



Technical Assistance Report

Project Number: 40498-02
March 2007

Supporting the Implementation of the Energy Efficiency Initiative in Developing Member Countries

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
CEFPF	–	Clean Energy Financing Partnership Facility
DMC	–	developing member country
EEI	–	energy efficiency initiative
M&E	–	monitoring and evaluation
RETA	–	regional technical assistance
RSDD	–	Regional and Sustainable Development Department
RSID	–	Energy, Transport, and Water Division
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Energy
Subsector	–	Energy sector development
Themes	–	Sustainable economic growth, Environmental sustainability, Capacity development
Subthemes	–	Promoting economic efficiency and enabling markets, global and regional transboundary environmental concerns and issues, Institutional development

NOTE

In this report, "\$" refers to US dollars.

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Director General	B. N. Lohani, Regional and Sustainable Development Department (RSDD)
Director	W. Um, Energy, Transport, and Water Division, RSDD
Team leader	S. Tumiwa, Senior Energy Specialist, RSDD

I. INTRODUCTION

1. In July 2005, the Asian Development Bank (ADB) launched an energy efficiency initiative (EEI) to expand its operations in clean energy¹ to \$1 billion a year. The EEI is being implemented in three phases. Phase I was completed in June 2006 with ADB Management's endorsement of a draft EEI report that firmly established the rationale for expanded and sustained ADB action and clean energy investment, defined the general principles of the clean energy investment and action plan, and provided priorities and a framework for next steps. During Clean Energy Week (20–22 June 2006), developing member country (DMC) officials and international experts also expressed their support for the EEI. Phase II aims to: (i) develop country and regional strategies and action plans on how to reach EEI targets, (ii) strengthen ADB's institutional capacity so it can scale up, monitor, and evaluate activities under the EEI, and (iii) explore the possibility of establishing a Clean Energy Financing Partnership Facility (CEFPF).² Clean energy investment opportunities will also be pursued during this phase. During phase III, the strategies and action plans will be implemented.

2. The concept paper for this regional technical assistance (RETA) project was approved by the Vice President, Knowledge Management and Sustainable Development on 27 July 2006³ for \$2.9 million. However, only \$600,000 was available in 2006. Therefore phase II of the EEI was divided into two parts. Part I, financed by the RETA⁴ for Supporting the Inception of EEI in Developing Member Countries, was approved in October 2006 for \$600,000 to carry out preliminary work. This involved (i) prioritizing DMCs for inclusion in EEI phase II activities, (ii) holding consultation workshops to identify the sectors with the highest clean energy investment potential in each DMC, (iii) preparing detailed work plans on how each country strategy would be developed, (iv) beginning to track potential clean energy investments by ADB, and (v) undertaking the initial design of the CEFPF. Part II will be financed by the current RETA, Supporting the Implementation of the Energy Efficiency Initiative in Developing Member Countries, for \$2.3 million. Most of this will be used by ADB's operations departments⁵ to develop detailed country action plans and a pipeline of ADB investments in clean energy projects. The rest will be used to build ADB's internal capacity to implement clean energy projects and to support the establishment of the CEFPF.

II. ISSUES

3. Energy use in DMCs is rapidly increasing to support the economic growth needed to raise the living standards of large populations, and is dominated by fossil fuels. The current energy path, which focuses on expanding fossil fuel supplies, is neither environmentally nor economically sustainable. Clean energy has large economic and environmental benefits. Increasing energy efficiency wrings more service value from each primary energy unit consumed. Promoting renewable energy and clean coal technologies will lead to more low-carbon energy use. Clean energy is essential to reduce global emissions of greenhouse gases,

¹ Clean energy is taken to cover energy efficiency (supply-side and end-use), renewable energy, and clean coal technology applications.

² CEFPF was formerly known as the Asia-Pacific Fund for Energy Efficiency (APFEE).

³ The TA first appeared in *ADB Business Opportunities* on 20 November 2006.

⁴ ADB. 2006. *Technical Assistance for Supporting the Inception of the Energy Efficiency Initiative in Developing Member Countries*. Manila (TA 6346-REG).

⁵ In the context of this RETA, ADB's operations departments refer to the Private Sector Operations Department and to the energy and infrastructure, transport, and urban development divisions of ADB's regional departments.

ease growth in fossil energy demand and upward pressure on energy prices, and improve energy security.⁶

4. ADB is committed to increasing energy efficiency and the use of renewable energy in its DMCs. ADB's energy policy, approved in October 1995,⁷ emphasized the need to accelerate the use of clean energy in its DMCs. An energy policy review⁸ in 2000 stated that ADB would help its DMCs to formulate and implement viable clean energy projects, preferably with private sector involvement, to provide electricity in remote areas and improve the quality of life of the rural poor. ADB's energy policy is currently being reviewed with a view to placing even greater priority on clean energy development.

5. During phase I (para. 1),⁹ the EEI working group identified ADB's strengths and weaknesses. ADB's comparative advantage is derived from (i) its knowledge of the DMCs and their energy sectors, (ii) its existing and historic relationships with governments and prospective executing agencies, (iii) its ability to act regionally, (iv) its ability to innovate and introduce new investment instruments that can organize and facilitate the clean energy investment market, (v) its capacity to provide and mobilize public and private sector investments together and to structure public-private partnerships, (vi) its ability to mobilize funds, (vii) its potential for combining investment with technical assistance (TA) and capacity building programs, and (viii) its financial strength as evidenced by its AAA rating. A successful clean energy investment program will require combining knowledge and skills in environment, energy, and finance. ADB is uniquely positioned in Asia to bring these three strengths together.

6. The EEI phase I report also revealed certain ADB weaknesses and barriers to expanding its clean energy investments (Table 1).

III. THE PROPOSED TECHNICAL ASSISTANCE

A. Impact and Outcome

7. This RETA will help to decrease the rate of climate change and improve energy security in DMCs in the Asia and Pacific region through greater use of clean energy. The outcomes will be (i) an expansion of ADB's clean energy program, (ii) greater capacity to develop clean energy projects in ADB's operations departments, and (iii) new and innovative financing instruments for clean energy investments. The TA design and monitoring framework is in Appendix 1.

⁶ A detailed analysis of the main issues related to clean energy is provided in *Technical Assistance for Supporting the Inception of the Energy Efficiency Initiative in Developing Member Countries* (footnote 3).

⁷ ADB. 1995. *Bank Policy for the Energy Sector*. Manila.

⁸ ADB. 2000. *Energy 2000 - Review of the Energy Policy of the Asian Development Bank*. Manila.

⁹ The EEI phase I report is available at: <http://adb.org/Documents/Reports/Energy-Efficiency-Initiative/eeir-draft.pdf>

Table 1. Barriers to Expanding ADB's Clean Energy Investments

Barrier	Possible Solutions
Lack of understanding within ADB of clean energy's role and potential to meet Asia's energy challenges	Being addressed through internal awareness raising activities through the EEI
ADB's cost of funds is often not competitive	Guarantees, local currency loans, and MFFs can be used to lower commitment fees
Long processing times (over 18 months) for public sector loans	Lead times can be reduced by establishing policy targets with governments, defining replicable financing instruments, making greater use of subsovereign loans, and using approved structures, and private sector investments
Lack of internal incentives and staff resources to promote clean energy	Clean energy has been made a priority under ADB Medium-Term Strategy II
Most clean energy projects are too small to be conducive to ADB lending	Aggregation strategies can be sought through partners and investees. ADB can work with parties who have large energy demands and manage numerous facilities. It can work with utilities as energy users and aggregators of customer demand
Lengthy 3-year country strategy process encumbers investment priority decisions	Clean energy considerations can be incorporated early into country partnership strategy processes. General agreements can be established with DMC governments on sustainable energy priorities, providing effective pre-approvals and platforms for qualified clean energy investments
Considerable liquidity in DMCs	Guarantees, risk-sharing, and credit enhancement instruments can be used to mobilize local liquidity. Local currency lending can also be used
Limited appetite for ADB's main product, sovereign guaranteed foreign currency loans	A wider range of subsovereign, local currency, and private sector instruments can be used.

ADB = Asia Development Bank, DMC = developing member country, EEI = energy efficiency initiative, MFF = Multi-tranche Financing Facility

Source: EEI phase I report, available: <http://adb.org/Documents/Reports/Energy-Efficiency-Initiative/eeir-draft.pdf>

B. Methodology and Key Activities

8. Component 1 will focus on outcomes (i) and (ii), and component 2 will focus on outcome (iii), as outlined in para. 7.

9. Component 1 will include the following activities.

- (i) Development of country and regional action plans for priority countries, including identification of a pipeline¹⁰ of projects for possible ADB financing. Activities will

¹⁰The country action plans will look into clean energy applications such as (i) supply-side energy efficiency in power generation, transmission, and distribution; (ii) grid-connected and off-grid renewable energy; (iii) end-use energy efficiency in industry (including cleaner production technologies), buildings (commercial, institutional, and residential sectors), urban and municipal utility services (street lighting, district heating, gas distribution, water supply, and waste and sewerage infrastructure), rural energy (e.g., efficient pumps, foot valves, and piping for

- include (a) recruiting and managing national consultants to undertake country action plans and developing a pipeline of projects for ADB consideration, (b) conducting regional consultations on a regional action plan as part of Clean Energy Week, (c) conducting national planning workshops to discuss draft country action plans, and (d) conducting national workshops to introduce country action plans and the initial pipeline of projects.
- (ii) Final design and implementation of project development, and a monitoring and evaluation system for clean energy projects. Activities will include (a) establishing a baseline for ADB's clean energy investments based on an ongoing review of loan projects approved during the years 2004 to 2006, (b) design of a system for identifying projects with clean energy potential in non-energy divisions, (c) design of a system to support development of clean energy projects in non-energy divisions, and (d) establishment of a monitoring and evaluation system for clean energy projects.
 - (iii) Support for developing clean energy projects in non-energy divisions through participation by staff from ADB's Energy, Transport, and Water Division (RSID) of the Regional and Sustainable Development Department in project design, consultation missions, and recruitment of consultants with specific knowledge and experience of the technologies, methodologies, and approaches being developed.

10. Component 2 will finalize the detailed design of the CEFPPF, which will finance (i) small energy efficiency investments that require quick and efficient transactions; (ii) technology transfer for a small number of large high-impact interventions that will catalyze adoption of pre-commercial clean energy technologies; and (iii) grant assistance for institutional capacity building of financial institutions, facilitating project transactions, project preparation, developing market based incentives, and establishment of a monitoring and evaluation mechanisms. Key activities of the CEFPPF design work will include:

- (i) consulting with key financial institutions in DMCs to (a) introduce the AFPEE, (b) discuss potential demand and how the AFPEE can be structured to meet such demand, and (c) accommodate other interests and concerns;
- (ii) consulting with funding agencies to determine their level of support for the CEFPPF and the governance and reporting structure they would endorse;
- (iii) collaborating with other ADB departments to ensure the optimal design of the Fund's operational structure and developing detailed operational guidelines and project criteria for the CEFPPF, including criteria for the selection of intermediary financial institutions and the eligibility of subprojects;
- (iv) developing templates for framework agreements for intermediary financial institutions, and negotiating and signing specific agreements with financial institutions interested in participating in the CEFPPF; and
- (v) recruiting a management team and support staff for the CEFPPF.

irrigation) and through energy efficiency standards and labeling (for equipment, lighting, and domestic appliances); (iv) energy efficiency in the transportation sector (e.g., bio-fuel use, urban mass transit, and newer vehicle technologies); and (v) proposed power generation projects involving clean coal technologies. Projects with strong potential for clean development mechanism support will be passed on to the Asia Pacific Carbon Fund instead.

C. Cost and Financing

11. The total cost of the TA is estimated at \$2.3 million and it will be financed on a grant basis by ADB's TA funding program. The cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

12. ADB will be the Executing Agency for the RETA. RSID will oversee the overall administration of the RETA. All activities related to country action plans, including the identification of a pipeline of projects for possible ADB financing, will be led by operations departments. For example, the operations departments and RSID will collaborate in drawing up a work plan for each country and estimating the resources and consulting services needed to undertake the work plan. The operations departments will then oversee consultants' performance and technical outputs. RSID will play a supportive administrative role, including administering the contracts of the consultants and compiling the outputs of the various contracts into a cohesive set of country strategies and action plans. This is a continuation of the arrangements under part I. To date, the DMCs that have been prioritized by the operations departments are Bangladesh, People's Republic of China, India, Indonesia, Pakistan, the Philippines, and Viet Nam. Local counterparts will vary according to the country, sector, and whether the projects are public or private. Activities funded by this RETA may only begin when ADB has received written confirmation from the government that it has no objection to the inclusion of the country in the RETA.

13. RSID will take the lead in (i) establishing a baseline for ADB's clean energy operations from a review of loans approved through the period 2004 to 2006, (ii) developing systems for identifying and tracking potential clean energy investments in projects, (iii) supporting non-energy divisions to implement clean energy projects, (iv) developing a model clean energy project design, (v) establishing a monitoring and evaluation system, and (vi) supporting non-energy divisions to develop clean energy components in their projects. RSID will work closely with the EEI task force and operations departments in carrying out these activities. It will also take the lead in developing CEFPP and will work in close coordination with ADB's operations departments, Controller's Department, Treasury Department, Office of the General Counsel, Office of Cofinancing Operations, and other offices.

14. The RETA will begin in April 2007. It will be carried out over a 24-month period and will be completed by April 2009. It will require an estimated 42 person-months of international consulting services and 144 person-months of national consulting services. The engagement of consultants will be phased according to the sequence of activities. The international consultants will be expected to spend most of their time in the field. Detailed terms of reference will be drafted by RSID in consultation with the operations departments for each work component. It is expected that most international consultants will be recruited as individuals because of the need to source specialized, including country-specific, expertise. However, it is expected that a firm will be recruited on the basis of bio-data proposals for the country action plans. The recruitment of consultants will be carried out in accordance with ADB's *Guidelines on the Use of Consultants* (2006, as amended from time to time). The outline terms reference of are in Appendix 3.

IV. THE PRESIDENT'S RECOMMENDATION

15. The President recommends that the Board approve the provision of technical assistance not exceeding the equivalent of \$2,300,000 on a grant basis for Supporting the Implementation of the Energy Efficiency Initiative in Developing Member Countries.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Decreased rate of climate change and improved energy security in DMCs through increased use of sustainable energy forms</p>	<p>Number of clean energy projects</p>	<p>UNFCCC reports DMC energy data and national reports</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Continued international collaboration to address climate change • International resources for clean energy are available • DMCs have the political will to adopt clean energy alternatives
<p>Outcome ADB's program on clean energy expanded</p> <p>Improved capability of operational departments to develop clean energy projects</p> <p>New financing instruments for clean energy investments</p>	<p>ADB's lending on clean energy increased to \$1 billion a year during 2008–2010</p> <p>5–6 country actions plans, including a pipeline of projects for potential investment</p> <p>Non-energy divisions including clean energy components in their projects</p> <p>A system for identifying and tracking potential clean energy investments in projects</p> <p>A system for supporting non-energy divisions to implement clean energy projects</p> <p>Establishment of ADBs baseline (2004–2006) of clean energy investments</p> <p>A model clean energy project design, monitoring and evaluation system</p> <p>Establishment of an CEFPP</p>	<p>EEl phase II reports</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Energy security and climate change issues are a priority for DMCs. • DMCs see clean energy as a way to address energy security and climate change. • DMCs are committed to addressing climate change. • Financial institutions in DMCs see clean energy as a potential untapped business opportunity. <p>Risks</p> <ul style="list-style-type: none"> • Interest is not sustained and is overwhelmed by the investment momentum of conventional energy systems. • Clean energy investments are regarded as marginal solutions to energy needs

<p>Outputs</p> <p>1. Country and regional action plans for priority countries</p> <p>Final design and implementation of a project development, and monitoring and evaluation system for clean energy projects</p> <p>Provide support for developing clean energy projects in non-energy divisions</p> <p>Initial operational support for the CEFPP</p>	<p>Country action plans for ADB's support of clean energy for priority countries, including a pipeline of potential investments</p> <p>Finalization of a baseline of ADB's clean energy investments based on 2004–2006 investments</p> <p>A system for identifying projects with clean energy potential in non-energy divisions</p> <p>A system to support development of clean energy projects in non-energy divisions</p> <p>A monitoring and evaluation system for clean energy projects</p> <p>Clean energy projects designed and implemented in non-energy divisions</p> <p>CEFPP fully up and running</p>	<p>RETA reports</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • DMC counterparts see value of RETA and are willing to work with ADB on RETA. • DMC governments will adopt strong supportive policies and targets for clean energy investments.
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<p>Activities with Milestones</p> <ol style="list-style-type: none"> 1.1 Coordinate EEI phase II and provide administrative support to operations departments (ongoing through April 2009). 1.2 Support operations departments in the development of clean energy investment opportunities with the engagement of international consultants (April–October 2007). 1.3 Recruit national consultants to undertake country action plans (April–October 2007). 1.4 Conduct regional consultations on regional action plan as part of Clean Energy Week (May–October 2007). 1.5 Conduct national consultation workshops to discuss draft country action plans (October–November 2007). 1.6 Compile pipeline of projects for ADB consideration (October–November 2007). 1.7 Conduct national workshops to introduce country action plans and initial pipeline of projects (November 2007–February 2008). 1.8 Support implementation of country action plans (February 2008–April 2009). 	<p>Inputs</p> <ul style="list-style-type: none"> • Part-time effort of five-member EEI Task Force. • Quarterly review by the eight-member EEI steering committee. • \$ 2.3 million for 42 person-months of international consultants, 144 person-months of national consultants, and planning workshops in DMCs
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Activities with Milestones	
2.1	Conduct an interdepartmental review of proposed methodology for measuring the baseline of ADB's current lending operations on clean energy and finalize baseline (April 2007).
2.2	Develop system for identifying projects with clean energy potential in non-energy divisions (April–May 2007).
2.3	Develop a system for monitoring and evaluating clean energy projects (April–May 2007).
2.4	Hold interdepartmental discussions on above systems (May 2007).
2.5	Hold consultations as part of Clean Energy Week in June 2007 on systems for identifying clean energy projects in non-energy divisions and a system for monitoring and evaluating renewable energy and energy efficiency projects (June 2007).
2.6	Assist operations department to implement new systems for identifying clean energy projects in non-energy divisions and a system for monitoring and evaluating clean energy projects (July 2007–March 2008).
2.7	Provide support to non-energy divisions who may need assistance developing clean energy components of projects (ongoing through April 2009).
3.1	Market CEFPP to funding agencies (April–September 2007).
3.2	Retain consultant to develop detailed operational guidelines and project criteria for CEFPP (April–September 2007).
3.3	Develop criteria for the selection of intermediary financial institutions (April–September 2007).
3.4	Develop framework agreements for intermediary financial institutions (April–September 2007).
3.5	Conduct consultations with key financial institutions in DMCs to introduce AFPEE (April–September 2007).
3.6	Develop and sign agreements with financial institutions interested in participating in CEFPP (June 2007–March 2008).
3.7	Recruit management team for CEFPP and support operations of CEFPP (June 2007–March 2008).

CEFPP = Clean Energy Financing Partnership Facility, DMC = developing member country, EEI = energy efficiency initiative, RSDD = Regional and Sustainable Development Department, RSID = Energy, Transport, and Water Division, UNFCCC = United Nations Framework Convention on Climate Change.

Anil Terway , Director, EAEN and
Chair, Energy Efficiency Initiative Task Force

Bindu N. Lohani, Director General, RSDD

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Total Cost
Asian Development Bank (ADB) Financing ^a	
A. Consultants	
a. Remuneration and Per Diem	
i. International Consultants	920
ii National Consultants	770
b. International and Local Travel	
i. International Travel	96
ii Local Travel	54
c. Reports and Communications	50
B. Surveys and Stakeholders and Public Consultations ^b	200
C. Contingencies	210
Total	2,300

^a Financed by ADB's technical assistance funding program.

^b Includes preparation of tools and materials for local consultation on the project impacts and mitigation and staff participation in stakeholder consultations, workshops, preparation of information dissemination materials, etc.

Source: ADB estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The phase II activities of the energy efficiency initiative (EEI) will take place over a 24-month period commencing in April 2007. This regional technical assistance (RETA) will require 42 person-months of international consultants' services and about 144 person-months of national consultants' services.

A. International Consultants

1. **Clean Energy Experts** (various international consultants, up to 6 person-months total)

2. The experts will provide technical support to all EEI phase II activities covered under this RETA. The consultants will provide technical expertise on the application of energy efficiency and other clean energy technologies and practices on the (i) supply side of the power sector, (ii) end-use sectors, and (iii) the transport sector. Supporting the operations departments, the consultants will provide strategic guidance for national consultants' work in developing member countries (DMCs), and will then review and analyze the output of the country action plans. They will participate in developing planning guidelines, market research, technology reviews and framework design activities of this RETA.

3. The clean energy experts will:

- (i) help operations departments to identify energy and non-energy sectors with good potential for clean energy investments and review findings of DMC consultations performed under previous RETA projects;
- (ii) assist operations departments to review immediate clean energy investment opportunities in DMC markets;
- (iii) help operations departments to develop strategies involving the roles of implementing agencies and other clean energy market stakeholders (government agencies, regulators, certification bodies, generators, transmission and distribution utilities, financial institutions, consultants, designers, specifications writers, contractors, suppliers, energy service companies) in the planning and implementation of clean energy projects;
- (iv) formulate strategies vis-à-vis existing clean energy technologies and policy frameworks in selected DMCs (clean energy, energy efficiency and energy conservation laws, decrees, ordinances, regulations, standards, specifications, and utility demand-side management practices) and, where applicable, policy and regulatory frameworks at subnational or provincial levels and assess the potential to involve pre-commercial clean energy technologies;
- (v) develop guidelines and data requirements for the national consultants to support the preparation of country action plans and a project pipeline for clean energy investments;
- (vi) review country action plans prepared by national consultants;
- (vii) support the formulation of a regional action plan for clean energy markets in selected DMCs;
- (viii) provide technical advice to the EEI Task Force and the Clean Energy Financing Partnership Facility (CEFPF) working group, if and when needed; and
- (ix) prepare a report summarizing the respective outputs of each consultant under this RETA.

4. The experts should preferably have at least 7 years of experience in energy sector projects, at least 5 years of which were dedicated to energy efficiency or clean energy. They should have previous working experience in the Asia and Pacific region, particularly within the DMCs of ADB. They must also have demonstrated experience in clean energy issues, whether in policy intervention or market transformation, and in the design and monitoring of clean energy projects.

2. Clean Energy Financial Advisor (international consultant, 6 person-months, intermittent)

5. The primary objective of the advisor is to assist ADB's Energy, Transport, and Water Division (RSID), energy efficiency initiative task force, and the CEFPF working group in the design, establishment, and fund-raising for CEFPF. The consultant is expected to participate in all EEI meetings and reviews of progress.

6. The clean energy financial advisor will:

- (i) prepare a detailed design for CEFPF's risk sharing facility and technology deployment facility within the policy framework of ADB and potential funding agencies;
- (ii) participate in internal working group discussions and DMC consultations on the preliminary design of CEFPF;
- (iii) participate in consultations with funding agencies to determine their level of support for the CEFPF and the governance and reporting structure they would endorse;
- (iv) participate in the design of the CEFPF technical assistance facility;
- (v) assist RSID, ADB's Office of Cofinancing Operations, and the CEFPF working group in activities relating to the final design of the CEFPF and the preparation of documents for Board consideration;
- (vi) provide recommendations to RSID, Office of Cofinancing Operations, and the CEFPF Working Group on the fund management structure for CEFPF;
- (vii) assist RSID in activities related to fund-raising and administration of the CEFPF;
- (viii) provide advice on other clean energy finance issues related to the development of country and regional action plans; and
- (ix) prepare a report containing findings, recommendations and all other outputs of this consulting assignment.

7. The advisor should preferably have at least 7 years of experience in energy sector projects, at least 5 years of which were dedicated to energy efficiency or clean energy. The advisor should have previous working experience in the Asia and Pacific region, particularly within the DMCs of ADB. The advisor must have demonstrated experience in energy efficiency issues and in the design of financial instruments.

3. EEI Coordinator and Energy Efficiency Expert (international consultant, 18 person-months, full-time)

8. The expert will assist the EEI task force in the overall coordination of phase II activities during the period of the RETA. The expert will be based in the EEI task force secretariat located in RSID. The expert is expected to assist RSID in coordinating the implementation of phase II of the EEI.

9. The EEI coordinator and energy efficiency expert will:
- (i) assist all RSID activities relating to the selection, engagement, and supervision of international and national consultants recruited under this RETA., oversee and coordinate the technical support provided by international and national consultants, and provide oversight and guidance to national consultants for planning workshops, consultations and other tasks in DMCs;
 - (ii) with the support of other international consultants, coordinate the development of the templates to be used by national consultants to guide them in the development of country action plans;
 - (iii) coordinate EEI activities related to building ADB's internal capacities in clean energy project implementation, monitoring and evaluation;
 - (iv) consult with operations departments on their need for assistance in identifying and implementing immediate opportunities for energy efficiency investments and assist operations departments to develop end-use energy efficiency investment opportunities;
 - (v) integrate the findings of the international consultants into a review of existing clean energy technologies and policy frameworks in selected DMCs;
 - (vi) review the work of national consultants in the development of country action plans;
 - (vii) coordinate the integration of country action plans to develop a regional action plan;
 - (viii) assist RSID and the EEI task force to implement phase II of the EEI; and
 - (ix) assist RSID and the CEFPPF working group in all activities related to the detailed design, establishment and administration of CEFPPF.

10. The expert should preferably have at least 10 years of experience in energy sector projects, at least 5 years of which were dedicated to energy efficiency. The expert should have previous working experience in the Asia and Pacific region, particularly within the ADB DMCs. The expert must have demonstrated experience in energy efficiency and demand-side issues and in the management of energy efficiency projects and consulting resources. A master's degree in engineering, economics, management, or a related field is preferred.

4. Clean Energy Engineer and Monitoring and Evaluation Specialist (international consultant, 12 person-months)

11. The specialist will provide technical support to RSID and operations departments in all EEI phase II activities covered under this RETA. The specialist will provide technical expertise in the application of clean energy technologies and practices in the power sector, end-use sectors, and the transport sector. He or she will help to develop a monitoring and evaluation (M&E) system for ADB to use in tracking the impacts of EEI activities. The specialist is expected to participate in all EEI meetings and reviews of progress.

12. The clean energy engineer and monitoring and evaluation specialist will:

- (i) finalize the baseline of ADB's clean energy investments based on loans from 2004 to 2006;
- (ii) support RSID to develop an M&E system intended to identify clean energy potential of energy and non-energy projects;
- (iii) support RSID to develop an M&E system to track and measure the impacts of EEI interventions and ADB's clean energy projects in DMCs;

- (iv) investigate opportunities to update ADB's project clearance and evaluation systems to include tracking procedures that will capture information on clean energy investments and impacts;
- (v) work with operations department mission leaders and project officers who are not energy specialists (e.g., urban and agriculture specialists) to develop potential clean energy components in their projects;
- (vi) assist operations departments to identify high potential clean energy investments and participate in a review of the findings from previous DMC consultations;
- (vii) participate in a review of the work of national consultants in developing country-level action plans;
- (viii) provide advice on the applicability and effectiveness of existing and pre-commercial energy efficiency and renewable technologies in the region; and
- (ix) prepare a report summarizing the outputs of each task.

13. The specialist should preferably have at least 7 years of experience in energy projects, at least 5 years of which were dedicated to energy efficiency or clean energy. The specialist should have previous working experience in the Asia and Pacific region, particularly within the DMCs of ADB. He or she must have demonstrated experience in clean energy issues and in the design and monitoring of clean energy projects.

B. National Consultants

1. Clean Energy Project Specialists (up to 126 person-months)

14. The specialists will provide technical support to operations departments and RSID in all country-level EEI phase II activities covered under this RETA. The specialists will provide technical expertise to identify potential clean energy investments in their countries. They will lead all market research and technology reviews in their countries. They will participate in all local EEI coordination meetings and reviews of progress of work. The specialists will be engaged intermittently over the RETA period.

15. The clean energy project specialists will:

- (i) draft country action plans and prepare a project pipeline for clean energy investments based on templates furnished by RSID;
- (ii) assist operations departments to identify energy and non-energy sectors with good potential for clean energy investments;
- (iii) meet with sponsors of immediate clean energy projects and gather information on clean energy projects that need financing for implementation;
- (iv) meet with government agencies, financial institutions, energy service companies, and other clean energy market stakeholders to identify and address the barriers to immediate clean investment opportunities;
- (v) recommend strategies to develop immediate clean energy opportunities taking into account local conditions (e.g., policy and regulatory frameworks, limited availability of clean energy finance, roles of clean energy market stakeholders, and reach of existing and pre-commercial clean energy technologies) and subnational or provincial EEI strategies;
- (vi) organize and participate in local EEI-related meetings, round table discussions, and/or planning workshops and teleconferences; and
- (vii) prepare a country report summarizing the outputs of each consultant under this RETA.

16. The specialists should preferably have at least 5 years of experience in energy projects, at least 3 years of which were dedicated to the field of energy efficiency or clean energy. The specialists must have demonstrated experience in energy efficiency issues in their own DMC and in the design and monitoring of clean energy projects.

2. Assistant EEI Implementation Specialist, HQ-Based (national consultant, 18 person-months, full-time)

17. The specialist will support EEI secretariat operations within RSID, including (i) assisting RSID and operations departments to implement EEI phase II activities, (ii) assisting RSID and operations departments to prepare communications and outreach materials, (iii) maintaining a depository of all EEI-related documents and reference materials, and (iv) providing administrative and logistical support to all internal and country-based EEI activities. Up to 18 person-months of a national consultant's time will be needed on a full-time basis for the proposed scope of work.

18. The assistant EEI implementation specialist will:

- (i) assist ADB project officers to implement and monitor EEI activities;
- (ii) support operations departments, RSID, the EEI task force, and the EEI secretariat to prepare communications and outreach materials (e.g., presentations, brochures, leaflets, and e-newsletters) on EEI and clean energy for internal and external audiences;
- (iii) evaluate and redesign ADB's website for EEI and activities related to ADB's clean energy and environment program;
- (iv) conduct research related to the latest developments and events related to clean energy;
- (v) coordinate logistics for all EEI workshops, round table discussions, consultative meetings, and other events and support preparations for clean energy weeks in June 2007 and June 2008;
- (vi) assist RSID to provide logistical and administrative support to EEI international and national consultants;
- (vii) assist RSID to collate all outputs of EEI international and national consultants;
- (viii) assist RSID to maintain EEI project files and clean energy reference documents;
- (ix) liaise with ADB's Department of External Relations in preparing press releases and events; and
- (x) perform other technical and support tasks assigned by Director, RSID.

19. The assistant EEI implementation specialist should have a Bachelor's degree and preferably at least 5 years of experience in project implementation, logistical planning, and outreach communications. At least 2 years of involvement in clean energy and/or environmental projects is desirable.