Synthesis of submissions received in response to the call for inputs on actions undertaken by organizations relevant to the Technology Executive Committee in performing its functions

I. Introduction

A. Background

1.   The COP, by its decision 1/CP.16, requested the Technology Executive Committee (TEC), as one of its functions, to seek cooperation with relevant international technology initiatives, stakeholders and organizations, and to promote coherence and cooperation across technology activities, including activities under and outside the Convention.

2.   The rolling work plan of the TEC for 2012-2013 includes the preparation of an inventory of relevant work of institutions that are active in the area of technology collaboration with a view to informing the work of the TEC.

3.   The TEC, at its third meeting, agreed to launch a call for inputs on actions undertaken by accredited observer organizations relevant to the TEC in performing its functions. The inventory of actions undertaken by these organizations could provide a basis for the TEC to identify relevant organizations for cooperation.

4.   As requested by the TEC, the secretariat issued a call for inputs through the UNFCCC website on 18 June 2012, and invited interested organizations to provide their submissions by 31 July 2012.

B. Scope of the note

5.   This note synthesizes information on actions undertaken by accredited observer organizations relevant to the TEC in performing its functions as contained in 17 submissions received by the secretariat from relevant organizations (see table 1) in response to the call for inputs.[1]

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[1] The submissions from relevant organizations are available at < http://unfccc.int/ttclear/jsp/CallInputs/Actions.jsp>.

II. Synthesis of information provided by organizations on actions undertaken by accredited observer organizations relevant to the TEC in performing its functions

6. The COP, by decision 4/CP.17, adopted the modalities and procedures of the TEC and requested the TEC to further elaborate its modalities on linkages with other relevant institutional arrangements under and outside the Convention.

7. Drawing on the agreed functions of the TEC as decided by the COP,[2] the TEC considered the following items as the six key elements of its modalities:

  i. Analysis and synthesis;

  ii. Policy recommendations;

  iii. Facilitation and catalysing;

  iv. Linkage with other institutional arrangements;

  v. Engagement of stakeholders;

  vi. Information and knowledge sharing.

8. The submissions were structured in accordance with the six key elements of the modalities of the TEC.

Table 1: Overview of organizations that made submissions.

Organizations		
Asian Development Bank (ADB)	International Centre for Trade and Sustainable Development (ICTSD)	Tsinghua University
Business Council for Sustainable Energy (BCSE)	International Energy Agency (IEA)	Third World Network (TWN)
Climate Alliance	International Renewable Energy Agency (IRENA)	United Nations Environment Programme (UNEP)
Energy Research Centre of the Netherlands (ECN)	International Telecommunication Union (ITU)	World Business Council on Sustainable Development (WBCSD)
Global Environment Facility (GEF)	JVE International	World Intellectual Property Organization (WIPO)
Global CCS Institute	South Centre	

1. **Key element 1: Analysis and synthesis**

a) **Producing periodic technology outlooks; collating, collecting and synthesizing a range of information on technology research and development and other technology-related activities from various sources, including, but not limited to, national communications, nationally determined technology needs and technology needs assessments, national adaptation programmes of action, nationally appropriate mitigation actions, national adaptation plans, and technology road maps and action plans; and examining the policy implications and opportunities for advancing technology development and transfer**

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[2] Decision 1/CP.16, paragraph 121.

9. The information provided under this key element covers a wide range of topics relevant to technology development and transfer, from overviews of national policies and regulations to global and regional analyses on particular sectors and technologies. The information provided also covers bilateral support between some of these organizations and individual institutions from developing countries.

10. Organizations highlighted the availability of global and regional analyses of policies and regulations supporting investments in ESTs (e.g. prepared by ADB - with a particular focus on China, India and Southeast Asia, or by the BCSE – both global and North America analyses). In addition, some organizations (such as BCSE, ECN and South Centre) mentioned that they are involved in programmes advocating improved policies that support low-carbon technology transfer.

11. Activities synthesizing actions related to the transfer of technologies have been reported by Climate Alliance Action, the ADB (a review of key development finance cooperation documents), the GEF (in documents summarizing the progress on the implementation of the Poznan Strategic Program on Technology Transfer), Third World Network, and UNEP.[3]

12. Various syntheses of information on particular technologies or sectors have also been emphasized:

i. Three mapping studies on climate mitigation technologies and associated goods within the renewable **energy supply** sector[4], **buildings** sector[5] and **transport** sector[6] (prepared by the ICTSD);

ii. A study on **Patents and Clean Energy: Bridging the Gap between Evidence and Policy**[7] by the UNEP, the European Patent Office (EPO) and ICTSD;

iii. IRENA's five renewable power generation costing papers (covering information on the cost of generating electricity from **solar PV**, **concentrating solar power (CSP)**, **wind power**, **hydropower** and **biomass** for power generation);

iv. **Carbon Capture and Storage (CCS)** reports published by the Global CCS Institute;

v. Empirical studies on China's green sectors, including **wind energy**, **LED lighting**, **solar PV** and **electric vehicles** (Tshinghua University);

vi. Sectoral guidebooks on technologies for climate change adaptation and mitigation[8] (UNEP);

vii. Patent database (PATENTSCOPE®) and **Patent Landscape Reports,** which describe the patent situation for a specific technology in a given country, region or globally (WIPO);

viii. **Global Innovation Index**[9] (WIPO), which provides data and a ranking of countries on a range of metrics related to innovation and technology transfer capacity

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[3] http://tech-action.org//perspectives.asp
[4] http://ictsd.org/i/publications/96550/
[5] http://ictsd.org/i/publications/67954/
[6] http://ictsd.org/i/publications/68008/
[7] http://ictsd.org/i/publications/85887/
[8] http://tech-action.org//guidebooks.asp
[9] http://www.wipo.int/econ_stat/en/economics/gii/index.html

13.   **R&D efforts** have been mentioned by JVE International and ITU (e.g. new solutions for improving the **monitoring climate and environmental conditions**, enabling reductions of GHG emissions through the use of "**smart technologies**" (such as smart grids, smart buildings or intelligent transport systems), power supplies and batteries or **new low consumption ICT devices**).

b) **Producing a series of technical papers on specific policies and technical issues, including those arising from technology needs assessments**

14.   Several programmes supporting developing countries to prepare their NAMAs reports were mentioned: Mitigation Momentum [10](by ECN Policy Studies and Ecofys Germany), Kenya's Climate Change Action Plan (developed by the Kenyan Government in collaboration with ECN, IISD, CDKN, DFID), National climate policy in Ghana[11] (developed by the Ghanaian Ministry of Environment, Science and Technology in collaboration with ECN, CDKN, University of Ghana and other local partners), Transport NAMAs in Colombia, Indonesia and South Africa[12] (developed by ICI, ECN, GIZ and the Ministry of Transport in Indonesia).

15.   Several policy briefs have been developed by the GEF (based on the findings of the TNAs) and UNEP (under the en.lighten initiative.[13])

16.   **Technical papers on specific policies and technical issues** have been mentioned by several organizations, such as GEF, ICTSD, ITU, JVE International, Third World Network, UNEP, and WIPO. From these, ITU, for example, puts special emphasis on the role of developing technological standards to allow for the transfer of green technologies, and on "reducing the standardization gap" (enabling the participation of developing countries in the production of technical standards).

17.   The issue of **IPR** is currently dealt with in several studies and technical papers produced by **ICTSD** (such as: Innovation and Technology Transfer to Address Climate Change: Lessons from the Global Debate on Intellectual Property and Public Health[14]; Intellectual Property and Access to Clean Energy Technologies in Developing Countries: An Analysis of Solar PV, Biofuel and Wind Technologies[15], and Intellectual Property Rights and International Technology Transfer to Address Climate Change: Risks, Opportunities and Policy Options[16], **South Centre** (Climate Change, Technology And Intellectual Property Rights: Context And Recent Negotiations) and **WIPO** (e.g. Intellectual Property and the Transfer of Environmentally Sound Technologies).

c) **Conducting a regular overview of existing technology development, transfer initiatives, activities and programmes with a view to identifying key achievements and gaps, good practices and lessons learned**

18.   **Regular overviews of existing technology transfer activities** were reported by the majority of organizations that responded to this call for inputs. For example, the independent Evaluation Office of the GEF regularly evaluates the relevance, effectiveness and efficiency of completed projects, and undertakes thematic evaluations on strategies and policies and impact evaluations, providing insights and lessons including on climate change technology transfer. ICTSD published several studies on lessons learned from technology transfer activities (e.g. Fostering the Development and

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[10] www.mitigationmomentum.org
[11] http://cdkn.org/project/assisting-ghana-to-deliver-climate-compatible-development/
[12] www.transferproject.org
[13] http://www.enlighten-initiative.org/portal/CountrySupport/GlobalPolicyMap/tabid/104292/Default.aspx
[14] http://ictsd.org/i/publications/50454/
[15] http://ictsd.org/i/events/dialogues/11251/
[16] http://ictsd.org/i/publications/97782/

Diffusion of Technologies for Climate Change: Lessons from the CGIAR Model[17]; Technology Transfer: An Evaluation of Treaty-Based Mechanisms Relevant to Climate Change[18]; Unpacking the International Technology Transfer Debate: Fifty Years and Beyond[19]). The Global CCS Institute produces and publishes annually what is considered the primary expert reference for the global status of CCS projects and policy and program developments. UNEP mentioned three studies under the Southeast Asia Network of Climate Change Offices (SEAN-CC) that might be of relevance for the TEC: Technical Study Report on "Room and Small Commercial Air Conditioners[20]"; Technical Study Report on "Energy Efficient Transformers[21]"; Technical Study Report on "Energy Efficiency Improvements for Motors & Drive Systems[22]". Other organizations that have recently developed and promoted information about technology transfer of individual technologies are the ITU, JVE International, Tshinghua University, WIPO.

2. **Key element 2: Policy recommendations**

a) **Recommending to the COP, or other relevant bodies under the Convention, actions to promote technology development and transfer and to address barriers**

b) **Recommending guidance on policies and programme priorities related to technology development and transfer, with special consideration given to the least developed country Parties**

19.   Thirteen organizations provided inputs that confirm their support in promoting technology development and transfer and to address barriers. The majority of them re-confirmed their support to the TEC (including advice upon request) on areas within their expertise.

20.   Several organizations highlighted their continuous engagement as observer organizations to the high-level meetings that take place within the UNFCCC (e.g. BCSE, ITU, the GEF, Global CCS, WIPO), and their collaboration with country delegations and other UN organizations.

21.   Also, some organizations (e.g. BCSE, ECN, ICTSD, ITU, JVE International, South Centre, Global CCS, Tshinghua University, TWIN) are already engaged, through various research studies and bilateral programmes, in assisting developing countries in their efforts to develop policies promoting a low-carbon development path. Some publications highlighted within this call for inputs:

  i.   a submission to the UNFCCC regarding the **availability of technological information to promote cost effective mitigation actions**[23] (ICTSD);

  ii. **Mechanisms for International Cooperation in Research and Development**: Lessons for the Context of Climate Change (South Centre);

  iii. **en.lighten policy Toolkit[24]** for the phase-out of inefficient lighting technologies and the diffusion and deployment of efficient lighting technologies (UNEP);

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[17] http://ictsd.org/i/publications/66697/
[18] http://ictsd.org/i/publications/133973/
[19] http://ictsd.org/i/publications/136292/
[20] http://www.unep.org/climatechange/mitigation/sean-cc/Portals/141/doc_resources/activities/2011%20-%20Technical%20Study%20Report%20-%20Room%20and%20Small%20Commercial%20Ai.pdf
[21] http://www.unep.org/climatechange/mitigation/sean-cc/Portals/141/doc_resources/activities/2011%20-%20Technical%20Study%20Report%20-%20Energy%20Efficient%20Transformer.pdf
[22] http://www.unep.org/climatechange/mitigation/sean-cc/Portals/141/doc_resources/activities/2011%20-%20Technical%20Study%20Report%20-%20Energy%20Efficiency%20Improvemen.pdf

[23] http://ictsd.org/i/publications/105628/

iv. A **Guide for Policy and Framework Conditions for Solar Water Heater market development**[25] ;

v. With the International Copper Association (ICA), a **Strategic Framework for the Harmonization of Energy Efficiency Standards for Appliances in ASEAN**[26] (UNEP and the International Copper Association)

22.   Two organizations (ICTSD and ITU) provided with a special consideration to policies for least developed countries (LDCs). From these, ICTSD mentioned a umber of publications that might enable the work of the TEC in addressing the issue of technology transfer to LDCs:

i. Technologies for Climate Change and Intellectual Property: Issues for Small Developing Countries[27];

ii. African Perspectives on the UNFCCC Technology Mechanism[28];

iii. Does TRIPS Art. 66.2 Encourage Technology Transfer To The LDC's?: An Analysis Of Country Submissions To The TRIPS Council (1999-2007)[29];

iv. Meaningful Technology Transfer to LDCs: A Proposal for a Monitoring Mechanism for TRIPS Article 66.2[30].

3.   Key element 3: Facilitation and catalysing

a)   Promoting and collaborating with relevant organizations, resources permitting, in organizing workshops and forums to increase the opportunities for sharing experience with experts in developing and implementing technology road maps and action plans as well as other technology-related activities

23.   The majority of organizations (ADB, BCSE, Climate Alliance, ECN, GEF, ICTSD, ITU, South Centre, Global CCS, UNEP, and WIPO) placed emphasis on organizing global and regional workshops, forums and side-events to promote information sharing platforms in the technology development and transfer activities, within each of their areas of expertise.

24.   Specific workshops and forums highlighted by the organizations, included:

i. **The Asia Solar Energy Forum**, (ADB) is an international knowledge-sharing arena that brings together private sector companies, government representatives, and other stakeholders to share knowledge, develop partnerships, discuss new solar power proposals and incentive mechanisms, and organize major conferences on solar energy.

ii. **"Quantum Leap in Wind Power Development in Asia and the Pacific"** (ADB) supports the drawing up of wind energy development road maps for better planning and facilitating public private partnership, and manages regional knowledge and builds capacity to facilitate the transfer of knowledge and regional cooperation.

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[24] http://www.enlighten-initiative.org
[25] http://www.solarthermalworld.org/sites/default/files/policy_framework.pdf
[26] http://www.unep.org/climatechange/mitigation/sean-cc/Portals/141/doc_resources/activities/strategic%20framework%20v4.ppt
[27] http://ictsd.org/i/publications/57611/
[28] http://ictsd.org/i/publications/133973/
[29] http://ictsd.org/i/publications/37159/
[30] http://ictsd.org/i/publications/106434

iii. The annually held **Asia Clean Energy Forum** (ADB) is a knowledge-sharing event for policymakers and practitioners, to *inter alia* consult on ADB's Energy Efficiency Initiative and its Energy Policy Review, and share lessons learned on energy related technical assistance.

iv. **Carbon Capture and Storage Fund** (ADB) supports demonstrations of CCS technologies, building capacity and disseminating knowledge on technical aspects of CCS throughout China and South-East Asia.

v. **The Asia Pacific Adaptation Forum** (ADB, UNEP, Institute for Global Environment Strategies, AIT/UNEP RRC.AP and other partners) organized to share findings, opportunities, innovations and challenges in mainstreaming climate change adaptation into development.

vi. **Enhancing Knowledge on Climate Technology and Financing Mechanisms** (Asian Clean Energy Fund, launched by ADB) facilitates dialogues for and understanding of Asian countries on interrelated issues on climate change financing and climate technology (including the development of the Green Climate Fund and the operations of the Technology Mechanism);

vii. The **Carbon market program of ADB** supports CDM projects development through technical assistance on developing project design document, facilitating project validation and verification, and through providing upfront funding for project implementation for contracting projects;

viii. The **Covenant of Mayors Initiative** (Climate Alliance) brings together 3,956 cities (in 46 countries) that pledged to reduce their carbon emissions. In this respect, the Covenant of Mayors provides a methodological framework on sustainable energy planning. Based on it, signatory cities are expected to develop individual Sustainable Energy Action Plans (SEAPs), and to further monitor and report their annual emissions.

ix. **Poznan Strategic Program on Technology Transfer**. Under this program, the GEF provides technical and financial support to developing countries in conducting or updating their **technology needs assessments (TNAs)**. The aim is to assist countries to go beyond identifying technology needs narrowly and develop technology road maps and **national technology action plans (TAPs)** for prioritized technologies. Regional capacity building workshops are convened to field-test and to further improve the TNA exercise. **Best practices and lessons learned** from conducting TNAs are shared to support Parties undertaking TNAs. **Handbooks published by UNEP**, are used and promoted during the whole process.

x. The GEF is also supporting four regional **Climate Technology Centers and Climate Technology Newtork** projects and a national project in accordance with the GEF climate change strategy and to enhance technology transfer activities under the Convention. All four projects support workshops and forums to increase the opportunities for sharing experience with experts in developing and implementing technology road maps and action plans as well as other technology-related activities.

xi. **Digital platform for knowledge sharing on CCS** related-issues (Global CCS) that conducts virtual dialogues and active blogs among key players, and also hosts webinars, distributes reports and alerts communities of key dates and developments;

xii. **The TNA project** (UNEP) builds national capacities and provides direct technical support in 36 countries in conducting TNAs, identification of barriers of to the transfer of prioritized technologies and supporting the preparation of technology action plans.

xiii. Under the **en.lighten initiative**[31], UNEP supports 47 countries - partners of the **Global Efficient Lighting Partnership** programme - to develop sustainable roadmaps to efficient lighting.

xiv. UNEP organizes periodical **Regional Network Meetings of Climate Change offices** in Latin America and Caribbean, Southeast Asia, Central Asia, and West Asia to stimulate experience sharing (including on technology-related issues), including capacity-building on specific technologies;

xv. WIPO Technology and Innovation Support Centres provide access to specific technology information, and associated training.

b) **Establishing an inventory of existing collaboration activities and a regular review process, with a view to identifying key achievements and gaps, good practices and lessons learned**

25.   Four organizations highlighted inventories of existing collaboration activities and a regular review process. Specific examples include **progress reports on the implementation of the Poznan Strategic Program on Technology Transfer** of the GEF to the UNFCCC Subsidiary Body for Implementation; a paper prepared by the ICTSD "**Can the Climate Technology Mechanism Deliver its Promise? Some Issues and Considerations**[32]" which reflects on how the Technology Mechanism can deliver a novel approach focused on technology development and innovation rather than simply transfer and "access"; a global reference report on status of CCS projects, issued by the Global CCS Institute, and the projects on technology transfer collaboration, supported by WIPO, such as WIPO Green, an online technology marketplace. In addition, ITU has also stated its commitment to contribute to inventories on such collaborations, sharing its experience on the challenges and opportunities involved in setting up this type of information systems.

c) **Making recommendations on actions to promote collaboration**

26.   Four organizations highlighted their experience in promoting collaboration: the GEF, through its world-wide portfolio of projects and programmes; the ICTSD, which makes reference to the two submissions sent by the organization to the UNFCCC on response measures, that introduce suggestions for the operationalization of a possible forum on response measures; the South Centre, through its research and analyses on improving policy regimes of developing countries to better support technology transfer, and the Tshinghua University, which recommended the Technology Mechanism to consider global projects, such as a purpose-specific technology innovation platform, dedicated to providing technology solutions to meet technology standards and regulations - to overcome technology barriers.

d) **Making recommendations on best practices and relevant tools to develop technology road maps and action plans**

27.   Five organizations provided information on relevant tools to identify and promote best practices in technology transfer. ECN is currently supporting IRENA by

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[31] http://www.enlighten-initiative.org/portal/CountrySupport/GlobalEfficientLightingPartnershipProgramme/tabid/79081/Default.aspx
[32] http://ictsd.org/i/publications/133973/

conducting a **mapping of renewable energy technology initiatives** with a view of identifying good practices that IRENA could help in implementing globally. GEF is incorporating best practices in the projects it supports and is willing to further support projects and programs that include developing and/or dissemination of best practices, policy guidelines and other relevant tools. ITU has also made similar suggestions, but with a particular focus on the use of **Green ICTs**. Next to its willingness to support TEC in developing inventories and best practices in relation to technology road maps and action plans, WIPO mentioned its work with developing countries to prepare National IP and Innovation Strategies which may assist in terms of identifying needs and developing capacity building programmes. The Global CCS Institute is also fostering activities and produces guidelines (such as its Communications/Engagement Toolkit) on CCS-related best practices, including preparation of international accepted standards on CCS operations.

e) **Establishing an inventory of technology road maps and action plans;**

28.   Several organizations mentioned their willingness to contribute with their experience in helping TEC to develop technology road maps and action plans. IEA highlighted its portfolio of existing global low-carbon energy technology roadmaps[33]. The roadmaps identify priority actions for governments, industry, financial partners and civil society that will advance technology development and uptake to achieve international climate change goals.

29.   The first series of IEA technology-specific roadmaps are international in scope. Developing country and technology-specific roadmaps provide an opportunity to adapt IEA analysis, methodology and tools to regional context and objectives. The IEA is working closely with countries to support their national roadmap efforts.

30.   The IEA has shared the roadmaps as input to a number of international fora, including the UNFCCC Technology Mechanism discussions, the Major Economies Forum on Energy & Climate and Clean Energy Ministerial.

f) **Making recommendations on concrete actions, such as an international process for the development of technology road maps and action plans as well as support required to enhance the development of these items, and in particular capacity-building programmes that may be appropriate**

31.   Three organizations mentioned that they can further contribute to the work of TEC by making recommendations on how to best develop roadmaps and action plans (IEA, South Centre and WIPO). IEA has already developed a Guide[34] to developing and implementing Energy Technology Roadmaps that can be used by government and corporate stakeholders to use roadmaps as a strategic planning tool.

4.   **Key element 4: Linkages with other relevant institutional arrangements under the Convention**

a) **Cross-participation in the meetings of the relevant bodies, including workshops and events organized by such bodies, or jointly organized, on issues of common interest**

32.   Nine organizations (ADB, BCSE, IRENA, GEF, ICTSD, IEA, The Global CCS Institute, UNEP, WIPO) highlighted their participation at the UNFCCC conferences and several side-events organized during these conferences. In addition, some (ADB, BCSE, GEF, South Centre, TWIN) highlighted their participation in meetings of the TEC, the Green Climate Fund and other bodies under the Convention and their commitment to further provide inputs to the future meetings of the TEC. Other meetings that have been

[33] http://www.iea.org/roadmaps/
[34] http://www.iea.org/papers/roadmaps/guide.pdf

mentioned are the Least Developed Countries Expert Group, meetings organized by UN-REDD Global Programme and GEF-UNEP TNA project.

33. Organizations were, in general, willing to share with TEC details of other relevant meetings they will further organize or participate in.

b) Inviting inputs to support the implementation of particular activities as specified in the work plan of the TEC

34. The majority of organizations consider maintaining a close collaboration with TEC and providing inputs as needs and requests arise.

c) Providing inputs into other institutional arrangements under the Convention, in response to requests by the Conference of the Parties and/or invitations by respective institutions, to facilitate the work of those institutions

35. Inputs into other institutional arrangements under the Convention comprise official reports to the COP or SBI (e.g. submitted by GEF-on implementation of the Poznan Strategic Programme), submissions to the UNFCCC (e.g. submitted by ICTSD-on response measures). In addition to these, the Global CSS Institute is supporting the European Commission's Carbon Capture and Storage (CCS) Demonstration Project Network with secretariat and knowledge dissemination.

d) Knowledge and information sharing

36. Four organizations (BCSE, GEF, Global CCS and WIPO) highlighted their potential to help TEC with knowledge and information sharing, with the support of their own established networks, websites and dedicated web platforms.

5. Key element 5: Linkages with other relevant institutional arrangements outside the Convention

a) Offering participation in the TEC meetings as observers or expert advisers

37. Six organizations (ADB, GEF, ICTSD, ITU, The Global CCS Institute, WIPO) offered to participate in the TEC meetings and to provide inputs upon request.

b) Technical task forces, stakeholder forums and/or consultative groups;

38. The majority of organizations (ADB, BCSE, ICTSD, ITU, The Global CCS Institute, South Centre, Third World Network, Tshinghua University, UNEP, WIPO) highlighted their recent and future programs of activities, which include technical task forces, stakeholder forums and/or consultative groups.

c) Bilateral cooperative arrangements

39. Some bilateral cooperative arrangements between organizations and other institutions, were highlighted. ADB draws attention to its portfolio of climate mitigation and adaptation projects implemented throughout Asia. Third World Network highlights its strong collaboration with NGOs. Under the TNA project, UNEP collaborates with both CTI-PFAN and UNDP. As part of its Climate Change Networking initiatives in the LAC and Asia-Pacific, UNEP supports networking and collaboration between specialized centres and existing climate change networks, by means of online platforms and dedicated meetings/workshops.

d) Web-based communication channels, including through the technology information clearing house (TT:CLEAR)

40. Two organizations (GEF and WIPO), suggested TEC to make the resources and activities they engage in available on TT:Clear. Furthermore, the Global CCS Institute suggested it could consider ways to promote mutual support in between TT:Clear and its own web platform.

6. Key element 6: Information and knowledge sharing

a) The TEC should disseminate its outputs and facilitate knowledge sharing through a well-functioning information platform that responds to the information and knowledge service requirements of its potential users, including Parties and a wide range of technology actors, experts and stakeholders

41. The majority of organizations stated their willingness to support TEC in disseminating its outputs and facilitate knowledge sharing, through their own well-established networks (ADB, BCSE, Climate Alliance, ITU, South Centre, Third World Network, Tshinghua University, UNEP and WIPO). Some others highlighted individual efforts to develop and maintain web platforms for information sharing (ECN – Energy Research Knowledge Centre; GEF – GEF website, The Global CCS Institute; UNEP, ECN, Dutch Ministry of Economic Affairs, REEEP and UNDP – ClimateTechWiki; UNEP – en.lighten initiative, and WIPO – WIPO Green). JVE International also mentioned periodic training of the stakeholders.

b) The platform would be a tool used to promote the collaboration between various actors and to seek cooperation with relevant international organizations and initiatives. It would support the efforts of the TEC in the following ways: exploring opportunities for information sharing, establishing links with existing knowledge platforms and implementing joint initiatives and programmes

42. ITU highlighted its potential to promote participation of its members and partners, in the activities to be conducted by the TEC, the CTCN, as well as other request for inputs from the COP on matters related with technology development and transfer. Tshinghua University and WIPO suggested linking their existing platforms (patent mapping for technologies in wind energy, LED lighting and solar PV, of the Tshinghua University, and the WIPO Green of WIPO) with TT:Clear.

c) The TEC should consider upgrading TT:CLEAR with an expanded and more strategic focus, tailored to the functions of the TEC, and building on existing technology information networks.

43. Four organizations suggested possible improvements of the TT:Clear. GEF and WIPO suggested linking their web platforms with TT:Clear. Tshinghua University considers TT:Clear can help provide global competition dynamics and cooperation potential in various industries. UNEP makes a reference to its own developed online regional knowledge sharing platforms that are expected to become central connection points for the exchange of information on mitigation and adaptation.

Annex: Compilation of actions undertaken by organizations relevant to the Technology Executive Committee in performing its functions.

Organization	Key element of the TEC modalities					
	1.Analysis and synthesis	2.Policy recommendations	3.Facilitation and catalyzing	4.Linkages […] under the Convention	5.Linkages […] outside the Convention	6.Information and knowledge sharing
TEC	a) Producing periodic technology outlooks; collating, collecting and synthesizing a range of information on technology R&D and other technology-related activities from various sources….. and examining the policy implications and opportunities for advancing DTT; b) Producing a series of technical papers on specific policies and technical issues, including those arising from technology needs assessments; c) Conducting a regular overview of existing technology development, transfer initiatives, activities and programmes with a view to identifying key achievements and gaps, good practices and lessons learned.	a) Recommending to the COP, or other relevant bodies under the Convention, actions to promote technology development and transfer and to address barriers; b) Recommending guidance on policies and programme priorities related to technology development and transfer, with special consideration given to the least developed country Parties.	a) Promoting and collaborating with relevant organizations, …, in organizing workshops and forums to increase opportunities for sharing experience with experts; b) Establishing an inventory of existing collaboration activities and a regular review process,…; c) Making recommendations on actions to promote collaboration; d) Making recommendations on best practices and relevant tools to develop technology road maps and action plans; e) Establishing an inventory of technology road maps and action plans; f) Making recommendations on concrete actions, such as an international process for the development of technology road maps and action plans	a) Cross-participation in the meetings of the relevant bodies, including workshops and events organized by such bodies, or jointly organized, on issues of common interest; b) Inviting inputs to support the implementation of particular activities as specified in the workplan of the TEC; c) Providing inputs into other institutional arrangements under the Convention, in response to requests by the Conference of the Parties and/or invitations by respective institutions, to facilitate the work of those institutions; d) Knowledge and information sharing.	a) Offering participation in the TEC meetings as observers or expert advisers; b) Technical task forces, stakeholder forums and/or consultative groups; c) Bilateral cooperative arrangements; d) Web-based communication channels, including through the technology information clearing house (TT:CLEAR);	a) The TEC should disseminate its outputs and facilitate knowledge sharing through a well-functioning information platform that responds to the information and knowledge service requirements of its potential users b) The platform would be a tool used to promote the collaboration between various actors and to seek cooperation with relevant international organizations and initiatives. It would support the efforts of the TEC in the following ways: exploring opportunities for information sharing, establishing links with existing knowledge platforms and implementing joint initiatives and programmes. c) The TEC should consider upgrading TT:CLEAR with an expanded and more strategic focus, tailored to the functions of the TEC.

Organization	Key element of the TEC modalities					
	1.Analysis and synthesis	2.Policy recommendations	3.Facilitation and catalyzing	4.Linkages […] under the Convention	5.Linkages […] outside the Convention	6.Information and knowledge sharing
ADB	a) Overview of policies and regulations to promote VC investments in ESTs b) Review of key development finance cooperation documents to identify existing elements relevant to DTT		a) Organizes regional forums and workshops for information sharing on technology related best practises and experiences	a) Partnering with WRI to explore how the technology Mechanism and Financial Mechanisms can work in tandem b) cooperated with the secretariat of the CDM EB to promote the equitable distribution of CDM projects	a) Actively participating in TEC meetings b) Established a pilot Asia-Pacific Climate Technology Finance Center, to join the CTCN as a Network member c) Has implemented a large portfolio of TT project, as an implementing agency of GEF and CIF	a) Promotes knowledge management and dissemination of good practices and lessons learned b) ADB will also establish a pilot Clean Energy Technology Marketplace
BCSE	a) Can provide global analysis, based on member company experiences and the Council's international network b) Can serve as a sounding board to vet technology road maps or other industry reports in the renewable energy, energy efficiency and natural gas sectors.	Provides policy recommendations and programme priorities at the national, sub-national and international levels of governance, including the UNFCCC and other policy forums	Facilitation of discussion, partnership and collaboration among the private sector, public sector and other civil society actors to address policy, market and other factors affecting DTT	a) Observer and participant to UNFCCC meetings b) Provides inputs upon request of bodies c) Disseminates information and opportunities	Active in various climate and clean energy arenas in the U.S. and at the international level	Make use of the BCSE's extensive network to disseminate information and solicit feedback
Climate Alliance	Elaboration of methods and tools for the member cities, to support the elaboration of climate action plans, the implementation of individual measures and the monitoring of achievements		The Covenant of Mayors Initiative provides a methodological; framework on sustainable energy planning			Climate Alliance support member and municipalities in their endeavour to protect the global climate
ECN	Development of technology roadmaps, provide support for NAMAs, programmes of energy planning and TT	Programmes mentioned include the provision of policy recommendations	Collaboration with IRENA on mapping of RE technology initiatives and JRC/IET on technology learning			Develop and maintain the Energy Research Knowledge Centre (ERKC) web portal

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GEF	a) Documents summarizing the progress on the implementation of the Poznan Strategic Program on TT b) Technical papers, policy briefs, sectoral guidelines, and other materials arising from TNAs c) Consultation with STAP, its agencies, countries' focal points, NGO network; Evaluation Office of the GEF regularly evaluates the relevance, effectiveness and efficiency of completed projects	a) May provide programmatic proposals and recommendations on actions to promote DTT and to address barriers, upon request b) GEF responds to guidance from the COP within the GEF instrument	a) Provides support to developing countries in conducting or updating their TNAs, including capacity building workshops b) Progress reports on the implementation of the Poznan Strategic Program to the SBI allows the establishment of an inventory of GEF's existing collaboration activities and a review of key achievements c) Partnerships are a key concept in the GEF d) GEF-supported projects and programs may develop and/or disseminate best practices, policy guidelines, and relevant tools	a) Participates in UNFCCC meetings, including SBI and TEC b) Can consider providing inputs as needs and requests arise c) In response to the requests by the COP, and SBI, the GEF presents summarized documents to the COP d) Information dissemination at international meetings and technology section on GEF-website	a) Participates in TEC meetings b) Ready to consider participation as needs and requests arise c) n/a d) TEC may wish to consider a link on TT:Clear to the GEF website page	a) The GEF webpage includes a climate TT section b) n/a c) TEC may wish to consider a link on TT:Clear to the GEF website page
ICTSD	a) ICTSD publications have collected, synthesized and analysed a range of information on CC technologies b) Issued publications on specific policies and technical issues relating to DTT, and particular the IPRs aspects c) Analysed a number of existing DTT initiatives, activities and programmes to identify key achievements and gaps, good practices and lessons learned	a) Made UNFCCC submission regarding the availability of technological information to promote cost effective mitigation actions b) Publications addressing technological capabilities in LDCs		a) Participates in UNFCCC meetings b) Issued a paper entitled "Can the Climate Technology Mechanism Deliver its Promise? Some Issues and Considerations" c) Presented 2 submissions to the UNFCCC on response measures	a) Participated in the 2nd TEC meeting as observer and in the 3rd TEC meeting as a discussant at the thematic dialogue on EE to DTT b) Participated and intervened in numerous international meetings and forums addressing issues of DTT	

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IEA			Develops a series of global low-carbon energy technology roadmaps covering the most important technologies			
IRENA		Sub-programme 2 of IRENA WP: Policy Advisory Services and Capacity Building			Sub-programme 3 of IRENA WP-Activity 5: Strengthened Partnerships and Cooperation with Relevant Actors in the Renewable Energy Field	Sub-programme 1 of IRENA WP: Knowledge Management and Technology Cooperation
ITU	a) Conducts and fosters research on new solutions and applications that, through the use of ICTs are addressing the causes and effects of CC b) Publishes technical papers on the key issues identified as barriers for enabling the diffusion of these technologies c) Produces toolkits for policy makers and organizes events to promote information exchange on these issues	a) Participates in UNFCCC meetings; provides advice and support upon request to the UNFCCC b) ITU has extensive experience in assisting ICT policy makers (in particular in LDCs) in identifying best practices in promoting an inclusive information society	a) Collaborates with other organizations in organizing technical meetings b) ITU commits to contribute to inventories on such collaborations c) Can produce reports to recommendations on actions, best practices, technology road maps and actions on the use of Green ICTs, and can provide inputs		a) Can take part as observer in the TEC meetings, as well provide support to the operation of the CTCN b) Can take part in the technical task forces, stakeholder forums and other consultative groups, as well as provide inputs on information sharing platforms	a) Can provide support to disseminate information and knowledge through its network of members b) Can also promote the participation of these members in the activities to be conducted by the TEC, the CTCN, as well as other request for inputs from the COP on matters related with DTT.
JVE International	a) Produce information on new technologies and spread information about the TEC to the communities b) Produce technical and policy papers for advocacy activities on Energy c) Promote the use of particular technologies	a) Conduct Energy advocacy b) Produce policy papers for policy and decision makers c) Propose alternatives to the communities				a) Training of stakeholders in the communities about improved charcoal production b) Training on solar lamps and production of cooking stoves

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South Centre	a) Publication of various research papers on policy issues relating to technology transfer and climate change	a) Publication of various research papers on policy issues relating to technology transfer and climate change b) Participated in UNFCCC negotiations on TT, including submissions on establishment of effective UNFCCC institutional mechanisms c) Advised and provide analytical support to developing country policymakers on DTT	a) Conduct of trainings and workshops b) Provided policy recommendations to developing country governments and to the TEC on improving policy regimes for TT c) Advised developing country governments on the establishment and role of the UNFCCC's technology-related institutions d) Convened several meetings of developing country policymakers, delegates and NGOs	a) Participated in all meetings of the TEC, including providing expert speakers b) Provision of comments and submissions during TEC meetings c) Participated UNFCCC meetings on TT	a) Collaboration with UNDP, WIPO, WTO, UNCTAD b) Participation and inputs to high-level TT conferences in China and India c) Taking part in the 5th AR of the IPCC d) Active engagement with developing country governments e) Participation in Rio+20 Summit	a) Created network and linkages with developing country policymakers in relation to CC and TT, particularly in the context of South-South cooperation
The Global CCS Institute	a) Produces and publishes CCS Reports, including technology, policy, economics, legal and regulatory issues and capacity development in developing countries b) Produces and publishes annually primary expert reference for the global status of CCS projects and policy and program developments	a) Works closely with international experts, Government Members and key UN organizations b) Participation in UNFCCC workshops as CCS experts c) Attended all the COPs since 2010	a) Core competencies in hosting and supporting international workshops, seminars and schools; knowledge sharing digital platform b) Annual global reference report on status of CCS projects c) Fosters activities and produces guidelines on CCS related best practices (incl standards) d) Assists countries to establish own CCS Roadmaps	a) Open invitation to the UNFCCC to call upon its expertise b) Offers full support to TEC and CTC c) Knowledge sharing digital platform d) Provides submissions to the UNFCCC	a) Attended 2nd and 3rd TEC meetings and willing to participate in the next ones b) Keen to discuss how it might assist TEC in playing a more facilitative role c) Could consider how its world best knowledge sharing digital platform can enhance, and/or be enhanced by TT:Clear	Extensive internal expertise as well as a world-class knowledge sharing digital platform, and would welcome any opportunity to discuss its experiences and design with the TEC.

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Tshinghua University	a) Conducted empirical studies on China's green sectors b) Identified key technologies innovation areas c) These case studies provide good experiences and lessons learned	a) Focus on the role of IP in TT b) Provided policy recommendations to key stakeholders, particularly UNFCCC, WTO and WIPO and national governments	a) Identified gaps in essential technologies and the need for a platform to consolidate innovation efforts b) UNFCCC can adopt some projects under CTCN c) CTC can initiate global licensing platform for each green sector		a) Held a side event at COP16 and COP17 b) Provided recommendations on adjustment of international trade rules to facilitate TT c) WIPO and WTO could enhance collaboration with each other; UNFCCC can help with this.	a) Patent analysis and patent mapping for technologies in 3 sectors b) This information can serve as a platform c) This information could help in providing global competition dynamics and cooperation potential in the industry
TWN	a) Conduct research and analysis on TT, including IPRs, use of flexibilities under the TRIPs Agreement, and R&D cooperation options b) Publications of papers, books and information material on the issues above	a) Posses knowledge and expertise on how to promote DTT and to address barriers. b) Provided policy advice and guidance to developing countries on how to address barriers and promote TT, including workshops and meetings c) Produced publications providing policy recommendations to developing countries		a) Provided inputs to TEC and other institutional arrangements under the Convention	a) Have knowledge of TT experts especially from developing countries b) Have good links with scientists, experts and NGOs who work on technology assessments, endogenous and appropriate technologies especially in agriculture. c) Organised dialogues with NGOs	Provide regular information on climate related issues especially to developing countries through established list serves

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UNEP	Produced technology specific analyses and syntheses under the TNA project, the en.lighten initiative, and the Southeast Asia Network of Climate Change Offices	Produced technology specific policy guidance tools for developing countries	a) Building national capacities and providing direct technical support in 36 countries; Supporting the preparation of TNAs and TAPs b) Supports 47 countries to develop sustainable roadmaps to efficient lighting c) Organizes periodical Regional Network Meetings of CC offices d) Conducts capacity building programs on specific technologies and TT issues	a) Collaboration with UNFCCC on TNA capacity building, experience sharing and dissemination events b) Membership of the TNA Project Steering Committee includes representatives from GEF, UNFCCC, UNDP, UNIDO	a) Collaboration with CTI-PFAN and UNDP under the TNA project b) CC Networking Initiative: supports networking and collaboration between specialized centres and existing CC networks, by means of online platforms and dedicated meetings/ workshops	a) Development of ClimateTechWiki platform offering information on ESTs b) 4 Global Taskforces under the en.lighten initiative; online support center; lighting InfoSource; e-newsletter c) New and global knowledge-based web portal for solar thermal professionals d) Regional online knowledge sharing platforms - in the framework of UNEP's Climate Change Networking initiatives
WBCSD	Contribute with information and expert advice to organizations which carry out analysis and synthesis activities, including input into the IEA Road Maps (IEA), roundtable on Sustainable Development (OECD) and Sustainable Energy for All Initiative	Provides policy guidance and recommendations directed at international processes based on a business perspective, with a focus on energy and climate	Provides a broad platform for discussion and experience sharing and could contribute in areas of mutual interest.- by organizing, workshops, dialogues etc	Active in several areas related to the work of the TEC, including the UNFCCC process, IEA; OECD roundtable on sustainable development, CEM; CIF and the Global Electricity Initiative	a) Participates as an observer in the TEC meetings and willing to source experts/advisers for particular issues, based on the specific criteria, from its broad membership. b) Willing to cooperate with TEC or other organisations on issues or activities of mutual interest	WBCSD materials are available for use as needed and can be found on its website

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WIPO	a) The WIPO search tool (PATENTSCOPE®) enables access to around 11 million patent documents; patent analysis; Patent Landscape Reports; partnership initiatives; Global Innovation Index b) Provides a forum for its Member States to discuss the relationship between IP and TT c) Seeks to foster indigenous and global capacity for technological innovation and dissemination of technology and knowledge.	a) Participation as observer in TEC meetings; provides advice and support upon request to the TEC	a) Offers to collaborate with TEC and CTCN on its program of workshops and seminars b) Ready to contribute to an inventory of existing collaboration activities c) Engaged in projects that support TT collaboration (WIPO Green) d), e), f) Offers to contribute to TEC's work to develop inventories and best practices in relation to technology road maps and TAPs	a) Participation as observer in UNFCCC meetings; offers to participate in workshops and meetings focused on TT; invites UNFCCC and TEC to participate in WIPO-organized meetings b) and c) Offers to provide inputs to the TEC to support the implementation of its WP d) Offers to discuss a bilateral MoU or exchange of letters with the TEC and UNFCCC to support the exchange of knowledge and information sharing and collaborative activities	a) Participation as observer in UNFCCC and TEC meetings b) Participation in the first thematic stakeholder dialogue and offers to participate in the next ones c) Offers to discuss with the TEC and the UNFCCC Secretariat an exchange of letters or MoU on future cooperative arrangements d) Various resources and activities WIPO engages in which are related to technology transfer can be made available on TT:CLEAR	a), b), c) Can share its resources and knowledge to support the efforts of the TEC, including through WIPO Green. WIPO is also ready to collaborate in relevant workshops and seminars.