

Report on the thematic dialogues on enabling environments and barriers to technology development and transfer

Summary

- The TEC organised two thematic dialogues on enabling environments and barriers to technology development and transfer in conjunction with its 3rd and 4th meeting.
- The objectives of the thematic dialogues were to: highlight issues surrounding the topic of enabling environments and barriers to technology development and transfer, identify challenges and opportunities, good practises and lessons learned from creating viable enabling environments, and identify possible follow up actions.
- This note provides a summary of the thematic dialogues on enabling environments and barriers to technology development and transfer organised in conjunction with its 3th and 4th meeting. The TEC may wish to take this note into account when considering further work to be undertaken in the area of enabling environments and barriers to technology development and transfer, in accordance with its functions.

I. Background

1. In accordance with decision 1/CP.16, one of the functions of the TEC is to recommend actions to address the barriers to technology development and transfer in order to enable enhanced action on mitigation and adaptation.¹

2. Pursuant to this function, and in accordance with its rolling workplan for 2012 -13, the TEC organised two thematic dialogues on enabling environments and barriers to technology development and transfer in conjunction with its 3rd and 4th meeting. Based upon the outcomes of these dialogues the TEC delivered its key messages on enabling environments for and barriers to technology development and transfer to COP 18.² COP 18 requested the TEC, in elaborating its future workplan, to initiate the exploration of issues relating to enabling environments and barriers, including those issues referred to in document FCCC/SB/2012/2, paragraph 35.³

3. The TEC at its 6th meeting considered possible follow up activities in this area of work based upon a compilation and synthesis of information contained in the completed 2nd round of TNAs, with particular focus on enabling environments for and barriers to mitigation and adaptation technologies. The TEC requested the secretariat to prepare a summary report of the two thematic dialogues held in 2012 on enabling environments and barriers to technology development and transfer, for consideration at its 7th meeting, with a view to identify follow activities in this area of work.

II. Scope of this note

4. This note provides a summary of the thematic dialogues on enabling environments and barriers to technology development and transfer organised in conjunction with its 3th and 4th meeting. This note contains a summary of the presentations, the panel discussions and general discussions carried out during the thematic dialogues and a section on possible items for further consideration. The TEC may wish to take this note into account when considering further work to be undertaken in the area of enabling environments and barriers to technology development and transfer, in accordance with its functions.

III. Proceedings

5. The thematic dialogues on enabling environments and barriers to technology development and transfer were organized by the TEC, in collaboration with the UNFCCC secretariat, and were held in conjunction with the 3th and 4th meeting of the TEC on 28 May 2012 in Bonn (first thematic dialogue), and 6 September 2012 in Bangkok (second thematic dialogue) respectively.⁴

6. The overall objectives of the thematic dialogues were to:

- (a) Highlight issues surrounding the topic of enabling environments and barriers to technology development and transfer,

¹ Decision 1/CP.16, paragraph 121.

² < <http://unfccc.int/resource/docs/2012/sb/eng/02.pdf>>

³ Decision 1/CP.16, paragraph 60.

⁴ Information about the thematic dialogues, including the agenda's, webcast and presentations, is available at: < http://unfccc.int/ttclear/templates/render cms_page?s=TEM_SHE> and <<http://unfccc.int/press/multimedia/webcasts/items/6154.php>>

(b) Identify challenges and opportunities, good practises and lessons learned from creating viable enabling environments,

(c) Identify possible follow up actions.

7. The agenda of the thematic dialogues included three sessions. The first session focussed on presentations on the topic of enabling environments and barriers to technology development and transfer by experts; the second session comprised a panel discussion with representatives from relevant organizations and the third session contained a general discussion with observers present at the meeting.

8. The thematic dialogues were attended by 48 participants and 58 participants respectively, including members of the TEC.

IV. Summary of the first thematic dialogue

A. Welcome and opening

9. The thematic dialogue was opened and chaired by Mr. Gabriel Blanco, Chair of the TEC. He elaborated on the background, objectives and format of the dialogue.

B. Session I: Enabling environments and barriers to technology development and transfer

10. Session 1 of the dialogue focused on issues surrounding the topic of enabling environments and barriers to technology development and transfer, including challenges and opportunities, good practises and lessons learned from creating viable enabling environments.⁵

11. Prof. Kelly Simms Gallagher, Associate Professor of Energy and Environmental Policy at The Fletcher School, Tufts University presented the initial findings of her ongoing research on barriers and incentives for the cross-border transfer of clean technologies. She focussed on four main types of barriers and incentives: (1) policy factors, (2) cost and finance factors, (3) intellectual property factors, and (4) business practice factors. Using China as a case study, the research concentrated on four types of technologies: solar PV, coal gasification, natural gas turbines, and batteries for advanced vehicles.

12. Regarding policy incentives she highlighted that there is a wide spread agreement that national-level policies are the most important incentive based on historical evidence, in particular market transformation policies; industrial/manufacturing policies; technology/innovation policies; export promotion policies, and IP regime policies. With respect to cost and finance factors she highlighted that the cost and financing factors present different barriers to Chinese and foreign firms, e.g. Chinese firms have good access to capital in both solar and battery industries, but foreign firms cite this factor as a major barrier at home.

13. Concerning IP factors she highlighted that there appears to be clear agreement from Chinese and foreign firms that the IP environment is already strong or improving in China. She said that Chinese firms unambiguously have access to cleaner foreign technology in all cases. She also said that there is some evidence that some foreign firms do refuse to cell or license certain cleaner technologies to China. On business factor practises, she highlighted that these make a big difference, in particular the global perspective on foreign markets and foreign technology is essential.

⁵ <http://unfccc4.meta-fusion.com/kongresse/tec03/templ/play.php?id_kongresssession=5100>

14. On policy barriers for cross border transfer she highlighted that there is little agreement between Chinese and foreigners. Regarding cost and finance barriers it was found that everyone agrees that governments must correct for market-distortions to better enable cleaner technologies to compete against incumbents. Regarding IP barriers it was found that this is not a major barrier for the four technologies stated above. Concerning business practice barriers it was found that lack of experience is the main barrier.

15. She concluded that no insurmountable hurdles to transferring cleaner energy technologies were found for the four technologies. She further concluded that policy is very important for market transformation in domestic markets as a basic incentive, reducing financial risk or capital costs through favourable financing and appropriate IP protections and remedies, and in addition business practises strongly affect the process.

16. Prof. Ambuj Sagar, Professor at the Indian Institute of Technology and Ms. Heleen de Coninck, Programme manager, International Energy and Climate Issues, ECN presented options to facilitate collaborative technology research and development building on the technical paper prepared by the EGTT on this matter.⁶ She highlighted that capabilities are key to the enabling environment in terms of the capacity to operate and maintain, adopt and adapt, manufacture, innovate and legislate, assess and regulate. She elaborated on the rationale for international collaborative R&D, including that international collaboration accelerates innovation and the limited innovation capacity in developing countries. She also highlighted the patterns of existing initiatives, including that most of the existing initiatives focus on enabling and facilitating deployment, mitigation (and within that the energy sector) and major developing economies.

17. Mr. Ambuj Sagar continued elaborating on an analysis of options for collaborative models structured around the following key variables: focus of collaboration (sector, nature of activity), R&D performers (firms, governmental organizations, academia and non-profit organizations), collaborative models (two-actor, consortia, networks) and funding sources and models (public/private, project/programmatic). He raised some options for the TEC, including to highlight good examples, promote good practises, explore innovative collaborative models and explore ways how joint RD&D can be organized and promoted (possibly through CTC&N).

18. Mr. Ron Benioff, Manager of International Programs, National Renewable Energy Laboratory (NREL) presented enabling environment concepts building on the EGTT strategy paper for the long-term perspective beyond 2012 to facilitate the development, deployment, diffusion and transfer of technologies under the Convention.⁷ He elaborated on five types of enabling environment actions: policies, standards, and procurement programs; capacity building and workforce training; assessment, information, and education; intellectual property good practises, information, and access and sustainable community and infrastructure. He further elaborated on related strategies such as research, development and demonstration cooperation; financing facilitation and support and integrated sectoral planning and cooperation.

19. The following discussion focussed on the importance of capacity building as a mean to overcome barriers, scaling up of investments in R&D, capturing the gaps in R&D, benefits of joint R&D, innovative licensing models, intellectual property rights (IPR) as an issue rather than a barrier, the country/sector specifics of the IPR issue, and on the need to consider IPR issue on a case by case basis.

⁶ <<http://unfccc.int/resource/docs/2010/sbsta/eng/inf11.pdf>>

⁷ <<http://unfccc.int/resource/docs/2009/sb/eng/03.pdf>>

C. Session II: Panel discussion on enabling environments and barriers to technology development and transfer

20. The Chair invited the panellists Mr. Mark Radka, Chief of the Energy Branch, UNEP - Division of Technology, Industry and Economics (UNEP, DTIE); Mr Joe Bradley, Head, Intergovernmental Organizations and Partnership Section, World Intellectual Property Organization (WIPO); Mr. Franck Jesus, Senior Climate Change Specialist, Global Environment Facility (GEF); Mr. Pedro Roffe, Senior Associate, International Centre for Trade and Sustainable Development (ICTSD); Ms. Sarah Eastabrook, World Business Council for Sustainable Development (WBCSD) and Mr. Jean-Yves Caneill, International Chamber of Commerce (ICC) to elaborate on the following guiding questions:

(a) What are the key elements for creating enabling environments conducive to technology collaboration, development and transfer?

(b) What could be the role of governments and other stakeholders (e.g., multilateral lending institutions, bilateral programmes, NGOs and the private sector) in creating enabling environments for technology collaboration, development and transfer?

(c) What role could the TEC and COP play in promoting enabling environments for technology collaboration, development and transfer?

1. Key elements for creating enabling environments conducive to technology collaboration, development and transfer

21. The representative of UNEP referred to the IPCC special report on methodological and technological issues in technology transfer, which identified ten dimensions of enabling environments, including: national systems of innovation; social infrastructure and participatory approaches; human and institutional capacities; macroeconomic policy frameworks; sustainable markets; national legal institutions; codes, standards and certification; equity considerations; rights to productive resources; and research and technology development.

22. The representative of WIPO highlighted the role of national systems of innovation and the role of IP in this context. He referred to a study on the relationship between IP and technology transfer, which concluded that one can't single out IP as a barrier but should rather follow a more holistic approach, and that the available data did not prove IPR being a barrier but rather an enabler for innovation.

23. The representative of GEF elaborated on the technology transfer activities undertaken by the GEF. The representative of ICTSD elaborated on the different technology transfer mechanisms, including formal market transactions; informal transactions and combination of these two, and the various actors involved in these mechanisms. He highlighted the lack of endogenous capacity to develop, deploy and diffuse technologies in developing countries and stressed the importance of reinforcing local endogenous capacities. He further highlighted market size, rule of law, access to financing, appropriate policy and regulatory framework and IP regimes as enablers.

24. The representative of the WBCSD elaborated on the market drivers for the private sector, including scale of the market, good legal framework and the capacity to deliver (supply chains, etc). The representative of the ICC highlighted some of the key factors for the private sector to invest in particular markets, such as a stable legal and institutional framework, access to finance and the absorptive capacity.

25. There was a strong request to encourage information sharing in various forms: knowledge networks; database access to technology information and presentation of best practice examples on technology transfer and cooperation.

2. Role of governments and other stakeholders in creating enabling environments for technology collaboration, development and transfer

26. The panellists focused on the role of governments on how to create a good enabling environment and proposed measures to engage the private sectors end users. The representative of UNEP proposed a multi-faceted approach by identifying the role of relevant stakeholders in relation to the ten dimensions of enabling environments and highlighted the important role of good governance in terms of having the right policies in place.

27. The representative of WIPO elaborated on the role of WIPO, in particular regarding the available information sources on patents, such as Patenscope, Access to Specialized Patent Information (ASPI) for developing countries, Technology and innovation support Centres (TISC), WIPO green, capacity building on IP management and legislative advice to member states.

3. Possible roles of the TEC and COP in promoting enabling environments for technology collaboration, development and transfer

28. The representative of UNEP suggested that one of the roles of the TEC could be as a synthesiser of knowledge on issues related to the technology development and transfer were the TEC could provide clarity and prioritise issues. The representative of WIPO highlighted the potential role of TEC in promoting existing activities undertaken by other organizations with a view to stimulate coherence and avoid duplication efforts. The representative of the GEF highlighted that knowledge and information sharing regarding policies, markets and matchmaking could be an important role of the TEC. The representative of the WBCSD elaborated on the possible roles of the TEC, including collaborate with the private sector, promote work between government with a view to improve policies, promote success stories and harmonizing policies, and establish best practise in planning (infrastructure, finance). On the role of the TEC, the representative of ICC highlighted that the TEC could play a coordinating role in terms of providing a vision on how the various bodies could work together.

29. The following discussion focussed on the link between WIPO's Technology and innovation support Centres and World Bank's Climate innovation centres, possible role of the TEC on capacity building, including identification of when and where capacity building is important in developing countries, harmonisation of policies, examples of building successful enabling environments at national level and push factors by developed countries to promote technology transfer.

D. Session III: General discussion and wrap up

30. The third session comprised a general discussion among the TEC and the observers.

31. The observer of the South Centre highlighted the importance of developing evidence on the IP issue, thereby referring to case study on wind energy conducted by Tsinghua University which concluded that the IP rights prevented access to this technology.

32. The observer of ADB stressed that the TEC could play an important role in linking the various bodies under the Convention, promoting the prioritization of appropriate enabling environments in national development policies of developing countries and analysing cross regional policies, and on financing issues, such as the link with the GCF board.

33. TEC members were of the view that the dialogue was very helpful in deepening their understanding on the current issues and challenges related to enabling environments in developing countries and what actions the TEC could take based on current thinking.

Endogenous and absorptive capacity

34. Enabling environments are a very important aspect to enable technology development and transfer, in particular regarding endogenous capacities or absorptive capacities of developing countries. In this context members differentiated between absorptive capacity - capacity to deploy technologies, and capacity to develop technologies.

35. One of the TEC members highlighted the specificity of enabling environments as it would depend on local conditions, such as the specific local domestic systems of innovation.

Innovation

36. One of the members highlighted the critical role of innovation in the sector, both for mitigation and adaptation. He underscored that the most effective way to ensure innovation, would be to bolster enabling environments and capacity, and ensure that the right incentives for innovation are employed to encourage innovation, in particular for the private sector, including through IPR protection.

Possible role of the TEC

37. One of the challenges raised by one of the TEC members was whether technologies can be accessed by developing countries at an affordable price and in a timely manner to cope with climate change and suggested to consider innovative mechanisms to promote technology development and transfer, taking into account the challenges faced by developing countries in creating enabling environments.

38. Regarding the role of the TEC on enabling environments, in particular on the limited capacity of developing countries in accessing technologies, one of the members highlighted the importance of linkages with other institutional arrangements active in this area, such as regional banks, the GCF and the CTC&N.

Private sector involvement

39. Some members highlighted the role of the private sector in technology development and transfer and the importance of an appropriate enabling environment conducive to private sector investment.

E. Issues for further consideration and follow up actions

40. The TEC members took note of all the information provided by the presenters, panellists and observers. They agreed that the dialogue was very helpful in deepening their understanding on the current issues and challenges related to enabling environments in developing countries and identified a number of gaps in the issues covered by the thematic dialogue:

(a) The need to focus on issues related to enabling environments to technology development and transfer that address the needs of developing countries in general rather than a limited number of countries;

(b) The importance of also addressing issues related to enabling environments in developed countries to promote technology development and transfer;

(c) Issues related to enabling environments for adaptation to the adverse impacts of climate change;

(d) The participation of representatives from developing countries in the thematic dialogue.

41. The TEC members discussed the follow up actions arising from the dialogue. They were of the view that the TEC needs more information on issues related to enabling environments and barriers to technology development and transfer in order to make policy recommendations to the COP and suggested to organize a follow up thematic dialogue on this matter focussing on the gaps identified during the first thematic dialogue and additional input from observers on this matter.

V. Summary of the second thematic dialogue

A. Welcome and opening

42. The thematic dialogue was opened and chaired by Mr. Gabriel Blanco, Chair of the TEC. He elaborated on the background, objectives and format of the dialogue.

B. Session I: Enabling environments and barriers to technology development and transfer

43. Dr. Ana Pueyo Velasco, Research fellow, Institute of Development Studies, presented on enabling factors for climate change technology transfer to developing countries. She stated that UNFCCC instruments have so far not delivered significant rates of technology transfer, due to disconnects from frameworks that facilitate private investment, an overly homogenous approach to heterogeneous developing countries, and lack of measurement of the magnitude and effectiveness of climate change technology transfer. She described her research, which evaluated developing countries on the enabling factors of demand, economic and institutional frameworks, local resources and capabilities, and innovation and production, categorizing them as technology developers, technology implementers, countries in need of structural change, or aid-dependent countries. In closing, she listed general policy recommendations for each country to drive low-carbon technology transfer.

44. Ms. Le Nguyet Minh, Country Representative, Oxfam, presented on Oxfam's program on the system of rice intensification in Northern Vietnam. She noted that climate change poses a threat for rice production and hence for food security. She also said that rice production contributes to hreenhouse gas emissions. She further said that Oxfam's ten-year program on a community-based system of rice intensification in Vietnam aims to build the capacity of farming communities and extension services, noting that the program now reaches eleven per cent of farmers and covers six per cent of paddy areas. She further noted three main messages coming out of Oxfam's program: that maintenance of learning spaces is important; that project size should be supported with adequate technological and financial commitments; and that roles and engagement can change over time.

45. Prof. Jim Watson, Director Sussex Energy Group, University of Sussex, presented on low carbon growth and innovation in developing countries focusing primarily on research done in China on: energy efficiency in cement production, electric vehicles, offshore wind power, and efficient coal-fired power. He noted large differences between technologies in terms of development stages, markets, and economics, the possibility of accessing IPR in many cases, and the essential role of policy frameworks. He noted that international interventions work best

when they complement existing national initiatives and institutions and that, as a basis, the TEC should evaluate them to build on what works.

46. In the ensuing discussion, participants addressed such issues as: the country-specific nature of technology transfer; the efficiency of the system of rice intensification and its applicability to other countries; the need for scientific support and verification of novel technologies; the need to study developed countries as knowledge suppliers, not just recipient developing countries; the importance of selecting the right indicators for assessments of technology development and transfer; the need to focus more on adaptation technologies; and the links between the UNFCCC instruments and national enabling environments.

C. Session II: Panel discussion on enabling environments and barriers to technology development and transfer

47. The Chair invited the panellists Mr. Toru Kubo, Principal Climate Change Specialist, Asian Development Bank (ADB); Ms. Gabriela Fischerova, Climate Change Policy Advisor, Bratislava Regional Centre, United Nations Development Programme (UNDP); Mr. Ambuj Sagar, Professor of Policy Studies, Indian Institute of Technology; Mr. Dalindybo Shabalala, Advisor, Center for International Environmental Law and Climate Action Network International to elaborate on the following guiding questions:

(a) What are the key issues related to enabling environments in developed countries that could facilitate technology transfer to developing countries and what type of positive incentives could be provided by governments in developed countries to facilitate technology transfer?;

(b) What are the key issues in creating enabling environments for the development and transfer of appropriate technologies for adaptation to reduce vulnerability of developing countries to climate change?

(c) What would be the next steps to address the issue of enabling environments in the context of the UNFCCC process?

1. Enabling environments in developed countries that could facilitate technology transfer, and incentives governments could provide

48. The panellist discussed the role of innovation and research in developing countries and thereby concluded that there needs to be more support for a country-driven, in-country R&D, aided by institutions in developed countries, which would keep knowledge in countries and build on it to reduce poverty and attract further investment. Mr. Dalindybo Shabalala said that work on enabling environments must operate under UNFCCC articles 4.1 (c), 4.3, 4.5 and 4.7, and that demand-side measures are insufficient. The panellists made further suggestions on: continued learning from experiments in renewable energy; global effort on R&D and innovation on issues important to developing countries; need to focus more on adaptation (e.g. agriculture; health and water infrastructure); immediate action on non-fossil-fuel development; lower costs of access to existing technology; crucial links between finance, policy framework and innovation; and reduced trade barriers on countries until they have viable technological bases. Several panellists said that each country and case needs an individual instead of a “one size fits all” approach.

2. Creating enabling environments for technology development and transfer for adaptation to reduce vulnerability

49. With regard to market environments the panellist addressed measures such as to support natural markets through a conducive business environment, while a public sector

approach is needed for those without natural markets. The listed barriers including uncertainty, unpredictability and lack of timelines for return on investment; perceived risk in global markets; transaction costs for small and medium enterprises; information asymmetry; and lack of knowledge of markets. Thereby the speakers proposed to focus more on technology that provide greater public good and urge governments and NGOs to support partnerships between small technology owners in developed countries and local players in developed countries.

3. Next steps to address this issue in the context of the UNFCCC and the TEC

50. The panellist proposed to the TEC to: be facilitative and encourage an information sharing platform such as for business-to-business transactions, intellectual property exchanges and arbitration, especially for adaptation technologies; support building sophisticated capacity in developing countries to take a “birds-eye view” of the situation; organize processes and tailor country-specific technologies in collaboration with developed countries, in order to set in place the ability to move quickly once stronger climate policies are enacted. Mr. Toru Kubo suggested the CTCN work on country-specific needs while the TEC focuses on cross-cutting issues such as global trade and global access, urging TEC members to collaborate with other organizations.

D. Session III: General discussion and wrap up

51. TEC members discussed: the complexity of issues and the appropriate role of the TEC in this regard; technology assessments; the importance of technology transfer in small and medium companies; division of labor between the CTCN and the TEC; preparation for linkages between the TEC and other UNFCCC bodies such as the Green Climate Fund (GCF) and the Standing Committee on Finance; the need to transmit knowledge from the private sector and researchers to Parties to the Convention; the need to involve financial institutions from developing countries; decision makers’ need for simplification; the question of whether technology development and technology transfer should be decoupled; the impact of licence fees; and tools for developing countries to assess technologies.

52. Some observers called on the TEC, UNEP, UNDP and GEF to mainstream technology considerations into national development priorities and the need for a programmatic approach in financing technology, possibly through the GCF. Again, they stressed the importance of capacity building for implementation of plans and the need for a regulatory approach that would open markets to technology produced in developing countries and suggesting that the TEC considers establishment of such IPR platform and an open source R&D tool. Mr. Shabalala noted that an online system could provide information to buyers and sellers of IPR, while creating a knowledge base for the TEC.

VI. Possible items for further consideration and follow up actions

53. The TEC discussed and analysed various issues relating to enabling environments and barriers based upon the information provided by experts during the thematic dialogues and panel discussions, interventions and submissions from observer organizations and relevant documents of the EGTT, and offered the following key messages to COP18 on enabling environments for and barriers to technology development and transfer⁸:

- (a) Collaborative research, development and demonstration should be promoted as a way to share knowledge and experiences between developed and developing countries, including through North–South and South–South collaboration, in order to meet the technology needs of developing countries;

⁸ <<http://unfccc.int/resource/docs/2012/sb/eng/02.pdf>>

(b) Strengthening national systems of innovation provides an effective and efficient way to enhance national capacity to address climate change;

(c) The capacity of developing countries to assess, absorb and develop technologies needs to be enhanced to address their climate change related development challenges, taking into account their national circumstances and enabling factors;

(d) Activities related to the technology cycle, policy, regulatory frameworks and financing should be considered in an integrated manner;

(e) Engaging the financial and business community, at both the international and the national level, at an early stage is crucial to enhance access to financing for the development and transfer of technologies;

(f) The Technology Mechanism and other international instruments used to promote technology transfer to developing countries should be clearly aligned with the enabling frameworks that facilitate private- and public-sector investment;

(g) Intellectual property rights were identified as an area for which more clarity would be needed on their role in the development and transfer of climate technologies based upon evidence on a case by case basis.

54. The TEC was of the view that issues encompassing enabling environments for and barriers to technology transfer are very wide in scope and have many dimensions and that further work would be required to inform deliberation among the TEC members on this matter. The output of this work should contribute to and/or inform the deliberation and decision-making among Parties on technology-related matters under the Convention.

55. The TEC agreed that the following activities should be undertaken in 2013:

(a) Continue the dialogue with relevant stakeholders on this matter, with a view to broadening the scope of engagement;

(b) Further mobilize support and seek further inputs from relevant stakeholders through issuing another call for inputs;

(c) Undertake further comprehensive analysis of the information generated from various sources, including presentations and discussions that took place during the dialogue and the submissions from relevant stakeholders in response to the call for inputs on this matter;

(d) Organize workshops on specific issues to enable in-depth discussion, with a view to elaborating on strategic and policy advice on ways to address those issues;

(e) Explore the possibility of developing a technical paper on enabling environments.

56. In considering further work to be undertaken in the area of enabling environments for and barriers to technology development and transfer, in accordance with its mandated function on enabling environments and barriers, the TEC may wish to take into account the following elements:

(a) How collaborative research, development and demonstration (RD&D) can be promoted as a way to exchange knowledge and experiences between developed and developing countries?

(b) How national systems of innovation can be strengthened in an effective and efficient way with a view to enhance national capacity to address climate change?

(c) How the financial and business community, both at the international and national level, could be engaged in an early stage to enhance access to financing for the development and transfer of technologies?

(d) How could more clarity be provided on the role of IPRs in the development and transfer of climate technologies based upon evidence on a case by case basis?

(e) What could be possible follow up activities of the TEC on enabling environments and barriers to technology development and transfer?
