

***TCAPP and CTIP
FY00 WORKPLAN***

~ For the National Renewable Energy Lab ~

Draft – 1/27/00

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I. INTRODUCTION AND KEY ACCOMPLISHMENTS TO DATE

Introduction

The Technology Cooperation Agreement Pilot Project (TCAPP) is a joint USAID, EPA, and DOE initiative that was started in 1997 to develop a model for a market relevant and country driven approach to technology transfer with developing countries. Brazil, China, Egypt, Kazakstan, Korea, Mexico, and the Philippines are currently participating in TCAPP and are all making good progress with design and implementation of actions for overcoming barriers to investment in clean energy technologies. NREL is also providing assistance to the Southern African Development Community (SADC) for their work under the Cooperative Technology Implementation Plan (TCIP) initiative of the Climate Technology Initiative. This workplan summarizes the progress that has been made by the 7 countries participating in TCAPP and the SADC CTIP work and describes proposed activities for FY00.

Key Accomplishments to Date

1. The participating countries in collaboration with the NREL led team are beginning to implement clean energy investment actions and attract private sector investor participation. For instance:
 - The Philippines TCAPP team prepared, received approval from the Secretary of Energy, and has initiated implementation of a broad range of policy reforms to address barriers to investment in renewable energy. In addition the Philippines TCAPP team is providing technical assistance to several renewable energy project developers (e.g. General Power and others) and industry associations (e.g. Hydropower association) to facilitate new investment projects designed to catalyze broad scale investment.
 - The Brazilian TCAPP team has developed a solicitation for private sector participation in an expanded renewable energy field testing program (issuance has been delayed by a change in the management of MME), has launched an energy efficiency project matchmaking program in collaboration with Brazil's largest industrial association and U.S. and international companies, and is convening investment conferences for transportation efficiency and cogeneration.
 - The Korean TCAPP team has completed their energy efficiency investment strategy and is now planning a visit in January, 2000 of U.S. ESCOs to Korea to explore possible project development activities and other government actions to expand the ESCO market. To date, 6 U.S. ESCOs have expressed interest in participating in this mission to Korea. The Korean team is also completing their investment strategies for methane recovery from wastes and waste energy recovery from heat pumps.
 - The Mexican TCAPP team is completing the design of investment actions for ESCO market development, solar hot water heating, and steam generation and distribution systems and is establishing close collaboration with various companies and associations on these actions.
 - Following the development of a MOU between the EPA Administrator and the Minister for China's State Development Planning Commission and discussions with SDPC officials on the design of the next phase of work, the Chinese Government has now established teams to develop and implement investment actions for wind power and efficient motors. These teams are currently preparing market development strategies and will present proposed investment actions to an interagency team meeting in January, 2000 where 6 initial actions for implementation will be selected.

- The Kazakstan team (following a delay due to a restructuring of their government) has initiated development of specific investment projects for small hydropower, combined heat and power, and gas utilization from oil refineries and is considering other actions to facilitate large scale investment and remove market barriers.
 - The TCAPP work in Egypt was successfully initiated in September, 1999. An interagency TCAPP team has been established and initial priority areas (industrial energy efficiency, enhanced natural gas use, lighting efficiency and renewable-powered lighting, renewable energy applications in rural areas, and small scale cogeneration applications) have been established and currently under consideration by an Inter Ministerial Climate Change Committee.
 - The CTIP work in SADC was initiated in September, 1999 during a preliminary scoping workshop with the participating countries from the region. The countries together with SADC ELMS the lead coordinating institution identified preliminary priority areas and developed a detailed workplan and next steps to receive formal SADC endorsement and establish the project team. The project was formally approved by SADC Environment Ministers in October and the project team is currently being formed and will likely hold its first official meeting in January, 2000 to begin the process of designing investment actions for the region.
2. Over 300 representatives from international energy companies and associations are participating in TCAPP through the BCSE network with a growing number of companies participating in design and implementation of country specific investment actions.
 3. TCAPP has been highlighted at the climate negotiations, in the IPCC technology transfer report, and in other forums as a promising model for implementation of technology transfer under the UNFCCC. The participating countries have also commented on the value of TCAPP as an effective approach for technology transfer implementation and several countries are using their TCAPP experience to develop position papers for their countries on technology transfer issues. TCAPP held side events at SBSTA 10 and COP-5 and prepared a comprehensive progress report for COP-5.
 4. TCAPP is assisting CTI in establishing and implementing the Cooperative Technology Implementation Plan initiative following a similar approach to TCAPP.
 5. The USAID Missions (especially in Brazil, Mexico, and the Philippines) and several donor organizations (e.g. Canada, EC, World Bank, and others) have become actively engaged in the TCAPP work in the participating countries.

II. PROPOSED OBJECTIVES AND PROJECT TEAM

Proposed Objectives

- Mobilize significant private investment in clean energy technology priorities of the participating developing countries
- Apply the TCAPP approach and experiences of the participating countries and businesses in assisting the U.S. Government in developing an effective framework for implementation of technology transfer under the UNFCCC
- Expand collaboration with U.S. and international energy companies and investment organizations in design and implementation of investment actions
- Assist CTI with implementation of the SADC CTIP work (and possibly the Thailand work), refining the overall CTIP methodology and expanding OECD participation and support for CTIP
- Expand participation and support of other OECD countries and multilateral donors in TCAPP to build their support for this approach to technology transfer and secure their support for implementation of country actions to address market barriers (where needed).
- Re-initiate TCAPP work in India and explore possible TCAPP work in other countries

Project Team

The FY00 TCAPP team includes the following institutions:

- *Country Teams* – Interagency teams have been established in each country to guide and direct the TCAPP work of a lead technical institution in each country. In most countries, separate teams are established to design and implement specific investment actions. Industry associations, research institutions, and other non-government organizations participate on these technology/investment action teams.
- *National Renewable Energy Laboratory* - NREL coordinates implementation of TCAPP for the U.S. Government and leads implementation of the SADC CTIP work. NREL provides technical and financial assistance to the country teams. A U.S. technical team is established to provide assistance to each of the countries. These teams are coordinated by NREL and include experts from other laboratories and consulting firms (LBL, FETC, Sandia, PNL, Hagler Bailly, Econergy, ACEEE, etc.). NREL also manages the work of the BCSE in facilitating business participation and coordinates international donor participation. In addition NREL assists the U.S. Government and the participating countries in disseminating the results of TCAPP and in evaluating the experiences of TCAPP as a model for implementation of technology transfer under the UNFCCC. NREL also assists CTI with design and implementation of CTIP.
- *Business Council for Sustainable Energy* - BCSE coordinates the participation of international energy companies, investors, and associations in TCAPP through a business network and facilitates the participation of these companies in country-specific investment actions.

- *Econergy International* – Econergy provides project development and financing support for investment projects under development in Philippines, Korea, and Kazakstan. If sufficient resources are available, Econergy could provide such support to the other TCAPP countries and the SADC CTIP work in FY00.
- *Other Cooperators and Contractors* – Other laboratories and cooperators provide technical assistance to the country teams on specific actions, including LBL, FETC, Sandia, PNL, Hagler Bailly, ACEEE, and others. These organizations receive funding directly from NREL through TCAPP and NREL assists these organizations in securing support directly from the TCAPP sponsoring agencies for their technical assistance work.

III. PROPOSED ACTIVITIES

The FY00 Activities are divided into 5 major program elements that are described in detail in the following sections:

- TCAPP Country Activities
- CTIP Activities
- Business and Investor Participation
- OECD/Donor Participation
- Outreach Activities

1. TCAPP Country Activities

NREL has identified five key pillars of success that will serve as guides and performance targets for the FY00 TCAPP country activities. These five pillars of success *for each country* are:

- 1. Implementation of 3-5 Investment Actions Based on Market Development Strategies.** The TCAPP FY00 performance target is to have 3-5 investment actions fully implemented in each country. Wherever possible, these actions should be selected based on long-term market development strategies prepared by the countries for the technology priority areas.
- 2. At Least 2-3 Business Investment Projects Under Development in Response to the Investment Actions.** The TCAPP FY00 performance target for each country is to have at least 2-3 business investment projects under development in each country. These projects will be developed through business participation in the investment actions (e.g. solicitations, investment conferences, business matchmaking, project development support, etc.).
- 3. 1-3 Donors Providing Support.** The TCAPP FY00 performance target for each country is to have at least 1-3 bilateral and multilateral donors providing support for implementation of country actions to address market barriers
- 4. Climate Officials Engaged and Evaluating TCAPP as Technology Transfer Model.** The TCAPP FY00 performance target is to have key climate officials actively engaged in the design and implementation of investment actions and in applying this TCAPP experience to developing their views on effective frameworks for technology transfer implementation
- 5. Effective Dissemination of the Country Work to Key Stakeholders.** The TCAPP FY00 performance target is to provide regular communication to all key in-country stakeholders, U.S. Government agencies, international businesses, key bilateral and multilateral donors, and other climate change officials and experts on progress made with the TCAPP work.

BRAZIL

Key Accomplishments

The Brazilian TCAPP effort is headed by senior officials at the Ministry of Mines and Energy (MME), with broad participation of the Ministry for Science and Technology, CONPET, CEPEL, INEE, and CNI (major industry association in Brazil) and other key organizations in Brazil. While changes in leadership of MME did slow progress, this effort still achieved several significant accomplishments including:

- Developed a solicitation for private sector participation in an expanded renewable energy field testing program.
- Launched a business matchmaking program in collaboration with Brazil's largest industrial association (CNI) to help Brazilian companies find international investment partners for energy efficiency and possibly cogeneration and renewable energy projects
- Obtained commitments from Brazilian agencies and organizations to convene a transportation efficiency investment conference.
- Assisting INEE in attracting international companies to participate in their distributed generation/cogeneration investment conference
- Achieved active participation of U.S. and international companies, including over 20 companies interested in responding to the renewable energy solicitation and several companies and associations engaged in planning implementation of the matchmaking program and the transportation and cogeneration investment conferences
- Facilitated active participation of key Brazilian climate officials in TCAPP, including presentation of the TCAPP work at the COP and SBSTA meetings.

FY00 Activities

Over the next 12 months, the Brazilian TCAPP work will focus on implementation of the investment actions already underway (solicitation for renewable energy, business matchmaking program, transportation and cogeneration investment conferences) and possible additional actions that are defined during the work. These activities will be conducted in close collaboration with the international private sector to facilitate their active response to new investment opportunities arising from these actions and promote the development of new business investments in these areas. The Brazilian work will also evaluate the merits of the TCAPP approach as a model for implementation of technology transfer under the UNFCCC to support Brazil's participation in the Latin American UNFCCC technology transfer workshop and the upcoming SBSTA and COP-6 discussions of technology transfer. The table on the following page provides more details on these activities:

***Brazil TCAPP FY00 Activities:
The Five Pillars of Success***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<p><i>I. Implement 3-5 Investment Actions Based on Market Development Strategies</i></p>	<p>A. Rural Renewable Energy. Solicitation for Renewable Energy Field Test prepared. Expecting PRODEEM to issue in March.</p> <p>B. Transportation. Efficiency Investment Conference – Obtained commitments from Brazilian agencies and organizations to convene a transportation efficiency investment conference</p> <p>C. Industrial Efficiency/Natural Gas/Cogeneration.</p> <ol style="list-style-type: none"> 1. Business Matchmaking Initiative – Reached agreement with CNI to support a business matchmaking effort to help Brazilian companies find international investment partners for energy efficiency, cogeneration, renewable energy and natural gas projects. 2. Cogeneration/Distributed Generation Workshop – Reached agreement with INEE on a TCAPP role of attracting international companies to participate in their distributed generation/cogeneration conference. <p>D. Fuel Cells. Agreed with CEPTEL to redirect this priority away from ethanol fuel cell cooperative R&D to attracting technology demonstrations of the most commercially promising fuel cells.</p>	<p>A. Rural Renewable Energy</p> <ul style="list-style-type: none"> • Work with key PRODEEM program managers in maintaining the commitment of the previous administration to release the RFP. • Publicize the RFP internationally (March, 00-May, 00) • Assist PRODEEM in convening “pre-bid” meeting and assisting on the follow-through to help maximize the commitment from companies (by May,00) • PRODEEM initiates implementation of 2-4 projects in the Field Test. • Participate with PRODEEM and selected companies in developing a market development plan which is expected to begin with a large scale (30-60 projects) commercial demonstration. <p>B. Transportation</p> <ul style="list-style-type: none"> • Publicize conference, identify international companies interested in participating, secure commitments from sponsors, exhibitors. (January to May, 00) • Work with international companies and Brazilian partners to develop an investment action plan. (June, 00) • CONPET convenes conference (September,00) • Follow-up, support for investment projects and additional investment actions (Sept - Dec, 00) <p>C. Industrial Efficiency/Natural Gas/Cogen.</p> <ol style="list-style-type: none"> 1. Business Matchmaking Initiative <ul style="list-style-type: none"> - Develop a directory of industrial efficiency products and services, for Brazilian and international companies. Directory will be used throughout CNI program to catalyze a large number of transactions (February, 00) - Use directory to assist Brazilian companies in identifying potential partners with a goal of identifying at least 2 potential joint business projects by May, 00 and 4 by October, 00 - Identify, as the Directory is compiled, other follow-up investment actions.

***Brazil TCAPP FY00 Activities:
The Five Pillars of Success Continued...***

<p><i>I. Implement Investment Actions Based on Market Development Strategies Continued...</i></p>		<p>2. Cogeneration/Distributed Generation Workshop.</p> <ul style="list-style-type: none"> - Publicize conference and identify international companies/ investors interested in participating (Feb, 00) - Utilize conference to extract and support commitments by international companies to participate in the Brazil market and to develop an investment action plan. (June, 00) - INEE convenes conference (June, 00) <p>D. Fuel Cells. Support CEPEL in convening a group of Brazilian government officials to endorse the change in direction and to help map out a strategy for attracting the demonstration projects.</p>
<p><i>II. Businesses Responding to New Investment Opportunities</i></p>	<p>A. More than 20 companies have expressed interest in Rural Renewable Energy Field Test RFP. Many have attended TCAPP meetings or contacted PRODEEM directly.</p> <p>B. Several business associations and several companies have expressed interest in sponsoring or exhibiting at the Transportation conference. (Intelligent Transportation Society of America, American Public Transportation Association, Daimler-Benz, Scania)</p> <p>C. - Currently identifying companies interested in being included in the Directory and participating in the matchmaking program - Currently identifying associations and businesses interested in the distributed generation/cogeneration conference</p> <p>D. Ballard Generation Systems has advised TCAPP on the fuel cell work.</p>	<p>A. Targeting up to 50 international companies participating by the time the RFP closes. No more than 10 are likely to be selected.</p> <p>B. Targeting up to 50 international companies participating in the transportation conference, with a goal of up to 25 deciding to take further action to enter the Brazilian market.</p> <p>C. - Targeting up to 200 international companies participating in the Directory and at least 2 new joint business projects by May, 00 and 4 by October, 00</p> <ul style="list-style-type: none"> - Targeting at least 6 international companies to participate in the distributed generation/cogeneration conference and at least 3 of these deciding to take further action to enter the Brazil market. <p>D. Will aim for attracting at least three companies to the distributed generation conference for a discussion of fuel cell technology demonstrations and the market development strategy for Brazil.</p>
<p><i>III. Securing Other Donor Support</i></p>	<ul style="list-style-type: none"> • AID Mission in Brazil provided support through Winrock for FBDS TCAPP work in FY99, but have notified us that they have no available funds for TCAPP in FY00. • AID/European Commission mission to Brazil in March. EC has expressed interest in supporting further collaboration. 	<ul style="list-style-type: none"> • World Business Council for Sustainable Development has invited NREL to participate in the planning for a UNF funded CDM pilot project in Brazil, which will link well with TCAPP priorities, especially in industrial efficiency. • Continue to push for EC follow-up to the AID/EC mission. • Work with the International Roundtable for Transportation Energy Efficiency and Sustainable Development, who is interested in the transportation conference.

<p><i>IV. Informing Country Views on Climate Technology Transfer</i></p>	<ul style="list-style-type: none"> • Ministry of Science and Technology (MCT) representatives attended all TCAPP committee meetings. • MCT representative presented at the TCAPP June, 1999 SBSTA side event. • MME representative on the Brazilian interagency committee on climate change (Flavio Sottomayor) presented at TCAPP's November COP5 side event. Flavio also participated in the technology transfer "friends of the chair" group. 	<ul style="list-style-type: none"> • Work with Brazilian counterparts to prepare paper on technology transfer issues building from the TCAPP experiences and to assist them with their presentation at the Latin American UNFCCC workshop (March, 00) • Keep representatives of the Brazilian interagency committee informed about TCAPP and work towards increasing their involvement in technology transfer issues. • Provide staff support to Brazilians who will present at TCAPP side events at SBSTA meetings in June or September and at COP-6.
<p><i>V. Outreach</i></p>	<ul style="list-style-type: none"> • Broad distribution of COP-5 report in Brazil • Brazil page on the TCAPP web site. • Presented Brazil TCAPP to a number of international audiences. 	<ul style="list-style-type: none"> • Publicize TCAPP at a number of conferences in Brazil and at the International Cogeneration Alliance conference in Washington in February. • Brazilian presentation on TCAPP at Latin American UNFCCC workshop • Provide regular updates to AID mission and to all TCAPP partners in Brazil.

CHINA

Key Accomplishments

The TCAPP effort in China has been approved at a very high level in China's government. Minister Zeng Peiyan of the State Development Planning Commission (SDPC) and Administrator Carol Browner signed a Statement of Intent for this project in April 1999. Moreover, the TCAPP effort is led by the lead agency in the climate change negotiations: SDPC's Office of National Coordination Committee for Climate Change. The implications of this strong, high-level leadership are that the work progresses slower than otherwise, but with the buy-in and approvals from higher levels of government. In 1999, the China TCAPP effort has accomplished the following:

- Established TCAPP Statement of Intent Between EPA Administrator and SDPC Minister
- Developed detailed workplan in conjunction with leading climate change coordinating body – Office of National Coordination Committee for Climate Change, State Development and Planning Commission and approval from other members of the Committee for Climate Change
- Held Technology Expert Meetings with private sector and donor participation to discuss each of the technology priority sectors in detail and provide input into this year's workplan
- Established an Interagency Team, Technology Teams for motors and wind, and Team Leads for clean coal and boilers.
- Achieved Active private sector participation:
 - Enron, Bechtel and Caterpillar attended TCAPP briefing held by the US/China Business Council
 - GE Motors, ITT Fluid Technologies, Babcock and Wilcox, Burns and Roe, and Vestas participated in Technology Expert Meetings
 - Cashco-Ellsworth, Micron, Bailey Controls, Enron, AWEA, Spencer Management, Global Concepts, Nordex; Honeywell, Shell, and Bechtel have been briefed on TCAPP and have provided input and feedback into our activities
- Engaged the Canadian government in TCAPP – Canadian government agencies participated in Technology Expert meetings in July 1999 and are planning to fund climate change capacity building activities in China that will complement TCAPP

FY00 Activities

During the next 12 months, the TCAPP effort will focus on development, selection and implementation of investment and policy actions in the wind and motors sectors. These activities will be conducted with consultation from and in partnership with private sector businesses to ensure that we best reach our goals of facilitating markets and investment in these sectors. An investment conference is planned for May/June 2000 to present project opportunities to the private sector investment and business community.

***China TCAPP FY00 Activities:
The Five Pillars of Success***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<p><i>I. Implement Investment Actions Based on Market Development Strategies</i></p>	<ul style="list-style-type: none"> • Established Interagency Team. • Established Motors Team (with international expertise provided by LBNL, ACEEE, and IIEC) and Wind Team (with international expertise provided by NREL). These 2 teams are analyzing barriers to development and investment in these sectors. They will propose actions with multi-year strategies to overcome these barriers. • Established Team leads for clean coal and boilers sectors (with US points of contact at FETC). • Collaboration with PNNL on Business Plan Training Center which will assist in training energy managers and entrepreneurs in project development and finance. 	<ul style="list-style-type: none"> • Reports discussing barriers, proposed actions, and multi-year market development strategies for the motors and wind sector will be completed by Dec 31, 1999. • Interagency Team meeting to be held Jan 6-7, 2000 to select 6 actions and 2 additional priorities. • For the 6 selected actions, detailed action proposals will be prepared that will identify a schedule of activities, key institutions, donor funding and technical assistance needs. These will be prepared by March 31, 2000. • Plan for business participation in PNNL business training center developed (March 31, 2000) • Actions which can be implemented immediately under TCAPP will be initiated in April 2000. Actions which need donor assistance will utilize action proposals to obtain funding from donor agencies. Implementation of actions will take place throughout 2000 and after. • Investment workshop planned for May 31, 2000. This workshop will be an opportunity for project and investment opportunities in the wind and motors sectors to be presented to private sector investors and businesses. • Development of workplan for FY01 will be completed by Jul 31, 2000. • Teams will be established for 2-4 additional priorities (likely including clean coal and boilers) and team leads established as Chinese points of contact for each priority in summer 2000. • Investment strategies and proposed actions developed for new sectoral teams by fall 2000 with the interagency selecting actions for implementation in fall/winter 2000.

***China TCAPP FY00 Activities:
The Five Pillars of Success Continued....***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<i>II. Businesses Responding to New Investment Opportunities</i>	<ul style="list-style-type: none"> • Technology Team meeting participants, July 1999 – ITT Fluid Tech, GE Motors, Babcock and Wilcox, Vestas • US-China Business Council TCAPP Briefing participants, July 1999 – Caterpillar, Enron, Bechtel • Other meetings – Shell, Bechtel • Feedback on actions and priorities – Cashco-Ellsworth, Micron, Bailey, Enron, AWEA, Spencer Management, Global Concepts, Nordex; Honeywell 	<ul style="list-style-type: none"> • US experts will work with teams to ensure that private sector and investment needs are incorporated into proposed actions. • BCSE will contact their private sector network for input into selection of new priorities and feedback for analysis and proposed actions • In the analysis, teams will conduct case studies of technology transfer by businesses in China • Investment workshop to solicit private sector participation in investment opportunities in China is planned for May 2000. • At least 5 businesses engaged in new investment projects by June, 2000 and 10 by December, 2000
<i>III. Securing Other Donor Support</i>	<ul style="list-style-type: none"> • CIDA, Natural Resources Canada and Canadian Embassy participated in TCAPP meetings and are exploring funding parallel work in capacity building in climate change, due to perceived Chinese difficulties in establishing a trilateral effort • W. Alton Jones Foundation, UN Foundation, Energy/Packard Foundation interested in funding activities such as renewables policy, project development • WWF interested in wind policy work 	<ul style="list-style-type: none"> • CIDA will send formal letter to EPA and NREL regarding their next steps in the training activities. They will also invite participation in their initial multi-agency discussions in Canada. • Follow up with foundations – give one-pagers to W. Alton Jones; discussions with Energy/Packard Foundation; discussions with UNDP as partner for UN Foundation

***China TCAPP FY00 Activities:
The Five Pillars of Success Continued...***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<i>IV. Informing Country Views on Climate Technology Transfer</i>	<ul style="list-style-type: none"> • The lead climate change office in China, the Office of National Coordination Committee for Climate Change, State Development and Planning Commission, is the lead TCAPP organization. Li Liyan, Section chief; Sun Cuihua, division Director, Gao Guangsheng, Director General are leading the TCAPP/China work. 	<ul style="list-style-type: none"> • Technology Transfer paper will be completed by Dec 31, 1999. • Li Liyan of SDPC will deliver presentations on technology transfer at US Country Studies workshop in Manila in December 1999 and at UN FCCC technology transfer workshop in Manila in January 2000. NREL will provide assistance to Li in preparing presentation, based on TCAPP progress, analyses and technology transfer paper. • Plan to hold a technology transfer workshop in 2000 to present technology transfer paper and discuss mechanisms for technology transfer under FCCC.
<i>V. Outreach</i>	<ul style="list-style-type: none"> • Participation by Li Liyan at COP5 and TCAPP COP5 event. • Project agreement which has been approved by Chinese SDPC and US EPA • US/China Business Council Meeting held in July • Lead China TCAPP staff, Sun Cuihua, was in US for two months with research staff to learn about climate change policy. 	<ul style="list-style-type: none"> • Presentations on TCAPP to be given by Li Liyan at US Country Studies workshop in Manila during Dec 7-10, 1999 and also at UN FCCC technology transfer workshop in Manila in January 2000 • Will submit paper on TCAPP wind work for upcoming wind workshop in Beijing March 2000 • Broad private sector and donor participation will be sought for the investment workshop planned for May 2000.

EGYPT

Key Accomplishments

The Egypt TCAP project was established at the request of Dr. Ibrahim Gelil, CEO of the Egyptian Environmental Affairs Agency (EEAA). Dr. Gelil has identified technology transfer as one of Egypt's highest climate change priorities. Accomplishments since beginning the effort in September 1999 include the following:

- An in country team was established, led by the Egyptian Environmental Affairs Agency (EEAA), and including members from the New and Renewable Energy Authority, Organization for Energy Conservation and Planning, and several academic institutions.
- The Egypt TCAPP project was initiated in a set of meetings in Cairo in September 1999, which established a preliminary set of technology priorities:
 - Industrial energy efficiency measures and fuel-switching to natural gas,
 - Lighting efficiency technologies and renewable-powered lighting in remote applications,
 - Renewable energy applications in rural areas, and
 - Small scale cogeneration applications.

By the end of November 1999, it is expected that an Inter-ministerial committee will consider these recommended areas and issue final guidance on technology transfer priority areas

- A detailed work plan for the project was developed after the initial meeting, and is currently under review by Egyptian parties for final approval.

FY00 Activities

Between now and March, 2001, the work in Egypt will focus on five primary areas: refining the definitions of the technology priority areas, identifying key market barriers for these priorities and developing market development strategies and investment actions for each priority area, beginning the implementation of investment actions, seeking broad business and donor participation in the effort, and using this work to inform Egypt's views on technology transfer. The anticipated work and schedule are summarized in the table that follows.

The Egypt TCAPP work will be closely coordinated with a parallel effort to develop AIJ (and model CDM) projects in Egypt. Conditions in Egypt are favorable toward the development of AIJ projects: NREL has identified several interested companies doing business there, and the GOE, US Embassy, and AID Mission all view the development of AIJ/model CDM projects as a high priority. NREL can also draw on several related efforts that are pursuing such projects in Egypt.

***Egypt TCAPP FY00 Activities:
The Five Pillars of Success***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<i>I. Implement Investment Actions Based on Market Development Strategies</i>	<ul style="list-style-type: none"> • Egypt team working on refining priority areas and obtaining final approval from GOE agencies. • National consultant identified to coordinate development of Technology Cooperation Framework 	<ul style="list-style-type: none"> • December 199: Technology area teams established • February 2000: Interagency meeting. Draft investment strategies for each priority area • February 2000: List of candidate AIJ/model CDM projects developed • April 2000: Investment strategies finalized after review by GOE agencies and business participants • May 2000: Selection of up to 6 high-priority investment actions on which to focus efforts • September 2000 – March 2001: Implementation of investment actions
<i>II. Businesses Responding to New Investment Opportunities</i>	<ul style="list-style-type: none"> • Discussions with potential partners BP Amoco/Egypt and GM/Egypt continue from September 1999 meetings • Beginning consultation with Business Council for Sustainable Energy to define specific needs in this area. 	<ul style="list-style-type: none"> • December 1999: Screened list of prospective companies • Five participating companies by spring 2000. • March 2000: Participating businesses review draft investment strategies • May 2000: Business partners identified for AIJ/model CDM proposals • Fall 2000: One or more investment conferences held in Egypt, focused on priority areas
<i>III. Securing Other Donor Support</i>	<ul style="list-style-type: none"> • AID Mission is beginning to be engaged. 	<ul style="list-style-type: none"> • Develop strategy for engaging AID further and involving key donors. • Continue discussions about involving donors in other OECD countries through CTI or other avenues.
<i>IV. Informing Country Views on Climate Technology Transfer</i>	<ul style="list-style-type: none"> • Dr. Gelil, CEO of Egyptian Environmental Affairs Agency, is engaged and supportive. • Embassy is engaged and supportive, interested in influencing CDM and technology transfer discussions in GOE. 	<ul style="list-style-type: none"> • Proposed (pending Egypt's approval) technology transfer strategy paper based on TCAPP work (May,00) • Engage key Egyptian officials in review of proposed AIJ/model CDM projects • Develop broader strategy for linking work with Egypt's climate change policy process (strategy prepared by February, 00)
<i>V. Outreach</i>	<ul style="list-style-type: none"> • COP-5 report circulated in Egypt. 	<ul style="list-style-type: none"> • Develop outreach strategy, December 1999. • March 2000: Egypt participates significantly in Morocco workshop. • Review strategy with Egyptian partners at spring 2000 meeting.

KAZAKSTAN

Key Accomplishments

During the past year in Kazakhstan, changes in the government have led to a new TCAPP institutional base, with lead coordinators at the Ministry of Energy, Industry and Trade and KEGOC. While these changes in the government delayed the Kazakhstan TCAPP work, several key accomplishments were made:

- The Kazakhstan team has proposed working on development of 7 promising investment projects identified as priorities in government's Power Sector Development Program. These projects address 3 sectors: Small hydropower, Combined heat and power, and Gas utilization from oil refineries.
- EIC has begun working with NREL to support development of these projects. These projects will be presented to private sector businesses and investors.
- The Kazakhstan team has agreed to use their experience in developing and seeking investors for these projects as a basis for identifying key market barriers and actions that their government could take to remove these barriers
- NREL and the Kazakhstan Working Group have reached agreement on a detailed workplan.

FY00 Activities

During the next year, the group will be working with EIC and BCSE to move projects through the development pipeline. Project briefs will be prepared to summarize project opportunities. Based on private sector business and investor feedback, the most promising projects will be further developed through pre-feasibility/feasibility studies and business and investor interest will be solicited in an investment meeting in mid 2000.

In early 2000, the working group will propose policy and investment actions to overcome market barriers in the technology priorities. The interagency team will select 1-3 of these actions for implementation during 2000.

***Kazakstan TCAPP FY00 Activities:
The Five Pillars of Success***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<p><i>I. Implement Investment Actions Based on Market Development Strategies</i></p>	<ul style="list-style-type: none"> • NREL and Kazakstan Working Group developed a detailed workplan in October 1999. • The Kazakstan team has proposed working on development of 7 promising investment projects identified as priorities in government's Power Sector Development Program. These projects are listed below: <ul style="list-style-type: none"> • 350kW Almaty Small Hydro Plant • 900kW Almaty Combined Heat and Power Plant • 40 MW Aktubisk Combined-cycle Plant • 14 MW Shimkent Gas Plant • 51 MW Condensate Gas Plant • 35 MW Kumkol Gas Plant • 18 MW Prorva Gas Plant • EIC is reviewing this information and planning support for project development activities. 	<ul style="list-style-type: none"> • Establish Interagency and Technology/Investment Teams by December, 1999 • Gather information on projects as well as potential local and international partners in private sector companies and investors. Work with EIC to prepare project briefs of 4-7 most promising projects. Briefs will be prepared by March/April 2000. • Work with BCSE to locate private sector businesses that are interested in participating in projects. Use BCSE network for feedback on project briefs to select 1-3 most promising projects in April 2000. • With assistance from EIC, move projects through development process (May-Dec 2000): <ul style="list-style-type: none"> • Prepare prefeasibility or feasibility studies of projects • Attract private sector companies • Attract investors • Identify major barriers and propose investment and policy actions to overcome these barriers. In March 2000, hold interagency team meeting to select 1-3 actions to implement during 2000. • Prepare implementation strategy reports for these actions by May 2000. Initiate implementation of these actions during May-Dec 2000. • Hold investment workshop in June/July 2000 to address: <ul style="list-style-type: none"> • Outlines of Possible Investment Solicitations • Specific project opportunities • Investment and Policy Actions to overcome market barriers
<p><i>II. Businesses Responding to New Investment Opportunities</i></p>	<ul style="list-style-type: none"> • NREL has met with Bechtel for input into Kazakstan's work. • NREL has briefed the Kazakstan branch of the US Foreign Commercial Service on TCAPP. 	<ul style="list-style-type: none"> • EIC will hold discussions with companies that are involved in Kazakstan such as AES and Tracetebel, to better understand barriers to project implementation. • BCSE will contact their private sector network for feedback on project briefs and will solicit private sector interest in projects. • Investment meeting to solicit private sector participation in investment opportunities is planned for June/July 2000. • EIC will solicit investment interest in projects with a goal of finding investment partners and engaging these partners in project development work for at least 2 of the projects by September,00 • US experts will work with teams to ensure that private sector and investment needs are incorporated into proposed actions.

***Kazakstan TCAPP FY00 Activities:
The Five Pillars of Success Continued...***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<i>III. Securing Other Donor Support</i>	<ul style="list-style-type: none"> • AID mission currently is on hold for funding to Kazakstan due to Kazakstan weapons sales to N. Korea. 	<ul style="list-style-type: none"> • Keep AID mission informed about TCAPP progress. Hold further discussions with AID mission as appropriate. • Seek support from 1-2 other donors for Kazakstan investment actions (September, 00)
<i>IV. Informing Country Views on Climate Technology Transfer</i>	<ul style="list-style-type: none"> • One of the lead Kazakstan spokespersons in the climate change community, Irina Yesserkopova, of the Kazak Research Institute for Environment Monitoring and Climate (KazNIIMOSK) plays a lead role in driving TCAPP forward. She has delivered presentations on TCAPP at climate change events. • Kalkaman Sulyemenov, of the Ministry of Energy, Industry and Trade, is one of the lead TCAPP coordinators and is very interested in both the project development and market barrier emphasis of the workplan. 	<ul style="list-style-type: none"> • Irina Yesserkopova will deliver a presentation on technology transfer at US Country Studies workshop in Manila in December 1999. NREL will provide assistance to Irina in preparing presentation. • Develop strategy for informing key climate officials in Kazakstan of the aspects of TCAPP that may be a good model for technology transfer under the UNFCCC (February, 00) and implement this strategy between March and June, 00.
<i>V. Outreach</i>	<ul style="list-style-type: none"> • Irina Yesserkopova participated in COP5, including the TCAPP event and meeting with Dan Reicher. • NREL held several discussions with international organizations including UNDP, Hagler Bailly, and Harvard Institute for International Development's Environmental Policies and Institutions in Central Asia Program. 	<ul style="list-style-type: none"> • Kazakstan presentation at US Country Studies workshop in December 1999. • Planned investment meeting for project opportunities in June/July 2000.

KOREA

Key Accomplishments

The Korean TCAPP initiative has made considerable progress since beginning work in January, 1999. Primary accomplishments include:

- Establishing a Korean TCAPP team and developing a detailed workplan
- Defining 3 technology cooperation priorities and creating technology teams for these three areas:
 - Energy Management
 - Methane Recovery from Liquid Municipal Wastes
 - Waste Energy Recovery Using Heat Pumps
- Prepared their energy management investment strategy and in the process of completing investment strategies for the other two priority areas
- Planning a visit in January, 2000 of U.S. ESCOs to Korea to explore possible project development activities and other government actions to expand the ESCO market. To date, 6 U.S. ESCOs have expressed interest in participating in this mission to Korea.

FY00 Activities

In FY00, the Korean TCAPP activities will focus on completing the investment strategies for methane recovery from liquid municipal wastes and waste energy recovery using heat pumps and implementation of investment actions for these two areas and the energy management area. The investment actions will be implemented in close collaboration with the private sector leading to the development of new private sector investment projects. In addition the Korean TCAPP work will also use their experience to evaluate effective approaches for implementation of technology transfer under the UNFCCC, including preparing a paper on technology transfer for the January workshop in Manila. The table below provides further information on these proposed activities:

Korea TCAPP FY00 Activities: The Five Pillars of Success

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<i>I. Implement Investment Actions Based on Market Development Strategies</i>	<ul style="list-style-type: none"> • Korean team has established 3 priority areas: <ul style="list-style-type: none"> • Energy management • Methane recovery from liquid municipal wastes • Waste energy recovery using heat pumps • Technology teams established for each priority area • Energy management investment strategy completed and January ESCO meeting planned • Investment strategies under development for methane recovery and waste energy recovery 	<ul style="list-style-type: none"> • Complete Korean investment strategies for methane recovery from wastes and waste energy recovery using heat pumps (draft by January, 00, final by February,00) • Meeting between U.S. ESCOs and Korean counterparts to define investment actions, including identification of specific project opportunities (January, 00) • Convene meetings between U.S. firms and Korean counterparts for methane recovery and waste energy recovery (by March, 00) • Initiate development of joint U.S.-Korean business projects and other investment actions (energy management by May, 00 and other 2 areas by August, 00)

***Korea TCAPP FY00 Activities:
The Five Pillars of Success Continued...***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<i>II. Businesses Responding to New Investment Opportunities</i>	<ul style="list-style-type: none"> • 6 U.S. firms interested in participating in January ESCO meeting in Korea • 2 U.S. firms have expressed interest in heat pump projects in Korea • 1 U.S. firm has expressed interest in a joint methane recovery project in Korea 	<ul style="list-style-type: none"> • Energy Management <ul style="list-style-type: none"> • Participation of U.S. firms and technical experts in ESCO meeting in Korea (January, 00) • Engage at least 2 U.S. ESCOs in development of new projects in Korea by May, 00 and up to 4 ESCOs in new projects by December, 00 • Methane Recovery and Waste Heat Recovery <ul style="list-style-type: none"> • Support travel costs for participation of U.S. firms in methane recovery and waste heat recovery meetings (March, 00) • Engage at least 2 U.S. firms in development of new projects in Korea by July, 00 and up to 4 firms by December, 2000
<i>III. Securing Other Donor Support</i>	<ul style="list-style-type: none"> • Korea has not expressed much interest in donor support – they want to move business projects forward as quickly as possible 	<ul style="list-style-type: none"> • Will only pursue donor support if this becomes a priority for addressing key market barriers
<i>IV. Informing Country Views on Climate Technology Transfer</i>	<ul style="list-style-type: none"> • Key climate officials from MOCIE and KEMCO are engaged in the work and have made constructive statements on relationship between TCAPP and technology transfer at COP-5 side events 	<ul style="list-style-type: none"> • KEMCO preparing paper on frameworks for technology transfer for Manila workshop of UNFCCC (January, 00) • Develop plan with KEMCO for further work in evaluating TCAPP as a model for technology transfer (February, 00) and building support of key Korean government officials
<i>V. Outreach</i>	<ul style="list-style-type: none"> • COP-5 Progress Report chapter on Korea • Active and Effective participation in COP-5 Side Events 	<ul style="list-style-type: none"> • Korean presentation on TCAPP at Manila UNFCCC Workshop (January, 00) • Identify other outreach opportunities and plan outreach strategy (February, 00)

MÉXICO

Key Accomplishments

The TCAPP effort in Mexico has accelerated greatly during the last few months with the formation of an Inter-Agency Team, the hiring of a full-time in-country coordinator, and the identification of specific activities, and investment actions for the next year. TCAPP is recognized in Mexico by high-level energy and environment officials as an important and critical process to encouraging key agencies in Mexico to work more closely together on specific energy and environmental activities.

In 1999, the Mexico TCAPP effort has accomplished the following:

- Defined potential investment activities for each of the three priority technologies
- Hired a full-time In-Country Coordinator who sits at the National Commission for Energy Savings
- Established Inter-Agency Working Groups for each technology priority
- Held series of meetings with donor agencies, government agencies, associations and private companies to identify investment actions of interest to the private sector and to donors
- The USAID/Mexico Mission has agreed to support the Steam Generation and Distribution activities by contracting Hagler Bailly to work with CONAE during the next year.
- Achieved active private sector business participation:
 - Solar Energy Industries Association, Jerry Comer & Associates and Chemonics have provided input into the Solar Water Heating activities.
 - EIC Consultores de Mexico, BUTECA, S.A., Chemonics, Sempra and NAESCO have provided input into the ESCO/Efficient Buildings Activities.
 - Information exchanges also held with EEAF, Alliance to Save Energy, CCAP, and the Center for Global Studies to determine potential areas of collaboration.

FY00 Activities

During the next 12 months, the TCAPP effort will focus on development and implementation of investment actions in all three priority areas. The investment activities will be conducted in partnership with private sector businesses to ensure that we promote the development of new business investment projects. TCAPP will assist the Government of Mexico in evaluating the TCAPP work as a potential model for implementation of technology transfer under the UNFCCC. These activities are described in more detail in the table that follows:

**México TCAPP FY00 Activities:
The Five Pillars of Success**

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<p>I. Implement Investment Actions Based on Market Development Strategies</p>	<ul style="list-style-type: none"> • Established Working Groups for each technology to design and implement investment actions coordinated by an Interagency TCAPP Team. • Have developed initial set of investment activities for efficient lighting and solar water heating, including an ESCO investment workshop, expansion of the solar water heating pilot program ((develop standards, certification & testing lab, & SWH installations), and assisting in planning Solar 2000 Millennium Investment Forum. • USAID- Mexico has agreed to put resources towards supporting the development of investment actions for steam generation and distribution. TCAPP activities may include development of pilot projects with businesses focused on improved burner technologies and practices. 	<p>Efficient Lighting:</p> <ul style="list-style-type: none"> • Prepare ESCO summary report (current status of ESCO activities, ESCO market potential, barriers, and potential financing options) for February workshop (January,00) • Plan a meeting with BANOBRAS and IDB to discuss risk guarantee and revolving credit options (January, 00) • Plan an ESCO workshop in coordination with the NAESCO workshop (February,00) • Complete ESCO market strategy (April, 00) • Select 2-3 actions for further implementation and prepare detailed implementation plans and secure necessary for these actions (June, 00) • Implementation of additional investment actions (June,00-December,00) <p>Solar Water Heating:</p> <ul style="list-style-type: none"> • Develop and secure funding for market strategy component to be added to World Bank supported Solar Water Heating Pilot Program (market strategy proposal prepared by February, 00 and funding secured by April, 00) • Organize SWH strategy meeting with businesses and financial organizations to organize SWH Business Working Group for input on program design (January, 00) • Conduct review of SWH financing options in other countries, and identify barriers and possible policy reform (report prepared by February, 00) • Mexican business meetings and TCAPP SWH Working Group meeting on SWH financial strategy options (February, 00) • Organize a Solar Business Summit with Mexican and US manufacturers and financing organizations, including a trade show for displaying equipment and technology (April, 00) • Provide technical assistance for design and implementation of World Bank Pilot Program (implementation will likely begin by May, 00 depending on the World Bank's speed in allocating the approved funds) • Complete SWH market strategy (April, 00) • Assist with September Solar Forum 2000 by identifying industrial participation, and announce Forum to BCSE and climate networks (April – September, 00)

**México TCAPP FY00 Activities:
The Five Pillars of Success Continued...**

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<p>I. Implement Investment Actions Based on Market Development Strategies Continued...</p>		<ul style="list-style-type: none"> • Select 2-3 actions for further implementation and prepare detailed implementation plans and secure necessary for these actions (June, 00) • Implementation of additional investment actions (June,00-December,00) <p>Steam Generation & Distribution</p> <ul style="list-style-type: none"> • Hagler Bailly completes proposal with Mexico counterparts to present to CONAE and USAID (December, 99) • Organize a Clean Energy Forum with participation of businesses and private investors for large-scale project financing identification (April, 00) • Complete Steam Generation & Distribution market strategy (June, 00) • Select 2-3 actions for further implementation and prepare detailed implementation plans and secure necessary for these actions (August, 00) • Implementation of additional investment actions (August,00-March, 01)
<p>II. Businesses Responding to New Investment Opportunities</p>	<ul style="list-style-type: none"> • Solar Energy Industries Association, Jerry Comer & Associates, Solar Tronic, and Chemonics have provided input into the Solar Water Heating activities • EIC Consultores de Mexico, BUTECA, S.A., Chemonics, Sempra and NAESCO have provided input into the ESCO/Efficient Buildings Activities • Information exchanges also held with EEAF, Alliance to Save Energy, CCAP, and the Center for Global Studies to determine potential areas of collaboration. 	<p>SWH:</p> <ul style="list-style-type: none"> - Business Comments Received on Design of Pilot Program and Market Strategy Development (December, 99) - Businesses participate in SWH market strategy meeting (January, 00) - Facilitate broad business participation in Solar Business Summit (April, 00) - Facilitate broad industry participation in Mexico's Solar Forum 2000 (September, 00) - Initiate support for specific SWH business investment projects, with a goal of having at least 2 businesses engaged in new investment projects by July, 2000 and 4 by December, 2000 <p>Efficient Lighting:</p> <ul style="list-style-type: none"> - Distribute ESCO market report to businesses and solicit comments (January,00) - Facilitate broad business participation in February ESCO workshop - Initiate support for specific ESCO business investment projects, with a goal of having at least 2 businesses engaged in new investment projects by July, 2000 and 4 by December, 2000 <p>Steam Generation and Distribution</p> <ul style="list-style-type: none"> - Identify businesses interested in participating in development of Steam Generation & Distribution investment actions (March,00) - Facilitate broad business participation in Clean Energy Forum (April, 00) - Initiate support for specific steam business investment projects, with a goal of having at least 2 businesses engaged in new investment projects by September, 2000 and 4 by March, 2001

***México TCAPP FY00 Activities:
The Five Pillars of Success Continued...***

<p><i>III. Securing Other Donor Support</i></p>	<ul style="list-style-type: none"> - AID Mission office will support Hagler Bailly technical assistance for development and implementation of steam generation investment actions 	<ul style="list-style-type: none"> - Hagler Bailly preparing Proposal for AID and CONAE - Meetings with World Bank, IDB, and ECAF in December to discuss potential funding opportunities - Meeting with Banobras and IDB to determine IDB support for ESCO activities (January, 00) - Identify other potential sources of donor funding (February, 00) - Submit proposals to 1-3 other donors for support (April,00) - Secure broader donor support (October, 00)
<p><i>IV. Informing Country Views on Climate Technology Transfer</i></p>	<ul style="list-style-type: none"> • Julia Martinez from INE, a key member of Mexico's climate negotiating team, actively participates in TCAPP activities. Fernando Tudela (President of the Climate Committee) also has participated in some of the TCAPP meetings 	<ul style="list-style-type: none"> • Julia Martinez to present TCAPP Mexico work at Country Studies workshop in Manila, December 1999 • Technology transfer paper will be prepared by Mexico TCAPP team for the UNFCCC Latin American conference (March, 2000)
<p><i>V. Outreach</i></p>	<ul style="list-style-type: none"> • Interagency TCAPP meeting held in Mexico in September • COP-5 Report broadly distributed in Mexico • Julia Martinez presented TCAPP Mexico information at Country Studies workshop in Manila, December 1999 • Jorge Mora, TCAPP Coordinator in DC presented TCAPP work to businesses, donors, and USAID, EPA, and DOE officials (December, 99) 	<ul style="list-style-type: none"> • TCAPP recently became a member of COFER Working Group (Mexico's Consultative Council on the Promotion of Renewable Energy), and will conduct presentations at monthly COFER meetings • CONAE is developing TCAPP web page (completed by January, 00) and INE will link TCAPP to their own website and Carl Duisberg will link TCAPP to MMEE website • Developing a one-page Mexico TCAPP summary document in English and Spanish (January, 00) • Next TCAPP Interagency Meeting (February, 00)

PHILIPPINES

Key Accomplishments

The TCAPP effort in the Philippines engages the Philippines Department of Energy as its lead implementing agency, and also cooperates with the Office of the President to advance renewable energy use for rural economic development. Moreover, the TCAPP effort is strengthening its ties to the lead advisory group in the climate change negotiations, the Inter-Agency Committee on Climate Change. By interacting with these several governmental organizations, TCAPP draws on a broad set of capabilities and resources of the Philippines government, and identifies opportunity for inter-agency synergies to advance project goals. In 1999, the Philippines TCAPP effort has accomplished the following:

- Developed and received approval for implementation for a series of policy reforms that would facilitate renewable energy market development in the near-term
 - Developed these policy reform actions into Fast Track Action Recommendations
 - Established a collaborative effort DOE and local industry, led by Preferred Energy Incorporated, to develop and advance the TCAPP Fast Track Action Recommendations
 - Obtained approval of Secretary Tiaoqui of the Philippines Department of Energy for implementation of the Fast Track Action Recommendations
 - Worked with Philippines DOE to develop and obtain final review of implementing documents for Fast Track Actions
- Achieved active private sector business participation:
 - Philippines Renewable Energy Businesses contributed to the development of TCAPP Fast Track Action Recommendations to DOE for rapid policy reforms to enhance renewable energy market development
 - International businesses reviewed Fast Track Action Recommendations and provided comments to Philippines Department of Energy to support the recommendations and to identify areas for additional follow-up
 - U.S. Hydropower Council was briefed and provided feedback on the Fast Track Action Recommendations and next steps that TCAPP could take to improve hydropower market development
 - Businesses engaged in wind and agricultural sectors have pursued TCAPP investment action development
- Held Donor Meeting to discuss the role of renewable energy in meeting the Administration's poverty alleviation objectives
- Facilitated positive participation of Philippines representatives in COP4 and COP5. Philippines COP4 delegation recognized the potential for TCAPP as a step towards identifying a technology transfer mechanism. Philippines COP5 participation by Undersecretary Cyril del Callar provided Philippines DOE with a first-hand connection to the negotiations and provided opportunities for discussion with Assistant Secretary Dan Reicher of US DOE.
- Identified possible investment action areas in hybridization of small diesel grids with wind, renewable energy for agricultural water pumping, and hydropower market development.

FY00 Activities

During the next 12 months, the TCAPP effort will complete implementation of the renewable energy policy reforms and will develop, and implement-investment actions for renewable energy and energy efficiency market development. These activities will be conducted with consultation from and in partnership with private sector businesses to ensure that we best reach our goals of facilitating markets and investment in these sectors. The TCAPP work will also engage the Philippines climate officials in evaluating this work as a potential model for implementation of technology transfer under the UNFCCC. These activities are described in more detail in the table that follows:

**Philippines TCAPP FY00 Activities:
The Five Pillars of Success**

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<p>I. Implement Investment Actions Based on Market Development Strategies</p>	<ul style="list-style-type: none"> • Fast Track Action Recommendations include: <ul style="list-style-type: none"> ✓ Revise NRE Project Accreditation Requirements Under E.O. 215's Implementing Rules ER 1 – 95, regarding project proponent track record, thermal efficiency, spinning reserve, PPAs, and other regulations; ✓ Revise the Definition of NRE Used by NPC that limits hybrid systems; ✓ Exercise Full DOE Powers Under the Mini-Hydro Law (RA 7156) to streamline approval processes; ✓ Use the Host Community Fund (HCF) for NRE Development; ✓ Revise E.O. 462 • Philippines DOE implementation actions in response to Fast Track Action Recommendations include an Executive Order revising E.O. 462 (regarding government policies to promote renewable resources) and a Departmental Circular revising Energy Regulation 1-95 (regarding other policy barriers to renewables implementation). Implementation documents are ready for signature Secretary Tiaoqui. • Potential investment actions are being explored in hybridization of diesel generation, renewable energy for agricultural water pumping, and hydropower. • International industry involvement has been solicited through BCSE network. • Philippines Department of Energy reviewed and supported investment action areas. 	<ul style="list-style-type: none"> • Policy reform in response to Fast Track Action Recommendations implemented by December 1999. • Hybridization of Diesel Generation Investment Action: <ul style="list-style-type: none"> ✓ Economic analysis of diesel-wind hybridization to support development of General Power project (February 2000) ✓ Government decision on terms for General Power project and discussions on economic opportunities for other similar projects (May 2000) ✓ Clarification of government priorities and requirements for future small hybrid projects (June 2000) ✓ Solicitation or streamlined approval system for additional projects in the market for small hybrid systems (October 2000) • Renewable Energy for Agricultural Water Pumping Investment Action: <ul style="list-style-type: none"> ✓ Economic analysis of agricultural water pumping in collaboration with World Water to support project development (February 2000) ✓ Government decision on terms for - World Water project and discussions on economic opportunities for broader set of projects (May 2000) ✓ Clarification of government priorities and requirements for future projects (June 2000) ✓ Solicitation or streamlined approval system for additional projects in this market (October 2000) • Hydropower Investment Action: <ul style="list-style-type: none"> ✓ Review of Mini-Hydro Law Fast Track Action Status (December 1999) ✓ Identification of additional market development actions (January 2000) • Initiate implementation of hydropower investment actions (March 2000) • Grid-Connected Renewables Opportunities & Financing Investment Action: <ul style="list-style-type: none"> ✓ Renewable Independent Power Producer development project will be explored and action plan developed (February 2000) ✓ Solicitation for renewables for major island grid will be explored and action plan developed (February 2000) • Energy Efficiency Investment Action: <ul style="list-style-type: none"> ✓ Explore and develop action plan for participation of international ESCOs in Philippines energy efficiency projects (February 2000) • Program Design for Rural Energy Services Delivery Additional investment actions will be linked to requests of the IACCC by March 2000.

**Philippines TCAPP FY00 Activities:
The Five Pillars of Success Continued...**

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
II. Businesses Responding to New Investment Opportunities	<ul style="list-style-type: none"> • Businesses interested in 3 potential investment action areas include General Power / BreezElectric, World Water, and U.S. Hydropower Council. 	<ul style="list-style-type: none"> • General Power / BreezElectric proposal and World Water proposal will receive independent EIC review. Related economic analysis will be developed that will establish economic analytic methods and arguments for renewable energy projects in general. • Briefs on broader set of project opportunities related to wind-diesel hybrids and agricultural water pumping will be prepared and circulated to businesses to identify other businesses interested in pursuing projects in these areas (by March, 2000) with a goal of having at least 2 additional projects under development in each of these areas by July, 2000??? • Joint market development activities with U.S. Hydropower Council and Winrock will be identified and implemented. These activities will increase international investment and improve local partnerships for hydropower market development. The goal here will also be to have at least 2 hydropower projects under development by July, 2000??? • A clean energy solicitation will be explored as a mechanism for engaging international business in conjunction with President Estrada's visit by May 2000.
III. Securing Other Donor Support	<ul style="list-style-type: none"> • USAID / Manila is participating. • TCAPP is exploring opportunities to link its work with World Bank Philippines activities. • Manila donor representatives engaged in June TCAPP meeting. 	<ul style="list-style-type: none"> • TCAPP will continue to engage USAID / Manila in its activities. • TCAPP will seek to target activities that complement World Bank plans. • Complete a GEF proposal to support Philippines TCAPP team by March 2000. • Other potential proposals for donor support of specific investment actions will be explored by March 2000.
IV. Informing Country Views on Climate Technology Transfer	<ul style="list-style-type: none"> • Senior DOE representative on IACCC, Undersecretary Cyril del Callar attended COP5 and presented Philippines TCAPP at side-event and in meetings with Assistant Secretary Dan Reicher. • Plan in place for further engaging IACCC. • Key climate officials briefed on TCAPP. 	<ul style="list-style-type: none"> • Summary of technology transfer issues and alternatives prepared by Philippines TCAPP team by January 2000 . • Major issues and alternatives for technology transfer identified through brainstorming session with IACCC by January 2000 • Briefing for Philippines delegates to Asia Technology Transfer workshop by January 2000 • Provide input to IACCC draft technology transfer policy and program by January 2000 <p>Comprehensive technology transfer policy discussion paper will be completed and presented at SBSTA by June 2000.</p>

***Philippines TCAPP FY00 Activities:
The Five Pillars of Success Continued...***

<i>Activity</i>	<i>Current Status</i>	<i>FY00 Activities</i>
<i>V. Outreach</i>	<ul style="list-style-type: none"> • Donor briefing held during June trip to Manila. • DOE Undersecretary Cyril del Callar presented and discussed TCAPP at COP5, Bonn meetings. • Extensive meetings with stakeholders held during June trip to Manila. • US funders and business stakeholders informed of status in October briefing. October briefing included Philippines information materials on fast track and investment actions 	<ul style="list-style-type: none"> • Donor outreach meeting in cooperation with Philippines DOE will be held by April 2000. • Outreach meetings for U.S. industry planned in coordination with proposed visit by President Estrada will be held by May 2000.

NEW COUNTRIES

India

NREL will initiate TCAPP or CTIP work in new countries as directed by USAID, DOE, and EPA. This will likely include re-initiation of TCAPP work in India. The TCAPP work in India would be designed to support implementation of the recently signed Richardson-Singh Statement of Cooperation on Energy and Environment. Note that this work could be initiated as a CTIP activity rather than TCAPP depending on the interests of the sponsoring agencies and the Government of India. Depending on the outcome of a scoping visit proposed for January, 2000, TCAPP activities in India, could include:

- Scoping visit to India by NREL and LBL to explore the interest of the GOI in restarting this work and to outline a scope of work if the GOI is interested and the USAID mission recommends proceeding (February, 2000)
- Scope of work for India TCAPP work prepared based on further consultations with the U.S. sponsoring agencies and the GOI and funding received to initiate further work. (Scope of work completed in February, 2000 and funding received in March/April, 2000)
- India TCAPP work initiated with in-country scoping meeting to select priority areas and refine and approve detailed workplan (April, 2000 – assumes that funding is received by NREL by March, 2000)
- 3-6 Investment actions selected for development and implementation based on existing/refined market development strategies (June, 2000)
- Detailed workplans prepared for investment action implementation based on consultations with in-country agencies, industry, and NGOs, and U.S experts and international energy companies and investors (September, 2000)
- Necessary implementation support secured from the GOI and international sources (if needed) and implementation of investment actions commences (December, 2000)

Other Countries

As directed by the sponsoring agencies, NREL will also explore possible TCAPP work in other countries, possibly including Indonesia. The Government of Indonesia and some of the personnel in the USAID mission in Jakarta have expressed interest in restarting this work. NREL proposes to conduct a scoping visit to Indonesia to evaluate the potential for restarting this work. This scoping visit could occur in the Spring of 2000. Under the direction of the sponsoring agencies, NREL could also explore opportunities to engage other countries in TCAPP. For instance, St. Lucia has expressed interest in participating in TCAPP as a means for helping them implement their commitment to phase out the use of fossil fuels.

2. CTIP Activities

Southern African Development Community CTIP Project

The CTIP effort with the Southern African Development Community (SADC) is the first such effort to work regionally (working with the 14 member countries of SADC as one entity). The clean energy technology needs assessment in the SADC region responds to a request by ministers and other senior SADC officials attending the CTI Industry Joint Seminar on Technology Diffusion in Southern Africa in March. The SADC work only formally began with the needs assessment scoping workshop held in September and has accomplished the following in the past few months:

- Developed a workplan in conjunction with SADC Environment and Land Management Sector (SADC ELMS), CTI, and climate change stakeholders representing 12 of the 14 SADC member countries.
- Obtained project approval by the Sectoral Committee of Ministers of the Environment in October and is working towards SADC Council approval which is scheduled for February 2000.
- Preliminarily identified six priority technology areas that regional stakeholders agreed possess the greatest potential to meet sustainable development needs while reducing greenhouse gas (GHG) emissions (renewables, electrification, domestic and supply-side fuel switching, and industrial and residential demand efficiency).
- Started to identify businesses interested in working on new investment projects in SADC. Shell, Siemens, Botswana Technology Center, World Integrated Services Corp., ESKOM, Kgalagadi Resources Dev. Co, Chemonics International, Global Livestock Group, PEER Africa, attended scoping workshop in September. EPRI and EPS Solutions have also expressed interested in the SADC CTIP work and have provided feedback initial comments on the project design
- Identified potential advisor (Abel Mbewe from Zambia) who can work at SADC ELMS to manage this project
- Completed January meeting for SADC ELMS to meet with country leads for this project and other sectoral coordinating units to start the process of refining the priority areas and selecting investment actions

FY00 Activities

During the next 12 months, the SADC CTIP effort will focus on refining the 6 priority areas and defining investment actions to overcome market barriers for these priorities. These actions will be selected through a process of national and regional consultations with key stakeholders to ensure that they have the support of the participating countries and key regional institutions. These activities will be conducted with consultation from and in partnership with private sector businesses to ensure that we best reach our goals of facilitating markets and investment in these sectors. Increased support from other CTI members will be sought so that this work and these other CTI members will be made full partners in this effort. Specific activities are described in the table below.

**SADC CTIP FY00 Activities:
The Five Pillars of Success**

<i>Activity</i>	<i>Current Status</i>	<i>Next Steps</i>
<p><i>I. Implement Investment Actions Based on Market Development Strategies</i></p>	<ul style="list-style-type: none"> • Preliminary priority technology areas established <ul style="list-style-type: none"> • Domestic fuel switching • Supply-side fuel switching • Residential energy efficiency • Industrial energy efficiency, • Renewable energy • Electrification • Detailed workplan developed and approved by key stakeholders • Project plan has been approved by Sectoral Committee of Ministers of the Environment with proviso that SADC ELMS consult with other relevant Sectors (Trade & Industry, Energy, and Mining). • Country leads established and meeting held with leads to give them guidance on their national consultations to be held in February and March to select investment actions for the (January, 00). 	<ul style="list-style-type: none"> • Hold national consultations of relevant stakeholders in each SADC country to define investment actions of interest to each country that has regional applicability (completing all country meetings by March, 00) • Harmonized regional plan (reflecting output from national consultations) for investment actions to be implemented through this project (draft by May, 2000 and revised plan approved by SADC Ministers by August, 2000) • Development of detailed implementation plans for actions selected by Ministers for implementation (by October, 2000) • Implementation of investment actions begins by December, 2000
<p><i>II. Business Responding to New Investment Opportunities</i></p>	<ul style="list-style-type: none"> • Shell, Siemens, Botswana Technology Center, World Integrated Services Corp., ESKOM, Kgalagadi Resources Dev. Co, Chemonics International, Global Livestock Group, PEER Africa, attended scoping workshop in September. • EPRI and EPS Solutions have been briefed on the SADC efforts and have provided feedback on project design • A preliminary list of relevant businesses and business associations of the SADC region that may be interested in participating in a regional business network has been developed. 	<ul style="list-style-type: none"> • Through BCSE and CTI contacts, establish network of international companies interested in participating in design of investment actions (by January, 00) • Establish SADC regional business network to advice in design of investment actions (by February, 00) • Obtain initial recommendations from international and SADC businesses on investment actions for the priority technologies (by March, 00) • Relevant businesses and business associations will be invited to national consultations to be held in March 2000. • Business review of proposed regional investment action plan and implementation plans for selected actions (May-September, 00) • At least 5 new business investment projects under development in response to regional investment actions (by December, 00)

**SADC CTIP FY00 Activities:
The Five Pillars of Success Continued...**

<i>Activity</i>	<i>Current Status</i>	<i>Next Steps</i>
III. Securing Other Donor Support	<ul style="list-style-type: none"> • The British Government has agreed to support development and publication of needs assessment scoping workshop proceedings. • CTI has received informal funding request to help support discrete activities of the SADC work. • A proposal has been submitted to the World Bank's Development Marketplace competition. If successful, this grant would help fund the national consultations. 	<ul style="list-style-type: none"> • Transmit formal request from SADC ELMS to CTI for funding support (December, 99) • Seek AID Mission in Gabarone support for advisor to SADC ELMS (January, 00) • Secure commitments from CTI members for support (by early January, 00) • Prepare and transmit funding request to CTI for support for implementation of investment actions in Phase 2 (proposal submitted by October, 00 and funding secured by December, 00) • Explore establishment of Dutch trust fund at World Bank to support efforts—meeting in December.
IV. Informing Country Views on Climate Technology	<ul style="list-style-type: none"> • Climate officials from the SADC countries participated in scoping workshop in September • The SADC countries have asked SADC ELMS to play a coordinating role on climate issues for the region, including management of this project • Communication asking climate focal points and sectoral focal points to identify country leads for the project has been drafted for transmittal by SADC ELMS 	<ul style="list-style-type: none"> • Transmittal of request from SADC ELMS to national climate focal points and sectoral focal points to nominate country leads (December, 99) • Participation of country climate officials in national consultations (January-March, 00) • Possible paper for the SADC countries on technology transfer approaches based on the CTIP work prepared prior to SBSTA 12 (May, 00)
V. Outreach	<ul style="list-style-type: none"> • Worked with CTI on CTIP brochure (similar to TCAPP brochure). • Ms. Gladys Ramothwa participated in COP 5 and TCAPP COP 5 side events. 	<ul style="list-style-type: none"> • Will finalize CTIP brochure in January 2000. • Proceedings of September scoping workshop published (January 2000) • Will develop SADC brochure and other outreach materials in Spring 2000. • Will develop and produce reports as listed above (harmonization report, etc.).

Other CTIP Support

In addition to leading implementation of the SADC CTIP work, NREL also proposes to provide other support for CTIP. This support, depending on the guidance provided by CTI and USAID, DOE, and EPA could include:

- Assisting CTI in developing the CTIP methodology. This could include preparing documents that provide guidance on the implementation of this methodology, participating in CTI meetings to discuss the CTIP approach with other CTI members, and serving as an advisor to the Australian government experts who are leading the CTIP program.
- Providing technical assistance for the implementation of the CTIP work in Thailand under the guidance and leadership of Australia as the CTI lead for this work. This assistance could include assisting the Thai partners in conducting a rigorous scoping process to select technology priorities, assisting Thailand in designing and implementing investment strategies and actions for these priorities, and assisting Australia in engaging international businesses in the design and implementation of these actions.
- Assisting CTI in convening an international workshop on technology transfer donor coordination with OECD climate officials and bilateral development assistance agencies and multilateral donor agencies. The purpose of this meeting would be to evaluate alternative approaches for coordinating donor responses to developing country technology transfer needs and develop recommendations on how this donor coordination could occur most effectively. The workshop would also allow for a review of the CTIP and TCAPP and other technology transfer approaches with a broad group of OECD and donor organizations to solicit their ideas on what aspects of these approaches may be good models for implementation of technology transfer under the UNFCCC. Ideally this workshop would occur prior to SBSTA-12 and provide input into the SBSTA discussions on technology transfer.

3. Business and Investor Participation

TCAPP will need to achieve active business and investor participation in responding to new investment opportunities in the participating countries to demonstrate the viability of the TCAPP approach as a means for helping countries attract private investment. NREL together with BCSE and Econergy proposes to obtain this level of business and investor participation through 3 activities:

1. Direct business participation in design and implementation of country investment actions. With guidance and support from NREL, the BCSE will accelerate their efforts to inform businesses of emerging investment opportunities in the TCAPP countries and to engage these businesses in responding to these opportunities through development of new business investment projects. Where appropriate these businesses will also be engaged in design of the country investment actions. The BCSE work will include the following major activities:
 - Country specific FY00 workplans established for private sector participation in responding to investment opportunities (February, 00)
 - Engage companies and associations in design and implementation of investment actions in each country (with a target of at least 5 companies/associations engaged in each country by January, 2000 and 10 by March, 2000)
 - Identify specific business investment projects that TCAPP can advance in each country and coordinate TCAPP assistance for these projects, with a target of 2-3 business projects under development in each country through TCAPP work. This work will be implemented by BCSE and NREL in collaboration with Econergy International and other contractors and collaborators.
 - Disseminate information on new investment opportunities arising from TCAPP to companies and investors and facilitate company efforts to respond to these opportunities, including trips to the countries to develop project partnerships, responding to investment solicitations, participating in investment conferences, and other similar activities
 - Identify investment and financing organizations that are seeking clean energy investments in the participating countries and inform businesses and in-country partners of opportunities to tap into these sources of financing. This work will be implemented jointly by BCSE and Econergy International (goal of identifying matches between investment organization interests, country investment needs, and business financing needs for at least 1 project in each country by October, 2000)
2. Provide project development support for high priority business investment projects in each country. With guidance from NREL, Econergy International Corporation (EIC) will provide technical assistance for the development of business investment projects that are high priorities for the TCAPP countries and will be used to demonstrate and build support for effective approaches for addressing market barriers. This support will include the following activities:
 - Identifying specific projects to receive project development support in the Philippines, Kazakstan, and Korea (the 3 countries targeted by DOE to receive initial EIC support) and preparing workplans for this support (January-March, 00)
 - Identifying specific projects to receive project development support in Brazil, China, and Mexico (Egypt and SADC are not yet ready for project development support) (February-April, 00)

- Providing technical assistance to the selected projects with project feasibility assessments, assistance in finding project partners, and assistance in identifying sources of financing and securing financing (with a target of at least 2 new business investment projects under development in each country by June, 2000 and at least 4 projects by December, 2000)
3. Convene a meeting on technology transfer issues and TCAPP with U.S. and international companies, business associations, and investment organizations. The purpose of this meeting would be to solicit private sector views on effective approaches for implementation of technology transfer under the UNFCCC and to broaden private sector participation in responding to TCAPP investment opportunities in the participating countries. This meeting could occur immediately after the proposed meeting of TCAPP country officials (see activity 5) to be held in the U.S. This would allow these country officials to also participate in this private sector meeting to present the TCAPP investment opportunities in their countries and exchange views with the private sector on technology transfer implementation. Alternatively, if holding these meetings back-to-back does not work, NREL could support travel of 2-3 TCAPP country officials to this meeting. The following activities will be implemented by BCSE and NREL:
- BCSE prepares technology transfer paper that outlines opportunities for the private sector to benefit from implementation of technology transfer issues under the UNFCCC and private sector views on market based approaches for technology transfer implementation and circulates this paper along with an update on TCAPP investment opportunities and the meeting invitation (February, 00)
 - NREL arranges for at least 2-3 TCAPP country officials to participate in this meeting if it is determined that the participation of country officials would be of value (March, 00).
 - Meeting convened and facilitated by one or more senior USG Officials (April, 00)
 - Summary of meeting and business views on implementation of technology transfer prepared (May, 00)

4. OECD/Donor Participation

NREL will continue to work towards expanding the participation of other OECD countries and multilateral donors in implementation of TCAPP and CTIP activities. This broad OECD and multilateral donor participation will have two benefits: 1) Expanding the donor support for implementation of country actions for addressing market barriers and 2) Giving a broad group of OECD countries and donor organizations direct experience with TCAPP and CTIP approaches as potential models for implementation of technology transfer under the UNFCCC. Proposed activities in this area include:

- Promoting the participation of bilateral and multilateral donor agencies in supporting the work of each of the TCAPP countries and the SADC CTIP work (with a goal of securing support and participation of at least 1 bilateral or multilateral donor agency for each country by October, 2000)
- Convene the proposed CTI workshop with other OECD countries and donors on technology transfer donor coordination (see description of CTIP activities)
- Preparing proposals and securing GEF support for an expanded TCAPP (or CTIP) effort in the current countries or possibly new countries in response to the request from the GEF Secretariat for NREL to develop such proposals for GEF consideration (Submit 1-2 GEF proposals by June, 2000)

5. Outreach Activities to Share the Experiences of TCAPP as a Model for Technology Transfer Implementation and Support the Consultative Process

NREL will conduct a variety of activities to share the TCAPP country experiences and methodology through the FCCC Consultative Process on Technology Transfer and through other venues with a goal of supporting a meaningful technology transfer at COP-6. Since draft text for a technology transfer decision will likely be developed at the SBSTA meetings in June, 2000, much of the proposed outreach activities are focused on the first half of the 2000. NREL proposes to conduct the following activities:

- Assist each of the TCAPP countries in Asia and Latin America in preparing presentations of their TCAPP work to deliver at the Asian and Latin American workshops of the Consultative Process (January, 2000 for Asia and March, 2000 for Latin America)
- As appropriate given the interests of the countries, assist the TCAPP country teams in Brazil, China, Korea, Mexico, and the Philippines and possibly Egypt and the regional SADC CTIP team with the development of papers on effective approaches for technology transfer implementation, drawing on their TCAPP (CTIP) experiences. China, Korea, and the Philippines have already expressed interest in preparing such papers together with NREL. Draft papers will be prepared by December, 1999 and the country teams will present these papers to their intergovernment climate committees for review prior to the January workshop. The Brazil and Mexico teams have also expressed tentative interest in such papers and NREL will followup with them to encourage them to work with NREL on such strategy papers. This idea still needs to be presented to Egypt and the SADC countries, where the TCAPP and CTIP work was only recently initiated in September, 1999 (China, Korea, Philippines papers completed by January, 2000 and Brazil and Mexico papers completed by March, 2000 and possibly Egypt and SADC by May, 2000).
- Convene a workshop for developing country officials participating in TCAPP and CTIP to share their experiences with these programs and use these experiences to offer comments on possible frameworks for implementation of technology transfer under the UNFCCC. This workshop would also identify opportunities to improve on the TCAPP and CTIP approach. After a couple days of discussion between the developing countries, businesses and donors could join the workshop to learn about the country views and share their own perspectives. While the workshop would be facilitated by NREL, it would be made clear that NREL or U.S. Government does not necessarily endorse all the recommendations made by the participants. This workshop be held in April or May, 2000 so that it could build on the outcomes of the Asian and Latin American regional workshops and provide useful input for SBSTA-12. This workshop could also occur under the auspices of CTI rather than TCAPP (May, 2000)
- NREL proposes to convene side events on TCAPP at SBSTA-12 and COP-6 and to prepare a progress report on TCAPP for COP-6. As appropriate, NREL will also assist CTI with presentation of the CTIP work at any CTI side events and in any CTI reports. (Side events in June and November, 2000 and COP-6 report prepared by November, 2000)
- NREL proposes to engage Stratus Consulting in working on a paper on examples of technology transfer for adaptation to climate change to be presented at the Manila technology transfer workshop. In addition to discussing examples of technology transfer for adaptation technologies, this paper will identify possible approaches that countries can use to identify opportunities for implementing adaptation technologies through private investment in a similar fashion to the TCAPP work on mitigation technologies for the energy sector (paper and presentation by January, 2000)

IV. PROPOSED BUDGET

Since FY99 carryover funds will support activities in all areas through March, 2000, this budget covers the period from April, 2000 through March, 2001.

Summary Budget

1. TCAPP Country Activities	1448K
2. CTIP Activities	311K
3. Business and Investor Participation	231K
4. OECD/Donor Participation	25K
5. Outreach Activities	160.5K
6. Program Management	77K
Total	2252.5K

Detailed Budget Breakdown

1. TCAPP Country Activities

Current Countries 1173K

Brazil

Labor (6 months)	102K
Subcontracts	85K
Brazilian TCAPP Team	55K
Other U.S. Technical Experts	30K
Travel & ODCs (4 trips to Brazil, 2 to DC)	<u>19K</u>
	206K

China

Labor (8 months)	136K
Subcontracts	185K
China Team (Tsinghua Univ)	100K
Chinese Bus Dev Contractor	20K
U.S. Experts (LBL, ACEEEE, FETC, etc.)	30K
U.S. Proj Dev Support (EIC, AED, etc.)	20K
BCSE	15K
Travel & ODCs (5 trips to China, 3 to DC)	<u>29K</u>
	350K

Egypt

Labor (3.5 months)	59K
Subcontracts	35K
Egypt Team	25K
U.S. Experts	10K
Travel & ODC (3 trips to Egypt, 1 to DC)	<u>14K</u>
	108K

Kazakstan		
Labor (2 months)		34K
Subcontracts		25K
Kazakstan Team	15K	
U.S. Experts (Bechtel, etc.)	10K	
Travel (2 trips to Kazakstan)		<u>8K</u>
		67K
Korea		
Labor (2 months)		34K
Subcontracts		20K
BCSE	10K	
U.S. Experts	10K	
Travel* & ODC (3 trips to Korea)		<u>11K</u>
		65K
* 17K in Business Travel Costs to Come Directly from AEP		
Mexico		
Labor (4.5 months)		76K
Subcontracts		50K
Mexico TCAPP Team	35K	
Other U.S. Experts	15K	
Travel & ODCs (5 trips to Mexico, 1 to DC)		<u>14K</u>
		140K
Philippines		
Labor (8 months)		136K
Subcontracts		85K
Philippines TCAPP Team/Experts	50K	
International Expert Support	35K	
Travel&ODCs (3 trips to Philippines, 2 to DC)		<u>16K</u>
		237K
<i>New Countries</i>		275K
India		
Labor (6 months)		102K
Subcontracts		125K
India Team	75K	
U.S. Experts (e.g. LBL, Hagler Bailly, etc.)	50K	
Travel & ODCs (5 trips)		<u>23K</u>
		250K
Scoping Work in Other New Countries (e.g. Indonesia, etc.)		
Labor (1 month)		17K
Travel & ODCs		<u>8K</u>
		25K
<i>Total for Country Activities</i>		1448K

2. CTIP Activities

SADC CTIP

Labor (8 months)	136K
Subcontracts*	47K
SADC Institutions/Experts	37K
BCSE	10K
Travel & ODCs (4 trips to Southern Africa, 1 to Golden)	<u>17K</u>
	200K

*Additional subcontract funding expected from CTI

CTIP Methodology Development

Labor (1 Months)	17K
Travel (2 trips to CTI meetings)	<u>5K</u>
	22K

Thailand Technical Assistance

Labor (2 months)	34K
Travel (2 trips)	<u>6K</u>
	40K

Donor Coordination Workshop

Labor (2 months)	34K
Travel (2 NREL participants)	5K
Facilities	<u>10K</u>
	49K

Total for CTIP Activities

311K

3. Business and Investor Participation

Business Participation in Country Investment Actions

Labor (1 month)	17K
Subcontracts (BCSE)	70K
Travel (10 Trips of Businesses to Countries)	<u>30K</u>
	117K

Project Development Support for Business Investment Projects

Labor (.5 months)	8K
Subcontracts (EIC Work in Brazil, Mexico, Egypt)	<u>75K</u>
	82K

Business Technology Transfer/TCAPP Meeting

Labor* (.5 months)	8K
Travel (3 country trips and 3 NREL trips to DC)	14K
Facilities	<u>10K</u>
	32K

*Costs for BCSE to Convene this Meeting Included in FY99 Funding

Total for Business and Investor Participation

231K

4. OECD/Donor Participation

GEF Proposal Development	
Labor (1 month)	17K
Travel (2 country trips and 1 NREL trip to DC)	<u>8K</u>
	25K

OECD/Donor Participation Total **25K**

5. Outreach Activities

Developing Country Workshop	
Labor (1 month)	17K
Travel (8 country officials to U.S.)	24K
Facilities	<u>10K</u>
	51K

SBSTA and COP-6 Side Events	
Labor (1 month)	17K
Travel (3 country officials to Bonn/Hague)	10K
ODCs (food/beverages)	<u>2K</u>
	29K

COP-6 Report	
Labor (3 months, including editing)	51K
ODCs (printing)	<u>5K</u>
	56K

Adaptation Paper	
Labor (1 week)	4K
Subcontracts	<u>20.5K</u>
	24.5K

Outreach Total **160.5K**

6. Program Management

Labor (4months)	68K
Travel (6 trips to DC)	<u>9K</u>
	77K

Program Management Total **77K**

TOTAL ACROSS ALL ACTIVITIES **2252.5K**