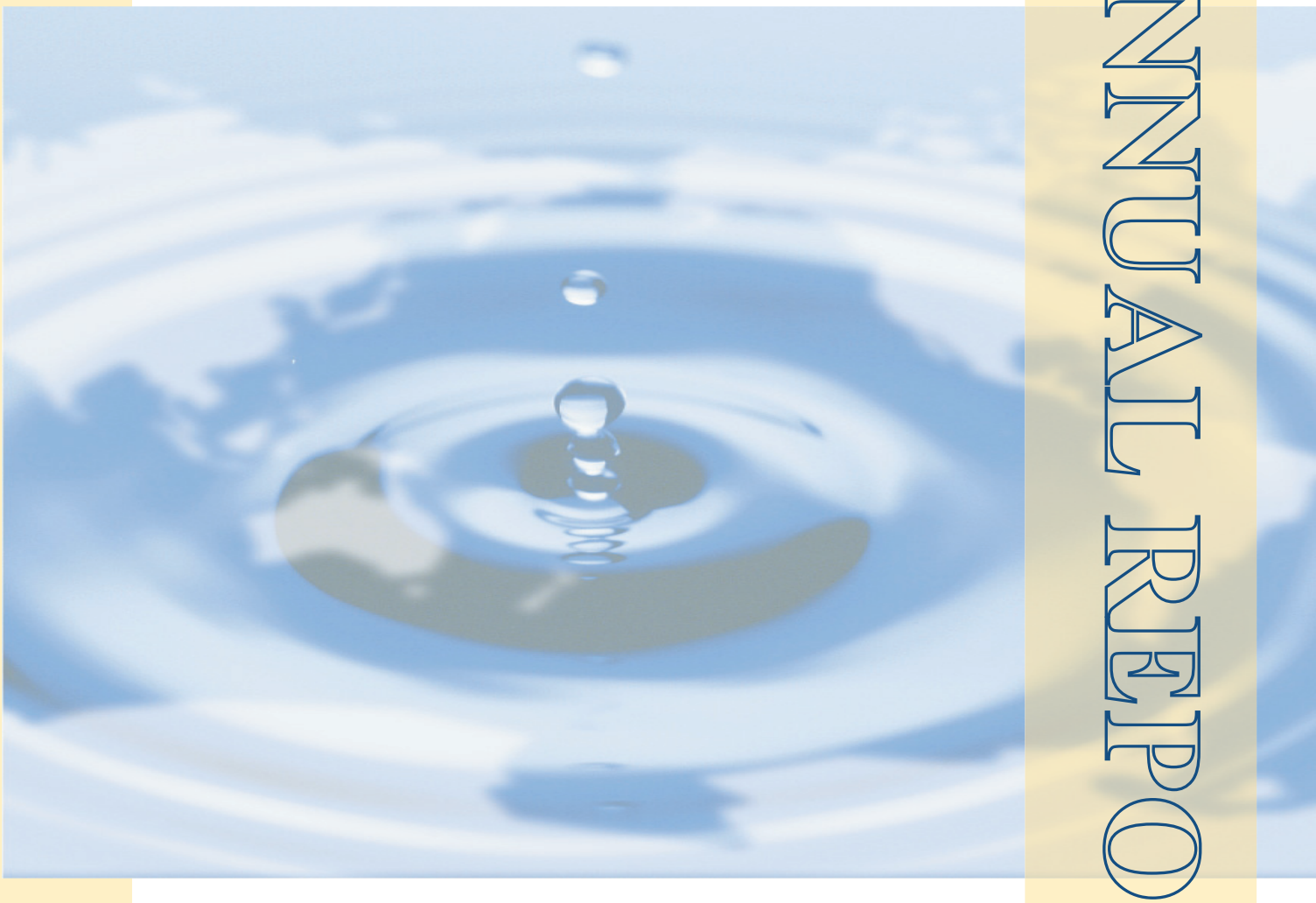
iea Energy Technology Network



ANNUAL REPORT 2010

WORKING TOGETHER TO ACCELERATE DEVELOPMENT AND DIFFUSION OF CLIMATE-FRIENDLY TECHNOLOGIES AND PRACTICES

CTI CLIMATE TECHNOLOGY INITIATIVE

Message from the Chair

On 22 September 2010, I was elected as Chair of the Climate Technology Initiative (CTI) succeeding Mr. Elmer Holt who served as Chair for five years. It is a privilege and honor for me to succeed Elmer during whose leadership CTI has developed considerably: activities have expanded; membership has grown; and, there has been a growing impact on facilitating access and diffusion of climate–friendly technologies and practices. On behalf of the Executive Committee I would like to express my sincere thanks for his dedicated and outstanding work as Chairman of CTI.

As was the case during the prior year, our Private Financing Advisory Network, or PFAN, continued to expand and scale up its activities significantly during 2010 where we are successfully bringing together project developers and investors. PFAN conducted 7 Clean Energy Financing Forums: the Asia Regional Forum (AFCEF2), the Africa Regional Forum (AFRICEF), and in-country Financing Forums in China, India, Indonesia, the Philippines, and Brazil. The events gathered 1,100 participants and 60 projects with a combined total investment volume of USD 1 billion were showcased. The aggregate investment volume for the PFAN pipeline projects has now reached USD 2.1 billion. Details of these successful activities are summarized in Section Ⅱ-3-(2) of this report.

Although we did not have a new member country join our CTI International Energy Agency Implementing Agreement in 2010, we have a very strong group of eleven CTI countries that continued to remain actively engaged in a variety of activities. I commend all of the CTI countries on their deep commitment to our mission that they demonstrate by generously providing their time, resources, and vision to develop and execute a comprehensive programme of work. As we pursue that goal of accelerating the development and adoption of climate-friendly technologies and practices, we are also contributing to the ancillary benefits of technology transfer that include increased economic and social stability, domestic capacity building, jobs creation, poverty alleviation, and institutional strengthening to name a few.

The CTI has accomplished much over the past several years, but clearly there is more to do. In that regard, I look forward to an even more active 2011 during which we can expand our activities, membership, and associated impact on facilitating access and diffusion of climate-friendly technologies and practices. During this year, the CTI will produce its 5-year plan for future activities in preparation for requesting an extension of the CTI Implementing Agreement at the meeting of the Committee on Energy Research and Technology (CERT) of the IEA.

Following the unanimous decision of the Executive Committee, invitations to join the CTI have been issued to several additional countries who are now considering participation.

The important work of CTI would never have been possible without the unyielding commitment of the CTI countries along with the skill and dedication of our network of private financing professionals led by our Global Coordinator, Mr. Peter Storey, extraordinary level of support and professionalism that is provided on a daily basis by Mr. Taiki Kuroda and Ms. Tsubasa Kawaguchi of the CTI Secretariat under the thoughtful leadership of Professor Morihiro Kurushima, our dedicated Programme Manager.

Michael Rantil
Executive Committee Chair
Climate Technology Initiative

Testimonials

"Technology is very much on the forefront of discussions on future action on climate change. We need to realize its full potential to achieve the deep cuts in greenhouse gas emissions that are needed to prevent the worst impacts and to enable people and societies to adapt to changes that will occur nevertheless. Significant reductions in greenhouse gas emissions in the long term will rely, to a large extent, on the development, deployment, diffusion and transfer of new and more efficient technologies.

I thank CTI and its member countries for their active engagement and support to the work of the Expert Group on Technology Transfer in promoting technology transfer activities under the Convention. Progress of work under CTI's pilot project on the Private Financing Advisory Network that seeks to broaden the access to private sector international financing for climate friendly technology and to further engage the private sector in our process is very encouraging. If successful, Parties to the UNFCCC may wish to build on this exercise and broaden its scope. I wish you success in continuing your work."

Yvo de Boer
Former Executive Secretary
UNFCCC

"Having worked with the Climate Technology Initiate for many years, I am keenly aware of the significant contribution it has made to technology transfer under the UNFCCC process. In particular, I have appreciated CTI's contributions to the preparation of the handbook on conducting technology need assessments and this handbook's expansion to include technologies for adaptation. Additionally, I commend CTI on its forward thinking in the area of innovative options to finance technology transfer through, in collaboration with the EGTT, establishing the Private Financing Advisory Network that provides assistance to project proponents in developing countries in the preparation of their project financing proposals to meet the standards of the international private finance community. This work has played an invaluable part in advancing an understanding of technology transfer and related issues under the UNFCCC. I encourage the CTI to continue its good work and offer my cooperation in that regard."

Kishan Kumarsingh
Technical Coordinator
Environmental Management Authority of Trinidad Tobago
Former Chair of the Subsidiary Body for Scientific and Technological Advice Former Chair of the Expert Group on Technology Transfer (EGTT)

"The Private Financing Advisory Network (PFAN) initiative of the CTI provides an innovative platform for bringing to financial closure technology development and transfer projects identified by countries under their technology needs assessments. The PFAN forms part of a broad financial mechanism for technology transfer."

William Kojo Agyemang-Bonsu
Vice-President of COP12
Former Chair of the Expert Group on Technology Transfer (EGTT)
Former UNFCCC Focal Point for Ghana
Environmental Protection Agency of Ghana

"In order to attain sustainable development among all countries and the overall objectives of the UNFCCC, there is a need to accelerate the transfer and development of climate related technology. Many technologies have been developed in recent years that address these pressing issues. International cooperation is the key element in addressing global warming and climate change. To this end, CTI has played an important role in the promotion of climate friendly technology in the last decade. I am confident that CTI, with its capable network, will continue to share valuable experiences, know-how and good practices for the benefit of mankind."

Late Chow Kok Kee
Former Chair of the Subsidiary Body for Scientific and Technological Advice
Former Chair of the Expert Group on Technology Transfer (EGTT)

"When I look back to the variety of topics proposed by the organizers of the CTI Seminar, I cannot say that anything has been missed or neglected. There has been constant development of the concepts, ideas and fields to concentrate on next. This in turn means our seminars are in constant movement, well justified to current priorities of development of the world climate mitigation strategy and policy dialogue. I do very much hope we'll go forward together, all of us, and try to have a thorough look at Kyoto first commitment period and also the post-Kyoto period issues. Continuous support from the CTI has greatly added value for all participants of the seminars."

Tiit Kallaste
Director for Climate
Energy and Atmosphere Programme,
Estonian Institute for Sustainable Development

"CTI is providing a vital link between energy project developers and potential investors. Without initiatives like CTI's, many energy projects in Africa have absolutely no choice of raising start-up equity."

Conrad K. Nkutu
Managing Director
Greenewus Energy Africa Ltd.

"The Climate Technology Initiative (CTI) Industry Joint Seminar in Delhi in March 2007 brought together experts and industry participants from a number of Asian countries who discussed successful cases of climate-friendly technology transfer, as well as policies and measures that have supported such technology transfer. As at other CTI seminars this seminar was too successful in helping to disseminate best practices, and in providing case studies on the effectiveness of new technologies, both to industry as well as to national economies.

The significant feature of the 2007 CTI Industry Joint seminar in Delhi was the session on financial mechanisms, which focused on Energy Service Companies (ESCOs). The seminar served as an extremely effective platform for the sharing of experience amongst various countries. In particular, the strong supportive role of ESCO associations, and the innovative use of risk guarantee mechanisms, provided useful examples of institutional and financial interventions which could enable the large scale implementation of energy efficiency projects through ESCOs.

This CTI seminar, like the many other CTI seminars which I have been associated with in the past, helped in providing industry participants with hands-on examples of successful technology transfer, and thus reduced their perception of uncertainty regarding the adoption of these new climate-friendly technologies. This reduction in perceived risk – of operating costs, performance, and of reliability – accelerates the adoption of climate-friendly technologies; a useful and direct outcome of the CTI Seminar."

Ajay Mathur
Director General
Bureau of Energy Efficiency
Government of India
Ministry of Power

"CTI's PFAN has helped us decrease development risk by targeting key risk points in the development process."

George Sorenson
Chairman
FE Clean Energy

"CTI has provided a venue for investment opportunities that would not have seen light in the traditional channels of financing."

Enrique M. Gallardo, Jr.
Project Manager
Green Machines Enterprises

"During my visit to the National Renewable Energy Laboratory last fall under the CTI Expert Exchange Program, I had the opportunity to meet a number of the scientists responsible for programs and initiatives that NREL is currently involved with to accelerate clean energy deployment. From this exchange, I learned a great deal not only about those programs but also about the difficulties found at each stage of their implementation. I also learned about the partnerships that this institution has established with other scientific and technological institutions and how important it will be to extend these partnerships to other international institutions, in particular from developing countries.

I am grateful to the CTI for having given me the chance to meet knowledgeable and passionate people at NREL that makes me feel hopeful about the future role of the US in the global efforts to combat climate change."

Gabriel Blanco
Coordinador General de la Direccion de Cambio Climatico
Secretaria de Ambiente y Desrrollo Sustentable
Government of Argentina
Member of the Expert Group on Technology Transfer (EGTT)

"The CTI's PFAN has been helping us structure financing for our small scale bio-mass projects in South Africa and Asia and has given us unique access to an investor and support network that is proving critical in our project development and implementation. PFAN has provided much needed input and help in areas where other institutions and financing instruments are simply not active or available. They have been flexible and responsive to our requirements. There needs to be more of this sort of help to project developers like us! We can thoroughly recommend PFAN to other developers of clean energy projects and hope that the expansion of PFAN is a success."

Dennis Rogers
Managing Director
EDS Projects[*]
South Africa

[*] EDS (Energy Densification Systems) has developed and pioneered a densification technology which produces pellets and briquettes from bio-mass and / or coal dust tailings (dumps); these have high calorific value and can be used in traditional furnaces (sometimes requiring adaption depending on the pellet) to generate "clean" electricity. This technology has been successfully evaluated by Alstom for producing clean fuel for co-firing power stations (biomass and coal) and is also being rolled out in the UK. EDS is working with municipalities, the forest and agricultural and mining industries in South Africa and Asia to establish densification plants. PFAN is supporting EDS in project roll-out and in negotiations with off-takers of the pellets / briquettes. This is South – South / North Technology Transfer and serves to create a better and cleaner environment, employment and economic uplift in small rural communities.

"Through CTI Private Financing Advisory Network, our company has found investment leads from all across the globe and developed links to important business partners. We have learned from CTI PFAN that it is vitally important to emphasize the major elements in the business plan that entice the interests of investors, and we have practically rewritten our business plan. The concrete advice and assistance provided by the CTI PFAN helped us reach out to investors in a most effective fashion."

Paul Rodriguez
President and CEO
ASEA One Power Corporation
Winner of the CTI PFAN Philippines Clean Energy Investor Forum

"We have been an active participant in this event and have found it to be the most useful networking and deal sourcing conference, forum, and network in the region… – AFCEF has been outstanding in providing the most follow up and devoted attention to investors. In fact our first investment in Cambodia with W2E came within two months after their presentation in Singapore at last year's event which I attended. Funds like our's are often pressed to show substantial deal pipeline to our investors, having consolidated project briefs and vetted developers with intermediaries is frankly a perfect gift. It allows me to duplicate my efforts in multiple countries. For us the CTI PFAN event days are some of our most productive for business development and to get the big picture so to say."

Austin Arensberg
Business Development Manager
Prime Energy Investments Ltd.

"From application to final presentation, there is not one webpage and no business school text book that could improve on the CTI PFAN process and its formula of bridging the gap between entrepreneurs and investors. The concept of a business plan competition certainly worked out well for the Cobelec™ business plan. The guidelines, the templates (exec. summary and business plan), the timetable and then of course the workshop and coaching was a very constructive and encouraging experience. The whole competition is of exceptional value to us (although the deals still have to flow) and it was very efficiently administered by the team from the ICETT secretariat and its local support from PPL. Last, but not least, the financial support (coaching professionals, airfares and accommodation to attend the workshop and the final presentations) was certainly appreciated."

Philipp Steiner
CEO
DalinYebo Trading and Development (Pty) Ltd.

Contents

Ⅰ. INTRODUCTION ---------- 1

Ⅱ. PRINCIPAL ACTIVITIES ---------- 4

Ⅱ - 1 TECHNOLOGY NEEDS ASSESSMENTS ---------- 4

Ⅱ - 2 SEMINARS AND SYMPOSIA ---------- 5

Ⅱ - 3 IMPLEMENTATION ACTIVITIES ---------- 9

Ⅱ - 4 TRAINING COURSES ---------- 18

Ⅱ - 5 INFORMATION DISSEMINATION ---------- 19

Ⅱ - 6 SUPPORT ACTIVITIES ---------- 23

Ⅲ. FINANCING ---------- 24

Ⅳ. PUBLICATIONS ---------- 24

Ⅴ. WEBSITE ---------- 24

Ⅵ. EXECUTIVE COMMITTEE MEMBERS ---------- 25

Ⅰ. Introduction

The Climate Technology Initiative (CTI) was established at the first Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in 1995 by 23 IEA/OECD Member Countries and the European Commission. Since July 2003, the CTI has been successfully functioning as an Implementing Agreement of the IEA. The current members of the CTI are: Australia, Austria, Canada, Finland, Germany, Japan, Norway, Republic of Korea, Sweden, the United Kingdom, and the United States of America. Its mission is to bring countries together to foster international co-operation in the accelerated development and diffusion of climate-friendly and environmentally sound technologies and practices. This report, covering the period between 1 January and 31 December 2010, is presented to the IEA in accordance with the Implementing Agreement for the CTI, as well as to stakeholders who may find the CTI activities relevant to their work.

The CTI participating countries undertake a broad range of co-operative activities in partnership with developing and transition countries and other international bodies. The CTI works closely with the UNFCCC process, relevant IEA Implementing Agreements and other international organizations and initiatives.

The CTI's activities are designed to be consistent with the UNFCCC objectives, in particular the framework for technology transfer incorporated in the Marrakech Accords and adopted at the Seventh Conference of the Parties to the UNFCCC (2001) and subsequently reaffirmed by decisions taken at the Thirteenth Conference of the Parties (COP13) in Bali, Indonesia during December 2007. As an IEA Implementing Agreement, the CTI has continued to pursue relevant elements of its past programme and to extend it into new areas consistent with its overall objectives as well as the evolving needs of the affected stakeholders. The CTI has received high praise from the UNFCCC for its contribution to technology transfer, particularly in respect of its collaboration with the Expert Group on Technology Transfer (EGTT). A new Technology Mechanism was established at COP16 in Cancun, Mexico in December 2010. The CTI will endeavor to work closely with the UNFCCC to identify areas where it can contribute to the success of the Technology Mechanism.

Asia Forum for Clean Energy Financing (AFCEF-2) (P. 5)

Africa Forum for Clean Energy Financing (AFRICEF) (P. 7)

Energy Efficiency Intervention Program in Gujarat, India (P. 16)

CTI 11th Workshop in Berlin, Germany (P. 18)

Side Event at COP16 in Cancun, Mexico (P. 21)

Side Event at SB32 in Bonn, Germany (P. 20)

Ⅱ. Principal Activities

Ⅱ-1 Technology Needs Assessments

The CTI provides technical assistance to selected countries carrying out technology needs assessments (TNA). It also collaborates with the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP) on technology needs assessment methods training, including workshops. The CTI also develops and disseminates relevant materials and information on lessons learned. The CTI's objectives include advancing the development and use of coherent, and integrated, approaches to conducting technology needs assessments among developing and transition countries. Activities in this area support the development of a flexible methodology for conducting technology needs assessments that can respond effectively to circumstances and priorities of the particular country. Such activities are carried out in partnership with multilateral organizations, country partners and the private sector.

Unique conditions in every country rule out any generic approach to technology transfer. Country circumstances differ widely, and steps, sectors and options that apply in some countries may be inappropriate in others. This diversity of circumstance is often captured in the expression 'one size does not fit all'. However, there are many steps and considerations that are common to all, and an approach can be designed, as far as is practicable, to be modified and adapted to suit a given country's circumstances.

Specific activities include:

- Capacity building for technology needs assessments (TNAs);
- Technical assistance to countries carrying out needs assessments;
- Development of methodological approaches to technology needs assessments in partnership with relevant international organizations and the private business and financial sectors;
- Exchange of experiences about successful approaches to conducting technology needs assessments; and,
- Facilitating interaction between governments, agencies and relevant public and private international organizations on TNAs.

The UNFCCC Secretariat compiled the "Synthesis report on technology needs identified by Parties not included in Annex I to the Convention"[1] presenting information on technology needs for mitigation and adaptation to climate change contained in 23 technology needs assessments (TNAs) and 25 initial national communications submitted by Parties not included in the Annex I to the Convention (non-Annex I Parties). The paragraph 9 and 10 of the synthesis report acknowledged the important role the CTI played in supporting technology needs assessments in the past, which read:

[1] FCCC/SBSTA/2006/INF.1 (http://unfccc.int/resource/docs/2006/sbsta/eng/inf01.pdf)

Paragraph 9: To help Parties conduct TNAs, UNDP developed a simplified, user-friendly handbook entitled Conducting technology needs assessments for climate change (hereinafter referred to as the TNA handbook), which provides guidance on identification of needs for technologies for mitigation of and adaptation to climate change. The TNA handbook, produced in collaboration with Climate Technology Initiative (CTI), the EGTT and the secretariat, was made available to Parties in 2004.

Paragraph 10: CTI, in collaboration with UNDP, organized three regional workshops to field-test and further develop the TNA handbook. The workshops provided a good opportunity to discuss regional concerns and priorities in assessing technology needs and to further assist Parties in conducting TNAs. CTI also provided support to Bolivia, Ghana, Malawi and the Southern Africa region to carry out TNAs.

The CTI also provided support to UNDP in updating the Handbook for Conducting Technology Needs Assessment for Climate Change (TNA Handbook) to provides a more detailed step-by-step guide for the development and implementation of a TNA and in particular in the development of technology programs and strategies in developing countries.

Ⅱ-2 Seminars and Symposia

The CTI has an ongoing programme of seminars and workshops, which are organized in support of the UNFCCC process, in order to facilitate the diffusion of climate friendly and environmentally sound technologies and practices. Active participation of the private sector, international organizations and financial institutions is regularly sought.

Ⅱ-2-(1) Asia Forum for Clean Energy Financing (AFCEF-2)

The Climate Technology Initiative held the CTI PFAN Asia Forum for Clean Energy Financing (AFCEF-2) on 3-5 March 2010 in Bangkok, Thailand in cooperation with the U.S. Agency for International Development (USAID) with overall support from the International Center for Environmental Technology Transfer (ICETT) of Japan. AFCEF-2 reached its climax when the ten selected finalists stood in front of 172 participants including a panel of four independent judges selected from the investor / financing community, and had the opportunity to present their investment pitch and then answer questions from the panel.

Upon a long and careful deliberation by the panel of judges, the CTI PFAN Clean Energy Financing Award went to “Buru Island Hydro Power Project”, a run-of-the-river hydro power scheme in Indonesia being developed by PT Binatek Reka Energi with “10 MW Biomass Power Project” in Southern Sri Lanka being developed by Lanka Bio Energies taking the second place. Also “Turning Woody Wastes into Renewable Liquid Fuels” by Renewable Oil Corporation Pty. Ltd. and “Phrao Biomass Power Project” by Second Harvest Power Company Ltd. in Thailand taking the third places.

During the course of the Workshops and the Forum, project developers received, over and above the provided guidelines, constructive guidance and advice from the CTI PFAN consultants and the judges regarding key areas to pay particular attention to address and include in their business plans and presentations which are summarized below:

- Information and data on how the project development has been funded to date and by whom (including contribution of "sweat capital" if appropriate). Specifically investors want to see that the project developers are financially committed to their ideas.

- Scenario / stress analyses which are focused closely on the possible effects of the major identified project risk(s) not generalized, global risks (i.e. 5 % reduction in turnover unless this is the major specific project risk). There needs to be a qualitative assessment of risks: natural, political, financial, technical, human (loss of key personnel), etc. Where the qualitative risk can reasonably be translated into quantitative terms, it is appropriate to develop alternative scenarios based on them. However, the scenarios should not be offered in lieu of risk analysis.

- The "numbers": required investment amounts for what share of the business; payback period and returns; underlying assumptions. These should be introduced into the business plan and the Power Point presentation at an early stage to grab the attention and make it clear what segment of the investor audience is being addressed.

- Analysis of the competition and key competitive threats. It is important to demonstrate that you are aware of where the competitive and technology threats to your business plan lie – through new technology developments, entrenched interests, economic changes which may impact your model negatively / benefit a competitor.

- Show that you understand the dynamics of the economic / commercial environment in which you are positioning your project – its key drivers and players and your respective strengths and weaknesses.

- Current development status of your project and where it is on the development path. What has been done and achieved (agreements already in place), what still remains to be achieved before implementation?

- Clear and full overview of what the requested investment funds will be used for. Provision of a source and applications of funds can be very useful in this respect.

- Macro picture / framework in which the investment takes place (external policies or factors affecting the investment environment)

- Keep the technology simple. The proposal should be clear about what is to be offered, and demonstrate briefly that the technology being proposed is proven or independently validated.

Ⅱ-2-(2) Africa Forum for Clean Energy Financing (AFRICEF)

The Climate Technology Initiative held the CTI PFAN Africa Forum for Clean Energy Financing (AFRICEF) on 14-15 September 2010 in Johannesburg, South Africa with the support of the International Center for Environmental Technology Transfer (ICETT), and the local Co-Organizers - the Rural Electrification Agency of Uganda, the Private Sector Foundation of Uganda Energy for Rural Transformation Programme (PSFU ERT), the Energy Fund of Mozambique (FUNAE) and the South African National Energy Research Institute (SANERI). AFRICEF is sponsored by the Renewable Energy and Energy Efficiency Partnership (REEEP), the United States Agency for International Development (USAID), the CTI and ICETT. The AFRICEF sought to match promising clean energy projects from Africa with investment and financing.

Sixteen projects were short-listed to participate in the AFRICEF process after a regional call for proposals for renewable and clean energy projects, launched in February 2010. The projects were selected on the basis of their commercial viability and interest for investors as well as their potential to produce clean energy sustainably and reduce greenhouse gas emissions, while achieving other environmental and developmental benefits. Coming from Uganda (4), Mozambique (4), South Africa (3), Kenya (3), Tanzania and Ghana the projects represent a total required investment volume of USD 155 million and are seeking to raise an aggregate USD 38 million of equity investment for the deployment of a range of clean and renewable technologies in the fields of small hydro, biomass to power, gasification, bio-fuels production, biogas, wind and solar. Together the projects have an estimated combined GHG emission reduction potential of 1.5 million tonnes of CO_2 equivalent per annum.

During the course of May, three Project Development and Financing Workshops for the short-listed projects participating in the AFRICEF were held in Kampala, Maputo and Johannesburg. The workshops were designed to provide expert input to the selected project developers on the development and structuring of their projects and the preparation of bankable business plans and investor pitches from professional advisors, clean energy investors and development banks. The workshops marked the beginning of intensive one-on-one coaching that the selected project developers received over the following 2½ months from professional advisors to prepare their projects and business plans to be showcased to targeted investors at the Financing Forum.

The AFRICEF reached its climax when the nine selected finalists stood in front of more than 140 financiers, clean energy experts and representatives of financial institutions including a panel of independent judges selected from the investor / financing community, and had the opportunity to present their investment pitch and then answer questions from the panel.

The Forum opened with welcoming remarks from the Chair of the CTI, Mr. Elmer Holt with the US Department of Energy. He stressed the importance of this gathering which was opening up access to private capital markets to implement environmentally sound projects in Africa. Mr. Holt expressed sincere appreciation to the organizers and sponsors for making this historic event possible. Following Mr. Holt there were key note addresses from Mr. John

Gormley, Irish Minister of Environment, Ms. Noma Qase, Director of New & Renewable Energy Department of Energy of South Africa, Mr. Brendan McMahon, Irish Ambassador to South Africa, Mr. Godfrey Turyahikayo, Executive Director of the Rural Electrification Agency of Uganda, Mr. Mario Batsana of the Energy Fund of Mozambique and Ms. Amanda Luxande of REEEP. These speakers emphasized the importance of private sector capital in addressing the challenges of climate change and the transition to a low carbon economy and congratulated CTI PFAN on its efforts to promote the flow of investment into clean energy in African countries. The fact that CTI PFAN had worked intensively with in country institutions and aligned its efforts accordingly with respective government priorities was particularly highlighted as being a positive feature of the AFRICEF process.

The business competition was so close that, upon a long and careful deliberation by the panel of judges, the CTI PFAN Clean Energy Financing Award went to two projects. The first of the winning projects was the 8 MW Kakaka mini hydropower project in western Uganda, promoted by a Ugandan-registered company, Greenewus Energy Africa Ltd. With an investment total of USD 18 million, this greenfield project is looking for USD 6 million in equity and USD 12 million in long-term debt and was being promoted by Chief Executive, Mr. Conrad Nkutu. The other winner was Barefoot Power Company which distributes solar charged LED lights and electrical products to the rural poor in Africa. Barefoot Power has already reached over 100,000 households with clean, efficient lighting and phone charging systems, with the majority of these in Africa. Barefoot operates in Kenya and Uganda and is expanding rapidly across Africa. The company is seeking USD 1 - 3 million equity and up to USD 4 million in debt to fund dynamic growth. Barefoot director Mr. Stewart Craine complemented CTI PFAN on the organization of the Forum and said that "this process has helped Barefoot Power refine and prepare its business plan for investors in a focused and disciplined way. I am convinced that Barefoot's participation in the event has increased our attractiveness to investors and will contribute to us successfully accessing new capital to fund our growth". Two runners-up were also awarded at the Forum. These were the SOIL from Ghana with a Jatropha bio-diesel project and a Biomass Gasification to Power project using waste corn cobs promoted by DalinYebo Trading and Development in South Africa. The four awarded projects represent a total of 120,000 tonnes of CO_2 reduction per annum.

During the course of the Workshops and the Forum, project developers received, over and above the provided guidelines, constructive guidance and advice from the CTI PFAN consultants and the judges regarding key areas to pay particular attention to address and include in their business plans and presentations. The added value of the CTI PFAN AFRICEF process was endorsed by many but most aptly described by one of the runner-up project developers: Mr. Philipp Steiner, CEO of DalinYebo Trading and Development (Pty) Ltd, as quoted below.

"From application to final presentation, there is not one webpage and no business school text book that could improve on the CTI PFAN process and its formula of bridging the gap between entrepreneurs and investors. The concept of a business plan competition certainly worked out well for the Cobelec™ business plan. The guidelines, the templates (exec. summary and

business plan), the timetable and then of course the workshop and coaching was a very constructive and encouraging experience. The whole competition is of exceptional value to us (although the deals still have to flow) and it was very efficiently administered by the team from the ICETT secretariat and its local support from PPL. Last, but not least, the financial support (coaching professionals, airfares and accommodation to attend the workshop and the final presentations) was certainly appreciated."

Ⅱ-3 Implementation Activities

The CTI facilitates technology implementation activities identified during the technology needs assessment process, including:

- Identifying priority clean energy technology sectors in partnership with developing countries;
- Implementing targeted activities in selected priority sectors to foster market development and clean energy technology transfer;
- Evaluating activities, and disseminating lessons learned, to inform market development and country activities in other regions and sectors; and,
- Developing a strategy for eliminating any institutional, informational or other barriers to establishing the necessary enabling environment for effective and lasting technology transfer.

Ⅱ-3-(1) Technical Expert Exchange

In September of 2010, CTI organized and supported the sabbatical visit of Mr. Arthur Rolle, Director of Meteorology and Chairman of the Climate Change Committee in the BEST Commission, Bahamas, hosted by the National Renewable Energy Laboratory (NREL) in Golden, Colorado. Mr. Rolle, who represents Bahama's climate change team, also served as the Chair of the Expert Group on Technology Transfer (EGTT) under the United Nations Framework Convention on Climate Change (UNFCCC). Mr. Rolle's respected role in a broad range of UNFCCC technology transfer activities contributed to his selection by the CTI to participate in this exchange program. Over the 7 days, Mr. Rolle had extensive meetings and discussions with technical experts at NREL and at the National Oceanic and Atmospheric Administration on issues related technology transfer, clean energy technologies, and climate change as well as facility and local tours. A brief summary of these individual meetings is provided below.

Meeting Notes

Robin Newmark, NREL. Dr. Newmark serves as the Center Director for Strategic Energy Analysis and provided the initial welcome and NREL overview for Mr. Rolle. The presentation and discussion covered the role that NREL plays in supporting the US Department of Energy and other US agencies in the area of technology R&D, analysis, and deployment. This exchange helped to provide insights on the specific ways that energy analysis informs

research, development, and technology deployment.

Jaquelin Cochran, NREL. Dr. Cochran provided an overview of methodology development for Low Emission Development Strategies that NREL has been leading with support from the Department of Energy's Office of Policy and International Affairs. This discussion focused on how common methodologies and approaches can help ensure consistent approaches to integrated emission planning and modeling, scenario development, and evaluation of development benefits of specific low emission strategies.

Ron Benioff, NREL. Mr. Benioff discussed with Mr. Rolle on current work at the Lab to support analysis and work for the EGTT and UNFCCC Secretariat related to technology transfer. Arthur shared his perspectives on critical needs within the technology transfer community to help achieve sustainable paths forward for effective technology support under the UNFCCC.

Dan Bilello, NREL. Mr. Bilello provided an overview of US programs currently under development to provide technical support to partner countries developing domestic Low Emission Development Strategies (LEDS). This discussion focused on how technical capabilities at National Labs and at US agencies may be able to support LEDS development and implementation in partnership with technical collaborators in the host country.

Sadie Cox, NREL. Ms. Cox gave a detailed overview and web demo of the OpenEI website and CLEAN network providing vehicles for data and information sharing among practitioners supporting LEDS globally. The goal of these web based toolkits and networks is to ensure information and knowledge sharing across the many organizations active in this space. This exchange helped inform how global data, information, and training may be shared by practitioners and used to inform policy and program design for technology transfer.

Mackay Miller, NREL. Mr. Miller provided an overview of work currently underway at the Laboratory to assess and evaluate approaches to accelerating innovation in technology development and transfer. The discussion focused on drivers for innovation and ways in which countries are working domestically or internationally to promote innovation and help ensure that these innovations are moved to the market place in the form of business models in the field. This exchange of ideas also helped to identify common barriers across both developed and developing countries to ensuring that public and private investments are having the greatest return on innovation and economic development derived from that innovation.

Phil Voss and Adam Warren, NREL. Based on their current work supporting the Caribbean Energy Initiative (Warren) under DOE and reconstruction activities in the energy sector in Haiti (Voss), these representatives from NREL's Applications Center discussed how NREL engineering and finance expertise is helping to support energy strategy development for island grids. This work was of interest to Mr. Rolle both in the context of clean energy deployment in his home country of the Bahamas but also in the context of EGTT discussions on integrated approaches to accelerating clean energy technology deployment in small island states.

IREC Webinar. Arthur Rolle sat in on a "brown bag" lunch webinar focusing on issues related to solar PV installations and finance. This webinar provided an example of how the

Lab engages with outside entities for information sharing and learning through electronic media. Webinars on specific energy and technology issues are in broad use globally and their use can help to advance training at relatively low cost.

NREL Main Campus Tour. Tours were provided for Mr. Rolle covering the primary research and development facilities on the NREL campus. Many of these buildings are LEED Platinum status representing some of the most energy efficient and environmentally progressive designs in the world. The tours also gave a chance for Mr. Rolle to have exposure to the researchers doing cutting edge R&D and basic science to advance the state of renewable energy technologies globally. During his exchange at NREL, Mr. Rolle's office was in NREL's newest building – the Research Support Facility – one of the most energy efficient office buildings in the world.

Michael Mendelsohn, NREL. Mr. Mendelsohn presented on the Lab's work in the area of RE finance analysis including the evaluation of various policy and financial mechanisms used in the U.S. and internationally to accelerate clean energy project development. This exchange helped to also inform NREL on current work of the EGTT and CTI related to innovative finance and support to project developers in this sector. This discussion also included an exchange on policy approaches currently used to support 3rd party finance of energy efficiency and renewable energy projects and the feasibility of expanding this model to the developing world.

Sam Booth, NREL. Drawing upon his recent analysis to assess specific technology options for an isolated mini-grid for an Island in Brazil, Mr. Booth discussed in detail the approaches that NREL uses to evaluate technology options, trade-offs, and economic optimization for clean energy deployment at the project level. This exchange focused on the more detailed models and tools that NREL and other technical organizations use to evaluate site-specific opportunities drawing upon resource data, load analysis, and cost of competing technologies.

KC Hallett, NREL. Ms. Hallett provided an overview of key tools and web portals developed by the Data and Visualization Group on how energy information is organized, used, and visualized to help inform energy policy planning and project development. A number of these tools and data can be found at: openei.org.

Anelia Milbrandt and Donna Heimiller, NREL. Ms. Milbrandt and Ms. Heimiller provided detailed briefings on how National Laboratories develop, assess, and visualize renewable energy resource data. This includes resource maps and geospatial analysis but also the integration of these data into models and policy analysis tools. These discussions emphasized the need for quality resource data in order to inform energy project design and policy development

Anne Miller, NREL. This meeting focused on the activities of the Lab's Technology Transfer Offices to better understand how NREL thinks about and addresses moving research and development to the broader community. This includes various forms of partnership with industry, academia, and the private sector as well as the use of licensing to support both innovation and better connections to the energy marketplace. This included a valuable

exchange on issues related to patent rights in the international climate negotiations and innovative ways that the Labs approach this issue with private sector collaborators.

Melinda Marquis and Pieter Tans, NOAA. These meetings were held at NOAA's campus in Boulder, Colorado. Dr. Marquis leads much of NOAA's analysis work related to climate forecasting and its impact on energy planning and adaptation. Dr. Tans is a world expert on carbon sources and sinks and discussed his research in the climate field and greatest sources of uncertainty (and certainty) in global climate models and forecasting.

Suzanne Tegen, NREL. Ms. Tegan provided an overview of the Jobs and Economic Development Indicator (JEDI) model used to evaluate the economic benefits and financial flows associated with specific energy choices. Project developers and planners to assess the local impact of clean energy projects using the JEDI tool.

Robi Robichaud, NREL. Dr. Robichaud discussed recent site analysis work in the Bahamas to assess opportunities to move to zero emissions scenario for a specific facility. Mr. Rolle shared insights on current status of wind data and possible sources of data to help improve these analyses. This was a fortunate "hallway" encounter at the Wind Site but both parties benefited from exchanging their contact information.

National Wind Technology Center Tour. In-depth tour of NREL's wind site to better under the analysis, R&D, and field testing work conducted to support wind technology development and deployment.

Mountain and Denver tours. Mr. Rolle was taken on local tours on both Saturday and Sunday to explore the mountains of Colorado and the cultural aspects of Denver.

Ⅱ-3-(2) Private Financing Advisory Network (PFAN)

The CTI has taken a leadership role in exploring innovative options to finance technology transfer because it had become clear that there was not enough public funding to fully address the technology needs of developing and transition countries, thus necessitating the engagement of the private sector. In 2006, the CTI initiated a program called **CTI Private Financing Advisory Network (CTI PFAN)** in cooperation with the UNFCCC Expert Group on Technology Transfer (EGTT) and supported by a number of private sector companies in the financing sectors of the clean / renewable energy and energy efficiency industries (CE / RE / EE). PFAN's objectives are:

- to accelerate technology transfer and diffusion under the UNFCCC;
- increase the access to financing for clean energy / climate friendly technology transfer projects in developing countries and economies in transition;
- to get more clean energy projects financed; and
- thereby, to reduce greenhouse gas emissions and promote low-carbon sustainable economic development in the transition to a low-carbon economy;

CTI PFAN was established to bridge the gap, which had been established to exist, between

investors, financiers and available sources of finance and project developers - to help the parties speak the same language and thereby develop and produce financially viable, bankable business proposals. CTI PFAN is designed to be an "open source" network to fit seamlessly with existing global and regional initiatives and to be inclusive of all stakeholders with an interest in clean energy financing.

Overview of the PFAN and its Services

CTI PFAN is an alliance of private sector companies, gathered under the umbrella of the CTI, all experienced in providing financing and financing services to climate-friendly projects. Participants include specialist investment funds, institutional investors, philanthropic and developmental investors, strategic and industrial investors, banks as well as financing advisory consultants, all of whom are interested in triple bottom line investments that account for social and environmental values along with financial returns.

CTI PFAN identifies promising clean energy businesses and projects at an early stage and provides coaching for development of a viable business plan, preparation of an investment pitch and sourcing of investment, significantly enhancing the possibility of financial closure. Projects are selected based on seven key criteria – that they are competently managed, technically viable, economically viable, sustainable, environmentally beneficial, socially responsible and contribute to a reduction in green house gas emissions.

For those clean energy businesses that are selected, CTI PFAN offers a number of specific services, all of which are provided without charge:

- *Advice and Guidance* on overall project structure, financial structuring, sourcing of equity and debt financing, technical project aspects, business growth strategy, preparation and presentation of business plans.

- *Technical Assistance.* Limited funding may be available to selected projects for feasibility and technical studies.

- *Matching Projects with Investors.* Selected projects are introduced to investors via showcasing at Clean Energy Investor Forums organized by CTI PFAN and / or by direct introduction to network investors and other potential investment sources

Early Evolution and Development of CTI PFAN (2006 – 2008)

CTI PFAN activities commenced in early 2006 and were conducted as a small scale pilot programme up to the middle of 2008 which saw some 12 projects being formally inducted into the development pipeline (from 65 reviewed) and 2 projects (a small hydro power plant in Mexico and a bio fuels refinery in Brazil) being guided to financial closure, raising a total of USD 35 million of investment.

Based on this success CTI together with a number of other Funding Partners embarked on a major scaling-up programme to establish CTI PFAN as a major global operation with networks

in Latin America, Asia, Africa, Commonwealth of Independent States (CIS) and Eastern Europe.

PFAN Funding Partners

In the meantime, CTI PFAN activities are funded by the CTI and other Funding Partners including the United States Agency for International Development (USAID), Asia Pacific Partnership on Clean Development and Climate (APP) and the Renewable Energy and Energy Efficiency Partnership (REEEP). In addition the private sector PFAN Members commit matching funds and contributions (in the form of discounted service rates and fees) to the extent of roughly 100 % of the Funding Partners funding.

Highlights of 2010 Activities

- Successful launch and build out of the dedicated PFAN Network in India to complement the Asia Regional Network and the existing Country Networks in China, Indonesia and Philippines.

- Successful establishment and build out of the African Regional Network with dedicated in-country networks established in Mozambique, South Africa and Uganda.

- Continued expansion of activities in Asia and Latin America.

- In all there were 7 Clean Energy Financing Forums held during 2010. Together these 7 events showcased 60 projects (selected from over 300 identified eligible proposals) with a combined total investment volume of USD 1 billion and the potential to reduce GHG emissions by over 2.9 million tonnes of CO2 e annually, to over 1,100 investor, financier and other stakeholder participants across 3 continents:

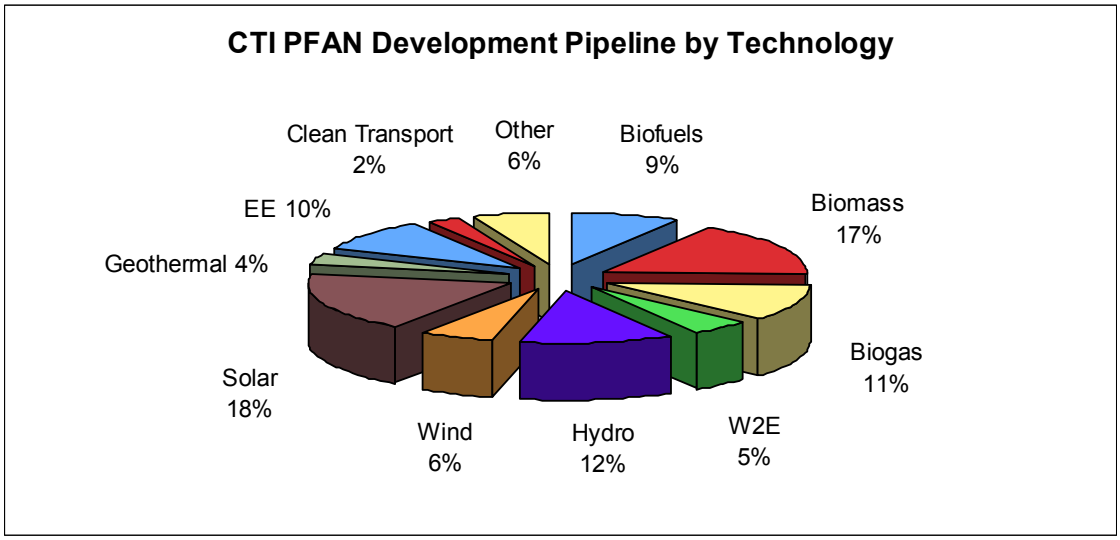
    - Second cycle of Clean Energy Financing Forums in Asia including the Asia Regional Forum for Clean Energy Financing (AFCEF2 - see section 2-1 above) and in-country Financing Forums in China, Indonesia and the Philippines;

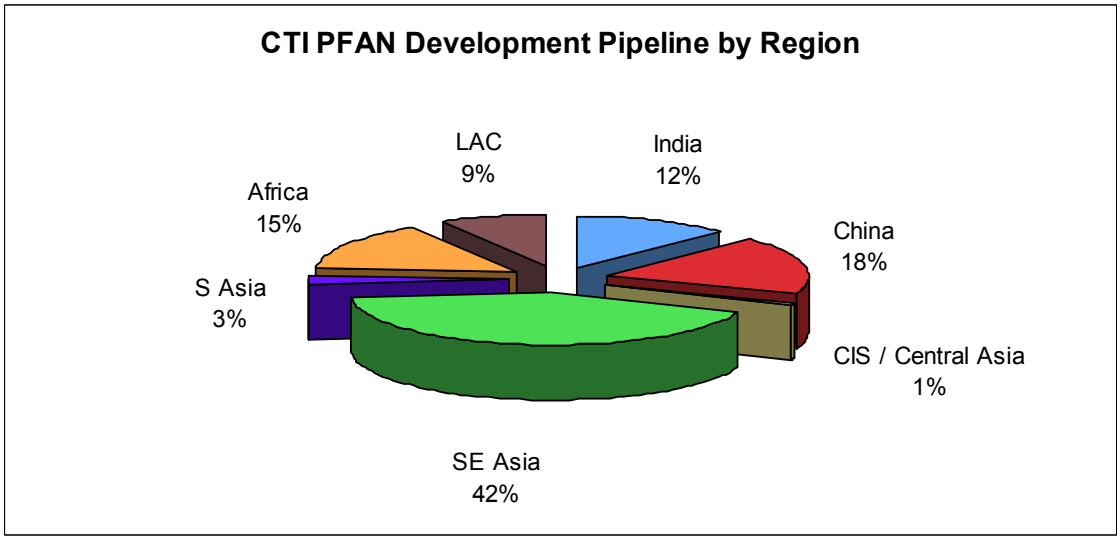
    - 3 new first time Clean Energy Financing Forums covering Africa (Africa Clean Energy Financing Forum – AFRICEF; see section 2-2 above), Brazil (Brazil Clean Energy Financing Forum – BCEFF) and India (India Clean Energy Financing Forum – ICEFF);

    - These 7 Forums led directly to 14 projects finding an investor and reaching financial closure, raising a combined total of just over USD 168 million of investment and financing for the projects concerned.

- During 2010 the CTI PFAN development pipeline was significantly increased with just over 60 new projects being inducted in the period. As at 30 December 2010 the development pipeline included some 106 projects with a total investment volume of USD 2.1 billion, a clean energy generation potential of 1,820 MW and an annual GHG reduction potential of 4.5 million tonnes. The charts below show the distribution of the projects by

geography and by technology:





- Thanks to the increased activity levels and not least to the impacts of the Clean Energy Financing Forums the project closing rate also accelerated significantly during the year with a further 18 projects reaching financial closure and raising USD 212 million for the implementation of their projects. This brings the total of financing leveraged by CTI PFAN to USD 283 million for 22 projects which will lead to an installed clean energy generation capacity of some 250 MW, an annual GHG reduction of ca. 1.6 million tonnes of CO2 e and energy savings of 61.3 GWhrs per annum.

Closing Summary

2010 was an extremely busy and productive year for the program both in terms of project development and financing facilitation but also in terms of the continued expansion of the

Network. The results in Africa in this connection are particularly encouraging. 2011 will see the continuation and expansion of work on all existing fronts as well as the launch of activities in the CIS and Central Asia as well as in Central America and the Caribbean.

As demonstrated by the strong performance in 2010, CTI PFAN is confirming its initial promise as a highly innovative and effective instrument in raising finance for clean energy projects in developing countries and transition economies and thereby facilitating technology transfer.

Ⅱ-3-(2) The CTI has an on-going **Technical Advisory Programme to reduce greenhouse gas emissions through energy efficiency measures in India, China and the Philippines.** As a representative example of this programme, the details of the activities in India are described as follows.

Background

"CTI Energy Efficiency Intervention Program in Gujarat, India" aims to reduce the greenhouse gas emissions and improve the environment through energy efficiency intervention in Bhavnagar Rolling Mill Cluster in Gujarat, India in cooperation with Winrock International India (WII). The program started with the survey to better understand composition and functionality of the steel rolling units in Bhavnagar Rolling Mill Cluster. In consultation with Bhavnagar and Sihor Steel Re-Rolling Mills association, M/s Vijay was selected as the demonstration unit for conducting further study and implementation of equipment upgrade for the re-heating furnace. Allied Furnace Pvt. Ltd., (AFPL) in cooperation with the Japanese expert, drafted a furnace design with improved energy efficiency for M/s Vijay. The result of modification was successful, and a workshop within the cluster was organized to disseminate the lessons learned and successful results of the demonstration unit at M/s Vijay, and to introduce a comprehensive approach for replicating the demonstrated technology in other units of the cluster. ICETT continues its support for the Bhavnagar rolling mill cluster to create awareness and establish a sustainable framework to transfer technology and improve energy efficiency in the small-scale steel re-rolling sector.

Activities accomplished

1. Discussion with industrial associations and Gujarat Energy Development Agency

Industrial associations in Bhavnagar and Sihor have always been involved in the project development since its launch and all the milestones of the project have been shared for discussion with them. Both associations have clearly indicated that such a successful intervention is unprecedented in the cluster and shall go a long way in changing the perception of energy conservation for the industrial community.

During a meeting with officials of the Gujarat Energy Development Agency (GEDA), which is a State Designated Agency (SDA) for Gujarat, the successful outcome of the project was commended and a renewed commitment towards the project was expressed.

2. Selection of rolling units for replication

As a result of the dissemination workshop and discussion with local industrial associations,

several units in the cluster indicated their interest in participating in the replication phase of the applied technologies. In the first phase of the replication process, three rolling units in Bhavnagar were selected from those that came forward. The selection process was carried out on the basis of a number of criteria, including but not limited to, readiness and willingness to introduce energy conservation measures, availability of the units for proposed shutdown, production schedule and commercial scenario, etc.

In the interest of catering to the requirements of each unit, the replication work started with research. Of the three selected units, Raj Steels and Shree Ramdev Steel Industries were already into operation and the project was deemed feasible for retrofit of existing furnace in Raj Steels and installing new furnace in Shree Ramdev Steel Industries. The third unit Sardar Steel Industries is an upcoming unit in the cluster and the furnace design activities were started from the scratch. Pre-demonstration diagnostic studies were carried out at the already operational units which included study of important operational parameters, product and raw material variations, detailed energy audits and scale loss study.

3. Technical information generation and exchange

The technology supplier for the improved furnace technology requires many preliminary data regarding the unit's operational parameters in order to work on the design development and fine-tuning of furnace design so as to cater to the individual unit's requirements. However, the data logging and measurement practices at these units are either poor or completely absent, and the units lack the technical infrastructure and manpower to generate such data using instruments and support such systems.

WII took up the task of measurement and verification of operational parameters and provide them to the technology supplier. The experts took onsite measurements and interacted with rolling mill managers and supervisors in order to better understand the commonly employed practices and their shortcomings.

4. Study of operation details from shop floor personnel

In order to sustain the benefits arising from the newly installed technology, it is deemed important to train the shop floor personnel and their supervisors for best operating practices in the rolling mill units. The Japanese technical experts on panel with ICETT developed a questionnaire to better understand the rolling operation in the units. The questionnaire consisted of questions seeking the practices employed by the rolling mill managers and supervisors during day-to-day production activities. The questionnaire was circulated among the representative rolling units in the cluster namely, J R Steels, Kalima Steels, S S Industries, Vijay Steels, Shree Ramdev Steel industries, Hans Industries. The rolling units welcomed the initiative and came forth with necessary information in the questionnaire with great enthusiasm.

5. The first workshop for managers and supervisors

The observations of the site visits to the rolling units were shared with the rolling mill supervisors and managers at a workshop. Sh. Vinod Kumar Jangid, a leading industrialist in Bhavnagar cluster presided over the workshop and delivered the inaugural address. WII shared

the project objectives and success story of the previous phase with the participants. The focus of the workshop was the interactive session with Mr Sakae Tezuka's presentation on the best operating practices in rolling units, and Mr Kiyoshi Hitomi's presentation on best operating practices in rolling process. The presentations were followed by a lively questions and answer session.

6. Upcoming Activities

The following activities will be conducted in the short term in order to achieve the project objectives:

- Conduct surveys to local agencies functioning as a window to consult regarding energy efficiency;
- Explore possibilities of subsidy or loan for implementation of energy efficiency projects in Rolling mills;
- Organize second workshop on energy management and better operating practices for engineers of Bhavnagar rolling mills;
- Disseminate the lessons learned to industries and various state stakeholders of the cluster in order to implement similar technology in the remaining units through workshops, seminars and training etc; and,
- Conduct surveys to understand the current situation of other Rolling mill clusters in India to plan the future course of action.

Ⅱ - 4 Training Courses

Training courses are organized in collaboration with relevant international organizations, with a focus on the special requirements and circumstances of the target countries/regions. Specific activities include:

- Capacity building for technology needs assessment, project planning and assessment, and establishment of institutional settings;
- Information dissemination about environmentally sound technologies and best practices appropriate to the region and circumstances of the target country;
- Identification of financing needs and alternative means of project financing;
- Exchange of experiences in the use of successful environmental and energy policy instruments (e.g. law, taxes, subsidies etc.);
- Professional education and training;
- Initiation and strengthening of networking between agencies/centers for energy saving, energy efficiency and renewable energy; and,
- Facilitating interaction between governments, agencies, and relevant international and other organizations.

The 11th CTI Workshop on Climate Policy and the Building Sector was held on 12 and 13 November 2010 in Berlin, Germany. Main objective of the Workshop was to provide a forum for decision makers and experts from various countries to share experiences and best-practice

policies and measures for the improvement of energetic performance of the building sector. Hosted by the German Federal Ministry of Environment, together with the German Ministry for Transport, Building and Urban Development, relevant international stakeholders were invited to attend the Workshop to discuss climate-driven energy policy and financing options in the building sector.

More than 50 participants from 20 countries attended the Workshop and contributed to very active and fruitful discussions. Among the participants were political decision makers from national and regional governments, financing institutions, implementing organizations as well as a wide range of experts in the field of energy efficiency, climate policy, CDM/JI and NAMAs.

While the first day of the Workshop focused on specific measures and policies available to reduce GHG emissions in the building sector, the discussion on the second day covered a variety of topics; financing options for implementing energy efficiency measures including credit lines and subsidy schemes offered by development banks; the Kyoto Protocol's flexible mechanisms, CDM and JI; and, NAMAs. The Workshop offered opportunities for the participants to present their views and discuss various options available at the roundtable and networking forum sessions.

The Workshop re-emphasized the urgent need to adapt the CDM approach to the building sector. It was also pointed out by the participants that potential applications of and opportunities for NAMAs will have to be further clarified in the near future.

In the closing remarks, Dr. Silke Karcher, Head of Division KI I 4, EU affairs and bilateral co-operation on environment and energy, stated that the German Federal Ministry of Environment will continue discussions in 2011 to promote further development in the area of CDM methodologies and NAMAs.

Ⅱ-5 Information Dissemination

One objective of the CTI is to facilitate information dissemination among governments, industry, academia and relevant international and other organizations, and to support the diffusion of climate-friendly and environmentally sound technologies and practices.

The CTI also provides support for UNFCCC-organized seminars and workshops, designed to better inform participants on key technology transfer issues, including enabling environments, technology needs assessment, technology information resources and capacity building. The CTI organizes side events at UNFCCC events to share experiences and lessons learned from CTI-supported technology transfer activities in collaboration with developing and transition country partners.

The following activities were undertaken and completed in 2010:

Ⅱ-5-(1) The CTI held a side event at the UNFCCC, SB32 meetings in Bonn, Germany on 3 June 2010, led by Mr. Elmer Holt, Chair of the CTI. The event, entitled "Mobilizing Private Sector Financing for mitigating Climate Change and promoting Development using CTI PFAN," was well attended by over 25 participants from a broad range of stakeholders including national delegates, private sector, international organizations, and NGO representatives. The event presented an overview of CTI's recent work, in particular CTI Private Financing Advisory Network (CTI PFAN)'s activities and lessons learned in terms of successful ways to increase access to financing for the deployment of lower carbon technologies.

Mr. Holt opened the side event with an introduction and overview of the CTI, noting that the CTI welcomes membership by both developed and developing countries and encouraged developing country representatives to contact CTI if there is interest to join CTI. He mentioned that CTI works closely with governments, UNFCCC / Expert Group on Technology Transfer (EGTT), international organizations and others. However, CTI's significant comparative advantage lies in its close collaboration with the private sector, noting the essential role the private sector plays in the enhancement of technology transfer activities. As such, the CTI has made the engagement of this key group a particular focus of its efforts.

Mr. Bruce Wilson, Chair of the EGTT, made an opening address, noting the CTI's long-standing support for the UNFCCC process and its vital role in facilitating technology transfer discussions, in particular through close collaboration with the EGTT. He emphasized that the value CTI PFAN adds to the process is that it addresses issues faced by small to medium sized projects in accessing private sector financing, which are the same issues identified through UNFCCC workshops on innovative financing in 2004 and 2005. He further stressed that CTI PFAN is a practical, on the ground, and hands-on initiative achieving tangible results while working closely with project developers and proponents building capacity and skills necessary to implement projects. He indicated that CTI PFAN illustrates that the gaps in technology transfer issues can be addressed through capacity building, and the concept of CTI PFAN is shaping up and taking root in the finance discussions under the AWG on Long-term Cooperative Action under the Convention. He congratulated the CTI for establishing a successful and effective programme in such a short time, and expressed hope that the programme will continue to grow.

Mr. Peter Storey, the CTI PFAN Global Coordinator, Director of PPL International, presented a summary of CTI PFAN, focusing in particular on the current activities and plans for the future as covered by the balance of this paragraph. PFAN is a multilateral initiative, organized under the umbrella of CTI with financial support from CTI member countries, USAID, ICETT, APP, and REEEP, offering a free project development consultancy and investment matchmaking service to project developers to help them raise private sector finance. The network members, currently numbering over 40, consist of private sector financing professionals (investors and consultants) with extensive developing country experience and a triple bottom line perspective; i.e. an appreciation for the social as well as the economic and environmental benefits of the project. The CTI PFAN programme received endorsement in COP13 decisions (4 / CP.13) for

its work during the pilot phase, which led to the expansion of the programme with new funding from USAID, REEEP, APP, ICETT and CTI. CTI PFAN adds value in optimizing resources by identifying at an early stage the projects with commercial potential, thereby enabling developers and investors to concentrate on projects with investment potential. Further, CTI PFAN contributes to reducing risk through targeting of key risk points, thus accelerating the project implementation cycle. CTI PFAN is looking at ways to coordinate its existing activities with the possible post-2012 technology mechanism being considered in the ongoing UNFCCC negotiations. CTI PFAN looks forward to furthering cooperation with UNFCCC Parties in the efforts to work towards and implement the post 2012 architecture for Technology Transfer to mitigate and adapt to Climate Change.

Presentations were followed by a lively period of questions and discussion led by Mr. Holt. In response to a question regarding the future structure of the CTI PFAN programme as it grows in relation to the UNFCCC process, Mr. Holt noted that it is likely that some form of technology mechanism will emerge from the current AWG-LCA negotiation process. A PFAN-type match-making capability would be a natural course to take in order to facilitate access to private capital and thereby scale-up and accelerate project implementation. In response to a comment on the difficulty of implementing small scale projects in rural areas of developing countries, e.g. rural electrification projects, Mr. Storey pointed out that CTI PFAN helps to lower transaction costs by providing an early stage assessment to project developers on the commercial viability of a given project which allows public funding sources to be pursued as soon as possible for those projects that lack any commercial element.

Mr. Holt thanked all CTI member countries for their continuing support to the CTI activities. He closed the meeting with appreciation to the speakers and participants for their contribution to the useful discussion that hopefully provided a better understanding of the broad range of activities being pursued by the CTI and its partners in order to facilitate technology transfer and how the lessons learned from those activities are leading to improved access to financing particularly private capital markets to accelerate the broader diffusion of environmentally sound technologies.

The presentations are available for download from the CTI website address copied below.
http://www.climatetech.net/events/index_new_detail.cfm?Page=1&EventsID=8185

Ⅱ-5-(2) The CTI held two side events during the UN Climate Change Conference in Cancun, Mexico on 4th and 7th December 2010 to review the progress of its work on the Private Financing Advisory Network (PFAN), one of the CTI's successful programmes operating in Latin America, Africa and Asia, and to discuss scale-up opportunities. The first event entitled "Mobilizing private sector financing for technology transfer" and the second entitled "CTI PFAN: a public-private sector model for financing technology transfer of clean energy projects in developing countries", these events brought together over 65 participants from a broad range of prominent stakeholders including national delegates, private sector, and multilateral organizations for panel discussions.

The first event opened with welcoming remarks and brief introduction to CTI by Mr. Elmer Holt, the Vice-Chair of CTI Executive Committee and CTI PFAN Manager. Mr. Holt noted the important role the private sector should play in supplementing the scarce public resources available to finance developing country technology needs in solving climate change challenge. The second event held at the US Center was organized in cooperation with the US Agency for International Development. Mr. Bill Breed, USAID Global Climate Change Coordinator drew attention to PFAN's proven ability to leverage private sector finance for clean energy projects and work directly with private sector actors to create truly sustainable investments. Mr. Michael Rantil, the Chair of the CTI Executive Committee who provided brief introduction to CTI and CTI PFAN pointed out that the CTI PFAN addresses the lack of access to financing by bridging the gap between the project and investment sources that stems from insufficient interaction and communication. In both events, CTI PFAN Global Coordinator, Mr. Peter Storey presented an overview of CTI PFAN programme, focusing on its aims, mechanisms and outcomes of recent activities leading on from the successful organization of the Africa Forum for Clean Energy Financing (AFRICEF) as well as other investor forums held during 2010. He also discussed the scale-up opportunities offered by CTI PFAN programme for financing technology transfer in developing countries.

Mr. Storey noted that the AFRICEF received over 65 proposals from across Africa, out of which 16 projects were short-listed, representing a total required investment volume of USD 155 million and are seeking to raise an aggregate USD 38 million of equity investment for the deployment of a range of clean and renewable technologies in the fields of small hydro, biomass to power, gasification, bio-fuels production, biogas, wind and solar. It was highlighted that the estimated combined GHG emission reduction potential from these projects is 1.5 million tonnes of CO_2 equivalent per annum. During 2010, seven Financing Forums have been organized in various regions attracting 1,100 participants in total and CTI PFAN helped 13 projects reach financial closure raising USD 168 million of investment. It was also highlighted that the CTI PFAN has successfully raised USD 232 million of investment for 240MW of clean capacity installments and 61.3GWhrs of energy savings, representing 1.26 million tonnes CO_2 equivalent reduction par annum. In addition, it is currently working on over 100 projects representing USD 2.4 billion of required investment with over 4.6 million tonnes of CO_2 equivalent reduction potential per annum.

In response to a question regarding the success factor for the CTI PFAN model to achieve high leverage rate, Mr. Storey pointed out that the PFAN programme is a success driven model providing Win-Win situation by creating business opportunities for investors and consultants, while raising finance for project developers. He also emphasized that the CTI PFAN provides valuable service in identifying clean energy projects with investment potential so that the public sector can concentrate its limited resources to those projects that do not have commercial elements. This is the area where the CTI PFAN is working with UNFCCC through technology needs assessment process in order to identify commercially viable projects at an early stage. Mr. Binu Parthan, REEEP Deputy Director General commented that REEEP is pleased with its successful cooperation with the CTI PFAN and welcomed further opportunities to scale up activities in Africa as well as to duplicate the success in other part of the world.

It was emphasized that the CTI PFAN programme has proven to be an effective tool for responding to the climate change challenge and the CTI will continue its efforts to improve and expand its networks to reach further regions and countries in need of support.

Presentation files from both side events can be downloaded from the CTI website address below.
http://www.climatetech.net/events/index_new_detail.cfm?Page=1&EventsID=8226

Ⅱ - 6 Support Activities

The CTI held its 15th Executive Committee meeting in Fukuoka on 11-12 March 2010, and its 16th meeting in Vienna on 20-21 October 2010 to facilitate the efficient functioning and integration of the various activities and tasks under the CTI Programme of Work. One of the key objectives of support activities is the communication and publication of the CTI activities through pamphlets, documents and a well maintained website. CTI Annual Report 2009 in hard and soft copies, and CTI PFAN information pack were produced and distributed at the Bonn Climate Change Talks in June 2010, and the UN Climate Change Conference in Cancun in December 2010.

Ⅲ. Financing

The CTI derives all its funding from contributions of participating countries. In 2010, these contributions totaled EUR 2,486,989. In addition to these financial contributions, CTI members contribute to CTI activities by sending their government officials to meetings, finding appropriate private sector experts, bridging relevant organizations such as UN bodies, and other in-kind activities.

A common fund has been established to carry out programme-wide support activities to facilitate the efficient functioning of the Programme of Work. Included among the actions supported by this common fund is the communication and publication of CTI activities through pamphlets, documents and a well maintained website. Each participating country paid a minimum core contribution of 15,000 EUR.

Ⅳ. Publications

CTI publications, available on the CTI website noted below, include the following:

- Methods for Climate Change Technology Transfer Needs Assessments and Implementing Activities: Experiences of Developing and Transition Countries;
- Technology Without Borders: Case Studies of Successful Technology Transfer; and,
- Key challenges in stimulating diffusion of clean technologies in Latin America (also available in Spanish).

Ⅴ. Website

For more details on CTI activities and an up-to-date list of events, please consult the CTI website <**www.climatetech.net**> and the CTI PFAN website **<http://www.cti-pfan.net>**.

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Climate Technology Initiative

The Climate Technology Initiative is one of the International Energy Agency's Implementing Agreements, within the IEA's Framework for International Energy Technology Cooperation. The CTI's objective is to foster international co-operation for accelerated development and diffusion of climate friendly technologies and practices. For more information - see www.climatetech.net.