CZECH REPUBLIC, ESTONIA, LATVIA, LITHUANIA, POLAND, ROMANIA, SLOVAKIA, SLOVENIA

BRUSSELS, 18 FEBRUARY 2002

- **THE TECHNICAL PAPER ENTITLED 'TECHNOLOGY TRANSFER CLEARING HOUSE AND INTERNATIONAL INFORMATION NETWORK: PROPOSAL FOR ACTIVITIES' (FCCC/TP/2001/2)**
- **THE ISSUES IDENTIFIED IN THE ANNEX TO THE DOCUMENT 'PROGRESS REPORT ON THE DEVELOPMENT OF A TECHNOLOGY INFORMATION SYSTEM – NOTE BY THE SECRETARIAT' (FCCC/SBSTA/2001/4)**
- **THE ROLES OF PARTIES IN SUPPORTING THE TECHNOLOGY INFORMATION SYSTEM;**
- **ANY FEEDBACK ON TESTING THE SYSTEM**

A. Introduction

During the 14th Session of the SBSTA, the secretariat provided an oral report on its intersessional activities related to the development of a technology information system. Based on this report the SBSTA adopted the following conclusions:

(a) The SBSTA took note of the progress made by the secretariat in developing a technology information system and invited Parties interested in testing the system to contact the secretariat for a password to allow them to access the system;

(b) The SBSTA decided to consider this matter further at its fifteenth session.

During the 15th Session of the SBSTA, it was noted with appreciation the progress report and comprehensive presentation by the secretariat on the development of the technology information system and its web pages. The SBSTA noted also the technical paper entitled 'Technology transfer clearing house and international information network: proposal for activities' (FCCC/TP/2001/2). The SBSTA invited Parties and relevant international organizations to register and test the system further and to submit their views to the secretariat.

Spain, on behalf of the European Community and its Member States, welcomes the opportunity to submit views on the progress made by the secretariat regarding the Technology Transfer Clearing House and the Technology Information System, in accordance with decision FCCC/SBSTA/2001/L.7.

The EU recognises the work done by the secretariat, which laid the basis for the information clearing house and the search engine. As illustrated in the technical paper on Technology transfer clearing house and international information network (FCCC/TP/20001/2), good ideas have been created and concepts developed on the structure, content and data handling of the clearing house. The EU thanks the secretariat for its efforts to develop TT:CLEAR with the understanding that the work presented at various occasions, the last being at COP 7, is not pre-empting the final structure and content of the clearing house. There remains a requirement for a full and comprehensive needs assessment of different functions of the clearing house before details of different datasets are finalised or further elaborated. Such needs assessment should focus on both the end user and the applicable technologies and its presentation. In this context, particular attention should be paid to the specific constraints and needs

expressed by DC. The output of these further needs assessment considerations should then determine aspects of the clearing house structure.

B. General Comments

The decision on the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention, taken in Marrakech, stipulates in paragraph 2 to enhance the flow of information on the transfer of EST. Therefore, the secretariat was requested in the decision to develop a new search engine on the Internet and accelerate its work on the technology transfer information clearing house. The decision emphasises the cooperation with CTI and other relevant organisations as well as the networking with existing information centres.

The EU fully supports the decision with the understanding that the secretariat has a leading role in the current work on the technology information component of the framework. What role the secretariat should have in the future needs to be discussed within the overall dialogue to assign appropriate roles to the various relevant stakeholders in the information system on technology transfer.

The decision on developing an information clearing house gives a general orientation to its structure and content. But it leaves all detailed questions open and to be decided within a further process, which could encompass inter alia an expert workshop or discussion and recommendations of the "Expert Group on Technology Transfer". There are various issues to be addressed and decided before a successful information system could be set-up.

The EU is well aware that this aspect of the process may seem to fall behind what has been presented in the Technical Paper (FCCC/TP/2001/2) and in the Internet with TT:CLEAR. But many issues, have in our understanding, never been debated in detail. The intention of posing these questions should serve to orient the information clearing house in a direction that is most useful to its users. We are not ignoring the very useful work done by the secretariat; on the contrary, without the developed system a detailed debate and, following the debate, profound decisions on the structure and the content of the information clearing house will not be possible.

Our proposal to focus the upcoming dialogue - in the workshop on the information system - on more general questions before turning to specific issues makes it difficult to submit views on the questions raised by the secretariat in document FCCC/SBSTA/2001/4. Nevertheless, some issues will be addressed.

Finally the information clearing house should rather function as a gateway to existing EST databases instead of serving as an information library. Future needs of the Technology Information System will have to be discussed thoroughly with various relevant stakeholders and experts.

C. Views on the technical paper (document FCCC/TP/2001/2)

1. General comments

Data-gathering is very resource intensive; keeping up with the pace of technological change is demanding, and would have to take place through regular and demanding internet searches. It should by all means be avoided to replicate information already existing on the internet, resulting in tremendous cost savings.

It is suggested that some of the fundamentals of the clearinghouse be reassessed, including the targeting of needs and those whose needs are to be met. The output of this discussion will help efforts to shape the structure and content of the clearinghouse, including the type and extent of data held. It is proposed that

the option to maintain the clearinghouse as an agent or broker for information access be kept alive, rather than as an all-encompassing archive, for which the usefulness and practicality is doubtful at this stage.

A close assessment should be made of the correlation and relationship maintained between information and data from and available to private sector projects and technologies and those led by national and international institutions in the clearing house.

2. Technology information available on the internet

Technical Paper FCCC/TP/2001/2 states that "the main priority of the clearing house will be to deliver on-line information services through the internet" and establishes that for reaching this purpose it will be "important to establish a synergy with on going efforts in other organisations". In this context, there are some relevant organisations which have made available free of charge via the internet a large amount of information on technologies by providing access to a large amount of patent documents (which have been scanned and are available in .pdf format). To set an example, 30 million documents from more than 50 countries are available via internet (offered free charge by the European Patent Office).

Technical Paper FCCC/TP/2001/2 should acknowledge how relevant the access to patent documents is in the context of technology transfer and several links to the most relevant sources of this kind of information could be included in TT:CLEAR. Several WebPages which offer a very quick access to the pages of all the national patents offices, patent organizations or similar authorities already exist in the web. Some of this links, to set an example, are:

http://www.european-patent-office.org/online/#databases
http://www.piug.org/select.html

TT:CLEAR should encourage its users to get familiar with the use of this databases as an useful tool to look up all the relevant state-of-the art ESTs which have been granted a patent and might be available for purchasing or licensing in mutually agreed terms with the patent holder. All these databases contain information on the patent holder (name and address) to facilitate a direct contact with him/her. Information on inventions that have already entered in the public domain and have become available to commercial exploitation by anyone interested can also be found in this databases.

3. Technology classification system

Document FCCC/TP/2001/2 states that "one of the tasks of EST DB is to develop a technology classification system broad enough to cover all the classes of technology involved in the technology transfer process and flexible enough to accommodate new technologies".

The Strasbourg Agreement (which is under the administration of the World Intellectual Property Organisation, WIPO) relates to an international patent classification system (IPC), and was created for indexing and easily retrieving patent documents. In its 7th edition, the IPC divides technology (in a hierarchical means) into 8 sections, with approximately 69,000 subdivisions and is broad enough to cover all the classes of the technology involved in the technology transfer system. The IPC is also flexible enough to accommodate future technology: it's continuously being revised (a new edition is released every five years) to include the latest technology sectors. The IPC exists in English, French (this two are the authentic versions), Chinese, Czech, German, Hungarian, Japanese, Korean, Polish, Russian and Spanish.

A parallelism could be established between the current technology classification contained in the System and the IPC system, so that when the user selects a particular technology sector in TT:CLEAR the IPC

equivalent division were prompted. Providing in TT:CLEAR information on the IPC system would have the following advantages for the potential users:

- if technology is classified according to the IPC in TTCLEAR it would be very easy for the users to retrieve from the patent databases documents classified under the same technological sector
- there are currently many professionals worldwide which are familiar with the IPC system (researchers, patent owners, private companies, patent attorneys, etc.)

An overview to the International Classification system (IPC) could be provided in TT:CLEAR by a link to the following WebPage: http:/www.wipo.int/classifications/en7overview.html

4. Query and search module in TT:CLEAR

TT:CLEAR should encourage its users to make use of the powerful search engines available on the internet that provide free of charge access to a great amount of patent documents in .pdf format. According to the information that appears in the EPO WebPage, more that 80% of technical knowledge is described in patent literature. The users should get familiar with this search engines to retrieve documents on ESTs.

One of the patent literature search engines more commonly used by the public is esp@cenet. TT:CLEAR should include a link to the WebPage: http://www.european-patent-office.org/espacenet/info which contains an overview of this service and links to a manual of use, access to the system, etc.

Several national patent offices also provide an access free of charge to its patent documents databases via the internet.

D. Views on the issues identified in the annex to document FCCC/SBSTA/2001/4

1. Questions relating to the content of the technology information system

It has been suggested to allow providers of technological information to remotely include the information in TT:CLEAR that are important in their understanding. But this approach has the disadvantage of keeping track whether necessary updates are really done at regular intervals. Normally all organisations have their own project data base. They will keep updates on their information system. It should be considered whether it might not be sufficient for a clearing house to guide the interested user to these individual data bases instead of setting up and, even more difficult, maintaining a separate data base different from the one provided already by various organisations or commercial companies.

1.1. Is the technology inventory providing information that is useful? Is this information sufficiently up to date? What additional information should be added to the projects and technologies databases? What technologies/sectors should be given priority? What additional websites should be made available to the search engine?

The Technology Information System is providing a very useful and exhaustive compendium of information on technology transfer. But an answer on the above questions can only be given by the individual user reflecting on his expectation on the information searched. An answer given by parties and their representatives and experts on technology transfer may focus on their specific requirements, for example to get an overview of activities addressing technology transfer implemented by bi- and multilateral donor organisations in a specific country. A project planer in a developing country planning a CDM project to mitigate GHG-emissions may be interested in experience elsewhere but would also require access to a technology data base giving him detailed information on a range of specific

technologies. Even more, the planner might also be interested to compare the characteristics of commercially available technologies he has found through a search engine in the information system. These two examples should demonstrate that it will be most difficult to provide quite different types of information through an information system with extended data bases. Therefore, we propose to discuss whether the information clearing house should rather function as a gateway for EST and corresponding activities for various stakeholders, instead of containing extended data bases. The secretariat has already linked with many other multilateral and bilateral organisations. Linkages to commercial suppliers of technologies could be added. To what extend these linkages are appropriate, need to be discussed in the upcoming dialogue.

The system inventory does not provide information on patent documents. Considering that a large amount of technical knowledge is described in patent literature, it could be very appropriate that access to this relevant source of information were provided by the system.

1.2. Can the criteria previously identified by Parties as important in selecting national projects be used to determine which projects should be included in the database, or should other criteria be used?

Yes, the five criteria selected by the Parties as potentially important in selecting EST are appropriate to be used to determine what are the projects that should be included in the database.

1.3. Little specific information is available on adaptation technology projects and practices. Should the collection of additional information relating to adaptation technologies be given priority. If so, for which sectors?

Little effort has been made in the past in adaptation technologies, so an extra effort should be made to collect additional information on these technologies. As both mitigation and adaptation have been acknowledged to be very relevant, there should always be kept the pace in the progress made to collect information both in mitigation and adaptation.

Information on specific adaptation technology projects and practices should be collected. At least one specific example for each of the following sectors could be included in the Information System:

- General Tools
- Water Sector
- Coastal Sector
- Agricultural Sector
- Human Health Sector
- Forestry Sector
- Biodiversity
- Energy
- Human Settlements
- Other

This is the classification that appears in the UNFCCC Website “Methodologies and Tools to Evaluate Climate Change Impacts and Adaptation”: http://www.unfccc.int/program/meth/index.html.

We suggest that the list could be refined by including Land Management and Transport, possibly under the Other item.

1.4. Should a process be developed to receive information from Parties on a regular basis?

The EU proposes to bring the issue up in the workshop on the information system scheduled for Spring 2002. Nevertheless, the EU could imagine that the clearing house is not receiving detailed information on projects, but rather information in which data base the information of TT projects can be accessed. Countries could identify contact points for Technology Transfer, preferably existing ones. These focal points should liase with existing structures/networks within the country, as appropriate.

1.5. What analytical tools should be added and for what purposes (e.g. to make simplified cost estimations)?

The analytical tools that the system currently provides plus the set of tools for technology assessment and comparison that in the second phase of TT:CLEAR will be available are enough, at this stage, for performing the analysis on capabilities and limitations of different technologies and to perform comparisons on different technological options. These tools are (and will be) providing decision makers with very valuable information to evaluate alternative response strategies on climate change.

1.6. What sources of information should be used? Should information provided by NGOs, the business community and journals be included?

Parties should collaborate to identify all the relevant sources of information in their country and abroad. This information should be included in the system. This means that information should be made available also from the business community (see above) as well as NGOs and other sources to establish a system allowing a wide access to the extended information already available. Again, the clearing house should serve as an information broker, not as an information library.

NGOs; Business community

A message board could be made available for the NGOs with the objective to challenge these organisations to include in the System the information on technology transfer issues that they consider to be relevant. A similar message board could be created for the business community, so that this group could promote their patents on EST, provide information on licensing or selling, etc.

Patent databases

Information on patent databases should be included in the system so that the users feel comfortable to retrieve information on technology from the patent documents on EST.

1.7. Is a "news" service needed? If yes, what should this service provide?

News services and other details of the clearing house should be discussed after the general orientation is agreed upon. It is necessary to have a better picture on the cost of this service, but one possibility could be the following:

The news service could provide excerpts on relevant news related to technology transfer. Legislative news within the scope of the environmental transfer issue could also be included. News on fiscal incentives, tax and duty exemptions and subsides for EST could be included in the system. A link to the information on the projects on technology transfer which have been more recently started or accomplished could also be provided.

2. Questions relating to the performance of the technology information system

2.1. Is the speed of the search engine acceptable?

Yes, if the system is accessible. This is not always the case

2.2. Is the capability to do side-by-side comparisons of technologies useful? Should other tools be developed to compare technologies?

This tools are (and will be) providing decision makers with very valuable information to evaluate alternative response strategies on climate change. At this stage, no further tools than those that the system currently provides and those that will be made available in the second phase of the project should be developed. The focus should be not in developing new tools but in promoting that the existing tools are used by the decision makers.

2.3. Is the technology transfer web message board an appropriate means for exchanging experiences and sharing technological know-how?

The message board is an appropriate tool for the exchange and sharing of experience and know-how on technology and should be included in the system. In a few years, some evaluation on the performance of this message board should take place.

2.4. Is the capability to search for UNFCCC documents relating to the development and transfer of technologies adequate?

Yes.

2.5. Is the information dissemination through the Internet sufficient? Is there a need to distribute information on CD-ROMs, diskettes and/or by newsletter?

Least developed countries should be given the chance to receive the information via newsletter.

Groups of experts should also receive newsletters, CD-ROMs and/nor diskettes with the objective to promote this users access to the system.

2.6. Do the capabilities of the search engine meet your expectations? If not, what capabilities should be added and/or modified?

Some capabilities should be included in the system. In particular, some existing technological data search engines should be integrated into the system via internet links. One of these databases could be:

http://www.european-patent-office.org/espacenet/info

E. Views on the roles of the Parties in supporting the technology information system

The possible roles of the parties in supporting the technology information system could be, if agreement is reached on the overall set-up of the system:

- Give assistance to update system information on the projects undertaken to accomplish the Convention and Protocol objectives.

- Identify group of experts and promote the use of the system by these experts.

- Collaborate to identify the relevant sources of information in their countries.

- Communicate to the system administrator relevant news that could be included in the system (tax incentives, legislative news, excerpts of journal or technical papers news considered relevant to other Parties, etc). Further discussion is still needed in terms of what could be the cost of providing this service.

- Provide information on decision tools to evaluate strategies on climate change.

F. Experiences with testing the system

No other information available yet.

PAPER NO. 4: UNITED STATES OF AMERICA

DEVELOPMENT AND TRANSFER OF TECHNOLOGIES

The United States appreciates the extensive work undertaken thus far by the Secretariat in developing prototype elements and draft ideas for a technology transfer clearinghouse and international information network, and welcomes the opportunity to comment on future directions for this work. Dissemination of, and access to technology information is an essential component of the integrated approach towards technology transfer that emerged from the consultative process and was most recently reaffirmed at COP 7 in Marrakesh. The US recognizes the importance of this information component and fully supports the concept of a technology transfer information clearinghouse as a cornerstone of efforts in this area. Annex 1 provides some examples of USG technology information activities that could be incorporated into the new clearinghouse.

We welcome the Secretariat's progress report and technical paper on a technology transfer information clearinghouse (FCCC/TP/2001/2), as well as the demonstration website: TT:CLEAR, which has been developed to facilitate practical testing, discussion and design of an international information clearinghouse. We believe that the Secretariat's work can provide useful input into the design of such a clearinghouse, but there are many additional ideas and perspectives that should also be carefully considered in this design process.

We are concerned that the preliminary work by the Secretariat has focused primarily on the content, structure and software for databases and internet tools, rather than on more basic near term questions such as "What needs and users is the clearinghouse intended to serve?", "What can existing institutions and networks contribute in response to those needs?" and "What institutional framework can best improve global capacity to respond to those needs and users?" We believe that the upcoming experts workshop and discussions of design options to be presented to the Parties, should step back from the focus on elements of databases and testing of software, and focus primarily on these fundamental "institutional design" questions. The United States proposes the following principles that we believe should guide the discussion:

1) Climate change technology transfer activities and information systems need to be closely connected to, not separated from, larger commercial technology transfer systems;

2) The FCCC effort must build on and improve access to the wealth of existing information, tools, databases, etc. which can facilitate Technology Transfer;

3) The Clearinghouse must designed as a flexible, decentralized system; and

4) Networking of regional and national institutions should focus first on connecting with existing institutions.

These principles are elaborated in more detail below. Based on these discussions, the experts and Parties may well determine that the clearinghouse is best advanced by identifying an existing institution or group of institutions, with extensive experience and credentials in delivering technology information and services to users in developing and EIT countries, rather than the proposed phase I approach which would have construction of the initial clearing house actively managed by the Secretariat. For all of its important contributions during the negotiations of the decision which mandates the creation of the clearinghouse, the Secretariat does not currently have experience and credibility in providing timely technology information and services to support technology transfer and deployment.

We believe that the Secretariat should and will play key roles in the development and management of the clearinghouse. However, we do not believe that the management of the day to day operations is a role for which the Secretariat is well suited. We question whether this is a capability which should be developed at the Secretariat when there are many existing organizations which have more significant experience and capabilities on which to build. We believe that these institutional issues need to be addressed as quickly as possible, and detailed designs and formats for databases, software and tools would be better deferred until after those decisions.

PRINCIPLES

1. Linkage to Larger Commercial Technology Transfer Systems.

Transfer of environmentally sustainable technologies is fundamentally a function of the private sector, and commercial market transactions offer the most efficient and effective delivery mechanisms. As illustrated through the numerous projects and programs discussed in the technology clearinghouse technical paper, effective technology transfer involves the participation of a wide variety of public and private stakeholders, including government, internal and external business interests, non-governmental organizations, and domestic, regional and international financial institutions.

The primary objective of the clearinghouse should be to promote real transfer and diffusion of EST into developing and EIT countries. The primary audiences for technology information and services through the clearinghouse should be technical, commercial and governmental institutions and actors that are directly involved in implementation of policies, programs and investment projects that result in cleaner technologies on the ground. There are information needs related to the climate negotiations that are important and should be included in the clearinghouse design. However, if the clearinghouse were to become a resource primarily for negotiators and the broad policy community, it would have failed in its fundamental purpose.

2. Build on and Improve Existing Capacity:

Resource specifically for climate technology transfer will always be limited relative to other sources associated with international flows of technology. An important early objective of the clearinghouse should be to improve access by a range of users to the wealth of existing material that could be helpful in addressing their information needs. Based on this access, the clearinghouse and its users would then systematically identify gaps, and additional information and capabilities should be added.

A clearinghouse system that provides high quality, comprehensive, accurate and timely information to a wide range of users, can only be achieved by combining the efforts and resources of many of the existing programs with the incremental efforts of the FCCC programs, and through concerted efforts by all stakeholders to ensure the highest quality of data possible. Key examples that need to be considered explicitly in the design of the clearinghouse include the Sustainable Alternatives Network project funded by the Global Environment Facility and implemented by the United Nations Environment Program. In addition, the Climate Technology Initiative (CTI) has been cooperating with the Secretariat in developing prototype ideas and internet systems for some time. We believe that the active cooperation of the CTI and through it, related efforts of its member countries and of the OECD/IEA information programs, should also be considered explicitly in the clearinghouse design discussions. There are certainly many other high quality programs that could become active partners in the clearinghouse effort. One objective of the Experts Workshop should be to identify key partners.

3. Flexible, Decentralized System:

The vast majority of the technical content provided through the clearinghouse should be obtained through links with existing institutions and systems already on the internet. The Secretariat clearly should directly control and maintain a small component of the overall clearinghouse content, which relates directly to Convention processes, but recognize that directly maintaining a system extensive enough to have a positive impact on international flows of technology would place a tremendous burden on the Secretariat's limited resources. For example, the proposed technology needs database should reflect the importance ascribed to a country-driven technology needs assessment as reflected in the technology transfer decision. We believe that the technology needs database should rely on this needs assessment process to facilitate the link between countries' priority needs, technology suppliers and financial entities most effectively.

The most efficient approach for the vast majority of the content of a clearinghouse system may well be for the secretariat to delegate to other existing institutions rather that build central databases. The design should also incorporate two-way (or multidirectional) information flow so users can contribute and shape development. The system should facilitate the involvement of the user communities in the initial design through identification of priority information needs, evaluation of existing resources, identification of available links that should be included, etc. As the development proceeds, it should facilitate addition of content from a growing network of users including project developers in developing countries, financial institutions seeking good projects for investment, technology suppliers, government regulatory and program management officials, etc.

4. Networking of Existing Institutions.

In delivering information to users in developing countries and EITs, the clearinghouse design should build on and work through existing national and regional centers and networks to the maximum extent possible. Work carried out by the CTI and its members in cooperation with the Secretariat has already identified a large number of institutions, centers and networks that are currently providing technology information and services in developing and EIT countries. One gap that we have noted in the FCCC technical paper is the absence of a mechanism to highlight successes achieved through South-South technology transfer. As concrete gaps, needs and opportunities are identified, that are not already addressed somewhere in the network, existing institutions can be strengthened in targeted and cost-effective ways. It is likely that investment in new institutions may be necessary only in rare cases, if at all, where no existing institution can respond to priority information needs.

RECOMMENDED NEXT STEPS

In preparation for the upcoming Experts Workshop and its immediate aftermath, we highlight the following concrete actions that should be taken in preparation for the Experts Workshop.

- Ensure a range of representatives from key user communities (private project developers, investors, technology suppliers, international financial institutions), as well as key existing programs that currently provide technology information electronically (SANet, CADDET, UNIDO, etc.) The US strongly believes that the workshop should focus on user needs and information problems related to "on the ground" technology implementation activities in the design of a clearinghouse to facilitate real world actions to promote ESTs.

- Encourage free discussion of the principles that should guide design of a clearinghouse, and work toward consensus on institutional arrangements and design features based on the principles. The

background materials prepared by the Secretariat should be considered as a reference for this process, but not as a first draft of the design.

- A major topic for discussion during the workshop should be identification of a network of participating information providing institutions which can be incorporated into the implementation of the FCCC Clearinghouse. (This should include closer connection to SANet and other related activities.) Understanding existing international institutions is a basis for decisions on a framework for implementing the clearinghouse.

- The workshop should address the broad strategy for transition to decentralized management and institutional arrangements that would allow the secretariat and Parties to oversee implementation, while clearly delegating the content management (with few exceptions) to other institutions.

ANNEX I: Selected US Technology Information Activities

The US Government has supported and continues to support a range of technology information projects that can be considered as elements of the new FCCC Clearinghouse. Some examples include:

The Climate Technology Initiative (CTI) (www.climatetech.net): The US, through CTI, supported work that helped to develop early designs for the broad architecture of a prototype website. We continue to support development and demonstration of a dedicated search engine for user friendly access to high quality information by technology, region, etc., and development of a searchable directory of technology expert centers in developing countries (demonstration site at (http://itdomino1.icfconsulting.com/unfccc/climate.nsf).

The Global Technology Network (GTN) (www.usgtn.org): The GTN is a program of the U.S. Agency for International Development (USAID) with the mission: "To facilitate sustainable economic growth in developing countries and emerging markets through business linkages and technology transfer." GTN facilitates the transfer of technology and services through the identification, dissemination and matching of industry specific requests for quotations (RFQs) for our member companies located in the United States, developing countries and transition economies. Regionally driven leads are electronically matched to pre-qualified U.S. registered suppliers or companies participating in our intra-regional trade programs in Africa, Asia and Southeast Europe. While there is a likelihood that GTN can lead to direct sales, there is also an emphasis on sustainable, long term opportunities for suppliers, in the area of direct investment, establishing joint ventures and selecting regional/national agents and distributors in areas of the world that USAID has an active presence. GTN primarily focuses on four key industry sectors: Agribusiness Technology; Information & Communication Technology (ICT); Environmental & Energy Technology; and Health & Medical Technology and currently has operations in Africa, Asia/Near East, Europe & Eurasia, and Latin America & Carribean.

The Global Network of Environment & Technology (GNET®) (http://www.gnet.org): GNET, sponsored by the U.S. Department of Energy's Office of Science and Technology, contains information resources on environmental news, innovative environmental technologies, government environmental technology programs, contracting opportunities, market assessments, market information, current events and other material of interest to the environmental technology community. GNET uses communications and state-of-the-art technology to bring together the information, resources and people that shape the environment and technology marketplace. GNET is not merely a website, but a practical system for managing business activities and solving problems in the environmental technology marketplace. More than an information archive, GNET provides services to enhance efforts to communicate, gather and exchange information, and conduct business.

ECOLINKS (www.ecolinks.org): This USAID initiative promotes market-based solutions to urban and industrial environmental problems in Central and Eastern Europe and Eurasia. It focuses on the environmental needs of businesses, associations and municipalities through partnership grants, trade and investment, and information technology. The latter is accomplished through the US Clean Technology Exchange (www.cleantechexchange.com).

US Asia Environment Partnership (www.usaep.org): The United States-Asia Environmental Partnership (US-AEP) is a public-private initiative that promotes environmentally sustainable development in Asia. US-AEP works in four program areas – Policy, Urban, Industry and Technology Cooperation. It embodies a model of cooperative development that encourages U.S. and Asian partnerships, engages key decision-makers who affect economic change and environmental awareness in Asia and the U.S. With a wide range of partners—governments, NGOs, academia, and the private

sector—US-AEP has become a flexible, responsive vehicle for delivering timely answers to environmental questions.

The Information for Africa Climate Technology Transfer (iACTT) Pilot Project: Recently, the US EPA has initiated this pilot project to build institutional capacity and to provide additional information tools to African decision makers and technical experts on environmentally sound technologies, services and financing. The coordinating technical institution will be the Environmental Development Action in the Third World (ENDA) (www.enda.sn) in Dakar, Senegal. Initial pilot activities will be carried out in Ghana, Senegal, South Africa and Uganda.

PAPER NO. 5: UZBEKISTAN

Development and transfer of technologies
(Item 5 of Summary table of upcoming deadlines for the submission of views by Parties)

Concerning a role of the country in support of technological information systems, Uzbekistan considers that is necessary to create the information national, sub-regional and regional centers on transfer of technology to assist an exchange and review of the information on environmentally sound technologies and know-how and also of successful experience related with testing such systems.

Such centers will speed up an inclusion of the information connected with adaptation technologies from a private property, will work as a feedback on an exchange by experience in use of this system and will useful for technologies needs assessments as mitigating as adapting climate change.

The wide access of the Internet at this centers will allow to involve different stakeholders, governmental bodies, private sector, not governmental organizations, scientific institutes and various organizations in activity on transfer and development of technologies, and also will promote the capacity building directed on specific needs, priorities and sustainable development of the country.

Taking into account economic conditions the developed countries, GEF, UNFCCC Secretariat and the other international financial organizations should assist the creation of such centers in developing countries, transmission economy countries and least developed countries.

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