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Item 4 of the provisional agenda

Development and transfer of technologies

**Report on the UNFCCC workshop on innovative options for financing the
results of the technology needs assessments**

Note by the secretariat

Summary

In response to a request by the Subsidiary Body for Scientific and Technological Advice at its twenty-first session, the secretariat, in consultation with the Expert Group on Technology Transfer, organized a workshop on innovative options for financing the results of the technology needs assessments on 20 and 21 October 2005 in Bonn, Germany.

Participants at the workshop discussed several project financing proposals identified from technology needs assessments and/or other sources with a view to identifying innovative financing opportunities for these projects. They also exchanged views on definitions and scope of innovative financing, and discussed various existing mechanisms for financing the development and transfer of technologies within and outside the Convention process, and how those might be relevant to Article 4, paragraph 5, of the Convention. Participants suggested possible areas where further work is needed and specific relevant activities that could be initiated within the UNFCCC process.

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I. Introduction

A. Mandate

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its twenty-first session, endorsed the programme of work of the Expert Group on Technology Transfer (EGTT) for 2005. The programme of work included activities relating to innovative options to finance the development and transfer of technologies,¹ building on the activities in this area initiated by the EGTT in 2004. One such activity was the organization of a workshop on innovative options for financing the results of the technology needs assessments (TNAs). This workshop focused on solutions to reach financial closure of project financing proposals drawn from the results of the technology needs assessments.

2. At the same session, SBSTA endorsed the recommendation of the EGTT that the above-mentioned workshop should take forward the ongoing work on innovative public-private financing mechanisms identified in the workshop on innovative options for financing the development and transfer of technologies, held from 27 to 29 September in Montreal, Canada.²

B. Scope of the note

3. The workshop on innovative options for financing the results of the technology needs assessments was held in Bonn, Germany, on 20 and 21 October 2005. The SBSTA, at its twenty-third session, took note of an oral report by the secretariat on the outcome of the workshop. It further noted that the full report would be prepared by the secretariat for consideration by the SBSTA at its twenty-fourth session.

4. This report contains a summary of the 18 workshop presentations by country-nominated representatives and experts, including from private sector financing institutions, the panel discussions among financial experts and general discussions at the workshop. All presentations are available on the UNFCCC technology information clearing house (TT:CLEAR).³ Ideas on possible further activities on innovative options for financing the development and transfer of technologies, suggested during the workshop, could serve as input to further discussions and considerations of this matter by the SBSTA at its twenty-fourth session.

C. Possible action by the Subsidiary Body for Scientific and Technological Advice

5. The SBSTA may wish to take note of the information contained in this document and, where necessary:

- (a) Seek technical advice from the EGTT on possible next steps for the promotion of innovative options for financing the development and transfer of technologies under the Convention;
- (b) Provide further guidance to the secretariat concerning its efforts to facilitate the work of the EGTT and the Parties for the promotion of innovative options for financing the development and transfer of technologies.

¹ FCCC/SBSTA/2004/INF.17, annex.

² FCCC/SBSTA/2004/11.

³ <<http://ttclear.unfccc.int/ttclear/jsp/index.jsp?mainFrame=../html/WshpBonn.html>>.

II. Proceedings

6. The workshop was organized by the secretariat in consultation with the EGTT. The Government of Canada, the European Community, the United Nations Development Programme (UNDP) and the Climate Technology Initiative (CTI) provided financial support for the organization of the workshop.

7. The workshop was attended by 59 participants: 24 from Parties not included in Annex I to the Convention (non-Annex I Parties) representing Africa (9), Asia and the Pacific (7) and Latin America and the Caribbean (8); 14 from Parties included in Annex I to the Convention; representatives from 5 international organizations and bodies; 2 representatives from non-governmental organizations and other organizations; and 7 representatives from the private sector.

8. The expected outcomes of the workshop were:

- (a) Descriptions of financing needs for selected technology development and transfer projects resulting from TNAs and/or other sources;
- (b) Suggestions for reaching financial closure on selected technology development and transfer projects resulting from TNAs.

9. The workshop agenda⁴ was designed, in consultation with the Chair of the EGTT, to address issues relating to innovative options for financing the results of TNAs and included presentations of project financing proposals identified from TNAs and other sources and related complementary activities at the country and multilateral levels.

10. The workshop was chaired by Mr. Kishan Kumarsingh, Chair of the EGTT for 2005. In welcoming the participants, Mr. Kumarsingh emphasized the importance of the workshop in facilitating dialogue between governments and the private sector, in particular the financial community, on issues relating to financing and technology transfer under the UNFCCC process. Mr. Kumarsingh acknowledged the excellent support provided by his EGTT colleagues and the secretariat for the organization of this workshop.

11. Mr. Abdullatif Salem Benrageb, Chair of the SBSTA, stated that the workshop was organized and guided by the broad framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention. He highlighted that the provision of, and access to, financial resources for the development and transfer of technologies has received much attention from Parties and key stakeholders during the sessions of the subsidiary bodies and the Conference of the Parties.

12. Mr. Halldor Thorgeirsson, Coordinator, Methods, Inventories and Science Programme of the UNFCCC secretariat, referred to the recent death of Ms. Joke Waller-Hunter, her valuable contribution to the Convention as Executive Secretary and her special interest in cooperation on technology. He also informed the participants about the restructuring of the secretariat, including the new programme on Adaptation, Technology and Science, that would become operational as of 1 January 2006. He highlighted the practical approach of the workshop where the results of TNAs are linked with actual implementation of projects.

13. Mr. Elmer Holt, Chair of CTI, referred to the work his organization, which provides support to the development and transfer of technologies under the UNFCCC on a multilateral basis. He also stressed the lack of public funding to make a meaningful impact on the needs for environmentally sound technologies (ESTs) identified by developing countries and countries with economies in transition. He

⁴ Available at <<http://ttclear.unfccc.int/ttclear/jsp/index.jsp?mainFrame=../html/WshpBonn.html>>.

said that encouraging greater access to private financial sources, such as through this workshop, was another important step forward in the technology transfer process.

14. Mr. Phillip LaRocco, Chief Executive Officer of E+Co, delivered a keynote address focusing on the need for innovative financing for deploying technologies and on how to make it work. He highlighted the crucial role that the deployment of ESTs could play in addressing increasing needs of society and declining carrying capacity of the environment. He said that linking ESTs, supportive policies and finance is essential for the deployment and diffusion of technology and stressed that this process requires the involvement of the public sector, private sector and civil society.

15. Mr. LaRocco said the objective at the macro level⁵ should be to mobilize capital via **specialized funds and financial products** targeted at the global investment community, and at the meso level this capital could be deployed via **targeted support programmes** to increase quantity and quality of financial intermediaries and local funds. At the micro level, the aim should be to produce results through **more efficient investment strategies and tactics**, such as serial investing, redefining risk, due diligence and documentation models, and capacity-building of critical actors, such as entrepreneurs, policymakers, finance professionals and service providers.

III. Summary of the discussions

A. Setting the scene

16. The secretariat presented:

- (a) Background on technology transfer activities under the UNFCCC, focusing on the technology transfer framework (annex to decision 4/CP.7), and innovative financing as an emerging area of work of the EGTT;
- (b) An overview of funding sources targeted at climate change and trends in financial flows from these sources, noting a decline in official development assistance in recent years and highlighting the opportunities and risks of private sector financing, and follow-up activities of the EGTT in the area of innovative financing;
- (c) An overview of the TNA process – mandates, key activities and reporting results – which can form the basis for a portfolio of EST projects and programmes, in support of Article 4, paragraph 5, of the Convention.

17. It was noted by the secretariat that national communications and national adaptation programmes of action also provide information about technology needs. Future technology needs will be reported by non-Annex I Parties in their second national communications and an appropriate reporting format that takes into account the lessons learned from the TNAs completed so far may be needed.⁶

18. Mr. Eric Usher, United Nations Environment Programme (UNEP), gave an update of the status of the TNA studies supported by UNEP and the Global Environment Facility (GEF), discussed the concept of innovative financing in more detail and provided information on UNEP's ongoing activities in the area of innovative financing. As of October 2005, seven non-Annex I Parties⁷ had submitted their TNAs to UNEP and five non-Annex I Parties were in the process of doing so.⁸ In an attempt to define innovative financing, he focused on what innovative financing is not. According to Mr. Usher, innovative financing is:

⁵ Macro, meso and micro level refer to activities at the national, sectoral and project level, respectively.

⁶ The current guidelines (17/CP.8, paragraph 54) encourages Parties to provide such information.

⁷ Haiti, Kenya, Lesotho, Mauritania, Mauritius, United Republic of Tanzania and Zimbabwe.

⁸ Comoros, Nepal, Pakistan, Turkmenistan and Viet Nam.

- (a) Not pure equity, debt or insurance, but rather a blending of risk/return attributes;
- (b) Not just about capital, but also enterprise development services;
- (c) Not for the public sector to do on its own, but to do in partnership with commercial leaders;
- (d) Not just about innovation, but also replication and mainstreaming;
- (e) Not just about capital and services, but also changing mindsets;
- (f) Not just for financiers.

19. Mr. Vladimir Litvak, UNDP, presented the findings of a preliminary analysis of TNA reports from 13 non-Annex I Parties conducted with support from UNDP. The analysis revealed that costs were generally viewed as one of the main barriers for technology transfer. The analysis further revealed that development is generally considered as the biggest priority by developing countries. A lack of enabling environments for technology transfer, the importance of capacity-building, the important role of government and the private sector, along with the importance of existing policies, were among the lessons learned from the analysis.

20. Mr. Elmer Holt, EGTT member and Chair of CTI, introduced the session on workshop expectations. He noted that the workshop was structured around interactive discussions between project proponents and panels of financing experts, relating to actual project financing proposals drawn from TNAs and other sources for the purpose of identifying the strengths and weaknesses of the projects that could influence access to financing. He also noted that the project preparation stage contributed to building capacity of the project proponents and that the workshop could provide an ideal platform to share the lessons learned from this exercise with a wider audience, thereby improving project financing proposal preparation skills.

21. Several participants from developing countries appreciated the opportunity to present their project proposals to representatives of the finance community. They expected that the financial experts would be able to provide advice on how their proposals could be improved with a view to reaching financial closure. Some participants indicated that the actual project preparation stage requires serious resources in terms of time and expertise and expressed a need for training to improve the quality of project proposals.

B. Project financing proposals

22. This session was chaired by Mr. Rawlestone Moore, EGTT member, and included presentations of two project proposals, which were commented on by a panel of financing experts and followed by a general discussion.

23. Ms. Ermira Fida, Climate Change Unit, Albania, presented a project proposal on **solar water heating in Albania**. The introduction of solar water heaters was prioritized in Albania's first national communication and TNA. The objective of the project is to assist the Government of Albania to formulate a full-sized GEF project designed to accelerate the market development for solar water heating in Albania and facilitate the sustainable growth of the market. Awareness raising, facilitating investment in solar water heating, building consumer confidence, capacity-building and documentation are among the project components. Financial needs for the project consist of funding from the GEF and the Government of Albania, leveraged by private sector investments.

24. Ms. Marina Shvangiradze, Climate Change Department, Georgia, presented the background, and technical and financial aspects, including a risk assessment, of a **geothermal district heating project in Georgia**. This project proposal was developed as part of the initial national communication, under the

mitigation options, and aims to supply about 30,000 consumers with hot water from a geothermal resource. The market analysis revealed that geothermal energy is the least-cost option. The project financing scheme includes a mixture of grants, credits and in-kind contributions.

25. A panel of financing experts from the private sector, consisting of Mr. George Sorenson, FE Clean Energy, Mr. Peter Storey, HERA International Group, and Ms. Christine Woerlen, the GEF, provided feedback on the two proposals. One of the points raised was that to involve private investors in project financing one has to know the specific interests of the private investors. Information about the financial performance of the project in terms of cash flow is necessary for private investors to assess the financial viability of a project. Without a clear predictable pattern and quality of cash flow from a project, it is difficult to engage the private financing community. Once the extent, quality and timing of the cash flow is known, the finance people can begin to structure a potential financing package, which in many cases will include the public sector.

26. Risk and risk management are other key aspects of projects for private investors. Project proponents should try to think like potential investors by identifying potential risks of their projects and by assessing how these risks could be managed. Focusing on the weaknesses of the project is a good starting point to assess potential risks.

27. Project preparation and the associated financing are not exclusively based on science. Although there are technical elements to the process, such as guidance that can be given to the project proponent and guidelines to be followed by the lender/investor, the final decision as to whether or not a particular project receives financing will be influenced by the extent to which mutual confidence has been established.

28. Once the basic information is exchanged between potential borrower and potential lender, what follows is a dialogue. That dialogue leads to better understanding, but more importantly the development of mutual confidence, because finally what has to be established is a reasonable expectation on the part of the lender that they will be repaid.

29. The second session on project proposals was chaired by Ms. Muriel Dube, EGTT member, and included the presentation of two project proposals, which were commented upon by a panel of financing experts and followed by a general discussion.

30. Mr. Rasack Nayamuth, Mauritius Sugar Industry Research Institute, Mauritius, presented a project proposal dealing with the **extension of an irrigation network for adaptation to climate change**. This project was identified and prioritized in a TNA of Mauritius. He stated that the sugar industry is very important to Mauritius for economic, environmental and socio-economic reasons. Mauritius is particularly concerned because projections indicate that continued climate change could substantially reduce sugar production.

31. Ms. Virginia Sena, Ministry of Environment, Uruguay, presented a project proposal about the **substitution of anaerobic ponds of industrial effluent treatment with intensive anaerobic processes**. The project aims to reduce greenhouse gas emissions (GHG) associated with waste water treatment systems. An association of companies benefiting from the project has the ownership of the project and would cover the majority of the annual operation and maintenance costs. Additional funds are needed to cover the initial investment of the project.

32. A panel of financing experts consisting of Mr. Storey, Mr. Usher, and Mr. Patrick D'Addario, Fiorello H. LaGuardia Foundation, provided feedback on the two proposals. The main topic of the panel discussion was risk and risk management. The panellists identified a number of specific risks for these projects and referred to actions governments could take to mitigate these risks, such as risk sharing. One participant from the private sector also emphasized the important role of governments to stimulate private sector investments by creating a stable legislative and regulatory environment.

33. The opportunities for reaching financial closure of a project are substantially increased by paying attention to the financial structure of the project in an early stage of project preparation, e.g. by considering the role of guarantees, grants, subsidized loans and tax incentives. Additional considerations over and above pure financial return, such as quality of life, should be assessed. Projects with a high public benefit might still attract financing inside or outside the private sector. One participant from the private sector referred to existing private investors willing to accept lower financial returns for socially acceptable and environmentally sound projects. These investors are often referred to as triple-bottom-line investors.⁹

34. The question of what makes a good project was also discussed. It turned out to be a difficult question, as a project proposal targeted at private investors has to satisfy some different requirements than a project proposal targeted at public funding; there is no one-size-fits-all proposal. Public-private partnerships could bridge this gap by bringing commercial and non-commercial parties together.

35. Mr. Kok Kee Chow, EGTT member, chaired the third session on project proposals.

36. Ms. Chandapiwa Macheke, Botswana Meteorological Service and Ms. Sebueng Martha Kelesitse, Botswana Power Corporation (BPC), presented a proposal for a **clean coal power** project in Botswana. This project was prioritized as part of a TNA and aims to build a coal-fired power plant with an installed capacity of 400 MWe. The environmental performance of the project could be improved by using clean coal technologies. However, the cost and lack of access to these technologies pose a barrier. BPC intends to finance the project through equity balanced by loans and grants.

37. Ms. Madeleine Diouf Sarr, Ministry of Environment, Senegal, presented a project about **rural electrification and promotion of solar energy in the health sector**. There are currently a number of policies in place that promote the use of renewable energy technologies in Senegal, and the country has a rural electrification plan that includes the use of photovoltaic (PV) technologies. The project aims to supply solar electric energy to 200 health centres, for heating, freezing and lighting and for running electrical appliances. The project developers will seek grants from the donor community to finance the project. Financial risks are considered to be the main risks associated with this project.

38. A panel of financing experts consisting of Mr. Wolfgang Mostert, Developing Country Financing Expert, Mr. Sorenson, and Mr. Paul van Aalst, Tjasker-Business Development and Financing, commented on the two proposals. The coal power project in Botswana is an example of a project that could be well placed in the private sector. The points favouring private sector involvement include: the project has one clear sponsor facilitating negotiations with banks, the project provides clear cash flow secured by long-term agreement, there is a functioning market system not influenced by politics and there are opportunities to increase the private sector involvement on a build-operate-transfer (BOT) basis. The solar energy project in Senegal, on the other hand would be more difficult to place in the private sector as cash flow is not secured. However, the project could benefit from private sector involvement by incorporating a market development component.

39. Mr. Kumarsingh, Environmental Management Authority, Trinidad and Tobago, presented a proposal for a **vehicle emissions testing equipment** project. An increase in the vehicle fleet of Trinidad and Tobago over the past few years has increased GHG emissions substantially. The project aims to reduce GHG emissions by incorporating emissions testing in the current vehicle inspection regime. The cost of this measure along with the need for training are considered to be the main barriers to implementing this project.

40. Mr. Mohammad Suprpto, Associate on Business Development, Indonesia, presented an example of a project with some important elements of innovative financing. The project aims to promote **bio-coal briquettes as an alternative fuel** in Indonesia for economic, environmental and social reasons. A

⁹ So called because they measure the economic, social and environmental sustainability of a project.

market study revealed that there should be market opportunities for bio-coal briquetting in Indonesia, but there are market barriers, such as competitive pricing and low market penetration. Efforts to scale-up the utilization of bio-briquettes will require collaboration between actors from the public and private sector, as the challenges of the overall value chain make it impossible for existing players to develop the industry on their own. Interventions are required, such as transfer and development of technologies, business creation, provision of financing facilities and enabling policy and regulation. The project's financing model consists of a combination of equity, loans and grants, mainly from the private sector.

41. A panel of financing experts consisting of Ms. Virginia Sonntag-O'Brien, Basel Agency for Sustainable Energy (BASE), Mr. Mostert and Mr. Sorenson provided comments on the two proposals. It was noted that the emission testing project is basically a regulatory issue, as the demand for the product is created via regulation. To finance such projects one needs to consider the value of local environmental benefits and the value of reduced petroleum imports at the macro level.

42. The panel said that the project in Indonesia shows some important elements of innovative financing, referring to the various interventions in the value chain, such as transfer and development of technologies, business creation, financing facilities, enabling policy and regulation and the involvement of the public and private sectors.

C. Complementary activities at the country and multilateral levels

43. This session, chaired by Mr. William Kojo Agyemang-Bonsu, EGTT member, included four presentations from public and private sector representatives addressing issues relating to enabling environments, funding mechanisms and innovative financing.

44. Mr. Orlando Jimenez, Chilean Economic Development Agency (CORFO), discussed the legislative initiative in Chile to promote renewable energy. Legal discrimination against small and medium-sized energy projects, market barriers and electricity crises in 1998, 2004 and 2005 led to an amendment of the law to stimulate independent power producers (IPP) to connect to the grid. The operation of a spot market for electricity and the ability to sell energy improved the profitability of renewable energy projects in Chile considerably. CORFO recently established a feasibility fund (USD 1.5 million annually) and a carbon market programme to further foster the renewable energy sector. Mr. Jimenez stressed the importance of good feasibility studies to improve the quality of project proposals and the need for long-term incentives to foster the renewable energy market.

45. Mr. Bas Rekveld, Triodos Bank, discussed the Triodos Renewable Energy for Development Fund, which was set up to increase access to clean energy in developing countries. The fund is a source of finance for new and existing local financial intermediaries that focus on providing financial services to projects and small and medium-sized enterprises (SMEs) in the clean energy sector. Instead of direct investments, the fund works through local financial intermediaries who satisfy the local market needs—capital for small projects, finance for energy efficiency projects, risk capital for SMEs and end user finance. New elements in this financing mechanism are the provision of funds for small clean energy projects and realistic return expectations (7–15 per cent), which leads to financial closure of a larger number of projects.

46. Mr. Thomas Verheye, European Commission, explained the Patient Capital Initiative (PCI), an innovative public–private financing mechanism being developed by the European Commission. He addressed some limitations of existing grant-based options for project financing, such as the risk–return mismatch, limited risk funding expertise and programmes in the public sector, and the high transaction costs that are often associated with smaller scale or innovative projects. These and other constraints result in a financing gridlock that prevents the development and/or of transfer clean technologies. The PCI tries to overcome these and other limitations by providing affordable equity-linked capital to local entrepreneurs and project developers. So-called patient capital is a type of risk capital that blends public and private sector investment requirements, i.e. expecting a return, but on a less demanding basis than

pure commercial private equity capital as the returns are either lower or deferred over a longer time than commercial investors accept. This capital will be delivered to a number of investor-financed funds, using a fund of funds structure to ensure that investors have knowledge of local financing practices. It will build as much as possible on local capabilities. Each subfund would invest some form of patient equity into renewable energy businesses/projects in developing countries and countries with economies in transition. The fund is expected to become operational by mid 2007 with total funding of about EUR 100 million.

47. Mr. Zou Ji, Renimin University of China, discussed China's perspective on innovative financing for international development and transfer of climate sound technologies. He stated that most technology transfer should take place in the market with incentives from public finance (including fiscal incentives and subsidies) and other regulatory incentives and highlighted the role of public-private partnerships. He concluded that more attention is needed to remove barriers to technology transfer in the context of the UNFCCC.

48. The discussion that followed addressed the role of the public and private sectors to attract financing for investments in ESTs. It was emphasized that there is not enough public money available for investment in ESTs and that governments could play a key role in attracting investment by establishing a stable regulatory environment. It was also stated that it is not an either-or scenario, but rather a question of how all partners, public and private, could work together.

49. It was also stated that it is important to shift from a project-based approach to an enterprise approach, as projects by definition have a limited timeframe. One representative of the private sector said that financiers are looking for local entrepreneurs who are committed to accomplishing their business objectives and a public sector willing to support those entrepreneurs in early stages, e.g. by providing smart subsidies.

D. Round-table discussion on lessons learned

50. The round-table discussion, chaired by Mr. Bernard Mazijn, EGTT member, focused on the lessons learned from the workshop. The following describes the highlights of this discussion.

1. Technology needs assessments

51. Technology needs assessments remain an essential component of the work on technology transfer. They reflect the concept of a country-driven approach and are also an important means of engaging stakeholders, including the financial community, and identifying strategic partnerships early in the project development process.

52. Currently, non-Annex I Parties submit their TNA reports to the secretariat on a voluntary basis. Future technology needs will be reported by non-Annex I Parties in their second national communications. Non-Annex I Parties would need to enhance this information with additional data on project financing to facilitate greater access to financing.

2. Enabling environments

53. Stable, clear and consistent energy policy and regulatory frameworks that favour ESTs are key to attracting domestic and foreign investors. Governments should adopt long-term policies to create favourable conditions for private and public technology transfer.

3. Mobilizing capital

54. To facilitate the transfer of ESTs, one objective at the macro level could be to mobilize capital through specialized funds and financial products targeted at the global investment community. At the

meso level, this capital could be deployed via targeted support programmes to increase quantity and quality of financial intermediaries and local funds.

55. Public-private partnerships could play an important role in bridging the gap between commercial and non-commercial projects, or components of such projects, through blending of public and private sector investment requirements.

4. Project preparation

56. Although there are technical elements to the project preparation and associated financing process, such as guidance that can be given to the project proponents and guidelines to be followed by the lender/investor, the final decision as to whether a particular project receives financing is influenced by the extent to which mutual confidence has been established.

57. Once the basic information is exchanged between potential borrower and potential lender, a dialogue follows. That dialogue leads to better understanding, but more importantly, to development of mutual confidence, and the reasonable expectation on the part of the lender that they will be repaid.

58. Project preparation requires substantial resources in terms of time and specific expertise in various fields. One of the challenges is to involve all possible partners in the project. Public and private parties both have a role to play in projects for public benefit.

59. How a project is packaged and presented to potential financiers is very important, but good packaging and presenting cannot guarantee that a project will reach financial closure.

5. Financial engineering

60. Based on the project reviews, **cash flow data** were identified as the main missing component to evaluate risk, to identify appropriate financial resources and to reach financial closure. To establish these data it was considered key for project developers to understand the market environment and to assess risk from the perspective of a potential investor. Without a clear predictable pattern and quality of cash flow from a project, it is difficult to involve the private financing community. Once the extent, quality and timing of the cash flow are known, financing experts can begin to structure a potential financing package. Once you have the cash flow profile, you can decide who could take on what share of funding, which in many cases could include public sector funders.

61. The project proponent should try to target certain financiers, those with a specialty or interest in the project area of concern (e.g. technical, geographical, sectoral, environmental). The project proponent needs to understand the contemporary market, e.g. if renewable energy funds are in great supply, try to structure the project financing proposal accordingly.

62. Even projects with a low return on investment could reach financial closure by paying attention to the financial structure of the proposal in an early stage of project preparation, e.g. by considering the role of guarantees, grants, subsidized loans and tax incentives. Considerations apart from pure financial return, such as quality of life, should also be assessed. Projects with a high public benefit might still attract financing through the private sector. Many of the financing experts at the workshop were willing to look beyond narrowly focused rate of return criterion to factor in social and environmental benefits of projects according to the triple bottom line – economic, social and environmental sustainability – when making their investment decisions.

63. Although there are many common elements, project financing is tailored to the specific project; in other words, there is no such thing as one-size-fits-all financing.

6. Risk assessment

64. The risk associated with a project is a key element considered by financiers. It was noted that investors balance profitability with risk. It was emphasized, for example, that even substantial projected profits can fail to attract commercial investors, if the risk is perceived to be too high, which might require that a project seek public support. In assessing risks and trying to mitigate these risks, project proponents should try to think like potential investors and focus on the weaknesses of their project. The risks to be looked at are at the country level and the project level, e.g. financial risks, operational risks and business risks.

65. Risk management is another key element to improve the bankability of a project. One form of risk mitigation is through serial investments, where small investments are made in series instead of a single large investment. In this case the overall project risk is smaller as successive projects are implemented, and the process of due diligence¹⁰ need not be as rigorous.

7. Market development

66. One of the main challenges in attracting financing for ESTs will be the transforming and building of new markets for these technologies. According to the International Energy Agency an estimated USD 17 trillion needs to be invested in the global energy market to satisfy the increasing energy demand until 2030. Timely support of emerging technologies may help countries avoid being locked into outdated technologies, and thereby enhance the prospect of building more diverse, flexible energy systems in the future.

67. Local SMEs could play a key role in transforming and building new markets for ESTs in developing countries. Thus it is important that projects can be enhanced to follow an enterprise approach in transferring ESTs. In this case, governments have a vital role to play in supporting the early stages of the activities of local entrepreneurs, e.g. through subsidies that take into account market realities.

8. Capacity-building for project development

68. Capacity-building in the area of project financing proposal preparation could help to facilitate technology transfer by broadening access to private and other financial resources. Capacity-building should bridge the gap between the public sector and the financial community. In this context it was stressed at the workshop that the right people should be trained, such as entrepreneurs, policymakers, finance professionals and service providers.

69. The pre-workshop coaching provided by financing experts was considered useful, particularly to enhance multidisciplinary capacity and assist in packaging proposals. Participants also expressed a need for easy tools for preparing project finance proposals.

70. From the discussions emerged the concept of a network of financing experts available to work with project proponents in the preparation of project financing proposals that meet the standards of the international finance community. It was suggested that CTI might work with the EGTT and others to establish such a network along the lines of the project financing proposal flow diagram discussed at the workshop.¹¹

IV. Issues for further consideration

71. Taking into consideration the discussions during the workshop and the final round-table discussion, several issues emerged for further consideration. These are presented below in random order.

¹⁰ Refers to the process of research and analysis that takes place in advance of an investment.

¹¹ Available at <<http://ttclear.unfccc.int/ttclear/jsp/index.jsp?mainFrame=../html/WshpBonnPresentations.html>>.

- (a) **Technology needs assessments:** As identification of technology needs is a continuous process, actions to strengthen the support provided for conducting TNAs could be considered. Future technology needs will be reported by non-Annex I Parties in their second national communications and an appropriate reporting format that takes into account the lessons learned from TNAs completed so far may be needed.
- (b) **Project identification:** Sources other than TNAs could be considered for identifying projects. National communications also provide information about potential projects, and participants expressed a need to include information about project financing to facilitate greater access to financing.
- (c) **Technical paper:** It was suggested that the secretariat elaborate further the workshop outcomes into the technical paper on innovative financing to be made available to the Parties for consideration by the SBSTA at its twenty-fourth session.
- (d) **Practitioners' guide:** The work programme of the EGTT for 2006 includes development of a practitioners' guide to assist project developers in developing countries prepare project proposals. It was recommended that the practitioners' guide take into account the lessons learned from the workshop by focussing on projects in the "grey area" between commercial and non-commercial projects, with lower rates of return.
- (e) **Coaching:** Additional capacity-building in the preparation of project financing proposals is needed. The pre-workshop coaching provided by financing experts, where they provided advice to project proponents, was considered a suitable format in this regard, particularly to enhance multidisciplinary capacity and the packaging of proposals. The main focus should be on collecting and making available the relevant financial data based on available technical, policy and market data. Synergy with other initiatives, such as the UNEP Finance Initiative and BASE, should be sought.
- (f) **Project screening:** Screening project financing proposals and assessing the potential for a commercial component that might be picked up by the private financing community might facilitate access to financing for technology transfer projects. The EGTT is considering working with CTI and others in establishing a network of financing experts to provide technical assistance to project developers in the preparation of project proposals.
- (g) **Matchmaking:** Participants indicated a need for a platform where project proponents and financiers could meet to match project proposals with potential financial resources. Participants suggested various options for this platform, such as one-day workshops, financial intermediaries and using the capabilities available through TT:CLEAR and its network of technology information centres.
