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Final Program Evaluation: Environmental Cooperation-Asia  
Clean Development and Climate Program

# FINAL REPORT, PART I

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# FINAL PROGRAM EVALUATION REPORT: PART I



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Environmental Cooperation – Asia Clean Development and Climate Program

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## ACRONYMS AND ABBREVIATIONS

ACEBA	Asia Clean Energy Business Accelerator
ACEF	Asia Clean Energy Forum
ADB	Asian Development Bank
ADS	Automatic Directives System
ALC	Asia Lighting Compact
APP	Asia Pacific Partnership on Clean Development and Climate
ASEAN	Association of South East Asian Nations
BEE	Bureau of Energy Efficiency
CFL	Compact Florescent Lamp
CLASP	Collaborative Labeling and Appliance Standards Program
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	CO <sub>2</sub> equivalent
COTR	Contractor Officer's Technical Representative
CTI	Climate Technology Initiative
DQA	Data Quality Assessment
DRC	Development and Reform Commission
DSM	Demand-Side Management
ECO-Asia CDCP	Environmental Cooperation-Asia Clean Development and Climate Program
EE	Energy Efficiency
EGAT	Economic Growth, Agriculture, and Trade
EMC	Energy Management Center
EPIQ II IQC	Environmental Policy and Institution Strengthening II IQC
ESCO	Energy Services Company
ESS	Energi Sakti Santosa
GHG	Greenhouse Gas
GoC	Government of China
GWh	Gigawatts
I&E	Bureau of Infrastructure and Engineering
I&E/E	Bureau of Infrastructure and Engineering Energy Team
ICED	Indonesia Clean Energy Development
IEA	International Energy Agency
IEC	International Electronic Commission
IFI	International Financial Institution
IPO	Initial Public Offering
IRG SSA	International Resources Group, SSA, a sub-contractor of IRG
IRG	International Resources Group
KSECF	Kerala State Energy Conservation Fund
KSECF	Kerala State Energy Conservation Fund
LED	Light Emitting Diode
MEPS	Minimum Energy Performance Standards
MSI	Management Systems International
MW	Megawatts
NGO	Non-Governmental Organization
NRDC	Natural Resources Defense Council
PFAN	Private Financing Advisory Network
PMP	Performance Management Plan
PPP	Public-Private Partnership

RCL	Regional Centre for Lighting
RDMA	Regional Development Mission for Asia
RDMA	Regional Development Mission for Asia
REO	Regional Environment Office
SECF	State Energy Conservation Fund
SOW	Scope of Work
SuperESCO	Super Energy Service Company
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USG	United States Government

# EXECUTIVE SUMMARY

## Purpose and Program Information

The purpose of this evaluation is to assess the performance and effectiveness of the USAID Regional Development Mission for Asia (RDMA) Environmental Cooperation-Asia Clean Development and Climate Program (ECO-Asia CDCP) against its goals, objectives, and performance targets.

Total Funding obligated to date: \$15,710,382.

Period of performance: September 29, 2006 to September 30, 2011.

Implementing Partner: International Resources Group (IRG)

## Objectives and program components

Since 2006, the Environmental Cooperation-Asia Clean Development and Climate Program (ECO-Asia CDCP) has worked to scale up clean energy investment to address Asia's energy challenges and reduce greenhouse gas (GHG) emissions. The program works in six countries—China, India, Indonesia, the Philippines, Thailand, and Vietnam -- in five substantive areas: (i) **Private sector financing** activities which have included developed the Private Financing Advisory Network (PFAN) in Asia, a public-private partnership that works with financial institutions to facilitate financing for clean energy projects. (ii) Activities to scale up government capacity to support **financing for energy-efficiency projects** in government facilities. (iii) **Energy efficient lighting** activities which have included work with the private sector to promote adoption of voluntary regional standards for energy-efficient lighting, (iv) **A regional policy and regulatory dialogue**, which facilitates regional cooperation and conducts exchanges on policy and regulatory approaches that promote clean energy, and (v) **Regional knowledge-sharing**, which builds awareness and shares information to facilitate scaling-up of clean energy policies and investments.<sup>1</sup>

## Methodology

The Evaluation Team was composed of six individuals, five of whom were USAID employees, and two of whom had been closely associated with the implementation of the ECO-Asia CDCP program. The team spent 15 days in the field in February, when they traveled to Thailand, China, India, Indonesia, the Philippines, and Singapore.

## Project Background

The impetus for the ECO-Asia CDCP Program stems from the critical importance of addressing Asia's contribution to global climate change. If Asia's current heavy dependence on fossil fuels continues, the region's carbon dioxide (CO<sub>2</sub>) emissions are expected to increase by 300 percent over the next 30 years, with

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<sup>1</sup> Cleaner coal was a component of the ECO-Asia CDCP program during its initial three years. However, the FY 2009 clean energy earmark no longer allowed activities related to fossil-based power generation, and thus coal was excluded from this evaluation.

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major implications for global climate change. Developing countries are expected to surpass industrialized countries in total GHG emissions within 15 years, with developing Asia contributing the largest share.

## Developmental Hypothesis

ECO-Asia CDCP’s purpose is to “implement a program to promote policy and market transformation in Asia that leads to reductions in greenhouse gas (GHG) emissions to address climate change, reduced air pollution, and improved use of energy resources.” The Evaluation Team concluded that this hypothesis remains broadly valid.

## Evaluation of Program Components

### Private Sector Financing

PFAN is a multilateral, public-private partnership whose primary purpose is reducing emissions of CO<sub>2</sub> and other GHGs by building the capacity of businesses to develop innovative high-quality clean energy projects and to match these projects with sources of financing. PFAN projects generally involve local small and medium-sized renewable energy initiatives.

**Findings:** Over two years (FY 09 and 10), PFAN-Asia reached out to a total of 456 companies. From this, a total of 98 projects and businesses were inducted into the PFAN-Asia pipeline to receive coaching and mentoring. Almost all stakeholders said that PFAN-Asia activities are important and should continue. Bilateral USAID Missions in Indonesia, Philippines, and India all had positive views about PFAN-Asia. In Jakarta, a USAID energy expert said: “Traditionally, USAID’s work stopped with the pre-feasibility element of an intervention, but PFAN-Asia now gives us links to the investors and financing community.” With a program investment of approximately \$2 million, as of March 2011, PFAN-Asia had secured investments for 17 projects. Its major accomplishments are summarized below:

**FIGURE I. PFAN-ASIA SUMMARY: COUNTRIES, PROJECTS, AND INVESTMENTS**

COUNTRY	PROJECTS	INVESTMENT (million USD)	Capacity (MW)	GHGs mitigated (KTCO <sub>2</sub> eq)
Cambodia	1	2.5	1	400
China	5	16.1	9.05	1,476
India	2	9.2	0	N/A
Indonesia	2	46.1	40	1,800
Philippines	6	123.13	40.02	2,745
Thailand	1	10	3.5	1,050
<b>TOTAL</b>	<b>17</b>	<b>207.03</b>	<b>93.57</b>	<b>7,471</b>

**Conclusions:** Over the past two years, ECO-Asia CDCP has made substantial progress. By investing \$2 million, it has leveraged more than \$200 million for investments (for a ratio of more than 100:1), with a capacity to produce nearly 100 MW of clean energy.

### Public Sector Financing of End-Use Energy Efficiency

This component has included work in Hebei Province, China and the State of Kerala, India.

**Findings:** Hebei is one of China’s more industrialized provinces, with high energy demand and significant GHG emissions. Since 2009, ECO-Asia CDCP has been assisting the Hebei Fakai Energy Services Company

(ESCO), a SuperESCO,<sup>2</sup> to avoid the need for 600 megawatts (MW) of new electricity generation capacity through energy efficiency projects in public sector institutions. ECO-Asia CDCP helped develop Fakai's business plan, scale up its operations, and provided guidance on developing agreements with the investors. The program has helped design the SuperESCO, and prepare for a \$100 million loan from the Asian Development Bank (ADB). Plans exist to expand the idea of a SuperESCO to five additional provinces in China.

The program supported the design of the Kerala State Energy Conservation Fund (KSECF), the first dedicated state fund for energy efficiency in India. It took around two years for the fund to be officially established. The program is judged to have accelerated the establishment of the fund by 3-4 years. The KSECF is starting to make grants, but is not yet operating as a revolving fund. It primarily is supporting heat recovery at steel mills, rice mills, and rubber factories.

**Conclusions:** Developing a model to work with the public sector to achieve energy efficiency appears to be making good progress. In China, the establishment of the SuperESCO model is expected to lead to measurable GHG reductions, and may suggest lessons for other SuperESCOs in other countries. If China's SuperESCO model proves viable, it may be replicable across Asia. In India, the State Energy Conservation Fund model of energy efficiency promotion could be replicated, but this work probably would be best suited for a bilateral program activity.<sup>3</sup>

## Energy Efficient Lighting

ECO-Asia CDCP's primary focus in the area of energy efficient lighting has been to promote the adoption of harmonized product quality standards, primarily for compact fluorescent lamps (CFLs), working through lighting manufacturers and industry associations. A principle focus has been to establish the Asian Lighting Compact (ALC). It has also helped to establish lites.asia, a regional standardization body composed of government representatives, focused on policy issues.

**Findings:** Given the challenges for governments to harmonize regional standards, the program focused on working with private companies to develop voluntary standards. The program helped establish Asia Lighting Compact (ALC) in March 2010. By February 2011, the ALC had 18 members and expects to add approximately 20 new paying members and 6 honorary (non-paying) members in 2011. In 2009, the program also played a meaningful role in establishing lites.asia as a regional standardization body focused on governance and policy issues<sup>4</sup> that provides a forum for policy makers to exchange information. As of 2011, there remain many competing perspectives on the issue of how best to deal with lighting standards. More than 90% of Asia's CFLs, for example, are manufactured in China, although it does not regulate its standards for its exports, and it is unlikely to follow any regional standards.

**Conclusions:** While ECO-Asia CDCP has made some progress with this component by helping to stand up the ALC and develop standards for CFLs, energy efficient lighting remains an intractable political and economic issue across Asia and the program is still searching for the right lever with which to have significantly impact. The verdict is out on whether the ALC will succeed in becoming self-sustaining. It is also exploring ways to diversify its program. Work to date has provided an important platform for regional cooperation, dialogue, and relationship-building. However, achieving harmonized regional standards will

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<sup>2</sup> The term ESCO is used to designate a wide range of different types of organizations that may offer "performance contracting" mechanisms. ESCOs generally need to develop working relationships with commercial financial firms, and work with them to arrange the needed financing on energy efficiency projects. A SuperESCO, in turn, is an entity that (i) is established by the government; (ii) promotes energy efficiency for public sector institutions; and (iv) facilitates access to project financing.

<sup>3</sup> At present, USAID/India has no plans to work in this area.

<sup>4</sup> For details, see lites.asia, where "lites" stands for Lighting Information and Technical Exchange for Standards.

continue to be a challenge. Other strategies to promote market adoption of energy efficient lighting products may need to be explored.

## Regional Policy and Regulatory Dialogue

In FY10, USAID/RDMA added a new component that supports regional cooperation on common policy and regulatory challenges to promoting clean energy. ECO-Asia CDCP brings together a wide range of stakeholders to seek solutions to policy and regulatory barriers that inhibit investment in energy efficiency and renewable energy projects. To date, the program has conducted a series of roundtable discussions to identify priority energy policy issues, as well as an Asian Pacific Dialogue on Clean Energy Governance and Regulation in Manila. In 2011, two technical workshops are scheduled.

**Findings:** Today stakeholders report more dialogue than two years ago. Through its various activities the program engaged nearly 300 participants at various policy dialogue forums. Stakeholders said that in some cultures having the ECO-Asia CDCP program convene the Forum enabled them to sit down and talk about policy priorities, which otherwise they would have found hard to do. In Thailand and in Indonesia, for example, it is not always easy to hold such talks. Beyond the issue of dialogue, stakeholders pointed out, policy implementation is also critical. Dialogue by itself, they said, is not sufficient to create meaningful change.

**Conclusions:** To date minimal effort and resources have been put into this component. Nevertheless, ECO-Asia CDCP has created momentum to promote regional cooperation and information exchange on key challenges related to policy and regulatory incentives for clean energy.

## Regional Knowledge-Sharing

Since 2007, ECO-Asia CDCP has organized the Asia Clean energy Forum (ACEF), widely seen as the premier event in Asia for clean energy practitioners to share effective practices and present new findings. The program has also generated 24 technical reports and knowledge management products.

**Findings and Conclusions:** ADB for its part regards partnering with the program on ACEF as a success story, because it provides an important venue for countries to share information about what they are doing. Several of the program's written reports have been well received, and have facilitated knowledge sharing. The program's research and technical reports have helped policy-makers and donors in the region better target interventions and funding.

## Additional Conclusions

**PFAN Asia:** ECO-Asia CDCP has developed a successful model to bridge the gap between clean energy project development entrepreneurs and financial investors. By giving project developers and potential investors the right tools to communicate and work together, the program has pioneered a new model for the delivery of development assistance to address clean energy priorities.

**Public Sector Financing:** Important potential linkages exist between PFAN-Asia and financing for public sector institutions. It is important to find ways to take advantage of the commonalities between the two program components. Part of RDMA's comparative advantage may be with developing, nurturing, or demonstrating an initial model. Once the model is proven, it can be turned over to bilateral missions, the private sector, or national governments.

**Energy Efficient Lighting:** Work with lighting and standards needs to be carefully analyzed further. The future directions for energy efficient lighting are difficult to predict.

**Regional Dialogues and Knowledge Sharing:** Regional dialogue and knowledge sharing both have important potential to reinforce other program components and activities.

# I. INTRODUCTION

## A. Background, Overview, and Program Data

Since 2006, the Environmental Cooperation-Asia Clean Development and Climate Program (ECO-Asia CDCP) of the United States Agency for International Development Regional Development Mission for Asia (USAID/RDMA) has worked to scale up clean energy investment to address Asia's energy challenges and reduce greenhouse gas (GHG) emissions. Key partners for the program include national policy institutions, utilities, energy ministries, state-level governments, banks, investors, and clean energy project developers. Active in six countries—China, India, Indonesia, the Philippines, Thailand, and Vietnam—ECO-Asia CDCP works to reduce energy demand and associated emissions while improving energy security through targeted assistance and training, and enhancing regional cooperation and knowledge-sharing among its partner countries. ECO-Asia CDCP takes a regional approach in its activities. By bringing together actors from across the region to share knowledge and best practices, the program aims to accelerate the rate of learning, and help countries develop effective and harmonized solutions to Asia's common clean energy challenges. The program has worked in the following six areas:

1.) Activities supporting **Private Sector Financing** have primarily served to develop the **Private Financing Advisory Network (PFAN)** in Asia. PFAN is a multilateral, public-private partnership whose primary purpose is to reduce emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases by building the capacity of businesses to develop high-quality clean energy projects and by matching these projects with sources of financing. The ECO-Asia CDCP program has taken the lead in introducing PFAN in Asia. A number of multi-million dollar projects in Asia have already attained financing through the PFAN process, all of which when combined have achieved a leverage ratio of more than 100:1 against USAID's investments in PFAN (as of March 2011). PFAN-Asia works with financial institutions to facilitate financing for clean energy projects and companies. Building off of the original PFAN approach, the program in Asia also provides banks with capacity-building tools that can be customized for individual institutions or countries. These materials are designed to help financial institutions take advantage of opportunities offered by renewable energy and energy-efficiency business models and projects.

2.) **End-Use Energy Efficiency** activities aim to scale up government capacity to support **public sector financing** for energy-efficiency projects. The program has supported the establishment of mechanisms in India and China to scale up financing for energy efficiency projects. The program has helped China's Hebei Province to design and launch a "SuperESCO" (energy services company), while also supporting the scaling-up of the province's demand-side management (DSM) fund. In India, it supports the Kerala State Energy Conservation Fund, the first dedicated state fund for energy efficiency in India.

3.) The program's **Energy Efficient Lighting** component works with the private sector to promote adoption of voluntary regional standards for energy-efficient lighting, primarily compact fluorescent lamps (CFLs) to address significant weaknesses in product quality and market adoption. Research conducted under the program has shown that at least one-third of CFLs tested in Asian markets fail to meet minimum performance standards. To address this, the program has spearheaded the establishment of the Asia Lighting Compact (ALC), an independent, non-profit organization established through a public-private partnership between three of the world's largest lighting manufacturers, regional lighting associations, and government agencies. ALC is dedicated to reducing greenhouse gas emissions by improving the quality of lighting products and encouraging harmonization of lighting standards in Asia.

4) **The Regional Policy and Regulatory Dialogue** component works to facilitate regional cooperation and conduct exchanges on policy and regulatory approaches that promote clean energy. For this component, ECO-Asia CDCP brings together a wide range of stakeholders to identify, share, and address solutions to

policy and regulatory barriers that inhibit investment in energy efficiency and renewable energy projects. Participants include policymakers, regulators, and representatives of civil society, as well as entrepreneurs, equipment and service providers, investors, and bankers.

**5.) The Regional Knowledge-Sharing** component works to build awareness and share information and knowledge resources to facilitate the scaling-up of clean energy policies and investments. Since 2007, ECO-Asia CDCP has partnered with the Asian Development Bank (ADB) to organize the Asia Clean Energy Forum (ACEF), widely seen as the premier event in Asia for clean energy practitioners to share effective practices and present new findings. ECO-Asia CDCP's research and technical reports also help policymakers and donors in the region better target interventions and funding.

**6.) Cleaner Coal** was initially a component of the ECO-Asia CDCP program. While ECO-Asia CDCP supported cleaner coal activities in its first three years, USAID's clean energy earmark starting with the FY 2009 budget no longer allowed for activities related to fossil-based power generation. All relevant coal-related activities were previously addressed in the program's mid-term evaluation, and thus the issue of coal was excluded from this evaluation.

## ECO-Asia CDCP Program Information

- **Program Title:** Environmental Cooperation-Asia Clean Development and Climate Program (ECO-Asia CDCP)
- **Contract No:** EPP-I-00-03-00013, Task #9 under the Environmental Policy and Institution Strengthening II IQC (EPIQ II IQC)
- **USAID/RDMA Assistance Objective:** Improved Response to Regional Environmental Conditions
- **Total Funding Obligated to Date:** \$15,710,382
  - FY06: \$1,947,781 (RDMA regional funding)
  - FY07: \$3,864,000 (RDMA regional: \$864,000 (FY07 \$721,000 and FY08 \$143,000); ESF: \$200,000 for clean energy workshop; RDMA funding using good governance exemption for China: \$1,400,000; EGAT: \$1,400,000 for activities in India under the Asia Pacific Partnership on Clean Development and Climate (APP)
  - FY08: \$2,625,000 (RDMA regional: \$2,000,000; RDMA China earmark: \$400,000; EGAT: \$225,000 for APP activities in China)
  - FY09: \$3,879,761 (RDMA regional: \$1,800,000; RDMA China earmark: \$1,200,000; State/OES: \$184,606 (obligated in FY 2010); USAID/Indonesia \$695,155 (obligated in FY 2010)
  - FY10: \$3,393,840 (RDMA regional: \$2,193,840; RDMA China earmark: FY09 \$600,000 and FY10 \$600,000)
  
- **Period of Performance:**
  - Effective Start Date: September 29, 2006
  - Completion Date: September 30, 2011
  
- **Implementing Partner:** International Resources Group (IRG)

## B. Evaluation Purpose, Scope, and Methodology

**1. The Purpose** of this evaluation is: (i) to assess the program's performance and effectiveness against its goals, objectives, and performance targets; (ii) to recommend any strategies that can potentially ensure smooth transition and enhance program sustainability in preparation for program completion; and (iii) to

identify priorities and other considerations for the design of a possible follow-on regional clean energy program, including possible new or alternative technical areas, programming approaches, geographic focus areas, and partnerships.

2. The **Statement of Work** for this evaluation is provided in Appendix 1.

**3. Methodology:** USAID/RDMA initiated a participatory evaluation, to be conducted during February 2011. The Evaluation Team was composed of six individuals, five of whom were USAID employees, and several of whom had been closely associated with the implementation of the ECO-Asia CDCP program. The members of the team included the following: Orestes Anastasia, Regional Environment Advisor with RDMA's Regional Environment Office (USAID/RDMA/REO) and the COTR for the program; Khan Ram-Indra, a USAID Program Development Specialist working with USAID/RDMA/REO; Corina Warfield, a USAID/RDMA Program Officer; Simone Lawaetz, an Energy Advisor, and Sharon Hsu, a Clean Technology Advisor, with USAID's Economic Growth, Agriculture, and Trade Bureau Office of Infrastructure and Engineering, Energy Team (USAID/EGAT/I&E/E) in Washington. David Garner, a senior development planner working as a consultant through Management Systems International (MSI) was the Team Coordinator.

This six-person team spent 15 days in the field during February 11-26, during which time they traveled to Thailand, China, India, Indonesia, and the Philippines, as well as Singapore.<sup>5</sup> The Team divided into two sub-teams to cover the five countries outside Thailand as efficiently as possible. (See Appendix VI for a copy of the team's schedule, showing who went to which country and individual stakeholders with whom team members met.) The team had two days together in Bangkok at the beginning of the field work, and then two days at the end to synthesize findings.

The evaluation process involved identifying findings (meaning statements of fact) and then drawing conclusions based on those findings. Working together in Bangkok at the end of the evaluation exercise, the team also sought to capture lessons learned and formulate program recommendations. In virtually all cases, two or more members of the evaluation team were present for each interview. Following completion of the field work phase, a draft evaluation report was prepared by the Team Coordinator, which was circulated electronically to the five remaining team members for their comments, which have been incorporated herein. Part I of this evaluation includes findings and conclusions. Part II, which is available for circulation only within the US Government contains the Team's recommendations.

## **C. Background: Regional Energy and GHG Challenges and Trends**

The impetus for the ECO-Asia CDCP Program stems from the critical importance of addressing Asia's contribution to global climate change, significant air pollution problems, rapidly increasing energy demand, and worldwide energy security concerns. To address these problems, Asia needs to transition to clean energy as quickly as possible. Energy consumption in Asia's fastest-growing economies is expected to rise by over 200 percent over the next 30 years. If Asia's current heavy dependence on fossil fuels continues, the region's carbon dioxide (CO<sub>2</sub>) emissions are expected to increase by 300 percent over the next 30 years, with major implications for global climate change.<sup>6</sup>

The rapid growth of Asia's developing economies has led to enormous environmental challenges, particularly in managing air pollution from the energy sector and motor vehicles. Greenhouse gas emissions from these sources are contributing to global climate change, threatening to destabilize climate and weather systems,

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<sup>5</sup> Because of time and logistical constraints, as well as the reduced overall level of activities in Vietnam since the mid-program evaluation, the evaluation team did not visit Vietnam, but conducted a joint telephone interview with relevant USAID staff in Hanoi.

<sup>6</sup> The background on Asia's Regional Energy Challenge comes from the contractor's Scope of Work (EPP-1-00-03-00013-00), p. 2, circa 2006.

disrupt economics and ecosystems, and increase sea level around the world over the next 25-100 years. Developing countries are expected to surpass industrialized countries in total GHG emissions within 15 years, with developing Asia contributing the largest share. As a result of its high levels of coal consumption and swelling petroleum imports, China is currently ranked second only to the US in total annual GHG emissions, and the gap is closing.<sup>7</sup> India is ranked fifth in the world, and Indonesia, the Philippines, Vietnam, and Thailand all add significantly to the region's GHG emissions from fossil fuel use.<sup>8</sup> Asia's urban metropolises likewise face severe air quality challenges as a result of increased energy consumption and growing reliance on motor vehicles. Particulate matter (PM) from fossil fuel combustion is among the most critical pollutants. Twelve of the world's 15 cities with the highest PM levels are located in Asia. Urban air pollution accounts for an estimated 500,000 to 1,000,000 deaths in the region per year. These represent some of Asia's biggest environmental challenges, together with a need to address waste and inefficiency for its energy and industrial sectors and to reduce reliance on imported foreign oil.

## II. PROGRAM OBJECTIVES AND DEVELOPMENTAL “HYPOTHESIS”

*Does the hypothesis for the ECO-Asia CDCP strategy and programmatic approach remain valid for achieving stated goals and objectives?*

### A. Findings

ECO-Asia CDCP's original Task Order, which was made effective in September, 2006, states that its purpose is to “implement ECO-Asia Clean Development, a program to promote policy and market transformation in Asia that leads to reductions in greenhouse gas (GHG) emissions to address climate change, reduced air pollution, and improved use of energy resources.” Nevertheless, the Evaluation Team could find no document or evidence showing the existence of an explicit developmental hypothesis, although the ECO-Asia CDCP Program did have a series of additional goal and objective statements, which were revised at various times over the life of the Program. (See Appendix 2 for a compilation of these statements.)

- During an initial interview in Washington with the IRG Home Office, one senior manager for the contractor stated that ECO-Asia CDCP did not really start with a hypothesis. Instead, he said, it started with a problem statement, saying that the Program “would find new ways” [to reduce GHG emissions] and “...learn by doing.”
- A senior member of the USAID Mission staff in India said of the ECO-Asia CDCP Program, “there was no clear blueprint.” Instead, he said, “there was an ‘open’ design.”

### B. Conclusions

Working from the ECO-Asia CDCP's goals and objectives, the Evaluation Team has generated a statement that represents the program's *implicit* development hypothesis:

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<sup>7</sup> In terms of CO<sub>2</sub> emission from fuel combustion China is the world largest annual emitter according to International Energy Agency (IEA) study on CO<sub>2</sub> Emissions from Fuel Combustion: Highlights published in 2010.

<sup>8</sup> *Op cit.*, Contractor's Scope of Work, p. 2, circa 2006.

*“Policy and market transformation in Asia’s energy and transportation sectors will promote clean development by mitigating greenhouse gas (GHG) emissions, reducing pollution, increasing economic productivity, and improving energy security.”*

The Evaluation Team concluded that this hypothesis remains broadly valid for the current work of ECO-Asia CDCP.<sup>9</sup> Policy and market transformation mechanisms remain important tools that RDMA can legitimately seek to use to address GHG emissions and pollution reduction targets.

### **III. EVALUATION OF PROGRAM COMPONENTS**

Each of the five ECO-Asia CDCP Program components is evaluated below.

#### **A. Private Sector Financing -- Private Financing Advisory Network (PFAN)**

##### **Introduction**

PFAN is a multilateral, public-private partnership whose primary purpose is reducing emissions of CO<sub>2</sub> and other GHGs by building the capacity of businesses to develop innovative high-quality clean energy projects and by matching these projects with sources of financing. PFAN is a global effort, funded by 11 countries, including the United States. It was initiated by the Climate Technology Initiative (CTI) to support the goals of the UN Framework Convention on Climate Change (UNFCCC). The International Energy Agency (IEA) oversees CTI.

PFAN projects generally are local small and medium-sized renewable energy and energy efficiency initiatives that provide important energy security and development benefits to the areas where they are located as well as reducing greenhouse gas emissions.

In Asia, ECO-Asia CDCP has pioneered an expanded version of the original PFAN model. For its operating methodology, PFAN-Asia has developed a 10-step strategy that allows a flexible approach that can be tailored to meet the needs of different types of projects. From beginning to end, the approach encompasses the following steps: (1) project identification; (2) screening; (3) selection; (4) group mentoring; (5) one-on-one coaching; (6) a pre-forum workshop; (7) investor forums; (8) one-on-one meetings; (9) deal flow facilitation; and (10) deal or financial closure.

The Evaluation Team’s major findings relating to PFAN-Asia are given below, followed by Conclusions. Recommendations are given in Part II, which is not being publicly circulated. Findings are given under two general categories: (i) results and responsiveness to stakeholder needs; and (ii) program sustainability and transition.

##### **Results and Responsiveness to Stakeholder Needs:**

ECO-Asia CDCP private finance activities started under an activity called the Asia Clean Energy Business Accelerator (ACEBA) which was later transformed to PFAN. ECO-Asia CDCP, in turn, fleshed out and

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<sup>9</sup> Since ECO-Asia CDCP has done no work in transportation, for possible future programming initiatives, the Team concluded that RDMA may want to delete the words ‘*transportation*’ from the clause “*Policy and market transformation in Asia’s energy and transportation sectors.*” Future efforts to directly address the challenges of GHG emissions connected to transportation may prove beyond the manageable interests of a future ECO-Asia CDCP-type Program.

operationalized the basic international world-wide model for PFAN in coordination with RDMA, and adapted it for the Asian context. For purposes of differentiating the Asian model, it is generally referred to throughout this document as “PFAN-Asia.”

## Findings: Major Programmatic Accomplishments

With a program investment of approximately \$2 million, as of March 2011, PFAN-Asia efforts had secured investments for 17 projects, with a combined value of \$207 million, representing a leverage ratio of approximately 100 to 1. The 17 projects cumulatively will save more than 174,450,000 Gigawatts (GWh) of energy over the project lifetime, and mitigate approximately 376,200 metric ton of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) per year. Over the 20 year estimated life of project, it is estimated that these individual investments will mitigate 7,471,000 metric tons of CO<sub>2</sub>e.

Some additional major accomplishments include the following:

- The Philippines was one of the big winners in PFAN-Asia, with six out of seventeen projects, worth a combined total of more than \$123 million, or more than 50% of all the PFAN-Asia funding that has been secured to date. Further, the Philippines will be able to mitigate more than 2,700,000 metric tons of CO<sub>2</sub>e, or nearly 37% of the GHG mitigation that is expected for all PFAN-Asia activities during the Life of Program for ECO-Asia CDCP.
- In China, PFAN-Asia activities started with about 100 proposals. In 2009, 20 companies were mentored and 10 were selected to present at the Forum. In 2010, 70 proposals were received, and 45 people were mentored at three workshops. Then 12 finalists received one-on-one mentoring and preparatory workshops/ rehearsals. Five projects have closed in China, worth a total of \$24 million.
- PFAN in India organized one round of PFAN-Asia forums, which included six workshops throughout the country, plus mentoring, and then the forum itself. More than 300 project proposals were submitted. The program short-listed 75 proposals of which 13 were presented at the Forum in Mumbai in Oct 2010. One-on-one mentoring and capacity building was provided. Two deals closed worth a total of \$9 million. Over 350 people attended the events.

Major accomplishments for PFAN-Asia are summarized in the tables and sections below.

**FIGURE 2. PFAN-ASIA SUMMARY: COUNTRIES, PROJECTS, AND INVESTMENTS**

COUNTRY	PROJECTS	INVESTMENT (million USD)	Capacity (MW)	GHGs mitigated (KTCO <sub>2</sub> eq)
Cambodia	1	2.5	1	400
China	5	16.1	9.05	1,476
India	2	9.2	0	N/A
Indonesia	2	46.1	40	1,800
Philippines	6	123.13	40.02	2,745
Thailand	1	10	3.5	1,050
<b>TOTAL</b>	<b>17</b>	<b>207.03</b>	<b>93.57</b>	<b>7,471</b>

**FIGURE 3. P-FAN-ASIA SUMMARY: TECHNOLOGIES, PROJECTS, AND INVESTMENTS**

TECHNOLOGY BY CATEGORY	# of Projects	INVESTMENT (million USD)	Capacity (MW)	GHGs mitigated (KTCO2 eq)
Biogas	6	65.3	18.7	3956.67
Biomass	4	71.6	48.82	2,664
Hydro	2	49.43	20	694.00
Energy Efficiency	4	16.5	6.05	156
Solar	1	4.2		N/A
<b>TOTAL</b>	<b>17</b>	<b>207.03</b>	<b>93.57</b>	<b>7,471</b>

**FIGURE 4. MATRIX SHOWING INDIVIDUAL P-FAN-ASIA PROJECTS BY COUNTRY**

	COUNTRY	COMPANY	PROJECT	TECHNOLOGY	CAPACITY (MW)	INVESTMENT SECURED Million USD	ANNUAL GHG MITIGATED (KTCO2 eq/yr)	CUMULATIVE GHG MITIGATED Per YEAR (Total KTCO2 eq)
1	Cambodia	W2E Siang Phong LTD	W2E Siang Phong	Biogas	1	2.5	20	400
				<b>Total Cambodia</b>	<b>1</b>	<b>2.5</b>	<b>20</b>	<b>400</b>
2	China	Nanjing Longterm Environment Technology Development Co., Ltd	Landfill Gas Power Generation Project	Biogas	2	1.6	38	760
3	China	Beijing CXTD Energy Technology Co.Ltd.	1MW Biogas Power Generation Project in Large Scale Livestock Farm	Biogas	1	3	28	560
4	China		Jizhou Cotton Industry (VSDs)	Energy Efficiency	4.62	0.60	6.11	91.59
5	China		Tianjin Iron Group (pump retrofits)	Energy Efficiency	1.43	0.90	4.32	64.76
6	China	Nobao Renewable Energy Holdings Ltd.	Energy Efficiency in buildings	Energy Efficiency		10		
				<b>Total China</b>	<b>9.05</b>	<b>16.10</b>	<b>76.42</b>	<b>1,476.35</b>
7	India	Samudra Electronic System pvt. Ltd.	Expansion of enery efficient LED lighting mfg.	Energy Efficiency		5	N/A	N/A
8	India	Synergy Renewable Energy	Solar systems mfg.	Solar PV		4.2	N/A	N/A
				<b>Total India</b>	<b>0</b>	<b>9.2</b>	<b>N/A</b>	<b>N/A</b>
9	Indonesia	PT Growth Sumatra Industry, Ltd. (GSI)	30 MW North Sumatra Steel Mill Biomass Power Plant Project	Biomass	30	25	90	1,800
10	Indonesia	Energi Sakti Santosa (ESS) with loan from PT SMI	Pakkat Mini-Hydro Power Project	Hydro	10	21.1		
				<b>Total Indonesia</b>	<b>40</b>	<b>46.1</b>	<b>90</b>	<b>1,800</b>
11	Philippines	JTM Industrial Farm	Biogas power plant	Biogas	1.2	3.2	3.5	70
12	Philippines	ASEA One Power Corporation	Banga Biomass Powerplant	Biomass	12	30	40	800
13	Philippines	Solutions Using Renewable Energy	La Union Biomass Powerplant	Biomass	1.2	3	3.2	64
14	Philippines	Greenergy Solutions	10MW Cavite Waste to Energy Gasification	Biogas	10	45	55.83	1,116.67
15	Philippines	Solutions Using Renewable Energy	Biomass Cogeneration Facility for Food Industries	Biomass	5.62	13.6	N/A	N/A
16	Philippines	Ormin Power	10 MW Inabasan Mini Hydro Power Projct	Hydro	10	28.33	34.7	694
				<b>Total Philippines</b>	<b>40.02</b>	<b>123.13</b>	<b>137.23</b>	<b>2,744.67</b>
17	Thailand	Tan Loke	Municipal Solid Wastes Power Plant Project	Biogas	3.5	10	52.5	1050
				<b>Total Thailand</b>	<b>3.5</b>	<b>10</b>	<b>52.5</b>	<b>1050</b>
				<b>GRAND TOTAL</b>	<b>93.57</b>	<b>207.03</b>	<b>376.16</b>	<b>7,471.01</b>

As part of its operating methodology, PFAN-Asia issues calls for business proposals through various media and mechanisms. PFAN-Asia also organizes “road shows” in each country to introduce PFAN-Asia services, types of financing, and components of a good business plan to participants.

In FY 2009 and FY 2010, over a period of approximately two years, PFAN-Asia reached out to a total of 456 companies through its events, road shows, and mentoring workshops. PFAN solicited and reviewed scores of proposals in each country, using its own team for initial screening and in-country partners and experts as the final selection panel. From this process a total of 98 projects and businesses were inducted into the PFAN-Asia pipeline.<sup>10</sup> These companies received coaching and mentoring support by the PFAN-Asia team as well as by in-country partners.

Peter Storey, the PFAN Global Coordinator, said that the PFAN initiative overall would not have had the impact it did in Asia without the assistance it received from ECO-Asia CDCP.

### **Findings: Stakeholder Perspectives**

A wide variety of stakeholders stressed that PFAN-Asia activities are important and they should be continued. Stakeholders felt that the forums in particular are the only events that bring together investors and project developers. At the same time, key informants expressed a range of perspectives about specific aspects of PFAN-Asia.

Some positive observations about PFAN-Asia included:

- In Jakarta, a USAID energy expert said: ‘Traditionally, USAID’s work stopped with the pre-feasibility element of an intervention. But with PFAN-Asia, this gives us links to the investors and financing community.’ The implication was that this opened up many new opportunities for USAID programming.
- Most stakeholders saw great value from the networking, since PFAN-Asia provides a platform where project developers can introduce themselves and meet potential investors. Many felt that the mentoring helped project developers learn how to interact with investors and improve their feasibility studies and business plans.
- Some stakeholders observed that banks became more comfortable with project developers who have gone through a PFAN coaching and due diligence process, and that working with PFAN also increased a company’s visibility, because information gets posted onto the PFAN website.
- Bilateral USAID Missions in Indonesia, Philippines, and India all expressed positive views about PFAN-Asia.<sup>11</sup> USAID/Indonesia asked the program to focus on bank capacity building, for example, and hopes to incorporate PFAN-Asia approaches into its new bilateral Indonesia Clean Energy Development (ICED) program. USAID/Philippines is very supportive of PFAN-Asia and sees PFAN raising awareness between project developers, banks, and investors. USAID/Philippines wants to continue PFAN-Asia in Philippines, and to expand the approach to include small clean energy rural electrification. USAID/Philippines also noted that the current format where prospective developers are required to compete in front of judges

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<sup>10</sup> The 456 companies included: 118 in China; 230 in India; 34 in Indonesia; 50 in the Philippines; and 15 from other countries. Sometimes countries from beyond the core 6 attend PFAN-Asia events, and submit proposals. Two examples include Singapore, which submitted four proposals and Cambodia, which submitted one, and received financing for it. From the 456 companies, PFAN-Asia provided business mentoring to 98 companies including: 22 in China; 14 in India; 33 in Indonesia; 16 in the Philippines; and 13 from other countries.

<sup>11</sup> Vietnam had only limited involvement with PFAN or with the broader CDCP. In a telephone call with the Mission, a spokesperson said the Mission had not been well positioned to address energy efficiency issues, “but Private Financing [PFAN] could be of interest to us.”

works well in their country and is consistent with the culture. USAID/India said that the potential for PFAN-Asia in India is huge.

- J.P. Huang,<sup>12</sup> Chairman (Emeritus) and Chief Strategic Advisor of the JPI Group, Inc. described JPI Group as a Chinese partner of PFAN-Asia. Speaking from this perspective, he characterized PFAN-Asia as ‘essentially investment banking,’ and said he thought that PFAN-Asia needed to develop deeper relationships with the Chinese investor community, which he suggested might be done through the establishment of PFAN ‘hubs’ in different key centers of China. Over time, these could be managed through commercial investor groups.<sup>13</sup> He also said that in order to get more funding for new types of energy start ups, it would be necessary to find “angel” investors who would have appetites for higher risk projects. Also, he suggested that there should be more PFAN activities throughout the year in order to keep the momentum going.

Some concerns expressed by stakeholders and areas that could be improved included:

- Many stakeholders wanted support for more targeted networking together with follow-on relationship-building between businesses and investors. One specific area might involve working more closely with more “angel investors.”<sup>14</sup>
- Banks in at least four PFAN-Asia focus countries expressed interest in learning about regional or global best practices through twinning and case studies, including on topics such as deal structuring and terms and conditions.
- A staff person from an international financial institution (IFI) noted mixed quality in projects presented at the two PFAN-Asia forums he attended, and thought some projects were not sufficiently conservative in their financial assumptions.
- Some bankers thought some projects presented at PFAN-Asia forums were presented prematurely, before they were ready to go to potential investors.
- Several informants questioned the role of competition, since the real objective was to gain financing, not the nominal approval of the judges in the competition. In addition, the competitive aspect of the forum was incongruent with the cultural norms and preferences in Indonesia. Other stakeholders believed that the competition aspect of the forum was positive and should be continued.
- Some stakeholders believed that mentoring could be improved, particularly if mentors had more experience in raising capital, structuring deals, etc.

And one neutral finding about PFAN-Asia included:

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<sup>12</sup> Dr J.P. Huan, is Chairman (Emeritus) of the JPI Group, which he founded more than 20 years ago. He holds a PhD in Finance, attended Rutgers University, and now oversees a major Chinese holding company that owns 16 companies, among other things. He has worked on Wall Street, seems to have done a lot of pro bono work with PFAN, had attended several PFAN Forums, and was well informed about CDCP’s operations. He seemed to be a very knowledgeable informant, who knew Chinese markets, other parts of Asia, and the world well.

<sup>13</sup> The JPI Group manages a \$100m Clean Energy fund in China, which has not invested in any PFAN projects as it does not invest in start-ups. Instead, it invests in “growth,” which has lower risk, with higher returns.

<sup>14</sup> **An angel investor or angel** (also known as a business angel or informal investor) is an affluent individual who provides capital for a business start-up, usually in exchange for convertible debt or ownership equity. A small but increasing number of angel investors organize themselves into angel groups or angel networks to share research and pool their investment capital (source: [www.wikipedia.org](http://www.wikipedia.org)).

- In 2010, PFAN-Asia implemented media capacity building workshops, including one in Manila and one in Hyderabad. Workshops included about 12 participants each, and provided training for journalists from TV, newspapers, and the internet. The activity taught journalists how to write about clean energy stories, relate them to regional and international issues, and “sell” the story to their editors.

## Conclusions:

What progress has PFAN made: (i) toward achieving the program goals of significantly scaling up private financing to mitigate GHG emissions? Answer: ECO-Asia CDCP working through its PFAN-Asia component has made substantial progress. During the past two years, RDMA has invested around \$2 million to leverage approximately \$207 million dollars of private sector investment in clean energy, for a leverage ratio of more than 100:1. Going beyond direct ECO-Asia CDCP funding, the program has helped to operationalize the PFAN-Asia initiative, and the potential now exists for PFAN-Asia to expand its impact dramatically.

### (ii) ...toward initiatives that lead to measurable reductions in GHG emissions?

**Answer:** PFAN-Asia, measured by the 17 projects which had “closed” by December 2010 has already catalyzed investments estimated to produce a yearly reduction of 376,000 metric tons of CO<sub>2</sub>e. Since individual infrastructure projects are estimated to have a lifetime of 20 years, these 17 projects would produce total reductions of 7,471,000 metric ton of CO<sub>2</sub>e, by 2031.<sup>15</sup>

### (iii) ...toward achieving overall program performance targets?

**Answer:** All PFAN-Asia accomplishments to date (described above) were directed at achieving overall performance targets, many of which have been substantially met, as shown in Appendix III of this evaluation. In terms of specific GHG mitigation, for example, under the Program’s Performance Management Plan (PMP) for 2007-2011 PFAN-Asia was expected to mitigate 3,400,000 metric tons of CO<sub>2</sub>e/year, and it has actually exceeded this target by mitigating 5,444,000 metric tons of CO<sub>2</sub>e/year. This represents 160% of its expected contribution to meeting the program’s overall performance target.

### (iv) Are results valid and consistent with the overall program strategic approach?

**Answer:** Yes. The results are consistent with the program’s strategic approaches, which are “to promote policy and market transformation in Asia’s energy sector by mitigating GHG emissions, [and] reducing pollution...” Its contribution towards meeting the Program’s Performance Management Targets are given in Appendix III. More significantly, however, in addition to substantially meeting the formal targets for ECO-Asia CDCP that were established in 2008,<sup>16</sup> by facilitating the introduction of project developers to potential investors (and by introducing a somewhat revised model for PFAN), the program has pioneered a new model for the delivery of development assistance to address clean energy priorities, and reduce GHG emissions. This new model potentially could be scaled up dramatically across Asia.

### (v) How responsive have Private Financing [PFAN-Asia] activities been in meeting needs of partners and stakeholders in the region (including national governments and other country counterparts, USAID Missions, and others)?

**Answer:** Across the board, virtually all stakeholders interviewed strongly supported PFAN-Asia.

<sup>15</sup> In fact most of these clean energy projects will require a couple years of lead time before they are truly operationalized, so at this time, these GHG savings are anticipated saving in the future rather than actual, current savings.

<sup>16</sup> The Performance Monitoring Plan (PMP) was not finalized until the first half of FY 2008.

**(vi) How responsive have Private Financing [PFAN-Asia] activities been, particularly with respect to “niche” areas where USAID is expected to have catalytic impacts that significantly leverage program resources?**

**Answer:** ECO-Asia CDCP has had significant impact in niche areas, where the PFAN-Asia Component has leveraged \$207 million, or approximately 100 times USAID’s program investment over the past two years, and established a new model for *catalyzing* private sector investments in the clean energy sector.

**(vii) Are the [PFAN-Asia] Program results valid and consistent with the program’s overall strategic approach?**

**Answer:** ECO-Asia CDCP’s results to date from PFAN-Asia are fully consistent with the program’s overall strategic approach.

### **(viii) Additional General Conclusions**

- One of PFAN-Asia’s advantages is that it brings the legitimacy of USAID to the table, which in turn helps attract potential funders and reduces the perception of financial risk.
- Some key informants thought that over time some banks would be willing to pay for PFAN-type services. Banks have already begun co-financing some Forums where developers present their ideas.
- Energy efficiency (at a rate of 3 out of 17 projects) is not a large part of the PFAN-Asia portfolio, except in China.<sup>17</sup> Opportunities exist to increase the focus on energy efficiency projects.

### **(ix) Additional Conclusions about PFAN-Asia Operating Mechanics**

- The larger PFAN-Asia Forums seem important for PFAN itself, and may serve an important corporate purpose of enhancing its visibility (“branding”), but may not always serve the direct purposes of all participants. Although some stakeholders in both India and Philippines emphasized the positive aspects of a large event for networking purposes, other stakeholders expressed a preference for smaller forums. Larger forums (100+ people) may not be optimum.
- There may be some tension between the interest of potential investors and developers. For example, it often seemed that project developers preferred smaller, more focused events with more face-time with investors. The priority for investors was not so clear, although some stakeholders thought they liked the larger venue and the ability to see more projects at one time in one location. Other stakeholders believe that investors also generally prefer smaller, more intimate venues where they could see just the projects that they were interested in, and having the option of choosing which project developers to meet with.
- Several stakeholders suggested changes to the PFAN forum format. Longer lead times (6-8 months) could be preferable to the current (5-6 months) in order to work with a larger group of proposers for a longer period of time. Some stakeholders suggested meeting every 18 to 24 months, (although stakeholders in India wanted more frequent forums.) Other formats could include networking events that would take 3-5 projects on road shows to meet individual investors, while at longer intervals an occasional regional or global forum could showcase projects and give a larger number of people the opportunity to network. The

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<sup>17</sup> Under Component II of ECO-Asia CDCP Program, “Financing for Public Sector Energy Efficiency”, the program is already doing significant work in energy efficiency in China. Whether this opportunity is unique to China or whether it could be replicated in other countries of Asia remains to be determined.

principal conclusion is that the format for the PFAN-Asia forum needs to be flexible based on country and stakeholder preferences.

## **B. Supporting Public Sector Financing of End-Use Energy Efficiency**

### **Introduction**

In the late 1990s, the World Bank developed the idea of a “Super Energy Service Company” (SuperESCO) for economies like China. The idea was that, in China, the Bank wanted a strategy where the Government could establish an ESCO as its own agency in order to implement energy performance contracts with public sector customers as well as support capacity building of other smaller “private sector” ESCOs. This enabled the Bank to have a credit line with an entity that had the support of the country’s Ministry of Finance and thus the Bank was willing to extend its sovereign guarantee. This, somewhat indirectly, has led to ECO-Asia CDCP’s work with a SuperESCO in China, in Hebei Province called “Hebei Fakai.”

In China, Hebei is among the country’s more industrialized provinces, with high energy demand and significant GHG emissions. ECO-Asia CDCP has been working in Hebei Province since 2009 to assist the Hebei Fakai Energy Services Company (a SuperESCO)<sup>18</sup> to reach its goal of displacing 600 megawatts (MW) of electricity generation through energy efficiency projects in public sector institutions. ECO-Asia CDCP has worked with Hebei Fakai to scale up its operations, capacity, and activities. It has also worked closely with the Hebei Power Demand Side Management and Instruction Center to create a strategic business and management plan for the new company. The program has provided training to help design the SuperESCO, as well as helping it to prepare for a \$100 million loan from the Asian Development Bank (ADB).

In 2008, RDMA received funding<sup>19</sup> for the development of a State Energy Conservation Fund (SECF) in an Indian state. In Kerala State, India, ECO-Asia CDCP in partnership with the Kerala Energy Management Centre (EMC) and the Kerala Department of Power supported the design of the Kerala State Energy Conservation Fund (KSECF). Despite the existence of a legal mandate, no other State Energy Conservation Fund had been established until the program began working in Kerala. The KSECF was formally set up in May 2010 in large part as a result of ECO-Asia CDCP support. It is the first dedicated state fund for energy efficiency in India.<sup>20</sup>

### **Public Sector Financing -- Results and Responsiveness to Stakeholder Needs**

#### **Findings: Activities in India**

- ECO-Asia CDCP selected two Indian States as pilots for setting-up State Energy Conservation Funds: Kerala and Madhya Pradesh. Kerala was selected because the State was already active on energy efficiency

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<sup>18</sup> Definitions, ESCOs and SuperESCOs: The term ESCO is used to designate a wide range of different types of organizations that may offer ‘performance contracting mechanisms,’ including design and engineering firms, construction management firms, equipment manufacturers and suppliers, and in-house ESCOs in large industrial groups. ESCOs generally need to develop working relationships with commercial financial firms, and work with them to arrange the needed financing on energy efficiency projects. A SuperESCO, in turn, is an entity that (i) is established by the government; (ii) serves as an ESCO to promote energy efficiency for public sector institutions (hospitals, schools, municipalities, government buildings and other public facilities); (iii) supports capacity development and activities of other ESCOs; and (iv) facilitates access to project financing. Recent World Bank studies of public procurement of energy efficiency services describe SuperESCOs as potentially viable models.

<sup>19</sup> Funding originated from the Department of State to implement activities in India supporting the Asia Pacific Partnership for Clean Development and Climate (APP).

<sup>20</sup> The Kerala State Energy Conservation Fund is not a SuperESCO although there is some overlap in functions, including helping to develop the local ESCO industry. KSECF is purely a funding mechanism which can finance ESCO projects, whereas a SuperESCO plays a much larger role, including contracting as an ESCO with the public sector to implement (not just fund) projects.

and the State Government was more advanced than other Indian States in their actions to develop a Fund. The program provided technical assistance to Kerala to set-up the Fund. This included developing the charter and overall rules for the Fund's operation.

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- ECO-Asia CDCP also provided technical assistance to the Indian State of Madhya Pradesh in setting up a State Energy Conservation Fund. Madhya Pradesh was selected because ADB had a plan to invest in energy efficiency in that state and the state had a number of large state industries, which by law were required to implement energy efficiency projects. The fund was designed to be a revolving fund with a 3- to 4-year payback period.
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- Initially USAID/India had recommended that ECO-Asia CDCP focus on the State of Gujarat based on the Mission's on-going energy efficiency activities. However, some stakeholders did not feel that Gujarati organizations were responsive, so Gujarat was not selected.
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- Kerala was the first nationally mandated SECF to be established under India's 2001 Energy Conservation Act. India's Bureau of Energy Efficiency (BEE) has matching funds to provide to States (at a ratio of 1:1) to motivate them to establish Funds but to date other Indian States have not done so.

### **Achievements of Kerala State Energy Conservation Fund**

- In Kerala it took around two years for the fund to be officially established: one year to design the fund and one year for Kerala to approve it. The program is judged to have accelerated the establishment of the fund by 3-4 years.
- The Evaluation Team was unable to determine the current status of the Kerala fund. It appears to be making grants, but is not yet operating as a revolving fund. The Kerala Energy Management Center reported that 1-2 projects are being implemented through grant funding totaling 10 million rupees (approximately US\$225,000) primarily in heat recovery at steel mills, rice mills, and rubber factories. The next phase is to work with Kerala's financial institutions for commercial loans for energy efficiency projects in buildings.
- The ECO-Asia CDCP team did not sustain support for an SECF in Madhya Pradesh due to a decision to personnel changes at ADB and increased focus on Kerala. This is not seen as a failure to achieve impact, as the ECO-Asia CDCP approved work plan only committed to establishing an SECF in one state.

### **Findings: Activities in China**

- Hebei Fakai, a SuperESCO, is being established to undertake a range of functions from supporting local smaller Energy Service ESCOs, to finding project financing and developing a pipeline of energy efficiency projects in Hebei Province. ECO-Asia CDCP helped develop Fakai's business plan, provided guidance on developing agreements with the investors, and helped Fakai to apply for a \$100 million loan from ADB. ECO-Asia CDCP also helped connect Hebei Fakai to potential investors through its PFAN-Asia activities.
- Hebei Fakai is being set up under the auspices of the Demand Side Management Instruction Center, which is part of the Hebei Development and Reform Commission (DRC), which is overseen by the "Office for Power" of the Provincial Government of Hebei. The "Office of Power" exists to oversee public utilities and other institutions dealing with power at the Provincial level. The Director of Fakai, who is also Director of Hebei's DSM Center, said that there are plans for Fakai, which is wholly owned by the People's

Republic of China, to eventually become a share holding company, or perhaps to be privatized through an Initial Public Offering (IPO), sometime within the next five years. He said that Fakai's activities to date have included the following:

- Project financing for Energy Efficiency: At an ACEF event in 2009, ECO-Asia CDCP staff helped link Hebei officials with ADB and then worked with both to develop a loan package to meet ADB requirements. Typically it takes 2-3 years to prepare a loan for the ADB project pipeline, but with the program's support the loan application was approved in 1.5 years.
  - Connecting with investors: Hebei provincial officials and Fakai staff were introduced to more than 10 investors (70% domestic; 30% international).<sup>21</sup> They are working on a \$100 million investment package with 10-20 projects equivalent to 600 MW of energy savings. Fakai has also won two PFAN awards as a finalist.
  - In addition, the ECO-Asia CDCP program: (i) assisted with performing due diligence for three projects; (ii) organized five training workshops; and (iii) assisted with data collection and calculated the potential for emissions reductions for an Energy Efficiency Power Plant commercialization initiative.
- On the financing side, Chinese Banks need training on energy efficiency financing. Typically, banks in China specialize in one set of activities, while financial investors specialize in others. The challenge is to find ways to help the banks, the developers, and the financial investors to all line up and work effectively together.
  - There is no formal system available in China to certify chartered energy auditors. Fakai and other stakeholders would like assistance from the US Association of Energy Engineers to help develop a chartered energy auditor capacity in China.<sup>22</sup>
  - National Resources Defense Council (NRDC) signed a three-way MOU with ECO-Asia CDCP and "Fakai." NRDC points out that Clean Energy entrepreneurs need a lot of help if they are to work successfully with national and international investors. In order for the SuperESCO to succeed, Fakai will have to deliver results and demonstrate potential so other provinces can see the results. At the same time, with so much strong Government of China (GoC) involvement supporting the initiative, there is potential for conflicts of interest, or a potential for a monopoly situation to develop. One challenge will be to find ways to get a SuperESCO to treat smaller ESCOs fairly. Another challenge will be to find ways to get reliable third party verifications of estimated savings coming from energy efficiency projects. NRDC staff concluded by saying that while the number of ESCOs has increased dramatically, the ESCO model itself still has not proven itself in China.
  - In Hebei, and in conversations with NRDC, the Evaluation Team was told of potential plans to expand the idea of a SuperESCO to five additional provinces in China: Jiangsu, Shanghai, Chongqin, Sichuan, and Beijing.

## **Conclusions: Public Sector Financing**

### **What progress has Public Sector Financing for End-Use energy efficiency made:**

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<sup>21</sup> At least one American ESCO was introduced to them, and signed a Memorandum of Understanding.

<sup>22</sup> Note: this may be a problem across Asia

**(i) ...toward achieving the program goals of significantly scaling up public financing to mitigate GHG emissions?**

**Answer:** Developing a model to work with the public sector to achieve energy efficiency appears to be making good progress. In Hebei, China, ECO-Asia CDCP has helped “Fakai” and its government sponsors the DSM office and the Office of Power to secure commitments leading to a \$100 million loan, which is expected to result in energy efficiency savings of 600 MW. This represents a dramatic scaling up of financing for energy efficiency for public sector institutions. In India, the program also substantially accelerated the design for the Kerala State Energy conservation Fund, the first dedicated state fund for energy efficiency in India.

**(ii) ...toward initiatives that lead to measurable reductions in greenhouse gas (GHG) emissions?**

**Answer:** The establishment of the SuperESCO model in China is expected to lead to measurable GHG reductions in China once the activities become fully operational.

**(iii) ...toward achieving overall program performance targets?**

**Answer:** The SuperESCO appears to be making a significant contribution toward achieving overall program performance targets. According to the program’s Performance Management Plan, which the contractor has submitted to USAID, the program had a target to secure financing in China for four (4) clean energy projects or businesses from 2007 to 2011. Today through the Hebei Fakai SuperESCO, the program is exceeding this target by securing financing for five clean energy projects.<sup>23</sup>

**(iv) Are the results valid and consistent with the overall program strategic approach?**

**Answer:** Yes. ECO-Asia CDCP’s overall strategic approach is “to promote policy and market transformation in Asia’s energy sector by mitigating GHG emissions, [and] reducing pollution...” Clearly, Public Sector Financing for Energy Efficiency is working to change policies and transform markets with regard to energy efficiency. Thus it is fully consistent with the Program’s overall strategies.

**(v) How responsive have public financing activities been in meeting needs of partners and stakeholders in the region?**

**Answer:** The public financing component of ECO-Asia CDCP is an exploratory model for working with the public sector to secure financing for energy efficient investments to mitigate GHGs. This work securing private sector financing for public sector institutions mirrors in important ways the program’s work with the private sector through PFAN-Asia.

**(vi) How responsive have public financing activities been, particularly with respect to “niche” areas where USAID is expected to have catalytic impacts that significantly leverage program resources?**

**Answer:** If the SuperESCO model in China proves viable, as the World Bank believes it might, and particularly if it proves to be replicable across Asia, then the program may have found a second important niche, where USAID can catalyze impact and leverage program resources by tapping into private sector funding through a Public-Private Partnership (PPP).

**(vii) Are effective strategies in place to ensure program sustainability after program close-out?**

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<sup>23</sup> For details of the percent of total targets achieved to date, see Appendix III.

**Answer:** The SuperESCO being developed with help from ECO-Asia CDCP in China in Hebei Province is leveraging a \$100 million loan from the ADB, and reportedly is negotiating with approximately 12 investors to yield initial energy savings by reducing power demand by 600 MW. Plans are also under way for it eventually to become a share holding company, or perhaps to be privatized through an Initial Public Offering. (IPO)

#### **(viii) Additional Conclusions: Financing for Public Sector Energy Efficiency**

Commonalities between PFAN and Public Sector Financing components: Many of the approaches used in PFAN-Asia (described above) are also being used to secure financing for public sector entities with much of the focus for both program components being on ways to bridge the difference between those who need financing (whether private or public sector) and investors from the private sector. These two program components may offer some potential to reinforce one another.

Future Potential, India: The State Energy Conservation Fund model of energy efficiency promotion in India could be replicated in other states, but demand for such activity needs to be stimulated. Despite the matching grants being offered by BEE, however, State governments have other priorities. States with the most potential include West Bengal and Tamil Nadu. On balance, this work probably would be best suited for a bilateral program activity.<sup>24</sup> Indian financial institutions including banks also need to be trained or sensitized on Clean Energy.

Replicating SuperESCOs in India: There is some controversy over the potential role of SuperESCOs in India. One knowledgeable informant said “Super ESCOs will not work in India. We do not want to over-bureaucratize the delivery of energy efficiency services. The government’s business is to set the rules of the game. The business of the energy efficiency business must be left to the market.” Others disagree with parts of this statement, countering that, “India already has a Super-ESCO of sorts (EESL) to address the many barriers to improving the EE of the public sector.”

## **C. Energy Efficient Lighting**

### **Introduction: Energy Efficiency Lighting**

ECO-Asia CDCP’s primary focus in the area of energy efficient lighting has been to promote the adoption of harmonized product quality standards, primarily for compact fluorescent lamps (CFLs), working through lighting manufacturers and industry associations. One of the principal efforts of the ECO-Asia CDCP program has been to establish the Asian Lighting Compact (ALC). According to its website, the ALC is:

“... an independent, non-profit organization dedicated to reducing greenhouse gas emissions by improving the quality of lighting products and encouraging the adoption of energy-efficient lighting in Asia. Formed through a public-private initiative, the ALC works to reduce barriers to trade and mitigate climate change by harmonizing quality and energy-efficiency standards for lighting across the region. The ALC’s membership includes national lighting associations in Asia, some of the largest lighting manufacturers in the world, and government agencies. The ALC is impartial, and not tied to any particular commercial organization or driven by political or corporate motivations.”

ECO-Asia CDCP has also played a meaningful role in establishing lites.asia, a regional standardization body composed of government representatives and focused on policy issues.

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<sup>24</sup> Also, at present, USAID/India has no plans to work in this area.

## Findings:

According to Steven Zeng, the China Director for the Collaborative Labeling and Appliance Standards Program (CLASP) and the previous ECO-Asia CDCP Country Manager in China, the program initially tried to encourage different governments to harmonize standards but that task proved too difficult. As a result, the program team changed its approach and began working with private companies to develop voluntary standards. He suggests that the ALC needs to generate a wider group of stakeholders, along with a good business plan. He thought that ALC could work on Light Emitting Diode (LED) lighting, for example, where standards have yet to be developed. China has developed incentives for promoting s and has a national plan for LED development.

**Asia Lighting Compact.** After preparatory work by ECO-Asia CDCP, ALC was formally established in Singapore in March 2010. As of February 2011, the ALC had 18 members across various segments of the lighting industry. Membership is open to all stakeholders, including government energy, efficiency, and standards-setting agencies; testing laboratories; research institutions; professional societies, and bulk purchasers of lighting products. The ALC expects to add approximately 20 new paying members and 6 honorary (non-paying) members in 2011.

ALC currently has four private sector sponsors—Philips, General Electric, Sylvania, and Danson, a mid-size Chinese manufacturer. These four sponsoring organizations contributed \$100,000 in 2010, and are expected to contribute \$125,000 for 2011. ALC’s additional planned revenue streams include membership fees (\$300 per ordinary member) and product registration fees. (To date no fees have been collected.) ALC is also considering expanding its services to include market verification, serving as a third-party consultant to conduct audits of manufacturers to ensure compliance with ALC standards.

In 2009, the program drafted ALC’s Business Plan, and now the ALC’s Executive Director is working to update it. According to the ACL’s Board’s meeting minutes of December 2010, its budget for 2011 is \$175,000. The Executive Director thought that projected revenues for 2011 are sufficient to cover this year’s projected costs.

Based on its current mandate, the Executive Director sees ALC as an organization that could have a lifespan of 5-7 years. Once the groundwork is laid for the CFLs, she suggested, there may not be a need to continue ALC in its current form. Instead one possible end goal could be for national governments in Asia to adopt ALC’s standards as their own mandatory standards, with ALC’s “tier 3” standards serving as minimum performance standards.

Some important international organizations are currently using the ALC standards. For example, the ADB said that it used ALC standards for its \$13 million CFL procurement in the Philippines and \$1 billion procurement in Pakistan.

A spokesperson for the Energy Research and Testing Laboratory at the Philippines Department of Energy said that the Philippines supports the ALC. They feel that harmonization of standards is important, since the Philippines imports but does not manufacture CFLs. For them, having harmonized regional standards would make it easier to manage the market and could reduce testing costs. However, the spokesman acknowledged that regional standards will not address the issue of poor quality bulbs entering its market illegally. She acknowledged that some lighting standard issues are actually enforcement problems, which should be the responsibility for the Bureau of Customs. She also said that ALC’s standards (“good, better, best”) have “unspoken acceptance” from countries across the region. The Philippines could adopt standards through formal Association of South East Asian Nations (ASEAN) procedures, or adopt them unilaterally at a national level.

India's activities for this component have focused on CFL quality and standards.<sup>25</sup> In India, the key to progress in lighting standards is a program disseminating information to households to assist them in choosing the right CFL by publicizing testing results in a national magazine called "Voice". (Publication seems limited, however, since it was said to be ten thousand copies.)

More than 90% of Asia's CFLs are manufactured in China. According to Mr. Zeng of CLASP, while China has domestic Minimum Energy Performance Standards (MEPS), it does not regulate its standards for its exports, and it is unlikely to follow any regional standards. China's bulk procurements follow different specifications that are higher than their MEPS, but tailored to budgets and individual conditions. In general, Mr. Zeng feels that the ALC should work towards harmonizing regional testing standards, using International Electronic Commission (IEC)<sup>26</sup> criteria, rather than product standards.

According to Hebei's Power Office, Hebei Province has procured 13 million CFLs. The province sets their own specifications, and provincial officials think it is still too early for regional harmonization. Different countries have different needs, they say, and thus standards could complicate and not simplify the process.

**Lites.asia.** The ECO-Asia CDCP program played a meaningful role in establishing *lites.asia* in October 2009 as a regional standardization body focused on government/policy issues.<sup>27</sup> It provides a forum for policy makers to exchange information. The idea behind *lites.asia* was to bring together countries' technical standards' departments to understand the IEC's process and to coordinate their inputs. It brings different groups together twice a year, including technical standards departments, manufacturers, policymakers, and NGOs. According to its website, "the objective of *lites.asia* is to facilitate a greater involvement by Asian / APEC countries in the development of IEC standards."

## Conclusions:

### What progress has this Program component made: (i) ...toward achieving the program goals of significantly scaling up energy efficient lighting to mitigate GHG emissions?

**Answer:** While ECO-Asia CDCP has made some progress with this component by helping to stand up the ALC and develop standards for CFLs, this component is proving to be a challenge. Two specific program goals for lighting efficiency are shown in the contractor's Performance Management Plan (PMP)<sup>28</sup> and copied below as Table 4. As of February 2011, according to the contractor, the program had achieved between 78 and 85% of the Life of Program goals, as shown in the Table, below:

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<sup>25</sup> Information for India is based on an interview with Bhaskar Natarajan (now at C Quest Capital) who was country coordinator managing the full India Program from 1/2008-10/2009]

<sup>26</sup> The International Electrotechnical Commission is an international body that prepares and publishes International Standards for all electrical and electronic technologies, including lighting products.

<sup>27</sup> *Lites.asia*, where "lites" stands for Lighting Information and Technical Exchange for Standards. For more detail see: <http://lites.asia>. *Lites.asia* arose out of a meeting in October 2009, when representatives from Australia, China, India, Indonesia, Philippines, Sri Lanka, Thailand and Vietnam met to discuss the potential benefits of regional co-operation on the development of lighting standards. Although most Asian countries have a commitment to adopting international IEC standards, in many cases these standards are subsequently changed to suit local conditions. This jeopardizes global harmonization efforts and results in potential barriers to trade. The objective of *lites.asia* is to facilitate a greater involvement by Asian / APEC countries in the development of IEC standards. This should result in standards which are more appropriate for regional needs, thus enabling Asian / APEC countries to adopt IEC specifications with minimum local variations.

<sup>28</sup> USAID's Automatic Directives System (ADS) requires the Agency to carry out Data Quality Assessments (DQA) on projects and programs every three years. Since the evaluation team had only a short period of time within which to evaluate this program, the available data which had been generated under the PMP is given above, and the contractor's full PMP response is given in Appendix III. The evaluation team did not have time or resources to independently verify the quality of the data captured in the PMP systems, and does not stipulate or independently confirm that the data is accurate.

**FIGURE 5. CDCP LIGHTING EFFICIENCY GOALS OVER LIFE OF PROJECT**

2b Number of lighting companies and associations adopting or implementing regional standards ( <i>Custom</i> )	<b>Target</b>	34	Achieved 85% of life-of-program target by end of FY10.
	<b>Actual to Date</b>	29	
2c CFL market share (for Asia) of companies adopting or implementing regional standards ( <i>Custom</i> )	<b>Targets</b>	45%	Achieved 78% of life-of-program target by end of FY10.
	<b>Actual to Date</b>	35%	

At the present time, energy efficient lighting remains an intractable political and economic issue across Asia, and while the program has made some progress towards reaching its nominal goals, it is still searching for the right formula with which to significantly impact this sector. Further, the nominal goals which have been reached may not prove meaningful in the near- or even the medium-term, or perhaps the PMP has established inappropriate metrics. With reference to the first performance target given above in Table 4, for example, many of the ALC's current members are NGOs that are not in a position to "adopt" or "implement" ACL's standards. Some members of the evaluation team suggest that it is more appropriate to count only manufacturers and lighting associations in this total and not NGOs. By this criterion, there could be fewer than 29 adoptees. Similarly, the Executive Director of the ALC was not able to say what percentage of market share is represented by ALC's members. On balance, some members of the evaluation team question the validity of the numbers in Table 4.

**(ii) ...toward initiatives that lead to measurable reductions in greenhouse gas (GHG) emissions?**

**Answer:** While it represents an important objective, it is hard to show how work to date with the ALC has led to directly measurable reductions in GHGs during the course of the current program. However, the ALC may achieve more traction in the future. Or there may be other ways to address the issues of standards and energy efficient lighting.

**(iii) ...toward achieving overall program performance targets?**

**Answer:** According to data provided by the contractor, the program has come close to meeting its two nominal program performance targets over the Life of Program. (See Appendix III.)

**(iv) How responsive have lighting activities been, particularly with respect to "niche" areas where USAID might have catalytic impacts that significantly leverage program resources?**

**Answer:** The program has helped facilitate the establishment of the Asian Lighting Compact, which may develop into a sustainable institution. At this time, however, it is premature to know clearly what will happen with the ALC, or even to know clearly what should happen with the issue of lighting standards.

According to one expert consultant working with the International CFL Harmonization Initiative, the ALC "will either sink or swim in the next two years. Either it will become a full fledged organization that can completely support itself or it will shrivel and die." He went on to say, "It has a structure in place, but it needs to work hard to get more products and consumers. To succeed, it will require a sustainable number of members and customers, including the World Bank, the ADB, and governments, which all engage in bulk

procurements of millions of CFLs.” The interview with the ALC Executive Director confirmed these views, and the evaluation team concurs with this conclusion.

**(v) Are effective strategies in place that will ensure program sustainability after program close-out?**

**Answer:** The ALC has been established, is registered in Singapore, and has hired an Executive Director. It is receiving funding from four (4) major CFL manufacturers, has other revenue streams, and is exploring additional sources of funding. While it has sufficient funding for 2011, it needs to broaden its base. The Executive Director is working on a revised Business Plan. Thus, the short answer to this question is that the ALC still has not achieved full sustainability and it is unclear whether it will succeed in doing so.

**(vi) Are strategies in place that will smooth transition to follow-on activities?**

**Answer:** ALC is working to become self-sustaining. The verdict is out on whether it will succeed. It is also exploring ways to diversify its program, possibly moving into certification of testing procedures, and working with LEDs, and/or with appliances.

**vii) What actions are recommended to ensure effective sustainability and transition?**

**Answer:** ALC will need to continue to expand its membership, sponsor additional forums on issues relating to lighting, and perhaps move beyond CFLs to address standards for LEDs. To improve its potential revenue stream, it may need to carry out ‘market verification,’ activities. It may be possible for the ALC to support development of standards for other types of appliances, like air conditioners, although organizations such as CLASP are already working in this area.

**(viii) Additional Conclusions: Energy Efficient Lighting:**

- Work to date has provided an important platform for regional cooperation, dialogue, and relationship-building. However, achieving harmonized regional standards will continue to be a challenge across Asia. Other strategies to promote market adoption of energy efficient lighting products may merit exploration.
- Close coordination between the Regional Centre for Lighting (RCL), in Colombo, Sri Lanka and the ACL remains a priority. ALC would prefer to take on the role of advisor over compliance (for example, through spot checks) while it believes that the RCL should provide the primary testing role for the region. Although the RCL is being supported by USAID’s SARI/Energy Program, evaluating the role of the RCL falls outside the mandate of this evaluation.
- Coordination can be improved with the UN’s enlighten program. Opportunities may exist to leverage Australian Government resources for lighting and appliances.

## **D. Regional Policy and Regulatory Dialogue**

**Introduction:** In 2009, RDMA incorporated new activities into the ECO-Asia CDCP Scope of Work (SOW) to initiate a “Regional Policy and Regulatory Dialogue” that promoted regional cooperation on common policy and regulatory challenges to promoting clean energy. ECO-Asia CDCP brings together a wide range of stakeholders to seek solutions to policy and regulatory barriers that inhibit investment in energy efficiency and renewable energy projects. Participants typically include policy makers, regulators, and representatives of civil society, as well as entrepreneurs, equipment and service providers, investors, and bankers. In June 2010,

ECO-Asia CDCP and ADB partnered to organize the Asia-Pacific Dialogue on Clean Energy Governance and Regulation. ADB strongly supports USAID efforts in this area.

## **Results and Responsiveness to Stakeholder Needs:**

### **Findings:**

- To support the Regional Policy and Regulatory Dialogue, the ECO-Asia CDCP team conducted roundtables, including a “policy dialogue” in Manila in November 2009, following by a “listening tour” in China, India, the Philippines, Thailand, and Vietnam in early 2010. These discussions identified four energy policy issues as priorities: (1) developing or strengthening grid systems for renewable energy resources; (2) promoting feed-in tariffs to incentivize renewable energy investment; (3) promoting demand side management (DSM) to reduce energy consumption; and (4) promoting Energy Service Companies (ESCOs) for enhancing energy efficiency.
- In June 2010, the program supported an Asian Pacific Dialogue on Clean Energy Governance and Regulation in Manila, directly preceding the Asia Clean Energy Forum. Because of the program’s budget situation, however, only one policy workshop has been scheduled for 2011, with no additional follow-up activities. In 2011, the program has also scheduled two technical workshops: one focused on energy efficiency policy and regulation; the other on feed-in tariffs. ECO-Asia CDCP also sponsored some regulators to attend an ACEF event.
- Today stakeholders report more dialogue than two years ago. Through its various activities the program engaged nearly 300 participants at various policy dialogue forums.
- In some cultures and political systems, stakeholders said that having the program convene the Forum enabled them to sit down and talk about policy priorities, which otherwise they would have found hard to do. In Thailand and in Indonesia, for example, it is not always easy to hold such talks. Stakeholders report that the program has helped catalyze such discussions.
- The policy dialogue activities in India were viewed as important. The activity in India was attended by 10 regulators. Generally, these participants rarely discuss and share their ideas among their counterparts, but with USAID’s intervention there were several useful discussions. For example, a “one-stop-shop” idea was jointly initiated as a means of streamlining the government’s clean energy development process. The policy discussions were also closely related to PFAN-Asia, since policy makers in several states of India presented their policies and regulations which benefited clean energy project developers.
- Beyond the issue of dialogue, stakeholders pointed out, policy implementation is also critical. Dialogue by itself, they said, is insufficient to create meaningful change. Instead, dialogue needs to be paired with technical assistance, and perhaps combined with other activities (like the ACEF Forums, or other special events). With regard to learning best practices, one professor noted that “to learn what is good is not enough.” Instead, he said, “more emphasis should be placed on capacity building” in order for policymakers and planners to actually implement policy measures. Policy dialogue is important for framing the issues. USAID/Indonesia also said the exchange of best practices across the region had been good, but there needs to be more action, and not just people going to workshops. The Indonesian planning agency BAPPENAS said “we have enough brains to make good policy. The point is how to successfully implement it.”
- Stakeholders thought that policy dialogues should have a clearer focus. One ECO-Asia CDCP program staff person in the Philippines noted that regional dialogues should be structured so they are not too broad;

instead they should be focused to address specific problems, with a clear outcome and follow-up actions resulting after the dialogue.

## Conclusions -- Policy and Regulatory Dialogue

**What progress has ECO-Asia CDCP made:**

**(i) toward achieving the program goals of significantly scaling up Regional Policy and Regulatory Dialogue to mitigate GHG emissions?**

**Answer:** To date minimal effort and resources have been put into this component. Nevertheless, ECO-Asia CDCP has engaged nearly 300 individuals from six key countries as part of a process to begin a regional dialogue on GHG and energy conservation. One result of work under this component to date is that ECO-Asia CDCP has identified common energy efficiency and Regional Energy policy priorities across Asia, although this is not yet a result with any on-the-ground impact. Since this program component just started in 2009, this development could provide a platform for work in the future.

**(ii) ...toward initiatives that lead to measurable reductions in greenhouse gas (GHG) emissions?**

**Answer:** It is hard to show a direct causal measureable relationship between policy dialogue to date and a reduction in GHG emissions, particularly for an initiative that just started in 2009. Still, policy dialogue remains a necessary and important element of a larger USAID/RDMA approach for reducing GHG emissions over the long term.

**(ii) Are the results valid and consistent with the overall program strategic approach?**

**Answer:** The PMP states that “ECO-Asia CDCP is a *policy-based program that supports the creation ... of clean energy policies* that are expected to catalyze market transformations and lead to significant energy savings and associated reductions in GHG emissions over the medium to long term.”<sup>29</sup> The potential results of policy dialogue are valid and consistent with the program’s overall strategic approaches.

**(iv) How responsive have regional policy and regulatory dialogues been in meeting needs of partners and stakeholders in the region?**

**Answer:** The program made a good start by identifying four policy priorities for the region. Stakeholders say that policy dialogue needs to be suitably focused on specific topics, and should also include issues relating to policy implementation. In many cases, dialogues may also need to include civil society representatives.

**(v) How responsive have these activities been, particularly with respect to “niche” areas where USAID might have catalytic impacts that significantly leverage program resources?**

**Answer:** At a regional level, it is a challenge for individual countries to convene regional groups for policy discussions. Even within a country, it can be difficult to bring civil society groups to the table as part of a dialogue with relevant technical policy makers. RDMA’s convening authority, which represents an important part of the United States Government’s (USG) comparative advantage when it comes to stimulating policy dialogue, has helped address these problems..

**(vi) Are effective strategies in place that will ensure program sustainability after program close-out?**

**Answer:** Policy dialogue between and among the countries of Asia will need to continue indefinitely, although at this point it is difficult for such efforts to be fully self sustaining. For the near to medium term,

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<sup>29</sup> USAID, IRG, “Performance Management Plan (DRAFT) Modification X, Environmental Cooperate-Asia, Clean Development and Climate Program,” January 25, 2011, p. 7.

USAID and RDMA's convening authority need to be used to bring stakeholders together to discuss complex and sensitive matters which otherwise may not be discussed. This is particularly true when it comes to cross-border dialogue, which is an important strength of RDMA. While ASEAN theoretically exists to help fill this niche, it may not represent an optimum vehicle. Thus, since reduction of GHG emissions is a priority for the USG, some additional USG resources will be required to facilitate policy dialogue.

#### **(vii) Other Conclusions: Policy Dialogue**

In India, USAID's neutrality is regarded as a key strength. In many circumstances, according to Indian stakeholders, policy dialogues are organized in order to convince policy makers about certain issue. USAID—at least in India—is viewed as having no hidden agenda. Stakeholders said, “USAID does not even promote American technology.”

## **E. Regional Knowledge-Sharing**

**Introduction:** Since 2007, ECO-Asia CDCP has organized the Asia Clean energy Forum (ACEF) in close collaboration with the ADB. ACEF is widely seen as the premier event in Asia for clean energy practitioners to share effective practices and present new findings. The program's research and technical reports also help policy-makers and donors in the region better target interventions and funding.

### **Findings**

To date, ECO-Asia CDCP has generated 24 technical reports and knowledge management products. Recent reports have included a study on black carbon emissions in Asia, a benchmarking study of the quality of energy-efficient lighting in the region, and a report on prospects for sustainable biofuels in Asia.

IRG/Washington management said that one of the program's niches was in networking and knowledge sharing. By working through vehicles like ACEF, the program has enabled an exchange of lessons learned and various new approaches to clean energy.

ADB for its part regards partnering with the program on ACEF as a success story, in part because it provides an important venue for countries to share information about what they are doing. ADB pointed out that there were positive impacts and outcomes from ACEF, but as with most such ventures, they are difficult to track, measure, and report on, because the outputs are diffuse and are quickly dispersed as the participants scatter after the event is over. Program staff in the Philippines received feedback from ACEF participants at the end of the last event, who essentially asked, “What now?” Some participants clearly were looking for continuity from year to year.

The ADB acknowledged that ECO-Asia CDCP has done the bulk of the work to organize the ACEF. ADB itself has limited resources to fund future events and the 2011 Forum will require participants to pay registration fees. ADB would also like to broaden the event to look at broader energy issues, climate change, low carbon development, carbon trading, etc. ADB would like to link the Asian Clean Energy Forum with other international financial institutions. ADB currently is conducting a review of ACEF and expects to share results with USAID shortly.

### **Conclusions:**

**Results and Responsiveness to Stakeholder Needs: What progress has Regional Knowledge-Sharing made:**

**(i) ...toward achieving the program goals of significantly scaling up clean energy to mitigate GHG emissions?**

**Answer:** It is hard to quantify in meaningful ways any mitigation of GHG emissions which can be directly attributed to diffuse events, where people come together for a few days to share information, or various

knowledge products (reports) get written and disseminated. To answer this question, a different metric would be required that could measure the impact of ‘knowledge sharing.’ In any case, the contractor reports in the PMP that the ECO-Asia CDCP program had achieved 83% of its nominal life-of-program target for knowledge management products by end of FY 10,<sup>30</sup> as shown in Table 6, below:

**FIGURE 6. CDCP TARGETS FOR TECHNICAL REPORTS**

4d Number of technical reports and knowledge management products ( <i>Custom</i> )	<b>Total Targets</b>	29	Achieved 83% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	24	

**(ii) ...toward initiatives that lead to measurable reductions in greenhouse gas (GHG) emissions?**

**Answer:** Several of the program’s written reports have been well received, and have facilitated knowledge sharing. However, since they are information products, it is essentially impossible to generate any direct cause and effect attributions for reductions in GHG emissions.

**(iii) ...toward achieving overall program performance targets?**

**Answer:** Knowledge-sharing is an important element for a program that seeks to reduce GHG emissions, and promote clean energy use. The emphasis, however, is on the process. Policy dialogue and knowledge sharing should both be treated as cross cutting initiatives to support the program’s larger specific technical agendas.

**(iv) Are the results valid and consistent with the program’s overall strategic approach?**

**Answer:** Yes. Knowledge-sharing is an important component of any program that seeks to promote policy and market transformation across Asia. The PMP says, “For programs such as ECO-Asia CDCP, the real targets are the development of human capital—that is, the knowledge and institutional structures that will enable clean energy reforms to endure and be replicated across the vast energy industry in Asia.”<sup>31</sup>

**(v) How responsive have Regional Knowledge Sharing activities been in meeting needs of partners and stakeholders in the region?**

**Answer:** The ACEF Forum itself has been characterized by the Director of RDMA as “the premier regional event on clean energy in Asia.” Other key stakeholders including the ADB have said they believe there has been significant value in supporting ACEF. ADB continues to be interested in focusing on knowledge-sharing, and believes it has been important to engage developing country decision-makers. The program’s written reports have been well regarded, and widely circulated. To date, two principal beneficiaries of technical reports were RDMA, and the program itself, which has used the reports to help guide the general direction of technical activities.

**(vi) How responsive have Knowledge Sharing activities been, particularly with respect to “niche” areas where USAID is expected to have catalytic impacts that significantly leverage program resources?**

<sup>30</sup> This data has not been independently confirmed by the evaluation team.

<sup>31</sup> Ibid. p. 7.

**Answer:** The program has prepared several important technical reports, starting with their first study: “From Ideas to Action: Clean Energy Solution for Asia to Address Climate Change,” followed by “Black Carbon Emissions in Asia” and “Biofuels in Asia,” as well as reports on lighting, finance, and coal. These studies are technically important, and also contribute in important ways to regional dialogue, but it is infeasible to determine their direct impact upon GHG emissions. The program has helped establish websites, including “www.cleanenergyasia.net,” as well as a website for PFAN-Asia and one for the ALC dealing with lighting. These are all important niche areas, where USAID/RDMA has been able to have catalytic impact.

**(vii) Are effective strategies in place that will ensure program sustainability after program close-out?**

**Answer:** Knowledge-sharing, like policy dialogue, will go on indefinitely, and at this time it can not be 100% self sustaining. Because it is an important priority, RDMA needs to carefully target its strategies for knowledge-sharing, to make sure they conform with other technical components of its larger program.

## IV. OVERALL LESSONS LEARNED FROM CDCP

*What lessons have been learned from ECO-Asia CDCP's overall program implementation?*

### A. Technical results—Lessons Learned

#### Private Financing: -- PFAN- Asia

Working through PFAN-Asia, ECO-Asia CDCP has generated a model to bridge the gap between clean energy project development entrepreneurs and financial investors. By helping to introduce project developers to potential investors (and by developing a somewhat revised model), the program has pioneered a new model for the delivery of development assistance to address clean energy priorities, and mitigate emissions of GHGs. Pioneering a specific model such as PFAN was not part of the program's initial objective, although it fits within the broader objectives of the program. This new model may have the potential to be scaled up dramatically across Asia. An important lesson is that RDMA should be somewhat opportunistic in urging its contractors to look for such opportunities, and perhaps not set nominal benchmarks too narrowly. A related lesson learned may be that for some of its programs RDMA should adopt the approach of venture capitalists, who bet on several ventures (i.e., program components) in the hope that one or two of them may pay off big. This seems to have been the case for ECO-Asia CDCP, which bet on PFAN-Asia, and seems to have won handily.

#### Public Sector Financing

There appear to be important linkages between private financing and financing for public sector institutions. It is important to find ways to take advantage of the commonalities between the two program components. Just as private financing seems to have identified a potential model that can be replicated and scaled up across Asia, public sector financing may also be working towards a similar scalable, replicable model. These efforts merits continued support, although the role for RDMA in the future of public sector financing needs to be carefully assessed. The lesson here may be that part of RDMA's comparative advantage should be focused on developing, nurturing, or demonstrating the initial model. Once the model is proven, it can be turned over to bilateral missions, the private sector, or national governments.

#### Energy Efficient Lighting:

Work with lighting and standards needs to be carefully analyzed. At this point in time, the future direction of energy efficient lighting and what systems will work most effectively are hard to determine with certainty.

#### Regional Dialogues and Knowledge Sharing

Regional dialogue and knowledge sharing both have important potential to reinforce other program activities. These components have not supported the rest of the program as explicitly as they might have. When possible, individual components should explicitly reinforce one another. Such potential reinforcement might be nurtured while putting work plans together.

## B. Implementation Issues

**Budget Oversight:** In India, the Evaluation Team learned from interviews that payments for salaries and social security for staff, vendors, rent, hotels, and consultant fees had not been made by IRG’s subcontractor, International Resources Group SSA (IRG SSA), for the previous five to six months. Individuals were told by program management to contact IRG SSA for payment but IRG SSA had not been responsive. A PFAN-Asia mentor in India reported that he was asked to reduce his fees after he had signed a contract and provided services. This non-payment (as well as the general, unexpected curtailment of the program) has harmed USAID and PFAN-Asia’s reputations and caused a loss of trust and credibility that will take time to repair. This situation would worsen if not immediately addressed. However, the evaluation team was subsequently told by IRG that the problem resided entirely with the subcontractor and was being resolved.

**Monitoring and Evaluation:** The program does not seem to have had sufficient feedback about what was happening on the ground. For example, potential cross linkages between Private Financing (PFAN-Asia) and Public Sector Financing may not have been fully captured during the course of the program. Ways to weave together Policy Dialogue and Knowledge sharing with other components of the program may not have been explored. The program-level learning that was going on between or across Components or across countries may have gone primarily to the program staff, and may not have been shared as broadly as possible with other relevant stakeholders.

**Bilateral Mission Engagement:** Close coordination between RDMA and bilateral missions (from design through implementation) is vital, including coordination on potential buy-ins. In China, the Embassy called for better integration with the Embassy functions, especially the Foreign Commercial Service which could help identify US companies and investors to participate in PFAN-Asia and other activities. The State Department also suggested coordinating with DOE’s \$75m China program.

## C. RDMA’s key strengths and weaknesses in undertaking a regional clean energy program—Lessons learned.

RDMA has multiple strengths, most of which involve the ‘regional’ element of RDMA’s mandate. Strengths include being perceived as neutral, with important convening authority, coupled with RDMA’s proven ability to reach across borders and bring together multiple stakeholders. It also has an ability to facilitate cross border learning, the sharing of information, and the ability to precipitate regional-level dialogue among policy makers and stakeholders. RDMA has an ability to arrange twinning between two or more countries. It can explore ways to address issues that may involve setting regional standards. Finally, it has some ability to stand back and look at the countries of Asia and see how they may be influencing one another, and then arrange discussions (or policy dialogue) about what such influence might mean.

However, in order to take advantage of RDMA’s convening authority, RDMA also needs to have substantive programs. To the extent that it proves possible, RDMA programs should have clearly defined components that work together to reinforce one another.

In addition, local national staff represent important assets. A significant strength of RDMA’s ECO-Asia CDCP program has been its local, on-the-ground staff with local knowledge.

**END**

## **APPENDICES**

**1. Statement of Work**

**2. Statements of ECO-Asia CDCP's goals and objectives [from Khun Khan, in original]**

**3. Summary of Program Indicators, Performance Targets, and Actual Results**

**4. Interview Guide**

**5. List of Stakeholders Contacted [paraphrase Evaluation Schedule. From Khun Khan]**

**6. Travel Schedule**

# STATEMENT OF WORK

## I. Background

RDMA's Regional Environment Office (REO) intends to conduct a Final Program Evaluation of the Environmental Cooperation-Asia Clean Development and Climate Program (ECO- Asia CDCP) during January-March 2011, with field visits during February 2011. The evaluation will assess program performance and effectiveness against its goal and indicators; provide recommendations that can potentially ensure smooth transition and enhance program sustainability; and provide recommendations that assist the Mission in planning future regional clean energy program activities that build from activities to date.

In September 2006, RDMA awarded a Task Order under the Environmental Policy and Institution Strengthening Indefinite Quantity Contract (EPIQ) II with International Resources Group (IRG) Ltd. to implement ECO-Asia CDCP. The Task Order was established for a three year period, ending September 2009. RDMA has modified this Task Order a number of times to accommodate increased interest and funding for clean energy activities in the region, as well as in China, and extended the Task Order to September 2011.

Since the program is due to conclude in 2011, RDMA requires a final program evaluation to address program performance and effectiveness, ensure smooth transition, enhance program sustainability, as well as identify new strategic opportunities for a follow-on program.

REO has prepared a draft logic framework (logframe) that describes overarching structure and approach for its regional clean energy programs, and includes the principal objective of "transition to resilient low emissions energy production and end-use systems." The approach followed by the ECO-Asia CDCP program is to develop policy and market-based solutions that will lead to increased investment in, and implementation of, clean energy technologies, projects, and businesses. The program plans, develops, and assists in the implementation of these solutions using a partnership approach—working in tandem with regional and national actors and stakeholders. The program takes a fundamentally regional approach, bringing together stakeholders both virtually and physically in order to address and solve common problems related to clean energy, climate change, and energy security.

To date, the program has supported the following activities:

- leveraging clean energy investment through private sector financing and bank capacity building in connection with the Private Financing Advisory Network (PFAN);
- strengthening and expanding the market for energy efficient lighting products;
- Facilitating the development of energy efficiency financing mechanisms;
- facilitating a regional clean energy policy dialogue;
- support for increased investment in cleaner coal technologies and practices;<sup>32</sup>
- regional knowledge-sharing including convening the Asia Clean Energy Forum and preparing comprehensive studies relating to regional energy and emissions trends, biofuels, black carbon, energy efficient lighting, energy efficiency financing, and coal power generation.

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<sup>32</sup> Note, coal activities were suspended following the adoption of new language associated with the clean energy earmark in the FY2009 budget.

## II. Evaluation Objective

The objectives of the evaluation include:

- To assess the program's performance and effectiveness against its goals, objectives, and performance targets;
- To recommend any strategies that can potentially ensure smooth transition and enhance program sustainability in preparation for program completion; and
- To identify priorities and other considerations for the design of a new follow-on regional clean energy program, including possible new/alternate technical areas, programming approaches, geographic focus areas, and partnerships.

## III. Scope of Evaluation and Key Questions

The evaluation team led by an independent external consultant, must assess the performance of ECO-Asia CDCP activities from inception of the program through the present. While the evaluation should evaluate past performance, the RDMA Regional Environment Office (REO) is particularly interested in forward-looking recommendations on possible strategies for ensuring smooth transition and enhance sustainability of the program as well as recommendations on existing and/or new areas that should be addressed by a new follow-on program.

Note, the issue of coal will not be considered as part of the evaluation. While the program supported cleaner coal activities in its first three years, USAID's clean energy earmark starting with the FY2009 budget no longer allowed for activities related to energy efficiency in fossil-based power generation. All relevant coal-related activities, moreover, were previously addressed in the program's mid-term evaluation.

The program scope of work requires the evaluating consultant to gather information on the program, analyze that information, and provide answers to the following key performance areas and related questions:

1. **Validity of "Hypothesis" (Effectiveness of Programmatic Strategic Approach):** Has the hypothesis for the ECO-Asia CDCP multi-pronged strategy and programmatic approach remained valid for achieving stated goals and objectives?
2. **Confirmation of Results:** What progress has been made toward achieving the program goals of increasing investments in clean energy technologies, practices, or initiatives that lead to measurable reductions in greenhouse gas (GHG) emissions? What progress has been made toward achieving overall program performance targets? Are the results valid and consistent with the overall program strategic approach?
3. **Responsiveness to Stakeholder Needs:** How responsive have ECO-Asia CDCP activities been in meeting needs of partners and stakeholders in the region (including national governments and other country counterparts, USAID Missions, and others), particularly with respect to "niche" areas where USAID is expected to have catalytic impacts that significantly leverage program resources?
4. **Program Sustainability and Transition:** Are effective strategies in place that will ensure program sustainability after program close-out, as well as smooth transition to follow-on activities? If not, what actions by the contractor and RDMA are recommended to ensure effective sustainability and transition?
5. **Lessons Learned:** What are the lessons learned from program implementation, including both technical and implementation/management considerations? What are RDMA's key strengths in undertaking a regional clean energy program?

6. **Potential Areas for a Follow-on Program:** What activities should be carried forward or modified for the new follow-on program? What new technical areas or programming approaches should be considered and possibly adopted in a follow-on program to effectively address regional GHG mitigation and clean energy challenges?

In assessing the program's effectiveness and potential areas of improvement, the evaluation team will also consider the following:

challenges and opportunities in implementing geographically diverse activities through a combination of regional- and national-level activities;  
supporting RDMA regional program objectives to strengthen regional partners (e.g., ASEAN) and to address transnational issues (such as transboundary pollution);  
ability to promote catalytic change through focusing on enabling conditions such as policy measures and access to financing; and  
opportunities for increasing buy-in to the follow-on activity, such as from USAID bilateral missions or other USAID or USG sources.

A draft list of illustrative interview questions is provided in Attachment 2.

## **IV. Scope of Work and Roles of the External Consultant**

The independent external consultant, with support from a technical evaluation team comprised of representatives from USAID (RDMA and Washington), must lead this evaluation. A total contract length of 35 calendar days (including travel days) of full-time effort is anticipated for the consultant to carry out the evaluation responsibilities outlined here.

The consultant must work in conjunction with the evaluation team to plan and implement the proposed evaluation. While the evaluation team will be heavily involved with design, planning, and logistics, the consultant must provide significant leadership and direction, and has the final responsibility for the following major duties:

Leading the overall coordination, planning, preparation, and completion of the evaluation;  
Preparation of a questionnaire, with input from the evaluation team, to be distributed to stakeholders in advance of consultations;  
Preparation of an interview guide that includes questions to be asked during consultations;  
Synthesizing and finalizing, with input from the evaluation team, draft evaluation reports and the final report addressing the evaluation objectives and scope described above and including specific findings and recommendations;  
Preparing, with input from the entire team, a PowerPoint presentation summarizing initial evaluation findings and conclusions to be delivered to RDMA at the conclusion of the field consultations.  
Participation in the field consultations in Beijing and Jakarta, in addition to Bangkok.

Responsibilities of the entire evaluation team members, including the external consultant team leader, include:

Determining the organizations and people to be consulted and develop the evaluation questions.  
Reviewing the program Concept Statement, Task Order SOW and subsequent SOW modifications/additions, current and previous annual Work Plans, current and previous drafts of the Performance Management Plan (PMP), progress reports, Success Stories, deliverables, and other program documents;  
Developing the evaluation schedule and make appointments with respective parties.

Performing the evaluation, which may include, but is not limited to, interviews with parties involved, site visits, etc.

Based on the evaluation results, making recommendation to RDMA that address the evaluation's objectives and scope.

Based on the evaluation results, identifying lessons learned from the program as well as key strengths of RDMA in developing clean energy programs.

Prepare initial presentation of preliminary evaluation results to the RDMA/REO Director, program Contracting Officer's Technical Representative (COTR), and other RDMA staff, and preparing a final evaluation for the COTR to present final results;

Preparing the draft and final evaluation reports addressing evaluation objectives and scope provided above.

**Key stakeholders/organizations to consult during the evaluation must include, at a minimum:**

USAID/RDMA Regional Environment Office, Mission Director and/or Deputy Mission Director, and Program Development Office;

USAID/India, USAID/Indonesia, USAID/Philippines, and USAID/Vietnam energy/environment staff;

US Embassy Beijing Environment, Science, Technology, and Health (ESTH) staff;

USAID Development Counselor at US Embassy Beijing;

Climate change/energy/environment staff with USAID's Asia Bureau, Climate Change Team

(EGAT/ESP/GCC) and Energy Team (EGAT/I&E/E) in Washington;

State/OES Office of Global Change and Office of Environmental Policy;

Asian Development Bank (ADB) (Manila);

World Bank;

Australian Department of Climate Change and Energy Efficiency (DCCEE);

California Air Resources Board (CARB);

Selected private sector partners, particularly those partners contributing resources to program activities, including:

- o PFAN partners in China, India, Indonesia, and the Philippines;
- o lighting manufacturers and associations in Shanghai, Hong Kong, and/or other program countries;

Selected national and subnational government agencies, including the Beijing Environmental Protection Bureau (EPB), National Lighting Testing Center (NLTC) in Beijing, Hebei Province Demand-Side Management Center and Electricity Office (China), and Kerala State Energy Conservation Fund, and Bureau of Energy Efficiency (BEE) in India, Bureau of Indian Standards (BIS) in India;

Non-governmental (NGO) and university partners, including the Institute for Clean Energy Technology Transfer (ICETT) in Japan, the International Electrotechnical Commission (IEC), King Mongkutt University Joint Graduate School for Energy and Environment (JGSEE) in Bangkok, Efficient Lighting Initiative (ELI), Asia Lighting Council (ALC) in Singapore, Renewable Energy and Energy Efficiency Partnership (REEEP), Regulatory Assistance Project (RAP), World Resources Institute (WRI); and Regional organizations including APEC and the ASEAN Secretariat.

Telephone interviews may be arranged to minimize unnecessary travel.

## **V. Deliverables**

Results of the evaluation will be in the form of findings and recommendations to the USAID/RDMA REO Director and the Contracting Officer's Technical Representative (COTR) of ECO-Asia CDCP. The consultant is expected to ensure timely completion of all deliverables, including a summary of results to the RDMA in the form of out-briefing and an evaluation report responsive to the scope of work stated above.

The deliverables for this request for proposal are as follows (and further explained below):

1. Attend the evaluation Kick-Off meeting in Bangkok, Thailand on o/a February 14, 2011
2. Out-briefing to RDMA on initial findings in Bangkok o/a February 25, 2011
3. Draft written report submitted to RDMA for comments o/a March 10, 2011
4. Final report o/a March 24, 2011.

The consultant must provide a summary of results to RDMA in the form of an out-briefing (at the end of field consultations) and evaluation report in two sections. The main report must consider points 1-5 listed above under III. Scope of Evaluation and Key Questions. The consultant must prepare a summary of Opportunities for a Potential Follow-on Regional Clean Energy Program, addressing point 6 above, will be prepared as a separate document. The main report will be used internally within USAID and also shared with the ECO-Asia CDCP contractor. The section describing point 6 will be used internally only and not shared outside of the US Government. The consultant must provide the draft reports to RDMA in an electronic version in Microsoft Word format.

Following this review, and within 7 day of receipt of the draft report, USAID will provide to the consultant its comments and suggestions for additions or modifications. These will be discussed collegially with the consultant for incorporation, in the final version, as appropriate. As a guideline, the draft report should have a minimum of 25 pages and a maximum of 40 pages using standard one-inch margins, single-spaced text, paragraphs separated by 12 points of space, and 12-point Times New Roman font (or equivalent sized font).

Within 7 days of receipt of USAID’s comments and suggestions, the consultant must submit to the Regional Environment Office, USAID/RDMA an electronic version in Microsoft Word format and via expedited delivery 5 sets of the final reports. As a guideline, the final report should have a minimum of 25 pages and a maximum of 40 pages.

## **VI. Payment schedule**

Full payment of the fixed price – cost reimbursement hybrid type contract shall be made to the consultant upon submission and acceptance of the final report.

It is anticipated that the labor will be quoted as a fixed price. Travel, transportation, and per diem costs will be on a cost reimbursement basis.

## **VII. Period of Performance**

The evaluation will be performed during January-March 2011, and field consultations will take place during February 14-25. See Table 1. Team members must visit (together, in smaller groups, or individually) selected ECO-Asia CDCP program staff, partners, and stakeholders in Bangkok, New Delhi, Beijing, Hebei Province (China), Manila, Jakarta, and possibly another city TBD. The team will consult with partners in Hanoi via teleconference. Consultations may also be conducted in Washington by Washington, DC-based team members, as well as via teleconference involving all team members, prior to the field consultations.

**Table 1: Illustrative Schedule**

<b>Date (o/a)</b>	<b>Task</b>
Review	
Dec. 2010-Jan. 2011	Evaluation Team review of program documentation
Questionnaire	

January 17	Questionnaire prepared and stakeholders to receive it are identified	
January 24	Questionnaire disseminated to selected partners and stakeholders	
February 9	Questionnaire results compiled and analyzed	
<b>Consultations</b>		
January 21	List of consultation stakeholders completed	
January 28	Consultation schedule finalized; make appointments with stakeholders	
February 4	Interview guide completed	
Jan. 31-Feb. 11	Consultations in DC	
February 14-25	Consultations in Asia	
Feb. 14-15	Bangkok – coordination and planning	
Feb. 16-18	Team 1 – Beijing and Hebei	Team 2 – Manila
Feb. 21-23	Team 1 – New Delhi	Team 2 – Jakarta and TBD
Feb. 24-25	Bangkok – Regrouping and RDMA presentation of initial findings	
<b>Evaluation Report</b>		
Feb. 24-Mar. 10	Prepare draft evaluation report	
March 10	Draft evaluation report due	
March 17	Comments from RDMA	
March 24	Final report due	

Approximate LOE for the Team Leader Consultant is 35 days, estimated as follows:

• Preparations, Review of Documents and In-briefing in Bangkok (o/a)Jan. 2 - Feb. 13, 2011)	9 person days
• Field consultations within ECO-Asia CDCP countries (o/a Feb. 14-25, 2011)	13 person days
• Out-briefing at RDMA and Draft Report Preparation (o/a Feb. 24-25, 2011)	3 person days
• Final Report Preparation (o/a Feb. 26-Mar. 24, 2011)	10 person days
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	TOTAL 35
	person days

Following is tentative travel schedule. The Contractor shall work with the COTR to finalize the travel plan.

Travel from USA to Bangkok, February 11-12, 2011

Bangkok:

- o Rest day, February 13
- o Coordination and planning at RDMA, February 14-15

Travel to Beijing, evening of February 15 with selected team members

Beijing:

- o Consultations, February 16-17

Travel to Hebei Province, China on February 17 with selected team members

Hebei Province:

- o **Consultations, February 18**

Travel from Beijing to Jakarta, February 19 with selected team members

Jakarta:

- o Rest day, February 20
- o Consultations, February 21-23

Travel from Jakarta to Bangkok on February 23 to rejoin entire team

Bangkok:

- o Regrouping and RDMA presentation of initial findings, February 24-25

Travel from Bangkok to USA, February 26

## **VIII. Contracting Officer's Technical Representative (COTR)**

The Contracting Officer's Technical Representative is the COTR of ECO-Asia CDCP or his designee, USAID/Regional Development Mission for Asia, Bangkok, Thailand 10330.

## **IX. Government Furnished Information**

Background briefings shall be provided by the RDMA technical officers.

## **X. Proposed Evaluation Team Members (Roles and Responsibilities)**

1. Team Leader (Independent Consultant) – Evaluation team lead and lead author; focus on overall program and strategy issues.
2. USAID Energy Advisor – Focus on clean energy technologies, policy and regulation, and sectoral strategies (e.g., sustainable cities; green buildings).
3. USAID Clean Technology Advisor – Focus on clean energy financing and GHG mitigation strategies.
4. USAID Program Officer – focus on knowledge-sharing and strategic partnerships, selected technical areas, and overall program and strategy.
5. USAID Environment Advisor – policy and regulation, sectoral strategies, GHG mitigation strategies and overall program and strategy.
6. USAID Program Development Specialist – Logistics, information collection and distribution, clean energy technologies and financing, and overall program and strategy.

## **XI. Evaluation Criteria**

The proposal received in response to this RFP will be evaluated in accordance with the technical evaluation criteria set forth below. The relative importance of each criterion is indicated by descending order.

The following bullets demonstrate required qualifications of the successful consultant:

Responsiveness of the applicant's proposed evaluation plan to the statement of work, with regard to the applicant's ability to fulfill the responsibilities of the evaluation team leader and ensure the timely completion of the evaluation.

Experience and knowledge in clean energy and climate change issues in Asia, particularly with regard to clean energy financing, policy frameworks, technology transfer, and/or capacity building.

Demonstrated ability to plan, design, and implement results-based program evaluations, including leading an evaluation team to effectively facilitate technical meetings, discussions, and interviews.

Demonstrated understanding of development assistance programming challenges and opportunities, particularly with respect to regional programming.

Possess superior analytical and written and verbal communication skills to synthesize and present evaluation findings into a final report with recommendations.

## Illustrative Interview Questions

### Evaluation of ECO-Asia CDCP

- How effective has the program been overall?
- How aware of or involved with specific components has your institution been? How effective have specific components of the program been? How catalytic has the program been in promoting increased investment in clean energy technologies and practices?
  - PFAN; lighting; energy efficiency finance; clean energy policy and regulation; knowledge sharing
- How effective have program activities been in the specific country where your organization works, or at the regional level with regional institutions, in terms of:
  - Coordination with USAID bilateral missions, US Embassies, US Consulates, other US Government agencies, or other institutions?
  - Effectiveness of technical activities?
  - Effectiveness of the program's management and oversight?
  - How catalytic the program has been in the country in promoting increased investment in clean energy technologies and practices?
- Are there particular strengths/weaknesses/opportunities for improvement regarding the regional nature of the program?
- In what ways could impact of specific program components, and a regional USAID-funded clean energy program overall, be improved in the future?

### Future Clean Energy Programming

- Should USAID/RDMA consider adding or dropping any countries in a future regional clean energy program, as compared with the current program countries (China, India, Indonesia, Philippines, Thailand, Vietnam)?
- Should USAID/RDMA expand/decrease/add/drop any specific activities in a future regional clean energy program? What areas have the potential to be the most catalytic use of program resources?
  - Existing components: PFAN; lighting; energy efficiency finance; clean energy policy and regulation; knowledge sharing
  - Possible new areas of focus: sustainable urban development; transportation planning; low-emission vehicles/cleaner fuels; green buildings; energy efficient appliances; GHG accounting in the energy sector; co-benefits such as air quality; access to energy; etc.
- Potential future leverage from USAID Bilateral Missions, other USG agencies, multilateral and bilateral donors, etc.:
  - What are your organization's primary activities in clean energy?
  - Are there specific opportunities or areas of interest to cost-share or buy into a future USAID/RDMA-funded regional clean energy program?

# STATEMENTS OF ECO-ASIA CDCP'S GOALS AND OBJECTIVES

## I. Concept Statement: Environmental Cooperation-Asia Clean Development Program

### (ECO-Asia Clean Development)

**Date: August 11, 2006**

The goal of the ECO-Asia Clean Development Program is to promote policy and market transformation necessary for clean development in Asia's energy and transportation sectors. ECO-Asia's support for clean development will focus on mitigating greenhouse gas (GHG) emissions in combination with efforts to reduce pollution, increase economic productivity and improve energy security.

To help achieve the goal of clean development, the program will support a combination of regional and country-specific activities that address the following objectives:

- promote policy reforms that remove barriers to and increase incentives for clean technology investment;
- build institutional capacity to support policy and market reforms;
- improve access to financing for clean technology investment;
- improve regional data management and information sharing on clean technologies and policies;
- facilitate Asia-Asia and U.S.-Asia public-private alliances that demonstrate clean technologies and practices;
- and
- promote opportunities to replicate best practices and share lessons learned at a regional level.

## 2. Statement of Work

**Date: September 30, 2006**

The goal of the ECO-Asia CDCP is to promote clean development in Asia's energy and transportation sectors. ECO-Asia's support for clean development will focus on mitigating greenhouse gas (GHG) emissions in combination with efforts to reduce pollution, increase economic productivity, and improve energy security.

The Concept of "clean development" encompasses a range of environment and development objectives. ECO-Asia will work to advance common solutions that maximize synergies between multiple sustainable development priorities, including:

- mitigating GHG emissions that contribute to global climate change;
- reducing local air pollution and, as a result, reducing associated health risks from airborne pollutants and carcinogens;
- promoting energy alternatives, conservation, and efficiency;
- improving energy security by reducing foreign oil dependence;
- promoting cleaner industrial production;
- increasing economic productivity and competitiveness;
- improving local livelihoods through greater economic development and job creation; and

promoting international cooperation and trade.

To help achieve the goal of clean development, the program will support a combination of regional and country-specific activities that address the following objectives:

- promote policy reforms that remove barriers to and increase incentives for clean technology investment;
- improve access to financing for clean technology investment;
- build institutional capacity to support policy and market reforms;
- improve regional data management and information sharing on clean technologies and policies;
- demonstrate clean technologies and practices through Asia-Asia and U.S.-Asia public-private alliances; and
- promote opportunities to replicate best practices and share lessons learned in clean technology demonstrations, policy reforms, and market incentives at a regional level.

### **3. IRG Strategic Statement**

**Date: December 03, 2008**

Ultimate Goal: Significant scaling up of clean energy to mitigate GHG emissions

Encourage major shift to cleaner coal technologies for rehabilitation and new plants in six countries (China, India, Thailand, Philippines, Vietnam, and Indonesia)

Improve quality of Compact Fluorescent Lights (CFLs) produced in Asia

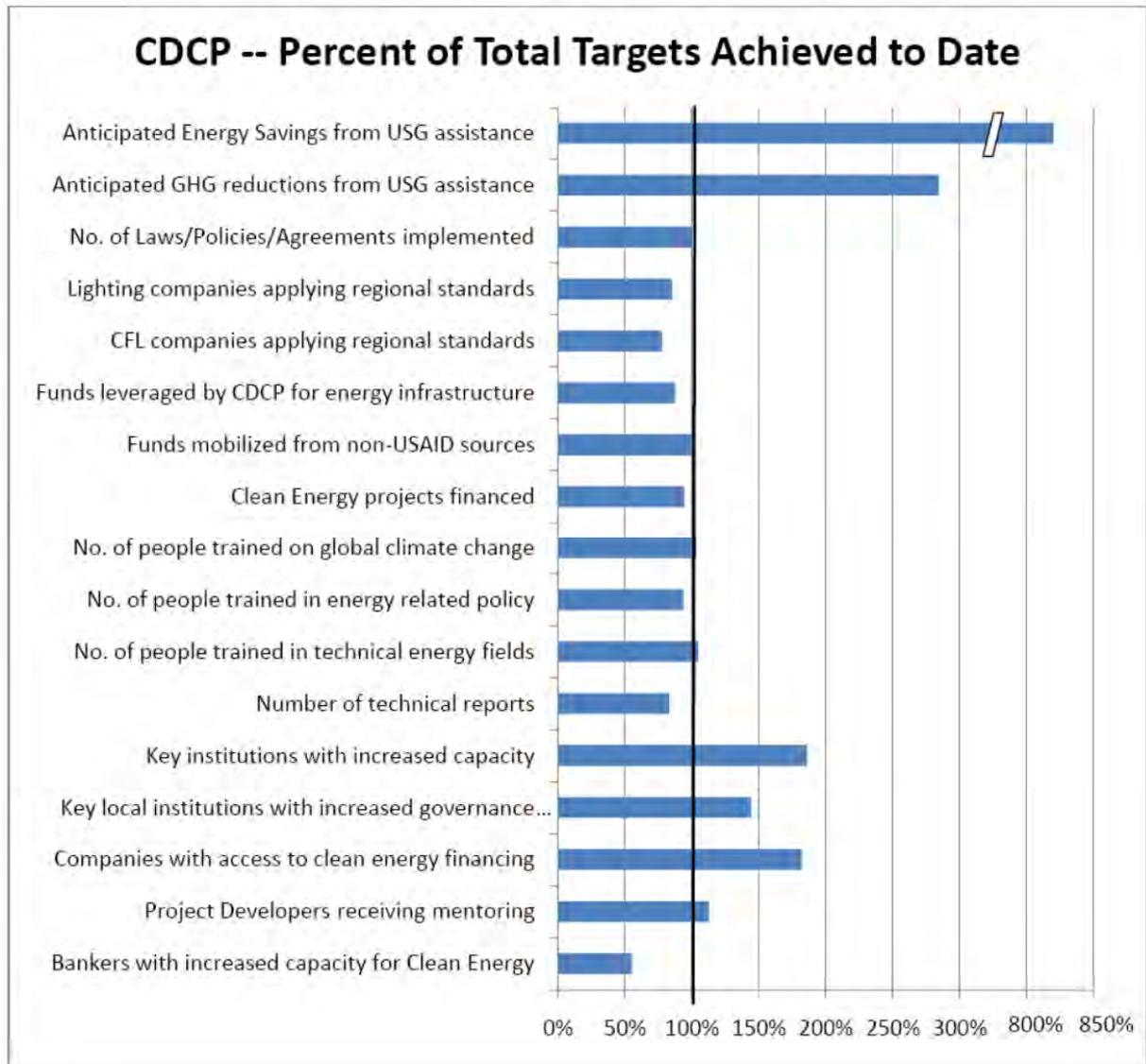
Unblock financing for small scale clean energy projects (renewable energy and energy efficiency), principally in China, Indonesia, and the Philippines

Determine potential for sustainable biofuels

## **SUMMARY OF PROGRAM INDICATORS, PERFORMANCE TARGETS, AND ACTUAL RESULTS**

The material in this appendix comes from the FY11 PMP, prepared by IRG, submitted to USAID on 4 Feb 2011. The data in this appendix has been formally submitted to the COTR as part of IRG's contract, but has not been independently verified by the evaluation team, and USAID has not conducted a Data Quality Assessment of the materials.

According to data submitted by the contractor in response to USAID's ADS requirements, the ECO-Asia CDCP Program has already met or exceeded its targets for 10 out of 19 indicators relative to its life-of-program (October 2006 - September 2011) targets. For three indicators where ECO-Asia CDCP has not already met its targets, results currently are at 85% of the target or greater. For 2 other indicators, results currently are at 75%-85% of target. For two indicators, cumulative results currently are pending, and no 'actuals' are shown. However, IRG reportedly expects to meet its targets by the end of the program. ECO-Asia CDCP performance against key indicators is shown graphically in the figure below.



The original data from which this table is derived is based on data available as of February 4, 2011. Further, no Performance Targets were set for FY 2007, since the PMP was not finalized until the first half of FY 2008. Also, for a number of activities, there were no “actuals” in FY 07 or FY 08, due to the time needed to develop partnerships and facilitate program and investment commitments.

Program Indicator			Comments
<b>Energy Use and Emissions Reductions</b>			
1a Energy saved as a result of USG assistance (kWh/year) ( <i>F indicator 4.4.1-2</i> )	<b>Total Targets</b>	73,912,250	Implementation of CFL program in Andhra Pradesh delayed. Expect to achieve savings from CFLs in Andhra Pradesh and from Energy Efficiency (EE) Finance (in Hebei, China) in FY11.
	<b>Actual To Date</b>	Pending	
1b Anticipated energy savings over years, as a result of USG assistance (total kWh) ( <i>F indicator 4.8.2-24</i> )	<b>Total Targets</b>	6,195,139,000	Achieved 820% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	50,806,985,304	
1c Quantity of greenhouse gas emissions, measured in metric tons CO <sub>2</sub> equivalent, reduced or sequestered as a result of USG assistance ( <i>F:F indicator 4.8.2</i> )	<b>Total Targets</b>	381,810	Implementation of CFL program in Andhra Pradesh delayed. Expect to achieve savings from CFLs in Andhra Pradesh (India) and from EE Finance (in Hebei, China) in FY11.
	<b>Actual To Date</b>	0	
1d Anticipated GHG reductions over years, as a result of USG assistance (measured in metric tons of CO <sub>2</sub> equivalent)  ( <i>F indicator 4.8.2-25</i> )	<b>Total Targets</b>	9,173,380	Achieved 284% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	26,086,964	
2a Number of laws, policies, agreements, or regulations addressing climate change proposed, adopted, or implemented as a result of USG assistance ( <i>F indicator 4.8.2-4</i> )	<b>Total Targets</b>	12	Achieved 100% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	12	
2b Number of lighting companies and associations adopting or implementing regional standards ( <i>Custom</i> )	<b>Total Targets</b>	34	Achieved 85% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	29	
2c CFL market share (for Asia) of companies adopting or implementing regional standards ( <i>Custom</i> )	<b>Total Targets</b>	45%	Achieved 78% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	35%	
3a Total public and private dollars leveraged by USG for energy infrastructure projects ( <i>F indicator 4.4.1</i> )	<b>Total Targets</b>	208,000,000	Achieved 87% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	181,500,000	
3b Amount of funds from non-USAID sources mobilized and applied ( <i>REO 1.4</i> )	<b>Total Targets</b>	10,257,617	Achieved 101% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	10,391,331	
3c Number of clean energy projects/businesses financed ( <i>Custom</i> )	<b>Total Targets</b>	18	Achieved 61% of life-of-program target by end of FY10. As of January 2011, had achieved financial commitment on six (6) additional projects for total of 17.
	<b>Actual To Date</b>	11	
4a Number of people receiving training in global climate change as a result of USG assistance ( <i>F :4.8.2-6</i> )	<b>Total Targets</b>	7,564	Achieved 103% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	7,807	
4b Number of people receiving USG supported training in energy related policy and regulatory practices ( <i>F indicator 4.8.2</i> )	<b>Total Targets</b>	6,349	Achieved 93% of life-of-program target by end of FY10.
	<b>Actual To Date</b>	5,936	
4c Number of people receiving USG	<b>Total Targets</b>	6,630	Achieved 105% of life-of-program target by end of

Program Indicator			Comments
supported training in technical energy fields (F: 4.4.1-10)	Actual To Date	6,937	FY10.
4d Number of technical reports and knowledge management products (Custom)	Total Targets	29	Achieved 83% of life-of-program target by end of FY10.
	Actual To Date	24	
5a Number of key local, regional and national institutions with increased capacity as a result of USG assistance ** (Custom)	Total Targets	36	Achieved 186% of life-of-program target by end of FY10.
	Actual To Date	67	
5b Number of key local and national institutions with increased governance capacity (China only) ** (Custom)	Total Targets	9	Achieved 144% of life-of-program target by end of FY10.
	Actual To Date	13	
5c Number of companies with increased capacity to access clean energy financing (Custom)	Total Targets	250	Achieved 182% of life-of-program target by end of FY10.
	Actual To Date	456	
5d Number of project developers/businesses receiving mentoring and technical support (Custom)	Total Targets	87	Achieved 113% of life-of-program target by end of FY10.
	Actual To Date	98	
5e Number of professionals from financial institutions who have increased capacity for CE (Custom)	Total Targets	125	Achieved 55% of life-of-program target by end of FY10.
	Actual To Date	69	

**Note:** No targets were set for FY 2007, since the PMP was not finalized until the first half of FY 2008. For a number of activities, there were no “actuals” in FY07 or FY08, due to the time needed to develop partnerships and facilitate program and investment commitments.

\* Note that for institutional capacity building, the number indicates the number of new institutions added during the year; work continues with the institutions where partnerships were formed during previous years.

\*\* Indicator 5a results contribute to REO indicators 2.2 and 4.1. Indicator 5b results contribute to REO indicator 2.2.

# ECO-ASIA CDCP -- INTERVIEW GUIDE

## Part I. ...for Collaborating Institutions, Host Country Officials, and/or Donor Agency personnel

1. Please briefly describe your organization/institution.
2. What is your current position with this institution/organization? For how long have you worked with this institution/organization/agency?
3. How does your organization relate to ECO –Asia?
4. What is the nature/extent of your organization’s participation in ECO-Asia activities?
5. ECO Asia works in six areas: (i) PFAN; (ii) Lighting; (iii) Energy efficiency; (iv) Finance; (v) Clean energy policies and regulations; and (vi) Knowledge sharing.  
  
What is the importance of each of these components to your agency or organization? With which area(s) does your organization primarily work?
6. Does your organization receive program support from ECO-Asia? If so, please describe the nature of this support. Do you know the approximate dollar value of the assistance?
7. Does your agency/organization/institution work *regionally* in two or more countries in Asia?
8. How would you characterize the ECO-Asia program? What are your overall impressions of the ECO-Asia program? From your perspective, are you satisfied with the ECO-Asia program?
9. If you received support from ECO-Asia CDCP, what has this support allowed your agency/institution to do that you would not otherwise have done? What are the consequences of that support? What has your organization achieved as a result of that support?
10. Quality of Assistance: How would you describe the quality of the support your agency/organization/institution has received from ECO-Asia? How would you rate it? [Can it be quantified on a scale of 1 – 5, with one being lowest, and 5 being highest?]
11. In your opinion, do you think ECO-Asia is providing the appropriate type of assistance to (i) your agency? (ii) your country? And/or (iii) to the larger Asian Region?
12. Technical Assistance: Has your organization received technical assistance from or thru ECO? Asia? How would you describe the quality of this TA? Were you satisfied with the quality of this TA? Was it relevant? What did it accomplish? What were the results of this assistance?
13. Communications: What are your impressions of your agency’s communications with ECO-Asia? Can you describe the extent and frequency of this communication. With what part of ECO-Asia do you primarily communicate? Have you been satisfied with this communication?
14. Websites: Are you familiar with the ECO-Asia CECP website? What are your impressions of the website? Has it been useful? Do you go there to find information? Do you have suggestions for changes in the website, or other communications initiatives connected with ECO-Asia CDCP?
15. Written reports. What is the quality of ECO-Asia’s written reports? Do you use them? How? Have they materially assisted your agency? Can you give an example of how they assisted your agency’s work?

16. Monitoring & Evaluation: Do you have observations about the ECO-Asia performance monitoring and reporting systems? Do you have recommendations for how the performance monitoring and reporting systems could be improved?

17. Bilateral and Regional Programs: Do you have suggestions for how to better harmonize bilateral and regional approaches to support and promote clean energy in Asia?

18. Long-term Impact: Will ECO-Asia have a long-term impact in terms of addressing clean energy challenges in Asia?

19. How sh'd ECO-Asia CDCP prioritize its future assistance in the areas of clean energy? What programs in your opinion would be most important? What would provide the highest measurable returns?

## **Part 2, [for USG officials, including USAID, Embassy, and others....]**

### **Questions as above, plus the following additional:**

20. How do priorities for ECO-Asia get determined? To what extent do ECO-Asia priorities reflect your institutional priorities? How well do they accord with host government priorities? Do your priorities line up well with RDMA's priorities?
21. Do you have judgments about ECO-Asia's budget allocation process? What are your thoughts about the levels or predictability of funding?
22. How regularly do you communicate with ECO-Asia? Do you primarily communicate with the ECO-Asia CDCP project staff? With the RDMA program management staff? With both? With others?
23. Are you satisfied with your quality of communication and coordination with ECO-Asia project staff? RDMA Program Management staff? USAID/Washington regarding ECO-Asia CDCP?
24. To what extent, if any are your ECO-Asia CDCP activities coordinated with other USG programs that work with clean energy issues at the country or regional level?
25. How are ECO-Asia CDCP program activities coordinated with bilateral missions?
26. How closely do you work with bilateral and multilateral organizations on issues that are relevant to ECO-Asia CDCP?
27. How successful has ECO-Asia CDCP's performance monitoring and reporting system been in capturing program results and their developmental impacts?
28. Do you have observations or recommendations regarding ECO-Asia's performance monitoring systems?
29. Do you have recommendations on how regional missions can support a stronger regional approach to promoting clean energy in Asia? Can bilateral Missions be better supported to take a more effective regional approach to fostering clean energy?
30. To what extent will ECO-Asia CDCP's activities have a long-term impact in terms of improving GHG or other aspects of clean energy in Asia?
31. How else can ECO-Asia CDCP help promote clean development and climate programs?
32. What else could ECO-Asia CDCP do to support your priorities?

### Part 3. ...for ECO-Asia Staff

33. Please briefly describe your current position with ECO-Asia CDCP. For how long have you worked with ECO-Asia?

34. ECO Asia works in six areas: (i) PFAN; (ii) Lighting; (iii) Energy efficiency; (iv) Finance; (v) Clean energy policies and regulations; and (vi) Knowledge sharing.

With which of these areas do you work?

35. In your opinion, which of ECO-Asia's program initiatives is having the greatest impact?

36. Do the various CDCP components reinforce one another? If so, how? If not, why? Should they reinforce one another?

37. What are your overall impressions of the ECO-Asia CDCP program? How would you rate it? [Can it be quantified on a scale of 1 – 5, with one being lowest, and 5 being highest?]

38. In your opinion, do you think ECO-Asia CDCP is providing the appropriate type of assistance to (i) your country? or (ii) to the larger Asian Region?

39. Are you familiar with the ECO-Asia CDCP website? Do you use it to access information? Is it useful?

40. Do you relate to RDMA? How regularly do you communicate with RDMA? What are your judgments about communications with RDMA? Are you satisfied with the quality of communication and coordination with RDMA? With USAID/Washington regarding ECO-Asia?

41. How do you relate to IRG Home Office? Have you had interactions with the HQ? Do you have judgments or observations about the Home Office?

42. Do you coordinate with or relate to other bilateral USG programs that support clean energy and/or climate programs in Asia?

43. From your perspective, is ECO-Asia CDCP primarily working on a bilateral basis (meaning within one country?) Or is it mostly working on a Regional basis (meaning it is working with two or more countries on the same specific initiatives?) Does it work in parallel? Is this distinction useful or helpful?

44. Should ECO-Asia CDCP seek to do more to work on/at a Regional level?

45. When it comes to establishing priorities:

What is ECO-Asia doing now that it should continue to do?

What is it not doing that it should be doing?

Are there things it is doing that it should stop doing?

46. If there was one thing you could change about the ECO-Asia program, what would that be?

47. How else can ECO-Asia help promote CDCP?

## Part 4: [For PFAN related actors and stakeholders]

# ECO-ASIA CDCP FINAL EVALUATION: LIST OF STAKEHOLDERS CONTACTED

## Thailand

### *ECO-Asia CDCP Program Team – IRG*

Peter Du Pont, Chief of Party  
Suneel Parasnis, PFAN Team Leader  
My Ton, Energy Efficient Lighting Team Leader (by phone)  
Mycele Schneider, Policy Dialogue Team Leader (by phone)  
Thanaporn Kongsawad, Bangkok Office Manager  
Sunantha Koh-Ten, Senior Administrative Assistant  
Vatcharin Rattananam, Regional Accounting and Finance Manager  
Sanjay Kumar, Program Officer – Communications (AED)  
Fred Schlachter, STTA  
Aalok Awalikar, STTA

### *PFAN*

Peter Storey, Global PFAN Coordinator (by phone)

### *Joint Graduate School of Energy and Environment (JGSEE)*

Dr. Bundit Fungtammasan, Director

### *Jeffcott Associates*

Stuart Jeffcott (by phone)

### *USAID/Vietnam*

Howard Handler, General Development Officer, General Development Office (by phone)  
Eric Johnson, Education Officer, General Development Office (by phone)

## India

### *USAID/India*

Jeremy Gustafson, Director, Clean Energy and Environment Office  
Archana Walia, Senior Urban Development and Climate Change Advisor

### *ECO-Asia CDCP Program Team – IRG*

Bhaskar Natarajan, Former Country Manager  
Kavita Kaur, Former Deputy Country Manager

### *ICIC Bank*

Jaisingh Dimal, Head, Technology Finance Group (by phone)

### *Photonix*

*Electric Lamp & Component Manufacturers' Association of India (ELCOMA)*  
Shyam Sujan, Secretary General (by phone)

*Sun Group*  
Pankaj Sehgal, Managing Director

*Kerala Energy Management Center*  
Dharesan Unnithan, Director

*Others*  
Nagraja Rao, PFAN Mentor (by phone)  
Rahul Arora, PFAN Mentor  
Joydeep Gupta, Clean Energy Journalist (by phone)

## **Indonesia**

*USAID/Indonesia*  
Edi Setianto, Energy Specialist, Office of Environment  
Ben Stoner, Senior Environment Advisor  
Trigeany Linggoatmodjo, Program Specialist

*US Embassy to ASEAN*  
Elizabeth Spelsberg, ASEAN Liaison  
Joshua Cartin, ASEAN Officer  
Clare Orvis, ASEAN Affairs Officer

*ECO-Asia CDCP Program Team – IRG*  
Irman Boyle, Country Manager

*ADVANCE Technical Assistance and Training Facility*  
Tim Buehrer  
Suzanne Young

*IFC*  
Nyoman Yogi, Associate Operations Officer

*PT SMI*  
Frans Sukardi, Director

*PT. Selo Kencana*  
Suwardi

*Kementerian Energi Dan Sumber Daya Mineral Republik*  
Maryam Ayuni, Director for Energy Conservation

*PT Bank Central Asia Tbk*  
Wira Chandra, Group Head - Corporate Business  
Yuli Melati, Unit Head  
Ms. Yayi Mustika, Relationship Manager

*BAPPENAS*  
Jahdie Adrajat

*Australia's Department of Climate Change and Energy Efficiency*

Melanie Slade, Division Director, Appliance and Equipment Efficiency (by phone)

## **Singapore**

*Asian Lighting Compact*

Jag Arora, Managing Director

## **China**

*US Embassy Beijing*

Erica Thomas, Counselor

Andrew Shaw, Unit Chief Third Country, Energy & Resources

*ECO-Asia CDCP Program Team – IRG*

Miao Hong, Country Manager

James Wang, Finance Expert

*Electric Power Office of Hebei Province*

Wang Deliang, Vice President

*Hebei Development and Reform Commission DSM Instruction Center*

Chen Gang, Director

*Hebei Province Power Demanding Side Management and Instruction Center*

Aijun Wang, Director

Tracy Zhao, Director and Project Manager of EPP

*Hebei Fakai Scientific Power Utilization Service Co., Ltd.*

Haixia Lee, Manager

*CLASP*

Steven Zeng, Director of China Program and former ECO-Asia CDCP's Country Coordinator

*WRI*

Ranping Song, Program Manager & Associate, GHG Protocol China

*Tsinghua University*

Liu Zhenping, Deputy Director of International Transfer Center (ITTC)

*Jpigroup Inc.*

JP Huang, Chairman Emeritus & Chief Strategic Adviser

*NRDC*

Mona Yew, China DSM & Energy Efficiency Project Director

Yuqi Li, Chief Engineer & Director, DSM Technical Center

## **Philippines**

*USAID/Philippines*

Rolf Anderson, Office Chief, Office of Environment & Energy  
Lily Gutierrez, Office of Environment & Energy  
Mary Joy Jochico, Development Assistance Specialist, Office of Environment & Energy  
Enrique Gallardo Jr. , Development Assistance Specialist, Office of Environment & Energy

*ECO-Asia CDCP Program Team – IRG*  
Laurie Navarro, Former Country Manager

*ADB*  
Woochong Um, Director, Sustainable Infrastructure Division, Regional and Sustainable Development  
Department  
Sam Tumiwa, Principal Planning and Coordination Specialist, Regional and Sustainable Development  
Department  
Aiming Zhou, Energy Specialist, Regional and Sustainable Development Department

*Department of Energy*  
Raquel Huliganga

*LGU Guarantee Corp*  
Lydia Oriol  
Irmina Iya

*Security Banking Corporation*  
Joy Supan  
Maki Tingson

*Solutions Using Renewable Energy*  
Paul Puthenpurekal, CEO (met in Bangkok)

*Amertech Industrial Ventures*  
Jayme Ancla

*ASEA One Power Corporation*  
Ernesto Tan, Senior Vice President & CFO

*Land Bank*  
Noemi dela Paz

**3. ITINERARY (Revised on 17Feb11, 09.35hrs)**

Dates	Location	Itinerary	Contact Info	Locations/Notes
<b>Fri. Feb. 11 - Sat. Feb. 12</b>	<b>Travel</b>	Travel from Washington to Bangkok  Fri, Feb 11: AA 4418 Depart Washington DCA 9.25 am; Arrive New York JFK 10.30 am  Fri, Feb 11: AA 167 Depart New York JFK 11.35 am; Arrive Narita 03.30 pm (Sat, Feb 12)  Sat, Feb 12: AA 5834 Depart Narita 06.05 pm; Arrive Bangkok 11.15 pm		Transport: Bangkok Airport to Plaza Athenee Hotel by taxi  Plaza Athenee Hotel 61 Wireless Road, Patumwan Bangkok 10330 Tel. +662 650 8800
<b>Sun. Feb. 13</b>	<b>Bangkok</b>	Rest day		
		6.00am Team Dinner (optional)		Venue: Cabbages and Condoms Restaurant, 8 Sukumvit 12, Klongtoey
<b>Bangkok (February 14-15) - All</b>				
<b>Mon. Feb. 14</b>	<b>Bangkok</b>	8:30am: Arrive at RDMA, work station set-up	POC: Nattinee Tel. +662 257 3292 Khan Tel. +662 257 3260 Orestes Tel. +662 257 3239	Venue: USAID/RDMA Room 2636 Athenee Tower, 25 <sup>th</sup> Floor 63 Wireless Road, Patumwan Bangkok 10330 Tel. +662 257 3000
		9:00am-12:30pm: Evaluation Team Coordination Meeting		
		12.30pm-1.30pm: Lunch		
		2:00pm-2 :15pm: Peter du Pont – COP; Short Tour, Introductions	POC: Peter du Pont, COP, ECO-Asia CDCP Tel. +662 615 5104-6 Mob. +66 81 700 2860	Venue: Monririn Building, B 301 60/1 Phaholyothin Soi 8 Bangkok 10400
		2.15pm – 3.45pm: IRG/CDCP Staff Briefing: COP: program history, operations, management systems, overall achievement of results		
		3.45pm-5.00pm: Suneel Parasnis, PFAN Team Leader, ECO-Asia CDCP		

Dates	Location	Itinerary	Contact Info	Locations/Notes
		5 :00pm: return to USAID/hotel		Transport: RDMA's Van
<b>Tue. Feb. 15</b>	<b>Bangkok</b>	9.45am-11.00am: PFAN: Paul Puthenpurekal, CEO SURE (Solutions Using Renewable Energy), Philippines, He is a PFAN finalist. Has closed several deals with assistance of PFAN. [Paul will be in Bangkok on 15 Feb and can meet with the team in person, either at RDMA or at ECO-Asia CDCP Office] (Confirmed)	Mob: +63 920 981 6322	Venue: USAID/RDMA Room 2635
		11.00am – 12.00pm: EE Lighting: My Ton, Energy Efficient Lighting Team Leader, ECO-Asia CDCP (Confirmed)	Tel: +1 503 706 1191 (US) Email:myton@cleanenergyasia.net	BY PHONE
		1.30pm-2.15pm: PFAN: Peter Storey, Global PFAN Coordinator , (Johannesburg -5hr) (Confirmed)	Tel: +258 84687 7807 (in Mozambique ) Email: peter.storey@ppl-int.com	BY PHONE
		2.30pm – 3.15pm: Policy Dialogue: Mycle Schneider, ECO-Asia CDCP (Confirmed)	Tel: +33 1 69 83 23 79	BY PHONE
		3.15pm – 4.15pm: Policy Dialogue: Dr. Bundit Fungtammasan, Joint Graduate School of Energy and Environment (JGSEE) (Confirmed)	Email:bundit@jgsee.kmutt.ac.th	Venue: USAID/RDMA Room 2635
		4:15 pm – 5:15 pm Stuart Jeffcott, Jeffcott Associates, (Confirmed)	Email:stuart_jeffcott@yahoo.co.uk Mob: +44 7773 778 019	BY PHONE
<b>Delhi (Feb 16-19) - Lawaetz, Warfield, Ram-Indra</b>				
<b>Wed. Feb. 16</b>	<b>Travel</b>	Travel from Bangkok to Delhi 5:00am - taxi to airport TG323 depart Bangkok 7.25 am; arrive Delhi 10.20 am		Transport: Plaza Atheene Hotel to Bangkok Airport by taxi  Transport: Delhi Airport to The Imperial Hotel by Hotel Transfer (complimentary for three people)
	<b>Delhi</b>	12.00 pm: Hotel Check-in		The Imperial Hotel Janpath, New Delhi. 110001 Tel. +91 11 2334 1234 and +91 11 4150 1234

Dates	Location	Itinerary	Contact Info	Locations/Notes
		12.30pm-01.30pm: Lunch at The Imperial Hotel		The Imperial Hotel
		02.00pm-3.30 pm: Kavita Kaur, Former Deputy Country Manager, ECO-Asia CDCP (Confirmed)	Email:kavita.kaur@gmail.com Mob. 9810194738	Venue: Lobby, The Imperial Hotel
		4.30 pm-5.30 pm: ECO-Asia: Bhaskar Natarajan. Former Country Manager, ECO-Asia CDCP (Confirmed)	Tel: (91) (11) 41076009 Mobile: (91) 9971491848 VAN RENTAL - Dr Natarajan, Managing Director C-Quest Capital Green Ventures Pvt. Ltd. 218, DLF Tower B, Jasola, New Delhi 110025	Venue: Lobby, The Imperial Hotel
<b>Thu. Feb. 17</b>	<b>Delhi</b>	8.15 am: Leave Hotel		Transport: Van Rental Venue: USAID/India American Embassy New Delhi - 110 021
		9:00am-10:15am: USAID/India, Jeremy Gustafson (Office Director, CLEEO), Archana Walia (Confirmed)	POC: Jeremy Gustafson Email: <a href="mailto:jgustafson@usaid.gov">jgustafson@usaid.gov</a>	
		10.30am-11.00am: PFAN: ICICI Bank. Jaisingh Duml, Head, Technology Finance Group. Co-funder of the PFAN India Investor Forum. (Based in Mumbai.) BY PHONE (TBC) Given that we plan to have another call with Photonix at 11.00am, we'll have only 15 mins for the call with ICIC if we start at 10.45am. 15 mins may not be sufficient for the meeting. Can we switch this call with other call (a call in afternoon or even Photonix)? Pls kindly advise. Thank you very much. Khan	Tel. +91-11-2419-8000	
		11.00am-12.00pm: PFAN: Photonix, Square Engineering /Photonix These are the PFAN India finalists for 2010 and will share about their experiences about being part of PFAN family	Tel. 022 – 26537827 Cell: +91-9822061262	

Dates	Location	Itinerary	Contact Info	Locations/Notes
		BY PHONE (Confirmed)		
		12.00pm-13.00am: Lunch		
		02.15pm-3.15pm: EE Lighting: ELCOMA. (Indian lighting association). Shyam Sujan, Secretary General. CFL and lighting harmonization, ALC <b>BY PHONE</b> (Confirmed)	Tel +91-11-41556644 <b>Tel +91-11-41556644</b> <b>Telecon Details:</b>  Access no:(+91) 11 66194444 Conference id: 1590419 followed by # Pin: 0492 followed by #	Venue: Elcoma A-448, Lower Ground Floor, Defence Colony, New Delhi - 110024
		3.00pm-4.00pm: PFAN: Pankaj Sehgal, Managing Director, Sun Group, PFAN India Partner (Confirmed)	<b>Mob: 9910444769</b>	Venue: Imperial Hotel
		04.30pm-05.15pm: Nagraja Rao PFAN Mentor for 4 companies (Confirmed)	<b>Cell: 9448474814</b>	BY PHONE
<b>Fri. Feb. 18</b>	<b>Delhi</b>	10.00am-11.00am: EE Finance: Dharesan Unnithan, Director, Kerela Energy Management Center , BY PHONE (Confirmed)	Tel. mobile: +91 94470 64618 +91-471-2594921 (O) and Residence: +91 - 471- 2464618	Venue: Lobby or Khan's room (for call), Imperial Hotel Phone: SIM Card provided by IRG  call from Delhi to Bangkok
		11.00am – 12.00pm: PFAN: Rahul Arora, Independent Consultant. Experience as a PFAN mentor in India (Confirmed)	Tel. 098 111 47237	
		12.00pm-1.00pm: Lunch at The Imperial Hotel		The Imperial Hotel
		1.30pm: Leave The Imperial Hotel		Transport: Van Rental
		04.00pm – 5.00pm: Joydeep Gupta (Confirmed)	joydeepgupta1@gmail.com Email Mob. Pathumwan Princess Hotel room no 2312 +66 (0) 2216 3700	BY PHONE call from Delhi to Bangkok
<b>Sat. Feb 19</b>				
<b>Lawaetz, Ram- Indra</b>	<b>Travel</b>	x.xx pm: Leave for Airport  Travel from Delhi to Beijing		Transport: The Imperial Hotel to Delhi Airport by Hotel Transfer- <b>complimentary 2 trips (Corina)</b>

Dates	Location	Itinerary	Contact Info	Locations/Notes
		CA 948 depart Delhi 03.15 am (Friday night); arrive Beijing 11.45 am		and (Khan/Simone) Transport: Beijing Airport to Westin Chaoyang Hotel by Hotel Transfer <b>(two trips are provided with cost \$90 each trip. 1. For Khan/Simone 2. For David)</b>
		2.00pm (Beijing time): Hotel check-in		Westin Chaoyang Hotel 7 North Dongsanhuan Road Chaoyang District Beijing, Beijing 100027 Tel. (86)(10) 5922 8888
<b>Warfield</b>	<b>Travel</b>	x.xx am: Leave for Airport  Travel from Delhi to Manila SQ 405 depart Delhi 08.10 am; arrive Singapore 04.10 pm SQ 918 depart Singapore 05.00 pm; arrive Manila 08.30 pm		Transport: The Imperial Hotel to Delhi Airport by Hotel Transfer <b>complimentary 2 trips (Corina) and (Khan/Simone)</b>  Transport: Manila Airport to the Crowne Plaza Galleria Hotel by Hotel Transfer- <b>with charge \$31 per trip for Corina</b>
		10.00pm (Manila time): Hotel check-in		Crowne Plaza Galleria Manila Ortigas Avenue corner Asian Development Bank Avenue Quezon City 1100 Tel. +632 633-7222
<b>Jakarta – Singapore (Feb 16-20) – Garner, Hsu, Anastasia</b>				
<b>Wed. Feb. 16</b>	<b>Travel</b>	05.45 am: Taxi to airport  Travel from Bangkok to Jakarta TG433 depart Bangkok 08.20 am; arrive Jakarta 11.55 am		Transport: Plaza Atheene Hotel to Bangkok Airport by taxi  Transport : Jakarta airport to Borobudur Hotel by Hotel Transfer <b>(One trip are provided with total cost \$29 for Sharon/Simone and David—same ride)</b>
	<b>Jakarta</b>	1.00 pm: Hotel check-in		Borobudur Hotel Jalan Lapangan Banteng Selatan, P.O.Box 1329, Jakarta 10710 Tel: (62-21) 3805555

Dates	Location	Itinerary	Contact Info	Locations/Notes
		1.00pm – 2.00pm: Lunch		
		2:30pm – 4:30pm: ECO-Asia CDCP Country Office, Irman Boyle, Country Manager (Confirmed)	Email: <a href="mailto:boyle@pacific.net.id">boyle@pacific.net.id</a> Mob: +62818745937	Venue: Executive Lounge, Borobudur Hotel
		4.30pm – 5.30pm: ADVANCE Technical Assistance and Training Facility, Tim Buehrer and Suzanne Young (Confirmed)	POC: Suzanne Young Email <a href="mailto:syoung@louisberger.com">syoung@louisberger.com</a>	
<b>Thu. Feb. 17</b>	<b>Jakarta</b>	07.30am: Leave hotel		Transport: Van Rental (Arranged by Meilan)
<b>Thu. Feb. 17</b>	<b>Jakarta</b>	08.30am – 9:30am: USAID/Indonesia, Alfred Nakatsuma, Edi Setianto, Ben Stoner, Trigeany Linggoatmodjo (Confirmed)	POC: Edi Setianto Email <a href="mailto:esetianto@usaid.gov">esetianto@usaid.gov</a> Tel +62 213435 9361 Mob +62 811-802-549	Venue: USAID/Indonesia American Embassy Jl. Medan Merdeka Selatan 3-5 Jakarta 10110
		9:30am – 10:00am: US Embassy to ASEAN, Elizabeth Spelsberg, Joshua Cartin, and Clare Orvis (Confirmed)	POC: Elizabeth Spelsberg Email: <a href="mailto:SpelsbergEA@state.gov">SpelsbergEA@state.gov</a>	
		11.00am-12.00pm: PFAN: Nyoman Yogi, Associate Operations Officer, IFC. Financial Institution Partner ( <b>Confirmed</b> ) (After 12pm Yogi has another meeting until afternoon)	Email: <a href="mailto:NSugiani@ifc.org">NSugiani@ifc.org</a> Mob: +62 812 386 5544	IFC Office: Indonesia Stock Exchange Building, Tower 2, 9th floor Jl. Jendral Sudirman Kavling 52
		1.00pm-2.00pm: Lunch		Gedung Bursa Efek Jakarta, or Hotel Borobudur (leave the hotel at 2 pm for the next meeting with PT SMI)
		<b>2.00pm-3.00pm: EE Lighting Melanie Slade</b> <b>TBC with Orestes</b>		<b>Gedung Bursa Efek (25Mins)</b> <b>Hotel Borobudur (45Mins)</b>
		3.00pm-4.00pm: PFAN: Frans Sukardi, Director of PT SMI SMI is a non-bank financial institution established by the Ministry of Finance to provide financings for infrastructure projects. In energy sector, SMI focuses its initial efforts on minihydro power projects. ECO-Asia CDCP has been working with SMI on the due diligence for about 2 minihydro power projects. One, the 10 MW Pakkat Minihydro Power Plant in North Sumatera, has successfully reached financial close in December 2010, a second project closing for ECO	Email: <a href="mailto:Carla@ptsmi.co.id">Carla@ptsmi.co.id</a> Tel: +62 21 5785 1313	Gedung BRI 2, 29th Floor Jl. Jenderal Sudirman Kav. 44-46 Jakarta 10210

Dates	Location	Itinerary	Contact Info	Locations/Notes
		Asia. ECO Asia is introducing some other minihydro power projects for SMI's financing. (Confirmed)		
		5.00pm:6.00pm: PT. Selo Kencana: Mr. Suwardi and team (Confirmed)	Rudy Sunggoro Mob: +62 21 3232 0676	Executive Lounge Hotel Borobudur
<b>Fri. Feb. 18</b>	<b>Jakarta</b>	7.00 pm: Leave hotel		Transport: Van rental (Arranged by Meilan)
		8.00am-9.00am: Meeting to Mrs. Maryam Ayuni Director for Energy Conservation <b>(Mr. Luluk Sumiarso is not available due to overseas travel)</b>  (Confirmed)		ESDM Office: Kementerian Energi Dan Sumber Daya Mineral Republik Indonesia. Direktorat Jenderal Energi Baru Terbarukan & Konseravasi Energi. Jl. Jendral Gatot Subroto Kav. 49 Jakarta
		10am – 11am: PFAN: Wira Chandra, Group Head - Corporate Business, PT Bank Central Asia Tbk. Bank Partner , Ms. Yuli Melati – Unit Head, Ms. Yayi Mustika – Relationship Manager. <b>(Confirmed)</b>	christina_ruth@bca.co.id	BCA Tower (Menara BCA), Grand Indonesia 27 <sup>th</sup> Floor, Jl. M.H. Thamrin No. 1, Jakarta 10310
		12.00pm-1.00pm: Lunch		Grand Indonesia
		<b>3.15pm-4.15pm:</b> Jahdie Adrajat, BAPPENAS  (Confirmed)		Venue: BAPPENAS Office Jl. Taman Suropati No. 1 Jakarta Pusat
<b>Garner, Hsu, Anastasia</b>	<b>Travel</b>	5.00 pm: leave for airport  Travel from Jakarta to Singapore (Hsu, Anastasia) SQ 967 depart Jakarta 08.20 p m; arrive Singapore 10.55 pm  (Garner) LH0779 depart Jakarta 08.15pm; arrive Singapore 10.40 pm		Transport: Borobudur Hotel to Jakarta Airport by Hotel Transfer <b>(\$29 charge for all travellers - same ride) (Arranged by Manggo/RDMA team)</b>  Transport : Singapore airport to Orchard Hotel by taxi
	<b>Singapore</b>	12.00 am: Hotel Check-in		Orchard Hotel 442 Orchard Road

Dates	Location	Itinerary	Contact Info	Locations/Notes
				Singapore 238879 Tel. +65 6734 7766
<b>Sat. Feb 19</b>	<b>Singapore</b>	09.30 am – 11.30pm: EE Lighting: ALC. Jag Arora, Managing Director (Confirmed)	POC: Jag Arora Email: <a href="mailto:jag.arora@asialighting.org">jag.arora@asialighting.org</a> Mob.: +65 900 555 47	Transport: Taxi Venue : Asia Lighting Compact, Strathmore Building, Tanglin International Centre, 352, Tanglin Road, #01-10, Singapore 247671. (directions for driver: enter through gate C that is directly opposite the Esso petrol station after the Brunei Embassy)
		12.00 pm-1.00 pm: Lunch with Jag Arora		Venue : TBD
<b>Sun. Feb 20</b> <b>Hsu, Anastasia</b>	<b>Travel</b>	10.00am: Leave for airport  Travel from Singapore to Manila SQ 912 depart Singapore 12.30 pm; arrive Manila 04.00 pm		Transport : Orchard Hotel to Singapore Airport by Taxi  Transport : Manila airport to Crowne Plaza Galleria Hotel by hotel transfer ( <b>\$31 charge for Sharon/Orestes-same ride</b> )
		06.00 pm (Manila time): Hotel check-in		Crowne Plaza Galleria Manila Ortigas Avenue corner Asian Development Bank Avenue Quezon City 1100 Tel. +632 633-7222
<b>Garner</b>	<b>Travel</b>	xx.xxam: Leave for airport  Travel from Singapore to Beijing TBD		Transport :Orchard Hotel to Singapore Airport by Taxi  Transport : Beijing Airport to Westin Chaoyang Hotel by Hotel Transfer
		xx.xx pm (Beijing time): Hotel check-in		Westin Chaoyang Hotel 7 North Dongsanhuan Road Chaoyang District Beijing, Beijing 100027 Tel. (86)(10) 5922 8888

Dates	Location	Itinerary	Contact Info	Locations/Notes
<b>Beijing &amp; Shijiazhang (Feb 20-23) – Garner, Lawaetz, Ram-Indra</b>				
<b>Sun. Feb 20</b>	<b>Beijing</b>	Rest day		
<b>Mon. Feb 21</b>	<b>Beijing</b>	x.xx am: Leave hotel for train station		Accompanied by Hong Translator: arranged by IRG Transport: Taxi
	<b>Travel</b>	9:29 am – 11:31 am: Travel from Beijing to Shijiazhang (by 2 hours speed train)( Train reference no.- D4565)		Ticket : Arranged by IRG Local Transport in Shijiazhang by Hebei Fakai
	<b>Shijiazhang</b>	12.30 pm-1.45 pm: Working (Simple) Lunch		Lunch with people whom we are going to meet next.
		2.30pm–6.00pm: EE Finance: Shijiazhuang, Hebei Province (proposed all in one meeting) <ul style="list-style-type: none"> <li>Mr. QIAO Xiaolin, Director of Power Office of Hebei Provincial DRC</li> <li>Mr. CHEN Gang, Director, Hebei DSM Center</li> <li>Ms. ZHAO Cuicui, Deputy General Manager of Hebei Fakai Co</li> </ul>		
	<b>Travel</b>	20.49 pm – 22:52 pm: Travel from Shijiazhang to Beijing (by 2 hours speed train)(Train reference no.- D4562)		
<b>Beijing</b>	8.00 pm: Leave for hotel		Transport: Taxi	
<b>Tue. Feb 22</b>	<b>Beijing</b>	8:30 am – 10:30 am: ECO-Asia Country Office (Confirmed)	POC: Hong Miao	Transport: Van Rental Venue: ECO-Asia Country Office
		10.30 am – 11.30 am: EE Lighting: Marti Willemsen. Director CFL Lighting Global, Lighting Asia, GE. Founding Chair of ALC and current ALC Board Member. (Based in Shanghai) BY PHONE (Confirmed)		
		11.30 pm-1.00pm: Meeting and Lunch with CLASP, Steven Zeng, Country Director (Former ECO-Asia CDCP Country Manager) <b>(TBC)</b>		Venue: Simple Restaurant around ECO-Asia Country Office
		1.45 pm – 3.45 pm: US Embassy ESTH section, DOE, and USAID (Confirmed)	POC: Tahra Vose Email: <a href="mailto:vosetl2@state.gov">vosetl2@state.gov</a> Tel: 86-10-8531-4793 Mob: 139-1056-2726	Venue: US Embassy Beijing

Dates	Location	Itinerary	Contact Info	Locations/Notes
		4.00 pm-5.00 pm: WRI (Confirmed)		Venue: Executive Club Lounge, Westin Chaoyang Beijing (4.00-5.00 pm)
<b>Wed. Feb 23</b>	<b>Beijing</b>	9.00am-10.15am: Others: Mr. LIU Zhengping, Deputy Director of ITTC/Coway (Institute Technology Transfer Center, of Tsinghua University). (Confirmed)		Venue: Executive Club Lounge, Westin Chaoyang Beijing (8.00-10.00 pm) Phone: SIM Card provided by IRG
		10.30 am: Hotel Check-out and Leave hotel		Transport: Van rental
		11.00am-12.00am: PFAN: JP Huang, JPI Group. PFAN China partner, who has participated in PFAN China activities over the past two years (Confirmed)		Venue: JPI Office
		11.45am -12.45pm: Lunch at JP Office		Venue: JPI Office
		1.00pm-2.00pm Meeting with NRDC (Confirmed)		Venue:
		2.00pm: Leave for Airport		Venue:
	<b>Travel</b>	Travel from Beijing to Bangkok TG 615 depart Beijing 5:05 pm; arrive Bangkok 9:20 pm		Transport: To Beijing Airport by Van Rental  Bangkok Airport to Plaza Athenee Hotel by taxi
		11.00 pm (Bangkok time): Hotel check-in		Plaza Athenee Hotel 61 Wireless Road, Patumwan Bangkok 10330 Tel. +662 650 8800
<b>Manila (Feb 20-23) – Hsu, Warfield, Anastasia</b>				
<b>Sun. 20 Feb</b>	<b>Manila</b>	Rest day		
<b>Mon.21 Feb</b>	<b>Manila</b>	9.00am-10.00 am: EE Lighting Ms. Raquel Huliganga  (Confirmed)	Email: raquelh@doe.gov.ph Tel: +632 4792900 loc. 246 Mob: + 632 0917 825 0162	Venue: Crowne Plaza Galleria
		10.00 am: Leave hotel	TOYOTA INNOVA: PTO 804 DRIVER'S NAME: LENIN RAMOS MOBILEPHONE #: 09223063538 + 63 917 891 6531	Transport: Van Rental Driver Lenin was advised by Ms. Len Jimenez to bring list of vege restaurants for the guest's

Dates	Location	Itinerary	Contact Info	Locations/Notes
			Coy: Chief Operations Officer +63 917 590 2269 Rex: Program Asst. +63 939 353 7695	preference
		10.30am-12.00pm: PFAN: Meeting with LGU Guarantee Corp., Ms. Lydia Oriol and Ms. Irmina Iya (Confirmed)	Office: +632 7518764 to 68 Email: <a href="mailto:iviya@lgugc.bayandsl.ph">iviya@lgugc.bayandsl.ph</a>	Venue: 28F Antel Corporate Centre, 121 Valero St., Salcedo Village, Makati City
		12.30pm-1.30pm: Lunch		
		2.30pm-4.00pm: PFAN: Meeting with Security Banking Corporation, Ms. Joy Supan and Ms. Maki Tingson (Confirmed)	Office: +632 888 7243 Email: <a href="mailto:jsupan@securitybank.com.ph">jsupan@securitybank.com.ph</a>	Venue: 18F Conference Room, Security Bank Centre, 6776 Ayala Avenue, Makati City
		5.30 pm – 7.30 pm: ECO Asia CDCP Team: Laurie Navarro (Confirmed)		Lobby, Crowne Plaza Galleria, Ortigas Ave. corner ADB Ave., Ortigas Center
<b>Tue. 22 Feb</b>	<b>Manila</b>	8.30am-10.00am Meeting with Amertech Industrial Ventures Mr. Jayme Ancla (Confirmed)	Crowne Plaza Galleria, Ortigas Ave. corner ADB Ave., Ortigas Center	Venue: Lobby, Crowne Plaza Galleria Amertech Industrial Ventures is the winner of the Nov. 16 Investor Deal Flow Session business plan competition
		10.00am: Leave hotel		Transport: Taxi
		10.30am-12.00pm: PFAN: Meeting with ASEA One Power Corporation, Ernesto Tan (Confirmed)	Office: +632 5018916 Email: <a href="mailto:finance_apc@apc.ph">finance_apc@apc.ph</a> <a href="mailto:evtan55@gmail.com">evtan55@gmail.com</a>	Venue : 20F Fort Legend Tower, 3rd Street cor 31st Ave., Fort Bonifacio, Taguig
		12.00pm-12.45pm: Lunch		
		1.30 pm – 3.30 pm: Regional Cooperation: ADB (Confirmed) <ul style="list-style-type: none"> <li>• Woonchong Um, Director, Sustainable Infrastructure Division, Regional and Sustainable Development Department (RSDD). Senior contact and supervisor for Asia Clean Energy Forum and related cooperative activities with USAID ECO-Asia CDCP (TBC)</li> <li>• Sam Tumiwa, Principal Planning and Coordination Specialist, RSDD. Main liaison contact for USAID in ADB. Co-chair of the Asia Clean Energy Forum for</li> </ul>	POC: Aiming Zhou Tel: +632 632 5602 Email: <a href="mailto:AZHOU@ADB.ORG">AZHOU@ADB.ORG</a>	Venue : ADB, Room 4120E

Dates	Location	Itinerary	Contact Info	Locations/Notes
		2007-2010. <ul style="list-style-type: none"> <li>Aiming Zhou, Energy Specialist, RSDD. Co-chair of the Asia Clean Energy Forum for 2011.</li> <li>Aiming's boss</li> </ul>		
<b>Wed. 23 Feb</b>	<b>Manila</b>	07.30 am: Leave hotel		Transport: Van Rental
		08.30 am – 09:30: USAID/Philippines/OEE. Rolf Anderson, Lily Gutierrez, Mary Joy Jochico, Enrique Gallardo Jr. (Confirmed)	POC: Leonila Gutierrez Email: <a href="mailto:lgutierrez@usaid.gov">lgutierrez@usaid.gov</a>	Venue: 8/F PNB Financial Center, Pres. Diosdado Macapagal Blvd., Pasay City
		10.30am-12.00pm: PFAN Meeting with Land Bank of the Philippines, Ms. Noemi dela Paz, ( Land Bank is a PFAN Partner and they co-sponsored the 16 Nov. Dealflow session. (Confirmed)	Office: +632 4057340 Email: <a href="mailto:ndelapaz@mail.landbank.com">ndelapaz@mail.landbank.com</a>	Venue: Land Bank Plaza 1598 M.H. del Pilar cor. Dr. J. Quintos Sts., Malate, Manila
	<b>Travel</b>	Travel from Manila to Bangkok TG 621 depart Manila 02.55 pm; arrive Bangkok 05.10 pm		Transport: To Manila Airport by Van Rental  Bangkok Airport to Plaza Athenee Hotel by taxi
		07.00 pm (Bangkok time): Hotel check-in		Plaza Athenee Hotel 61 Wireless Road, Patumwan Bangkok 10330 Tel. +662 650 8800
<b>Bangkok (Feb 24-25) – All</b>				
<b>Thu. 24 Feb</b>	<b>Bangkok</b>	9.00am-10.00am: Nick Keyes, Team Leader- Communication, ECO-Asia CDCP (Confirmed)		USAID/RDMA, Room 2635
		10.00am-11.00am: USAID/Vietnam (BY PHONE) (Confirmed)	POC: Frater, Eric M (Hanoi) <a href="mailto:fraterem@state.gov">fraterem@state.gov</a> Handler, Howard R. (HANOI/GDO) <a href="mailto:hhandler@usaid.gov">hhandler@usaid.gov</a> Johnson, Eric M (HANOI/GDO) <a href="mailto:ericjohnson@usaid.gov">ericjohnson@usaid.gov</a> Tel. +84 4 3935 1244. (Howard) +84-4-3850-5017 (Eric F)	
		11.00am-12.00am: Evaluation Team coordination meeting (Confirmed)		

Dates	Location	Itinerary	Contact Info	Locations/Notes
		12.00pm-1.00pm: Lunch		
		1.00pm-5.00pm - presentation preparation, report drafting, ad hoc meetings		
<b>Fri. 25 Feb</b>	<b>Bangkok</b>	9:00am - presentation preparation, report drafting, ad hoc meetings (Continued)		USAID/RDMA, Room 2635
		Lunch		
		Presentation preparation, report drafting, ad hoc meetings (Continued)		
		3.30 – 5.00pm - Evaluation Team presentation to USAID/RDMA on Findings and Recommendations		USAID/RDMA, Director Conference Room
<b>Sat. 26 Feb</b>  <b>Garner, Lawaetz, and Hsu</b>	<b>Travel</b>	05.45: Leave for airport  Sat, Feb 26 AA 5835 depart Bangkok 08.15 am; arrive Narita 04.05 pm Sat, Feb 26 AA 154 depart Narita 07.00 pm; arrive Chicago Ord 03.50 pm Sat, Feb 26 AA 1544 depart Chicago Ord 5.45 pm; arrive Washington DCA 08.30 pm		Transport: Plaza Atheene to airport by Taxi
		Travel to DC – AA5835 depart Bangkok 8:15am		

