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March 2012

## Expanded Scope and Use of the Clean Energy Financing Partnership Facility Resources

Asian Development Bank

## ABBREVIATIONS

ADB	–	Asian Development Bank
CEFPF	–	Clean Energy Financing Partnership Facility
CO <sub>2</sub>	–	carbon dioxide
DMC	–	developing member country
FPF	–	financing partnership facility
OCO	–	Office of Cofinancing Operations
PCG	–	partial credit guarantee
PRC	–	People's Republic of China
PSOD	–	Private Sector Operations Department
RSD	–	Regional and Sustainable Development Department

## GLOSSARY

concessional	–	Priced below commercial market pricing; usually no-interest, or interest free, financing, and including grants.
framework agreement	–	An agreement for the provision of cofinancing applicable mainly to financing partners that are willing to support Asian Development Bank (ADB) projects through loans, grants, or guarantees on a programmatic basis. Framework agreements minimize negotiations for each transaction and streamline methods and practices for reporting and exchanging information.
mezzanine financing	–	Type of funding that offers a higher return than debt because of higher levels of risk. Mezzanine financing tends to be used when bank borrowing limits are reached and the issuer cannot or will not issue more equity.
non-grant	–	Concessional, near-market, or market-priced funding by financing partner(s), which requires partial or full repayment of the principal amount of the financing, or some other form of financial flow to the financing partner(s).
nonsovereign operations	–	ADB-financed transactions having a subsovereign, state-owned, or public–private entity, or a private sector entity as obligor or investee, without direct sovereign indemnity.
reinsurance	–	A contractual agreement by an insurer or guarantor to transfer all or part of a liability to another insurer or guarantor. Loss may be shared for an individual transaction or for an entire portfolio.
risk participation	–	A contractual agreement that enables ADB to transfer risk and to share returns and any associated recovery rights with respect to a loan or guarantee provided by ADB with one or more risk participants (e.g., a commercial bank, a guarantor, an insurer, or a reinsurer).
trust fund	–	For the purposes of this paper, the term trust fund refers to a pool of financing partner fund(s) held and administered by ADB, and not specifically earmarked by the partner(s) for specific projects or programs.

## NOTE

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

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2. Examples of Expanded Use of Grant Resources under the Innovative Financing Mechanism

## I. THE PROPOSAL

1. I submit for your approval a recommendation to expand the scope of the Clean Energy Financing Partnership Facility (CEFPF) through (i) additional uses of financing partners' grant contributions; (ii) acceptance and administration of financing partners' non-grant contributions; and (iii) application of financing partners' non-grant contributions. The proposal is intended to follow on and expand the scope and use of funds, as described in the CEFPF paper (Appendix 1),<sup>1</sup> approved by the Board of Directors in April 2007, and to build on the successful implementation of this facility so far.

## II. BACKGROUND AND RATIONALE

### A. Background

2. Financing partnership facilities (FPFs) are operational platforms for strategic, long-term, and multi-partner cooperation in a coordinated manner for well-defined purposes. In line with Strategy 2020, the long-term strategic framework of the Asian Development Bank (ADB),<sup>2</sup> FPFs support initiatives in ADB priority sectors and themes, such as clean energy, water, urban development, and regional cooperation and integration. Under an FPF, ADB can combine resources of financing partners with ADB's existing resources for a defined program of activities.

3. On 24 April 2007, the Board of Directors approved the establishment of a multi-partner Clean Energy Fund and similar clean energy trust funds under the CEFPF with the objective of improving energy security and decreasing the rate of climate change in developing member countries (DMCs) through increased use of clean energy. As set out in the CEFPF paper, a number of possible financing arrangements, delivery modalities, and uses of the funds have been implemented through (i) pooled grants under the Clean Energy Fund, and (ii) bilateral grants under clean energy trust funds. This mechanism allowed the CEFPF to integrate existing and new grant resources administered by ADB to promote clean energy. The Clean Energy Fund, Asian Clean Energy Fund, and Carbon Capture and Storage Fund are operational through grant trust fund arrangements.<sup>3</sup> The funds are used for grant components of investment projects,<sup>4</sup> and for technical assistance projects to finance services, goods, and works.

4. The CEFPF paper anticipated that, in addition to the grant and technical assistance modalities, more innovative financing mechanisms would be needed to address the need for clean energy finance in DMCs, particularly to mobilize private sector financing for clean energy. ADB's experience in implementing the CEFPF indicates that DMCs need such financing. Less than 12% of CEFPF's funding has supported private sector operations, largely because its current modalities are not well suited to private sector financing needs. ADB's financing partners are willing to finance the innovative mechanisms that the private sector needs to catalyze

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<sup>1</sup> ADB. 2007. *Clean Energy Financing Partnership Facility: Establishment of the Clean Energy Fund and Clean Energy Trust Funds*. Manila.

<sup>2</sup> ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

<sup>3</sup> The governments of Australia, Norway, Spain, and Sweden contribute to the multi-partner Clean Energy Fund. The Government of Japan contributes to the single-partner Asian Clean Energy Fund. The Global Carbon Capture and Storage Institute of Australia contributes to the Carbon Capture and Storage Fund.

<sup>4</sup> Generally meaning a grant provided as a small proportion of ADB's overall assistance to a project. The maximum allowable amounts set for a grant component under an investment project are (i) for a multi-partner Clean Energy Fund, 10% of the total ADB loan amount or \$5 million (as set by the Clean Energy Working Group), whichever is lower; and (ii) for the Asian Clean Energy Fund, 10% of the total ADB loan amount or \$3 million, whichever is smaller. However, this may be exceeded where the need is justified or adequately explained.

investment in clean energy, and ADB is ready to implement and manage this support.<sup>5</sup> Therefore, to help accelerate the development of clean energy projects in DMCs, this proposal seeks to apply financing partners' grant funds in mechanisms such as risk sharing and subordinated contingent financing (two mechanisms specifically mentioned in the CEFPP paper), as well as other innovative financing mechanisms as described in this paper.

5. The CEFPP has thus far only accepted financing partners' grant funds, but existing and potential financing partners are interested in funding clean energy on a non-grant basis. ADB will be better able to catalyze private sector investment in clean energy in DMCs if it can tap into, and offer funding from, these non-grant concessional sources.

## **B. Rationale**

6. **Market demand for additional mechanisms.** Public and private funds need to be deployed to cope with the issues of climate adaptation and mitigation.<sup>6</sup> The pursuit of low-carbon development and technological advancement is challenging in DMCs because of the high up-front capital costs and limited availability of long-term financing. Perceived or actual regulatory uncertainty and technology risks exacerbate this situation. Because of the perceived risks and the small size of clean energy investments in DMCs, commercial banks have charged high transaction costs and lending premiums, and have often imposed burdensome security and/or guarantee requirements on project sponsors. The resulting financial constraints on private investment in clean energy have contributed to underinvestment in early-stage technologies and "first mover"<sup>7</sup> projects, where operations could ultimately prove commercially and economically viable and alter lenders' perceptions of risks.

7. Discussions between ADB's Private Sector Operations Department (PSOD) and project developers, commercial lenders, private sector investors, and other stakeholders have reinforced the need for new approaches and solutions to the financing bottleneck. ADB can currently only partially respond to regulatory and technology risks through existing CEFPP delivery modalities: technical assistance and limited capital grants. The CEFPP lacks the appropriate financial instruments to mitigate effectively key financial barriers such as high up-front capital needs and prohibitive transaction and financing costs. As a result, the CEFPP fails to provide adequate incentives to encourage private investment. Long-term financing is not available from the local market for private sector projects, which is particularly a concern in low-income and post-conflict DMCs. Since ADB nonsovereign financing alone cannot fill the funding gaps, additional funding sources are needed.

8. Since 1997, the International Finance Corporation has seen significant positive developmental impacts from offering innovative concessional finance, similar to that proposed in this paper, alongside the standard private sector products it offers to financial intermediaries for renewable energy and energy efficiency investments. The International Finance Corporation estimates that every \$1 of concessional funding it has provided to mitigate the high cost of clean energy market entry and to address commercial lenders' risk concerns has leveraged \$11 in private sector lending and resulted in the reduction of 16.7 million tons of global greenhouse gas

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<sup>5</sup> The three criteria set out in Appendix 3 of the CEFPP Paper for incorporating new modalities were (i) determination of market demand, (ii) support from ADB financing partners, and (iii) determination that ADB is able to manage and implement them.

<sup>6</sup> The World Bank estimates that climate adaptation and mitigation could cost between \$170 billion and \$275 billion a year. International Finance Corporation. 2011. *Sustainable Energy Finance: Innovative Concessional Finance with Financial Intermediaries*. Washington, DC.

<sup>7</sup> A form of competitive advantage that a company earns by being the first to enter a specific market or industry.

emissions each year.<sup>8</sup> This type of financing is performing well, is being replicated by other development banks, and can pave the way for DMCs to shift to cost-effective, low-carbon energy services with much-desired private investment.

9. The market demand for more innovative mechanisms—and their potential impacts—calls for ADB and DMCs to tap financing partners' concessional funding beyond the current grant resources mechanism in order to respond to the unmet needs and growing financing gap for the clean energy agenda. More and more, the international community is looking to the private sector to fill the financing gap through their significant financial contributions to address climate change challenges. Securing new nontraditional financing partners and/or new sources of funding to expand the scope and additional use of contributions beyond the CEFPPF is essential.

10. **Support from financing partners.** The Office of Cofinancing Operations (OCO) and the Regional and Sustainable Development Department (RSDD) have determined that bilateral and multilateral agencies want to partner with ADB to deploy concessional funds to catalyze private sector financing for clean and renewable energy projects. In DMCs, the progress in these areas has been limited, and it has been difficult to measure the overall development impacts of clean energy investments. Potential financing partners have requested ADB to undertake a wider range of financial interventions that boost leverage and yield more aggregate outputs, outcomes, and impacts from the same inputs of resources. Their needs converge with the objectives of the CEFPPF, which is designed to promote innovation in clean energy by pooling resources under one platform in order to consolidate development impacts in one design and monitoring framework.

11. To respond in a timely manner to market demands and the interest of financing partners, ADB assessed the willingness of potential and current CEFPPF financing partners to support a wider spectrum of assistance for the clean energy agenda under the CEFPPF. ADB presented examples of potential innovative uses and applications of partner financing at the fourth and fifth Annual Donor Consultation Meetings for the Financing Partnerships Facilities and Cooperation Funds in March 2011 and March 2012. The CEFPPF financing partners supported expanding the scope of the Clean Energy Fund to include innovative financing mechanisms and non-grant resources to create an additional financing window for the CEFPPF to complement the existing grant resources.<sup>9</sup> The examples are in Appendix 2.

12. **ADB's ability to manage and implement additional mechanisms.** Since 2006, ADB has been successfully managing and administering a number of FPFs<sup>10</sup> using traditional mechanisms such as grants in investment projects and technical assistance projects. More recently, under the Urban Financing Partnership Facility,<sup>11</sup> a framework agreement for parallel guarantees (i.e., non-grant financing) was signed. This proposal will allow similar expanded uses of the partners' funds. In addition, ADB has extensive experience in establishing and managing framework agreements with bilateral and multilateral agencies in cofinancing. The current membership of the CEFPPF is expected to be broadened and diversified as the range of products and services is widened. The expanded scope and use of funds is expected to (i) improve CEFPPF's relevance and responsiveness to the priorities of the Clean Energy Program,

<sup>8</sup> International Finance Corporation. 2011. *Sustainable Energy Finance: Innovative Concessional Finance with Financial Intermediaries*. Washington, DC.

<sup>9</sup> The minutes and other relevant supporting documents are available upon request.

<sup>10</sup> ADB. 2010. *Special Evaluation Study: Financing Partnership Facilities*. Manila.

<sup>11</sup> ADB. 2009. *Urban Financing Partnership Facility: Establishment of the Urban Environmental Infrastructure Fund and Urban Trust Funds*. Manila.

(ii) expedite the achievement of the target outputs and outcomes outlined in the CEFPP paper<sup>12</sup> through catalytic projects, and (iii) assist in attracting additional funding from existing and potential financing partners.

13. Financing offered under the CEFPP pursuant to this proposal will supplement or enhance, not replace, ADB financing from its own resources. The approval of projects funded under the expanded CEFPP will follow ADB's normal policies and procedures.

14. This proposal supports two of the five drivers of change outlined in Strategy 2020: (i) private sector operations and development; and (ii) partnerships, in relation to the goals of (a) scaling up private sector operations and development—both in the number of ADB-financed projects and their share of ADB operations—to reach a target of 50% by 2020, and (b) achieving total annual direct cofinancing that exceeds ADB's stand-alone project financing. This proposal will also increase the accessibility of funds for ADB's nonsovereign and private sector operations, resulting in a more balanced allocation between public and private operations for the Clean Energy Program.<sup>13</sup>

### **III. PERFORMANCE OF THE CLEAN ENERGY FINANCING PARTNERSHIP FACILITY**

15. The CEFPP has been integrated into ADB's Clean Energy Program to contribute to its increased clean energy investment target of \$2 billion in DMCs and aims to raise \$250 million from partners to support the Clean Energy Program by 2013. As of 31 December 2011,<sup>14</sup> \$66.6 million of the total \$100.0 million contribution had been allocated to 79 projects. These projects have catalyzed \$1.8 billion in clean energy investments and are expected to (i) contribute about 3.5 terawatt-hours of energy savings, (ii) provide 540 megawatts of installed renewable energy capacity, and (iii) reduce carbon dioxide emissions by 6 million tons per year. The CEFPP leverages financing partner resources to generate larger investments in clean energy. As of December 2011, every \$1 of CEFPP financing had resulted in the equivalent of \$27 in clean energy investments. Of the 79 projects, the CEFPP supported 10 nonsovereign projects with \$7.8 million, equivalent to 12% of the total CEFPP portfolio.

### **IV. THE PROPOSED EXPANDED SCOPE AND USES**

#### **A. Proposed Changes**

16. The diagram below illustrates the modalities approved in the 2007 CEFPP paper with shaded boxes and the proposed additional modalities with clear boxes. Board approval is being sought (i) to offer the innovative financing mechanisms listed in para. 18 through grant funds, to the existing Clean Energy Fund and future trust funds where financing partners support these mechanisms; and (ii) for ADB to accept and administer non-grant contributions from financing partners and apply them to the provision of guarantees, loans, risk-transfer products, and equity alongside ADB financial assistance.

17. ADB currently administers three trust funds under the CEFPP: the Clean Energy Fund, the Asian Clean Energy Fund, and the Carbon Capture and Storage Fund. This proposal will only affect the existing multi-partner Clean Energy Fund, which opted to add the innovative

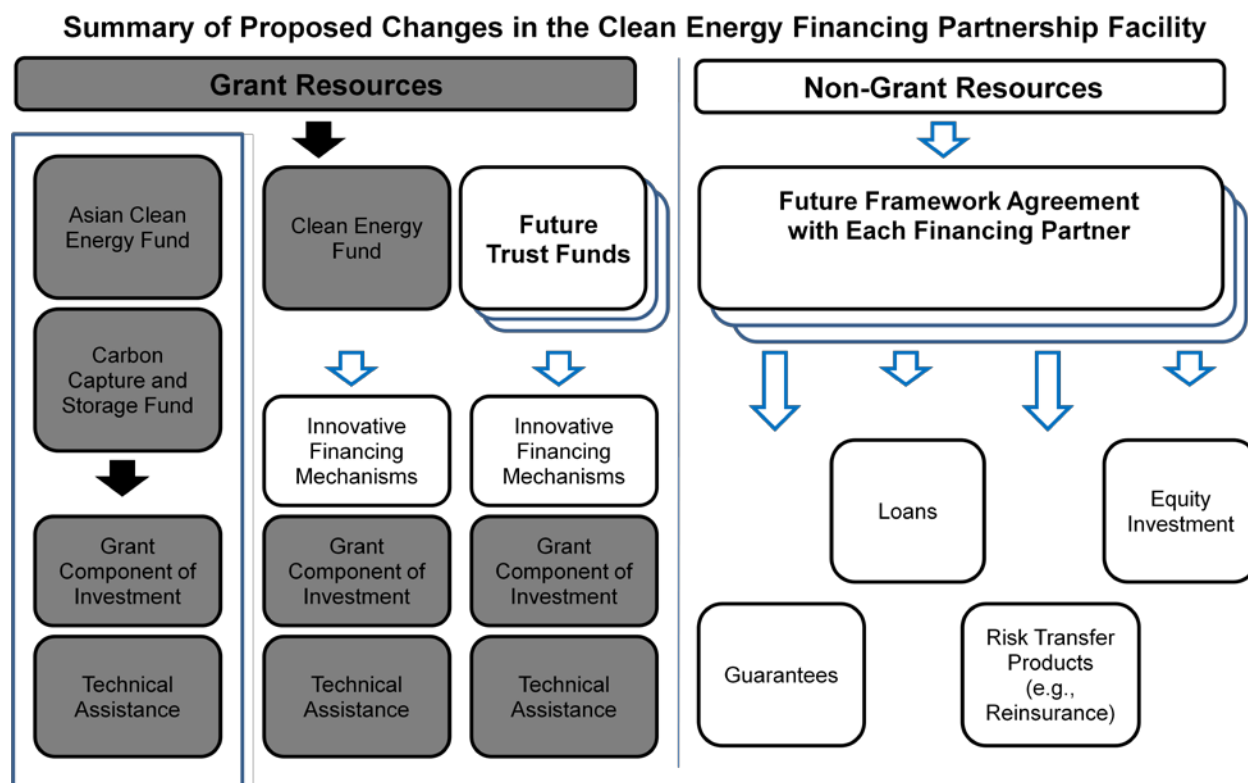
<sup>12</sup> CEFPP Annual Report contains a design and monitoring framework, which provides baseline for assessing CEFPP's performance against its targets.

<sup>13</sup> The ratio of public to private sector operations in the CEFPP stood at 88:12 as of 31 December 2011.

<sup>14</sup> The annual and semiannual progress reports are available in ADB website. <http://beta.adb.org/site/funds/financing-partnership-facilities/clean-energy-financing-partnership-facility>



financing mechanisms (para. 11) listed in para. 18 to the two existing delivery modalities available outlined in the CEFPP paper.<sup>15</sup>



Source: Office of Cofinancing Operations

## B. Additional Applications of Grant

18. CEFPP resources currently can be used only to finance technical assistance or grant components of investments. Under this proposal, grants may also be used to provide the following innovative financing mechanisms in conjunction with ADB's debt products (including mezzanine products such as convertible debt) and guarantee products:

- (i) buying down or otherwise reducing margins, base interest, guarantee fees, or other financing fees, costs, and expenses;
- (ii) providing "first loss"<sup>16</sup> protection;
- (iii) providing performance-based or other incentive financing; and
- (iv) supporting feed-in tariffs and other revenue streams.

<sup>15</sup> Allowing the use of innovative financing mechanisms under any existing or future arrangement is at the discretion of the financing partners. For example, innovative financing mechanisms will not apply to the Asian Clean Energy Fund as requested by the financing partner.

<sup>16</sup> A "first loss" guarantee is a recourse provided by a third party, which covers any non-payment or default on a loan up to a fixed amount or a stated percentage of the loan. Once that fixed ceiling amount is paid by the first loss guarantor, additional or future losses are shared pro rata between the lender and/or other guarantors.

### C. Non-Grant Applications

19. It is also proposed that ADB accept, on an untied basis, financing partners' non-grant contributions as well as grant contributions. Non-grant contributions may be used to provide guarantees, risk transfer products, loans, and equity investments to clients in combination with ADB products.

20. Non-grant CEFPP resources will be provided only

- (i) in connection with an ADB-financed project; there will be no stand-alone administration of non-grant funds; and
- (ii) when the amount financed by CEFPP resources does not exceed the amount of ADB's ordinary capital resources provided to the project.

21. **Guarantees.** Guarantees are used by ADB to share risks with commercial lenders and to leverage additional financing for projects that would not be provided without ADB credit support. The non-grant resources may be used for partial credit guarantees to cover both commercial and political risks, or for partial risk guarantees for political or other discrete project risks.

22. **Risk transfer products.** CEFPP non-grant resources may also be used to leverage ADB guarantees and loans through the use of risk transfer arrangements such as reinsurance and risk participation.<sup>17</sup>

23. **Loans.** Financing partner(s) support may be in the form of concessional financing, i.e., zero- or low-interest loans, to be blended with ADB's resources to reduce overall financing costs. Other applications may include mezzanine financing.

24. **Equity investments.** Where requested by financing partners, resources for equity investment may be administered by ADB under the CEFPP. ADB will not assume any liability for a financing partner's decisions as an investor or equity holder. ADB will only provide administrative services, such as receiving and remitting capital contributions and distributions on behalf of the financing partner.

### D. Implementation Arrangements for Grant and Non-grant Resources

25. The implementation arrangements outlined in the CEFPP paper will remain the same as for funds accepted and administered to date. OCO will liaise with financing partners on all financial matters related to contributions to the expanded CEFPP, and will coordinate with relevant departments in establishing future trust funds and framework agreements. RSDD will be the facility manager for the CEFPP, responsible for recommending proposals to the Climate Change Steering Committee<sup>18</sup> and coordinating with various ADB departments on projects and

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<sup>17</sup> Risk participations will be used to attract financing partners to new transactions and reduce ADB's net exposure. ADB will not sell down its exposure on existing underperforming investments through risk participation of financing partners under this modality.

<sup>18</sup> The committee is chaired by the director general, RSDD. Its members comprise director generals of all six operational departments including PSOD and the chief economist, Economics and Research Department. The committee approves the allocation of CEFPP resources to specific projects. For project allocations, appropriate arrangements will be put in place to address any potential conflicts of interest. Projects receiving CEFPP financing must comply with ADB's approval process and obtain the approval of either the President or the Board.

activities supported by the CEFPF.<sup>19</sup> RSDD is supported by the energy community of practice<sup>20</sup> in reviewing and recommending proposals. Projects will be identified, processed, and implemented in accordance with ADB's standard policies and procedures. Selection of project proposals for grant and non-grant resources will follow the same principles as described in the CEFPF paper.

26. In approving an application for CEFPF concessional resources for nonsovereign and private sector projects, the Climate Change Steering Committee must ensure that the following eligibility criteria are met: (i) the application for grant or non-grant resources is sufficiently justified as a response to a market constraint, (ii) the minimum concessionalism necessary to overcome constraints is applied, and (iii) the proposed application would not distort the commercial market. These are the same principles agreed upon by the international financial institutions and financing partners to guide the application of the Climate Investment Fund<sup>21</sup> to nonsovereign and private sector projects.

### **E. Administration Arrangements for Grant and Non-grant Resources**

27. Administration arrangements for grant funds will generally be unchanged by the addition of innovative financing modalities. However, acceptance and administration of non-grant funds will require the development of new documentation to reflect that non-grant financing partners, by definition, expect a full or partial return on their contributions. Therefore, non-grant funds must be accepted and administered under documentation that clarifies each party's understandings, risks, and obligations in detail. The terms of the non-grant funding may require ADB to (i) apply additional eligibility criteria for project allocation compared with grant funding criteria; and/or (ii) to charge different service fees for administering non-grant funds. When ADB accepts and administers non-grant funds, it will not accept any liability by the financing partner for non-payment of principal or other amounts by the project, or for other nonperformance by the recipient of the financial assistance. As the lender (or guarantor) of record for non-grant funds, ADB will exercise the same duty of care as for its own exposure, and will pursue recoveries of any losses in line with ADB's own internal procedure. ADB will ensure that individual legal agreements signed with the financing partners for non-grant funds contain explicit provisions to this effect and adequately document ADB's limitation of liability.

### **F. Service Charges**

28. The standard service charges<sup>22</sup> (as amended from time to time) for administering financing partners' grant resources will be applied to grant-based arrangements based on the principle of sharing incremental costs as a result of cofinancing.<sup>23</sup> For administering financing partners' non-grant funds under the expanded CEFPF, the principle of full cost recovery will be

<sup>19</sup> A staff guidance note may supplement implementation guidelines where multiple departments are concerned to define and designate departmental responsibility and accountability (user department, Controller's Department, Office of General Counsel, RSDD, and OCO) before such an undertaking.

<sup>20</sup> The chair of the energy community of practice will handle the duties previously assumed by the special advisor to the President on clean energy and environment.

<sup>21</sup> World Bank. March 2010. *Climate Investment Funds: Clean Technology Funds Financing Products Terms and Review Procedure for Private Sector Operations*. Washington, DC.

<sup>22</sup> ADB. 2009. *Review of the Asian Development Bank's Service Charges for the Administration of Grant Cofinancing from External Sources*. Manila.

<sup>23</sup> 5% up to \$5 million, or the greater of 2% above \$5 million or \$250,000 based on disbursement amount.

followed based on the nature and complexity of incremental administration services to be provided.<sup>24</sup>

## V. THE PRESIDENT'S RECOMMENDATION

29. It is recommended that the Board approve the following, in each case consistent with the conditions set out in this paper:

- (i) additional uses of financing partners' grant contributions under the Clean Energy Financing Partnership Facility (CEFPP), as described in para. 18 of this paper;
- (ii) acceptance and administration by ADB of financing partners' non-grant contributions under the CEFPP; and
- (iii) application of financing partners' non-grant contributions under the CEFPP, as described in paras. 21–24 of this paper.

Haruhiko Kuroda  
President

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<sup>24</sup> Where ADB administers non-grant resources, principal payments, interest, fees, and other returns are generally shared with financing partner(s) on a pro-rata basis, after a deduction of ADB's administrative service fee, external audit costs, finance charges, and other applicable costs.

**FOR OFFICIAL USE ONLY**

R61-07  
4 April 2007

## Clean Energy Financing Partnership Facility: Establishment of the Clean Energy Fund and Clean Energy Trust Funds

1. Attached for the consideration of the Board is a paper on the above subject.
2. In the absence of any request for discussion and in the absence of a sufficient number of abstentions or objections (which should be communicated to The Secretary by the close of business on 24 April 2007), the recommendation in paragraph 43 of the Paper will be deemed to have been approved, to be so recorded in the minutes of a subsequent meeting of the Board. Any notified abstentions or objections will also be recorded in the minutes.

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**The attached document has a restricted distribution until it has been approved by the Board of Directors. Following such approval, the document will be available to the public.**



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April 2007

# Clean Energy Financing Partnership Facility: Establishment of the Clean Energy Fund and Clean Energy Trust Funds

Asian Development Bank

## ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
CE&EP	–	Clean Energy and Environment Program
CEF	–	Clean Energy Fund
CEFPF	–	Clean Energy Financing Partnership Facility
CESC	–	Clean Energy Steering Committee
CEWG	–	Clean Energy Working Group
CMI	–	Carbon Market Initiative
DMC	–	developing member country
EEI	–	energy efficiency initiative
GHG	–	greenhouse gases
LFI	–	local financial institution
OCO	–	Office of Cofinancing Operations
OCR	–	ordinary capital resources
RSDD	–	Regional and Sustainable Development Department
RSM	–	risk-sharing mechanism
TA	–	technical assistance

## NOTE

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

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## I THE PROPOSAL

1. I submit for your information the following report on the Clean Energy Financing Partnership Facility (CEFPF),<sup>1</sup> and for your approval, a recommendation for the Asian Development Bank (ADB) to: (i) establish the Clean Energy Fund (CEF), a multi-donor fund to support technical assistance (TA), grant components of investment projects, and any other activities that may be agreed upon between financing partners and ADB; (ii) establish clean energy trust funds, a series of bilateral funds to be established substantially upon the terms and conditions of this paper; and (iii) accept and administer contributions by bilateral, multilateral, and individual sources to the CEF and clean energy trust funds.

2. In line with its new financing partnership strategy,<sup>2</sup> ADB is taking an innovative approach to cooperation with development partners in ADB's core business areas. Financing partnership facilities are operational mechanisms for strategic, long-term, multi-partner cooperation, which link various forms of assistance in a coordinated manner for a well-defined purpose. Financing partnership facilities may include: (i) trust funds for grants to be administered by ADB; (ii) project-specific financing (i.e., grants, concessional loans, or guarantees) on a joint or parallel basis through framework agreements and letters of intent with development partners; (iii) cooperation arrangements for knowledge provision and exchange; and (iv) any other form of cooperation that partners and ADB may agree upon for a defined program of activities—all these facilities are provided alongside ADB's own assistance in the sector.

3. This report introduces the overall concept of the CEFPF and details the CEF and clean energy trust funds for which approval is sought. Sections II and III provide the rationale and objectives of the CEFPF. Section IV provides implementation details for the CEFPF and the trust funds. Sections V and VI cover contributions under the CEF and clean energy trust funds and their administration.

## I BACKGROUND AND RATIONALE

4. Energy use in the developing member countries (DMCs) of ADB is rapidly increasing to support the economic growth needed to raise the living standards of large populations. The current energy path relies on increased use of fossil fuels and is neither environmentally nor economically sustainable. There are significant economic and environmental benefits to increased investment in clean energy, through a combination of (i) efficient energy use that extracts greater service value from each primary energy unit consumed and (ii) increased use of indigenous forms of renewable energy. Increases in clean energy are essential to (i) ease growth in fossil energy demand and related upward pressure on energy prices, and thus improve energy security<sup>3</sup> and (ii) reduce global emissions of greenhouse gases (GHGs).

5. Increasing energy efficiency is a widely shared goal, because of its impact on global energy security, local environments, and climate change. World and industry leaders have recently declared their support for an aggressive program to lower carbon emissions. Greater use of available technologies can reduce carbon emissions while maintaining economic growth. Industrialized nations are expanding the energy efficiency agenda in their own countries, and are also ready to increase awareness of energy efficiency, assist in the deployment of replicable

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<sup>1</sup> ADB has set an initial target of \$250 million by 2008 for the Clean Energy Financing Partnership Facility (CEFPF).

<sup>2</sup> ADB. 2006. *ADB's Financing Partnership Strategy*. Manila.

<sup>3</sup> A detailed analysis of the most pertinent issues related to EE in the phase I report of the energy efficiency initiative is available at <http://www.adb.org/Documents/Reports/Energy-Efficiency-Initiative/eeir-draft.pdf>

energy efficiency-related projects, and develop and support innovative financing mechanisms to help develop reduced carbon economies in DMCs. Several DMCs have themselves announced energy efficiency policies and targets, and enacted necessary legislation to expand renewable energy and energy efficiency.

6. ADB is committed to—and currently promoting—greater use of clean energy in its DMCs. ADB's Medium-Term Strategy II<sup>4</sup> identifies managing the environment as one of five strategic priorities; promotion of energy efficiency in order to lower the carbon intensity of DMCs is specifically named as one of two interventions. In addition, ADB's energy policy, approved in 1995<sup>5</sup>, emphasizes more rapid widespread application of renewable energy and energy efficiency in its DMCs. This focus was strengthened through ADB's energy policy review<sup>6</sup> of 2000, which states that ADB will assist DMCs in formulating and implementing viable renewable energy and energy efficiency 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 undergoing another review; early drafts indicate that even greater priority will be afforded to renewable energy and energy efficiency.

7. In line with the 1995 energy policy and policy review of 2000, ADB has established a comprehensive Clean Energy and Environment Program (CE&EP) to assist its DMCs achieve significant measurable change in their energy use patterns and secure a sustainable, low-carbon energy future. An outline of the CE&EP is attached as Appendix 1. A pivotal component of the CE&EP is the energy efficiency initiative (EEI), which was launched in July 2005 and will expand ADB's operations in clean energy to \$1 billion per year. The EEI is being implemented in three phases. Phase I, the initiation phase, was completed in June 2006 with endorsement by ADB Management of the draft EEI report, which firmly establishes the rationale for expanded and sustained ADB action and energy efficiency-related investment, defines the general principles of the energy efficiency investment and action plan, and provides priorities and a framework for next steps. During the Clean Energy Week (20–22 June 2006), DMC officials and international experts also provided their support for the EEI. Phase II (ongoing from June 2006 through December 2007) will (i) develop country and regional strategies and action plans to reach the lending target set for the EEI, (ii) develop the necessary institutional capacity in ADB to scale up as well as monitor and evaluate activities implemented under the EEI, and (iii) explore the possibility of establishing the CEFPP. Immediate energy efficiency investment opportunities will also be pursued during phase II. The strategies and action plans will be implemented in phase III (2008–2010).

8. ADB's work on the clean energy program has never been significantly large as clean energy projects are very often small and distributed across a large number of end users. Much of the investment requirements for clean energy projects are for small projects in the \$200,000 to \$2 million range, with quick one to three year payback periods. In addition, clean energy investments often only require local currency financing and credit support. High transactional costs, in terms of processing time (three-year pipeline entry and 12-18 month loan processing schedule) and requirements (i.e., social and environmental safeguards), of ADB's existing processes and products make very difficult to finance these types of energy efficiency projects. However, local financial institutions are often unable to finance clean energy projects because of lack of institutional and technical capability and experience. For example, energy efficiency projects often require financing on the basis of "savings" as opposed to "assets" and "revenues,"

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<sup>4</sup> ADB. 2006. *Medium-Term Strategy II (2006-2008)*. Manila.

<sup>5</sup> ADB. 1995. *Bank's Policy for the Energy Sector*. Manila

<sup>6</sup> ADB. 2000. *Energy 2000 - Review of the Energy Policy of the Asian Development Bank*. Manila.

which is different from the conventional methodology for financial due diligence. To overcome these limitations and accelerate implementation of clean energy projects, ADB proposes to establish the CEFPP to specifically provide a mechanism that is responsive and flexible to finance: (i) smaller energy efficiency investments that require quick and efficient transactions; (ii) technology transfer costs of clean technologies for a small number of high-impact large interventions that will catalyze adoption of pre-commercial energy efficiency technologies; and, (iii) grant assistance for non-lending measures, such as developing the knowledge base and incentive mechanisms, advocacy, institutional capacity building, project preparation, and establishment of the monitoring and evaluation mechanism.

9. Another key component of CE&EP is the Energy for All initiative, with an objective to increase access by the rural and urban poor to modern forms of energy, using cleaner fuels and renewable energy. Under this initiative, ADB is working to specifically examine the modalities, financial instruments and mechanisms needed to catalyze and mobilize financial and private sector entities to make clean energy investments. In addition, it will raise awareness and build capacity within DMCs, enabling inclusion of the issue of “access to energy” within ADB’s energy portfolio dialogue and country programs. A regional technical assistance (RETA) on Energy for All is being prepared for consideration by ADB’s Board of Directors in March 2007. It will be implemented in two or three selected DMCs over a 2-year period, commencing in April 2007 and ending in March 2009.

10. The overall level of clean energy investment falls short of its technical and economic potential; many clean energy investments are not being made, despite the existence of a strong business case for them. The energy sector of the economy has many market failings, the greatest of which are environmental externalities associated with pollution and increased concentration of GHGs in the atmosphere, which is causing global climate change. This implies that energy from fossil fuels is in effect under-priced. Further, the economics of energy are changing rapidly, with tightening energy supply and demand balances, rising oil prices, and long-term questions about energy security and the sustainability of the current energy path. Greater awareness is helping build support for market reforms to incorporate environmental costs into energy prices and microeconomic decisions. Some market barriers still remain, however, which prevent economically rational energy efficiency-related investments, even at current energy prices. The barriers are well documented in the various market sectors, and include (i) perverse energy policies, prices and subsidies; (ii) the lack of suitable financing models to bundle small investment projects; (iii) a high discount rate for appraising retrofit projects; (iv) a relative lack of customer awareness; and (v) intricate technical and high pre-investment development and transaction costs. These barriers result in a lack of well-prepared, investment-ready projects. Incentives are needed to overcome these externalities and barriers.

11. There is also a lack of and need for (i) experience with clean energy projects among financial institutions and (ii) a menu of suitable financing instruments tailored to the different energy efficiency markets. The required financing capacities and the need to lower barriers define the rationale for programmatic action, led and resourced by the public sector, to lower and spread transaction costs across a large number of energy efficiency projects, build market capacities, and introduce effective marketing, delivery, and financing mechanisms.

12. ADB recognizes that effective support for clean energy activities that enhances their development impact will require a concerted effort, in partnership with government agencies, international organizations, bilateral funding agencies, the private sector, and civil society organizations. The CEFPP will be a means to: (i) strengthen coordination and streamline operational and administrative arrangements in order to deepen synergies with development

partners; and (ii) provide additional financial resources and technical support for (a) components of investment projects, (b) TA, and (c) capacity development and knowledge management. The ultimate objective is to deploy new, more efficient and less polluting supply and end-use technologies. This will require policy and fiscal incentives by DMC governments and greater willingness from the private sector to provide access to technology at a reasonable cost. The role of ADB is to find ways to facilitate financing of these new technologies—through TA to facilitate the transfer of knowledge, experience, and skill, and finding ways to lower deployment costs—so that they are deployed.

13. By supporting the CEFPP, partners will directly help to improve the lives of millions of people and make a significant contribution to achieving the Millennium Development Goal targets through support for pro-poor project design, innovative financing, and greater use of clean energy. Additional support from development partners will help catalyze investments with high development impact, innovation, and demonstration value and support reforms and capacity development in clean energy. At the same time, the CEFPP provides an opportunity for development partners to increase donor harmonization, realize efficiency gains and joint impact, and improve transparency in the preparation and implementation of clean energy activities.

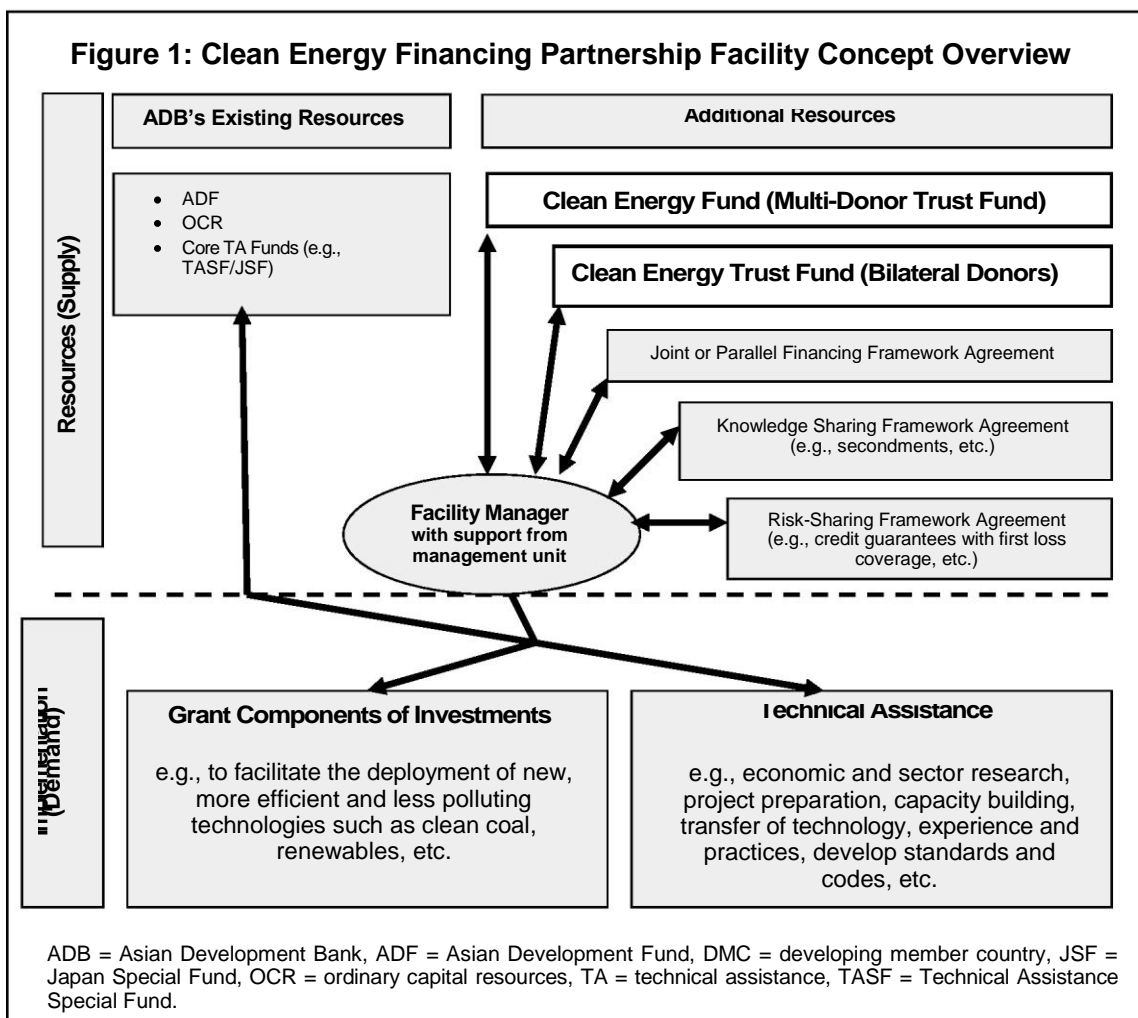
## ■ OBJECTIVES AND SCOPE

14. The objective of the CEFPP is to improve energy security in DMCs and decrease the rate of climate change through increased use of clean energy. The CEFPP is an “umbrella” operational arrangement to enhance administrative coordination and efficiency, and is not a legal entity or structure. The CEFPP will be a key mechanism to coordinate existing and new resources that are granted to ADB to promote clean energy through (i) pooled grants through the CEF; (ii) bilateral grants through clean energy trust funds; (iii) project-specific loans, grants or guarantees under framework agreements<sup>7</sup> to be negotiated with financing partners; (iv) knowledge provision and exchange; and (v) other forms of assistance, such as risk-sharing mechanisms.

15. At the same time, the CEFPP will also be the mechanism for facilitating and channeling these resources for components of investment projects, TA, as well as any other activities that may be agreed upon between financing partners and ADB, for both private and public sector projects. Figure 1 provides a concept overview of the CEFPP.

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<sup>7</sup> Such framework agreements will comprise (i) a letter of intent or similar document on the scope of cooperation under the CEFPP, and (ii) procedural arrangements that standardize processes and documentation for the activities to be financed under the CEFPP. Depending on partner preferences, grant administration can be undertaken by ADB, by the financing partner (e.g., in the case of parallel financing), or administration may be shared.



### A. Grant Components of Investment Projects

16. ADB already has a significant pipeline of clean energy investments underway. In the power sector, ADB is financing renewable energy projects, power station retrofits to improve generation efficiency, and upgrading of transmission and distribution systems to reduce system losses. In urban and municipal infrastructure development projects, ADB is assisting DMCs to adopt energy efficiency technologies for new and retrofitted street lighting. ADB is planning to make transport sector investments in urban mass transit that will result in reduced fossil fuel consumption, and to fund agricultural waste and biomass energy projects. ADB is also developing a strategic “Energy for All” approach that will increase access to modern forms of energy for the rural and urban poor. Appendix 2 provides the indicative pipeline for 2007–2010, which is expected to increase considerably as country-level action plans are developed under phase II of the EEI. With CEFPF support, ADB will have the ability to reduce the cost of new technologies, facilitating their deployment and lowering barriers. Such deployments will have a strong demonstration effect with respect to the cost effectiveness of such investments, the potential energy savings, and the financial benefits of clean energy. CEFPF will also allow ADB to expand the “Energy for All” initiative and thereby increase access by the rural and urban poor to modern forms of energy.

17. ADB is also exploring how to use existing energy-related investment relationships—in its existing equity funds and local financing institutions—as a platform for implementing expanded private sector clean energy investment programs. For example, ADB is exploring ways in which local financial institutions could work as market aggregators, to support commercial investments in projects too small to be treated individually. CEFPP funds could be used to defray the higher project preparatory and transaction costs associated with smaller projects, which have served as a barrier for financing such projects in the past. Appendix 3 presents two innovative financing mechanisms that ADB is exploring for possible CEFPP financing. Additional board approval and agreement from CEFPP donors will be sought, possibly in the fourth quarter of 2007, if these financing mechanisms are found to be viable.

## **B. Technical Assistance**

18. CEFPP funds will also be used for grants and technical assistance to support business/financial advisory and engineering services to (i) undertake economic and sector work, linking clean energy to sustained growth and other related areas; (ii) prepare projects, transactions and programs for investment; (iii) share costs in implementing clean energy investment programs in combination with other government, donor, and commercial funding; (iv) support cooperation for science and technology to facilitate transfer of technology, knowledge and experience; and (v) build the capacity of market actors in the context of implementing clean energy investments and programs. Thus, use of TA funds will help to (i) develop clean energy projects for financing and (ii) commercialize and replicate new clean energy finance instruments. Support for other non-lending measures, i.e., policies, regulations, standards, and institutional capacity building, may be undertaken selectively.

## **IV. IMPLEMENTATION ARRANGEMENTS**

19. ADB's Regional and Sustainable Development Department (RSDD) will manage the CEFPP in consultation with ADB's interdepartmental energy sector community of practice and operations directors responsible for clean energy projects. RSDD will also be the focal point for CEFPP partners for technical matters. The Clean Energy Steering Committee (CESC), which was constituted in June 2005 to guide the EEI and comprises the director generals of the operational departments and ADB's chief economist, and is chaired by the Director General, RSDD, will provide strategic direction for CEFPP. A clean energy working group (CEWG), made up of representatives from the operational departments, and chaired by the Director General, RSDD and Special Advisor to the President, Clean Energy and Environment or his/her delegate, will also be constituted to oversee CEFPP day-to-day operations, review and make recommendations on projects proposals for CEF or clean energy trust fund assistance, and make policy and procedural recommendations to the CESC regarding CEFPP operations. An RSDD designate will serve as the facility manager, with assistance from a team of consultants who have with technical and administrative expertise serving in a management unit.

20. ADB's Office of Cofinancing Operations (OCO) will facilitate contributions to the CEF and clean energy trust funds, and act as the official channel of communication for financial issues between partners, ADB and the CEF and clean energy trust funds. OCO will also lead negotiations and discussions with such partners on procedural agreements for contributions and framework agreements, where applicable.

21. Selection of project proposals for the CEF and clean energy trust funds will be undertaken by ADB based on criteria to be agreed on by partners and ADB. Project proposals

can be initiated by DMC agencies, development partners, or ADB, and will be screened and prioritized by the CEWG. Prioritized proposals will be submitted to the Director General, RSDD and the Special Advisor to the President, Clean Energy and Environment for selection, in consultation with the operational departments. Proposals for support should be consistent with ADB's EEI, introduce innovative solutions, adopt a participatory approach, have a high demonstration value in the sector, and have good potential for replication in the country and/or region.

22. Assistance from the CEF and clean energy trust funds will be provided in the form of untied grants for components of investment projects and TA, including advisory, project preparatory, and regional TA, as well as for any other activities that may be agreed upon between partners and ADB. Such assistance may be combined with other ADB resources and forms of bilateral or multilateral assistance, such as other dedicated funds, to provide the most effective support to promote clean energy.

23. All ADB's DMCs will be eligible for support from the CEF and clean energy trust funds for activities prioritized under the EEI. Special attention will be paid to weakly performing states. Activities may be implemented in DMCs or other countries in accordance with applicable ADB requirements and procedures. Assistance may be made available to central and local governments, government agencies, the private sector, and other entities eligible to receive assistance from ADB. Resources from the CEF and clean energy trust funds will be used to finance operational expenses related to eligible projects in the form of foreign exchange and/or local expenditures for goods, works, and services from ADB member countries following ADB's applicable guidelines and procedures. Resources will also be used to engage the necessary consultants (technical and administrative expertise) to support CEFPF.

24. Activities to be supported by the CEF and clean energy trust funds will be identified, designed, processed, approved, and implemented in accordance with applicable ADB policies, procedures, and guidelines, including consulting services and procurement, social and environmental safeguards, financial management and reporting, and anticorruption and governance. Arrangements for project accounting, auditing, and close monitoring and reporting will be in place for each of the projects supported by the CEF and clean energy trust funds. Implementing guidelines will also be developed by RSDD.

25. Consulting services and procurement to be financed by the CEF and clean energy trust funds will follow ADB's *Guidelines on the Use of Consultants* (2006, as amended from time to time) and *Procurement Guidelines* (2006, as amended from time to time). The selection and engagement of consultants and the procurement of goods and services under such TA will be the sole responsibility of ADB. In the case of components of investment projects, the selection and engagement of consultants and the procurement of goods, works, and services will be carried out by the DMC recipients in accordance with applicable ADB procedures.

26. Recipients of financing from the CEF and clean energy trust funds must ensure that such financing will be used for its intended purpose on the same terms, conditions, and principles as set forth in this paper.

## V. CONTRIBUTIONS

27. ADB will accept, on an untied grant basis, contributions to the CEF and clean energy trust funds from bilateral, multilateral, and individual sources, including companies and

foundations. To ensure cost-effective processing and reporting, the minimum contribution to the CEF and clean energy trust funds will be \$5,000,000 for bilateral partners and \$1,000,000 for foundations and private partners.

28. Contributions to the CEF will be effected through instruments of contribution to be executed by CEF partners, substantially in the form contained in the Appendix 4, whereby the partner will agree to contribute amounts to CEF substantially in accordance with the terms of this paper. Under exceptional circumstances, a clean energy trust fund may be established. A contribution to such a clean energy trust fund will be effected through a channel financing agreement or similar agreement substantially in accordance with the terms and conditions in this paper. Because the terms and conditions of a contribution to a clean energy trust fund will substantially be in accordance with those in this paper, it is proposed that the establishment of each clean energy trust fund and administration of such contributions not be separately approved by the Board, but reported to the Board for information, in order to streamline the procedure.<sup>8</sup>

29. Commitments by a partner to the CEF or a clean energy trust fund will not be subject to any conditions, except as provided in this paper. By depositing an instrument of contribution, or by signing a channel financing or similar agreement substantially upon the terms and conditions set forth in this paper, the partner will be deemed to have accepted the objectives of the CEF or respective clean energy trust fund as outlined in this paper, and the terms and conditions set forth in this paper.

30. Contributions to the CEF and clean energy trust funds will be made in the form of cash in a freely convertible currency. Contributions may also be made through the redirection of available funds under existing trust funds in ADB, subject to the agreement of the respective partners. Contributions will be deposited into a United States dollar interest-bearing account (the Account) to be specified by ADB under the CEF or clean energy trust fund, as appropriate (the Account refers to the relevant account for the respective fund). For contributions received in currencies other than US dollars, ADB will, upon receipt of the funds, convert them into US dollars and transfer them to the Account.

31. Contributions will be held, administered, and invested at the discretion of ADB. Pending disbursements, ADB may invest and reinvest contributions; any income earned in respect of such investment and reinvestment, as well as interest accrued in respect of the Account (collectively, the available funds net of expenses) will be credited to the Account and used for the purposes of the respective fund, including related administrative expenses.<sup>9</sup>

32. ADB will make withdrawals from the Account as necessary to meet the expenditures of projects and activities supported by the available funds. If other currencies are required for payment to meet eligible expenditures, ADB may purchase the required currencies with the available funds. Any fees and charges relating to such purchase will be paid out of the Account.

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<sup>8</sup> If a proposed clean energy trust fund does not substantially follow the terms and conditions set forth in this paper, contribution and administration of such fund will be submitted separately for Board approval in accordance with standard ADB procedures.

<sup>9</sup> Administrative expenses include service charges, cost of external audits, and finance charges that may be incurred in purchasing required currencies and in remitting funds.

<sup>10</sup> A partner to a clean energy trust fund may opt, under standard ADB procedures, not to have the financial statement audited by external auditors.



## VI. ADMINISTRATION ARRANGEMENTS

33. With respect to funds provided by partners, ADB will exercise the same care in the discharge of its functions as it exercises with respect to its own affairs, and will have no further liability in respect of the contributions.

34. Contributions will be held and administered by ADB separately from ADB's other resources. As a multi-partner fund, the CEF will commingle all available funds in the Account. Contributions under a clean energy trust fund will be separately accounted for in accordance with the respective agreement between the partner and ADB. ADB will maintain records and accounts, in accordance with its standard procedures, that identify the contributions made, the commitments to be financed out of the available funds, including eligible activities and administrative expenses. ADB will provide partners with financial statements on these records and accounts<sup>10</sup>, audited annually by external auditors, with the cost of these audits to be charged to the respective available funds.

35. In accordance with its standard procedures, ADB will charge a service fee to cover ADB's incremental cost for the administration, management, supervision, and operation of the CEF and the clean energy trust funds. The service charge is 2% of the amount disbursed for grant components of investment projects, and 5% of the amounts disbursed for technical assistance operations, as may be amended from time to time with the Board approval. The service charge will be paid from available funds at the same time as disbursement.

36. ADB will submit annual progress reports to partners on the performance of the CEF and the clean energy trust funds. The reports will be consolidated and prepared in accordance with ADB's normal reporting standards and annual work programs. ADB will also provide partners such reports and information, as appropriate, concerning the progress of activities under the funds. Partners and ADB will meet once a year after the establishment of the CEF or a clean energy trust fund to review progress, administrative matters, and the work program and strategic directions of the respective fund.

37. RSDD will be responsible for coordinating with various ADB departments with respect to projects and activities to be supported by the CEF and clean energy trust funds. RSDD will be the focal point for preparing the annual progress report on fund implementation, which will be submitted to the partners. OCO will liaise with financing partners on all financial matters related to contributions to the CEF and clean energy trust funds.

38. ADB will promptly inform the partners of any condition which interferes, or threatens to interfere, with ADB's administration of the respective fund.

39. ADB may, from time to time, adopt additional rules for administering the CEF and clean energy trust funds that are substantially based upon the terms and conditions of this paper.

40. Unless otherwise agreed by partners to the CEF or a clean energy trust fund (as the case may be) and ADB, the CEF or such clean energy trust fund will terminate on such date as the contributions have been substantially disbursed by ADB. At such time, except for actions necessary for winding up the activities of the funds in an orderly and expeditious manner, ADB's functions in relation to the contributions will be considered terminated.

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41. Unless otherwise agreed by contributors to the CEF or the clean energy trust funds and ADB, the CEF and clean energy trust funds will terminate on such date as the contributions have been substantially disbursed by ADB. At such time, except for actions necessary for winding up the activities of the funds in an orderly and expeditious manner, ADB's functions in relation to the contributions will be considered terminated.

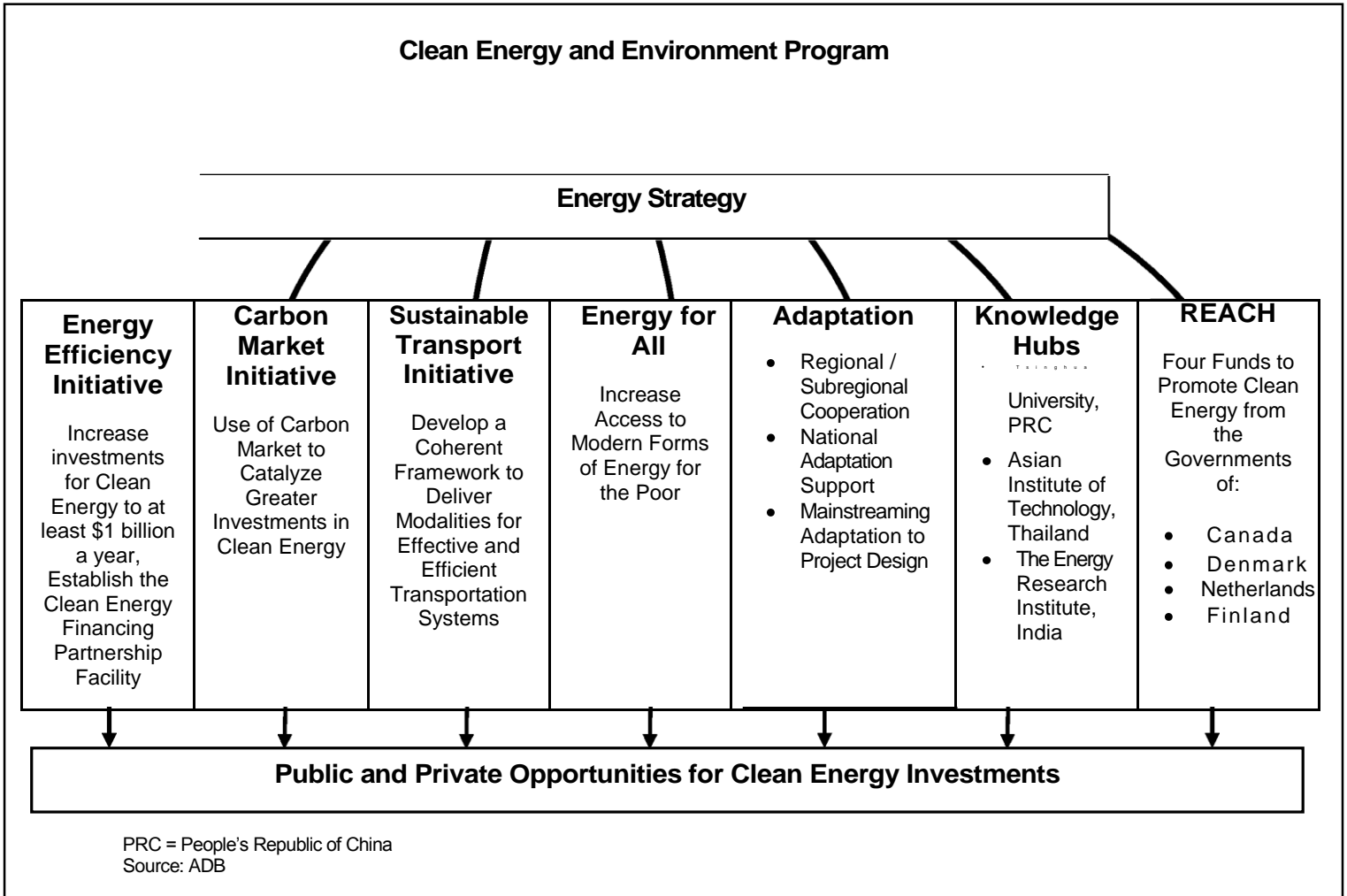
42. Upon termination of the CEF and clean energy trust funds, and subsequent liquidation of the Account, unless otherwise agreed with the contributors, any available funds will be returned, in the case of the CEF, to ADB and the individual partners in proportion to their respective available contributions, and, in the case of a clean energy trust fund, to the respective contributors. Following termination of the CEF, ADB will, as soon as practicable, provide the partners and the Board, a final report on the projects and activities supported by it.

## **VII. RECOMMENDATION**

43. It is recommended that the Board approve:

- (i) the establishment of the Clean Energy Fund under the Clean Energy Financing Partnership Facility, in accordance with the provisions set forth in this paper;
- (ii) the acceptance and administration by the Asian Development Bank (ADB) of contributions by bilateral, multilateral, and individual sources to the Clean Energy Fund, in accordance with the terms and conditions set forth in this paper; and
- (iii) in the event of any contribution for a clean energy trust fund substantially in accordance with the terms and conditions set forth in this paper, the establishment of such clean energy trust fund under the Clean Energy Financing Partnership Facility, in accordance with the proposal set forth in paragraph 27 of this paper; and the acceptance and administration by ADB of contributions by bilateral, multilateral, and individual sources to such clean energy trust fund substantially in accordance with the terms and conditions set forth in this paper

**THE ASIAN DEVELOPMENT BANK'S  
CLEAN ENERGY AND ENVIRONMENT PROGRAM**



**I Background**

1. As its population grows and countries industrialize, the Asia and Pacific region is experiencing rapid growth in the demand for energy services. The steady increase in the consumption of conventional energy and traditional fuels has resulted in serious environmental and economic consequences at both the local and global levels, however.

2. The Asian Development Bank (ADB) recognizes the need to take a more strategic approach to helping developing member countries (DMCs) increase utilization of renewable energy and energy efficiency technologies, in order to ease growth in fossil energy demand, alleviate upward pressure on energy prices, improve energy security, and reduce global emissions of greenhouse gases (GHGs). ADB's Clean Energy and Environment Program (CE&EP) comprises the following initiatives:

## I Clean Energy and Environment Program

3 CE&EP is the mitigation part of ADB's efforts to address climate change and is made up of the following initiatives:

- (i) **Energy strategy.** ADB is committed to increasing the efficiency of energy utilization and promoting greater use of renewable energy in its DMCs. ADB's energy policy, approved in 1995,<sup>1</sup> emphasizes the acceleration of the widespread adoption of renewable energy and energy efficiency in DMCs. This focus was strengthened through ADB's energy policy review<sup>2</sup> of 2000, which states that, among other priorities, ADB will assist DMCs in formulating and implementing viable renewable energy and energy efficiency projects—preferably with private sector involvement—for providing electricity in remote areas and improving the quality of life of the rural poor. ADB's energy policy is currently undergoing a review and early drafts of the policy review indicate that even greater priority will be afforded to renewable energy and energy efficiency.
- (ii) **Energy Efficiency Initiative<sup>3</sup> (EEI).** Launched in July 2005 to expand ADB's operations in clean energy to \$1 billion a year, the EEI includes establishment of the Clean Energy Financing Partnership Facility (CEFPPF). The CEFPPF is designed to finance: (a) smaller energy efficiency investments that require quick and efficient transactions; (b) technology transfer costs for clean technologies for a small number of large, high-impact interventions that will catalyze adoption of pre-commercial energy efficiency technologies; and (c) grant assistance for non-lending measures, such as developing the knowledge base and incentive mechanisms, advocacy, institutional capacity building, project preparation, and establishment of a monitoring and evaluation mechanism.
- (iii) **Carbon Market Initiative (CMI).** CMI was developed to draw on ADB's debt financing and investors' carbon financing to provide up-front and ongoing support for carbon-reducing projects and help meet the world's long-term demand for energy and climate change mitigation. CMI complements the EEI. It is a tool-based approach to utilize the emerging carbon market to catalyze development of renewable energy and energy efficiency in Asia and the Pacific.
- (iv) **Sustainable Transport Initiative (STI).** Transport is currently the largest contributor to greenhouse gasses in Asia and is the fastest growing sector in terms of contributions. Yet, relatively limited attention has been given so far to the formulation of dedicated policies to reduce the growth in greenhouse gas emissions from the transport sector in Asia. Asia is at a cross roads. Motorization is still at low level, but increasing rapidly. Action is required to develop sustainable and energy efficient modes of transportation to move people and goods, not vehicles. STI will develop a coherent framework to deliver modalities for effective and efficient transportation systems.

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<sup>1</sup> ADB. 1995. *Bank's Policy for the Energy Sector*. Manila.

<sup>2</sup> ADB. 2000. *Energy 2000 - Review of the Energy Policy of the Asian Development Bank*. Manila.

<sup>3</sup> EEI, CMI, and EET activities also contribute towards the investment framework on climate change under the Group of Eight (G8) Gleneagles' Action Plan on Climate Change, Clean Energy, and Sustainable Development, which was agreed in July 2005.

- (v) **Energy for All.** ADB is working to specifically examine the modalities, financial instruments and mechanisms needed to mobilize financial and private sector entities in support of increased access by the rural and urban poor to modern and cleaner forms of energy. In addition, it will raise awareness and build capacity within DMCs, so that the issue of “Access to Energy” can form part of ADB’s energy portfolio dialogue and country programs. The program will help ADB build on its expertise and respond to DMC requests to implement energy access projects for the rural and urban poor that utilize more efficient and modern forms of energy. A regional technical assistance (RETA) on Energy for All is underway. It will be implemented in two or three selected DMCs over a two-year period commencing in April 2007 and ending in March 2009.
- (vi) **Knowledge hubs.** ADB is working to establish regional knowledge hubs to act as regional clean energy think tanks for both ADB and DMCs. The knowledge hubs will support and strengthen the Asia-Pacific’s regional capacity to generate innovative concepts, science, technology, and management developments related to clean energy. Initially, three knowledge hubs have been identified: (a) Energy Research Institute (TERI) in New Delhi, India for renewable energy; (b) Tsinghua University in Beijing, People’s Republic of China for energy efficiency; and (c) Asian Institute of Technology in Bangkok, Thailand for waste reduction, reuse, and recycling (“the 3Rs”).
- (vii) **Renewable Energy, Energy Efficiency, and Climate Change (REACH).** Recognizing the need to examine the potential for expanding the role of renewable energy and energy efficiency in meeting the Asia and Pacific region’s rapidly growing demand for energy, ADB launched the REACH program in early 2002, which brought together several funds provided by the governments of Canada, Denmark, Finland, and the Netherlands. Under REACH, ADB is providing assistance to many of its DMCs to address policy, market, financial and structural barriers facing renewable energy and energy efficiency, and develop the institutional capacity and technical capability of governments and local institutions.

## ■ Adaptation

4. In addition, ADB recognizes the importance of enhancing its DMC’s capacities to adapt to increasing climate change risks. In particular, Small Island Developing States (SIDS), arid lands and coastal cities of the Asia and Pacific region are especially vulnerable. To this end, ADB has undertaken several initiatives in partnership with its DMCs and bilateral and multilateral organizations, and such efforts are expanding:

- ⓪ **Regional and Sub-regional Cooperation** – ADB’s Climate Change Adaptation Program for the Pacific worked with the Pacific SIDS to examine the risks and identifies adaptation measures and prepared guidelines for “climate proofing” coastal infrastructure investments. The ADB-led Central Asian Countries Initiative for Land Management brings together the five countries of that region to address land degradation problems, some of which are attributable to climate change. In the Greater Mekong Subregion, ADB is sponsoring an analysis of climate change on natural resources productivity, and discussions are underway with the World Bank to undertake a joint analysis of the impacts of climate change on Asia’s coastal megacities.

- (ii) National Adaptation Support** – ADB is increasingly integrating adaptation considerations into its strategic planning processes at the country level. This includes measures to reconfigure sector development plans so that they are more resilient to climate change as well as the integration of such considerations into disaster preparedness and response programs. ADB also is considering direct support for national climate change adaptation planning and programming efforts in several countries.
- (iii) Mainstreaming Adaptation into Project Design** – Under ADB’s Poverty and Environment Program, several pilot activities have been conducted to develop innovative approaches. In Viet Nam, for example, recommendations drawn from a pilot activity examining traditional coastal community approaches to disaster vulnerability reduction are being applied to the development of a \$135 million coastal development project.

5 ADB expects increasingly to assist its DMCs with financial resource mobilization to support adaptation efforts. As an executing agency of the Global Environment Facility (GEF), ADB is positioned to tap resources from the three GEF-administered climate change adaptation funds as well as its own resources and other sources of financing.

**INDICATIVE PIPELINE OF CLEAN ENERGY PROJECTS (2007–2010)  
IN THE ASIAN DEVELOPMENT BANK**  
(as of 26 March 2007)

1. The Asian Development Bank (ADB) already has a significant pipeline of clean energy (CE) investments underway. These are distributed among the agriculture, energy, transport, urban, water supply, and sanitation and waste management sectors.

**I CE Investments for 2007**

2. Public and private sector projects with clean energy components that are in the pipeline from 2007 are given below. The table presents the total project loan amount and the percentage of the project that is specifically on CE. In the case of multitranche financing facility loans, only the tranche scheduled for 2007 approval is presented.

**A. Public Sector**

**Table 1: 2007**

<b>Sector</b>	<b>Country</b>	<b>Project Name</b>	<b>Amount (\$ million)</b>	<b>CE Component (\$millions)</b>	<b>%CE</b>
Agriculture	PAK	Community Storage and Irrigated Agricultural Development Sector Project (energy efficient storage and pumping and water distribution system)	150	4.5	3%
Energy	AZE	Renewable Energy Development (developing renewable energy resources)	40	40	100%
Energy	BAN	Sustainable Power Sector Development Program (integrating supply and demand-side options in power development)	465	23.25	5%
Energy	FIJ	The Western and Central Networks Reinforcement and Extension Project (formerly Renewable Power Sector Development) (energy efficiency in transmission and distribution system)	20	1	5%
Energy	IND	MFF - Uttaranchal Power Sector Investment Program (hydropower development)	42 (Total MFF=300)	42	100%
Energy	IND	MFF - Madhya Pradesh Power Sector Investment Program (energy efficiency	151	7.55	5%

Sector	Country	Project Name	Amount (\$ million)	CE Component (\$millions)	%CE
		fund for transmission and distribution)	(Total MFF=620)		
Energy	IND	MFF - National Power Grid Development Investment Program (energy efficiency through upgrading of transmission system)	150  (Total MFF=800)	7.5	5%
Energy	INO	Energy Efficiency Project (demand side management)	250	250	100%
Energy	NEP	Rural Reconstruction and Rehabilitation Sector Development Program (development of renewable energy resources)	96	19.2	20%
Energy	NEP	Rural Electrification and Renewable Energy (increasing access to electricity derived from renewable energy sources)	30	15	50%
Energy	PAK	Power Transmission Enhancement (energy efficiency in transmission system)	300	15	5%
Energy	PAK	Power Distribution Enhancement (reduction of power losses in power distribution)	250	12.5	5%
Energy	PRC	MFF-Gansu Heihe Rural Hydropower Development Investment Program (increasing investment in renewable energy)	28  (Total MFF=50)	28	100%
Energy	SAM	Power Sector Expansion Program (expansion of power generation through inclusion of hydropower resources)	40	40	100%
Energy	UZB	Rural Renewable Energy Development (increasing access to renewable energy in rural areas)	25	25	100%
Energy	VIE	O Mon Gas Pipeline Project (increasing access to clean fuel)	550	100	100%
Transport/urban	INO	Urban Air Quality Improvement SDP	150	7.5	5%



Sector	Country	Project Name	Amount (\$ million)	CE Component (\$millions)	%CE
		(combining Clean Vehicle Fuel for Blue Skies)			
Transport/urban	PAK	TA Loan for Lahore Rapid Mass Transit System (multi-modal energy efficient transport system)	20	1	5%
<b>Total</b>			<b>2,757</b>	<b>639</b>	

MFF = Multitranchise Financing Facility, SDP = Sector Development Program, TA = technical assistance.

Source: Project Processing Information System, ADB.

## B. Private Sector

**Table 2: 2007**

Country	Project Name	Total Bank Funds and Compl Loan (\$ million)	CE Component (\$million)	% CE
AFG	AFG: Sungas LPG Distribution Network (cleaner fuel replacing kerosene and other fuels)	6	6	100%
CAM	CAM: CPTL Power Transmission Project (energy efficiency through improvement in transmission system)	6	0.3	5
IND	IND:Khandke/Bramanvel Wind Power (The "Transaction") (generation and use of renewable energy)	75	75	100
IND	IND: National Power Grid Development Program (energy efficiency through improvements in the national grid)	100	5	5
KAZ	KAZ: Almaty Power Substation Project (energy efficiency in the supply of electricity)	77.5	2.325	3
KAZ	AES Ekibastuz Power Station (optimal use of fuel through energy efficient generation)	150	7.5	5
NEP	West Seti Hydro Project	90.8	90.8	100
KAZ	KAZ: Intergas Central Asia - Construction of New Section On Bgr-Tba Gas Pipeline (widespread use of clean energy)	75	75	100
PAK	Pak: Karachi Electric Supply Company Ltd. (Kesc) Post-Privatization Rehabilitation, Upgrade & Expansion (energy efficiency improvement)	125	6.25	5

Country	Project Name	Total Bank Funds and Compl Loan (\$ million)	CE Component (\$million)	% CE
LAO	Nam Ngum 3 Hydro Project	50	50	100
	<b>Total</b>	<b>755</b>	<b>318</b>	

CPTL = Cambodia Power Transmission Lines Co. Ltd., LPG = liquefied petroleum gas  
Source: Private Sector Operations Department, ADB.

### I Projects with Potential CE Components, 2008-2010

3 The following public sector projects have CE components but the actual amount of the project that can be attributed to CE has not yet been confirmed. However, using the ratio of total project cost to CE component from 2007, an estimate of the CE investment is also provided. Private sector investments are demand driven and as such the list of private sector projects for 2008 and onwards are still being developed.

**Table 3: 2008**

Sector	Country	Project Name	Amount (\$ million)
Agriculture	IND	Agriculture Infrastructure Support Project (energy efficient agriculture production, agroprocessing and agro-business)	250
Energy	AFG	MFF-Power Sector Development (development of energy efficient power sources)	300
Energy	BAN	Gas Sector Development Project (power generation using clean fuel)	310
Energy	BHU	Rural Electrification/Renewable Energy (improving access to renewable energy in rural areas)	28
Energy	FIJ	Viti Levu Transmission Project (reduction in transmission and distribution losses)	20
Energy	IND	Power Sector Development Program (Gujarat) (energy efficient power generation)	300
Energy	IND	MFF - Uttaranchal Power Sector Investment Program (hydropower development)	125
Energy	PAK	Renewable Energy Development Project (increasing the share of renewable energy in energy mix)	150
Energy	PNG	PNG Gas Project (increasing access to clean fuel)	70
Energy	PRC	Energy Efficiency Improvement Project (Guangdong) [Formerly "Energy Conservation and Resource Management"]	100
Energy	PRC	Inner Mongolia Environmental Improvement (energy efficient district heating)	150
Energy	VIE	Multitranche Financing Facility - O Mon 4 Thermal Power Project (clean coal)	300

Sector	Country	Project Name	Amount (\$ million)
Energy	VIE	O Mon 4 Thermal Power Project (clean coal)	100
Transport/urban	VIE	MFF - Ho Chi Minh City Metro Rail System (energy efficient mode of transportation)	520
		Total	2,723
<b>Estimated CE components based on 2007 CE to Total Ratio (0.18)</b>			<b>490</b>

MFF = Multitranches Financing Facility, PNG = Papua New Guinea.

Source: Project Processing Information System, ADB.

**Table 4: 2009**

Sector	Country	Project Name	Amount (\$million)
Agriculture	PRC	Eco-Agricultural Development through Integrated Biogas Systems at Intensive Livestock Operations (installation of medium- to large-scale biogas plants at livestock farms)	100
Energy	AFG	Natural Gas Development Project (power generation from clean fuel)	50
Energy	AZE	Renewable Energy Development Project (increasing the share of renewable energy in energy mix)	40
Energy	IND	MFF - Madhya Pradesh Power Sector Development (energy efficiency for transmission and distribution)	50
Energy	IND	MFF - Uttaranchal Power Sector Investment Program (hydropower development)	100
Energy	IND	MFF - Assam Power II (energy efficiency fund for transmission and distribution)	210
Energy	INO	Energy Efficiency Project (energy efficiency in power generation and distribution)	125
Energy	INO	Infrastructure Reform Program (improvement of energy efficiency in supply side)	300
Energy	INO	PPP for Gas Transportation (East Kalimantan-Central Java) (reduction of transmission and distribution losses)	100
Energy	INO	Power Development (development of energy efficient supply side resources)	200
Energy	INO	Energy Development (increasing access to energy efficient technologies)	200
Energy	INO	Gas Development (Coal Bed Methane Project) (use of cleaner fuel and reduction of GHG emissions)	200
Energy	INO	Transmission Development Project (energy efficiency in transmission)	150

<b>Sector</b>	<b>Country</b>	<b>Project Name</b>	<b>Amount (\$million)</b>
Energy	MLD	Islands Electrification (improving energy efficiency in transmission and distribution system)	6
Energy	MON	Renewable Energy (Non-Sovereign) (use of renewable energy in district heating)	20
Energy	PAK	Energy Efficiency Improvement (demand side management)	250
Energy	PHI	Power Development Project (development of renewable energy resources)	200
Energy	PRC	Rural Electrification Development Project (increasing access to electricity in rural areas)	100
Energy	PRC	Renewable Energy (development of renewable energy resources)	80
Energy	PRC	Energy Efficiency Improvement (Shanghai) (improvement of energy efficiency in demand side)	80
Energy	PRC	Gansu Renewable Energy (Non-Sovereign) (increase access to renewable energy resources)	50
Energy	VIE	O Mon 4 Thermal Power Project 2 (clean coal)	100
Transport/urban	IND	Urban Transport (energy efficient transportation in cities)	350
Water, sanitation and waste management	ARM	Municipal Development (energy efficient water and sewerage system and energy from waste)	30
Water, sanitation and waste management	INO	Integrated Urban Development and Poverty Reduction (energy efficient transport, water and sewerage system)	100
		Total	3,191
<b>Estimated CE components based on 2007 CE to Total Ratio (0.18)</b>			<b>574</b>

MFF = Multitranches Financing Facility, PPP = Public-Private Partnership  
Source: Project Processing Information System, ADB

**Table 5: 2010**

<b>Sector</b>	<b>Country</b>	<b>Project Name</b>	<b>Amount (\$ million)</b>
Agriculture	BAN	Agriculture Production, Agroprocessing and Agrobusiness (energy efficient agricultural production and processing)	50
Agriculture	SRI	Agriculture Production, Agroprocessing and Agrobusiness (energy efficient agricultural production and processing)	60
Energy	IND	Sustainable Rural Electrification and Poverty Reduction (access to electricity in rural areas)	200
Energy	IND	Rural Electrification (access to electricity in rural areas)	250
Energy	IND	Central Power Distribution Project (improving efficiency in power transmission and distribution)	200
Energy	IND	MFF - Madhya Pradesh Power Sector Development (efficient power generation development)	35
Energy	IND	MFF - Uttaranchal Power Sector Investment Program (investment in energy efficient technologies)	49
Energy	IND	West Bengal Power Development (increasing the share of renewable energy in the electricity mix)	300
Energy	IND	MFF - Hydropower Development (energy efficiency fund for power generation and distribution)	450
Energy	IND	MFF - Hydropower Development Projects (increasing hydropower resources)	255
Energy	IND	MFF - National Hydroelectric Power Corporation Hydropower Development Project (increasing efficiency in hydropower development)	95
Energy	IND	MFF - Power Grid Corporation Transmission Projects (improving efficiency in power transmission and distribution)	350
Energy	IND	MFF-National Thermal Power Corp. PPP (fund for power generation using clean coal technology)	710
Energy	IND	North East Region Power Development Project (increasing power generation capacity using energy efficient technologies)	300
Energy	INO	Local Grids Development Project (reduction of energy losses in national transmission grid)	100
Energy	NEP	Rural Electrification and Renewable Energy (increasing access to electricity in rural areas)	40
Energy	SRI	MFF - Transmission Lines (reducing transmission and distribution line losses)	410
Energy	SRI	Power Sector Development Project (integration of demand side management)	110

<b>Sector</b>	<b>Country</b>	<b>Project Name</b>	<b>Amount (\$ million)</b>
Energy	SRI	Power Sector Generation (hydropower generation)	130
Energy	VIE	Multitranches Financing Facility - Clean Energy	100
Transport/urban	VIE	Ho Chi Minh City Metro Rail System (energy efficient mode of transportation)	480
Water supply, sanitation and waste management	IND	MFF - Rajasthan Urban Sector Development Investment Program (RUSDIP) (energy efficient transport, water supply, and sewerage system)	50
		Total	4,724
<b>Estimated CE components based on 2007 CE to Total Ratio (0.18)</b>			<b>850</b>

MFF = Multitranches Financing Facility, PPP = Public-Private Partnership  
Source: Project Processing Information System, ADB.

## INNOVATIVE FINANCING MECHANISMS BEING DEVELOPED FOR CLEAN ENERGY FINANCING

1. Under the energy efficiency initiative, the Asian Development Bank (ADB) is exploring the possibility of designing the following financing mechanisms to further develop the clean energy financing market in its developing member countries. If these mechanisms are feasible—in that donors are willing to provide financing for them, ADB is able to operationally implement and manage them, and there is demand from the market—ADB will put forth a proposal for consideration by ADB’s Management and Board of Directors’ for the following:

- (i) **Risk-sharing mechanism to catalyze local financing of smaller clean energy investments.** ADB will provide new credit enhancement products to support financing of clean energy projects. The first main product will be partial credit guarantees or risk-sharing mechanisms (RSMs) offered to local financial institutions (LFIs).<sup>1</sup> RSMs have broad application, in conjunction with sovereign, subsovereign, and non-sovereign ADB investments, and will support financing of many clean energy projects that are too small for ADB to finance directly; the LFI will act as the aggregator. Strong interest in such RSMs has been expressed by numerous LFIs in consultations to date. The Clean Energy Financing Partnership Facility (CEFPF) funds will be used in a first loss position within the structure of new ADB credit enhancement products; this is an innovative structure and will allow ADB to offer more effective, attractive risk-sharing instruments, at lower pricing, to its LFI clients to meet clean energy finance market development goals.
- (ii) **Subordinated contingent loan to facilitate technology deployment.** The CEFPF funds will be used to lower capital costs and risks associated with deploying new technologies, where there is a justification and rationale for such subsidies; funds will be offered in some combination of grants and “contingent finance” instruments, meaning the investments are repaid under certain conditions, but on a subordinate basis. Eligible technologies will be those that offer large clean energy benefits and are technically proven but still in the commercialization process, where perceived risks and/or higher costs prevent their use in particular markets and where, due to their overall economic and environmental and replication potential, their deployment by an early adopter will provide high demonstration and information values.

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<sup>1</sup> The term “risk-sharing mechanism” is also used in addition to “partial credit guarantee” to indicate greater flexibility in designing various risk-sharing formulas. Further, in some markets, notably the People’s Republic of China, local financial regulation governing guarantees can impose certain restrictions on design of the instrument; to avoid these, the risk-sharing terminology is proposed.

## INSTRUMENT OF CONTRIBUTION

[date]

Asian Development Bank  
[address]

[Name and identity of partner] (hereinafter referred to as the "Partner") hereby undertakes to contribute to the Clean Energy Fund in an amount of [\$ ] in accordance with the provisions of the Board Paper entitled "Clean Energy Financing Partnership Facility: Establishment of Clean Energy Fund and Clean Energy Trust Funds" of the Asian Development Bank (the "Paper") and subject to the terms and conditions set forth in the Paper.

The contribution will be paid to the Asian Development Bank in the form of immediately available funds on or prior to [specify date]/in accordance with the following schedule [insert disbursement schedule]:

The contribution shall be paid into [ADB to specify account details].

Dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

For and on behalf of

\_\_\_\_\_  
Authorized Representative



## EXAMPLES OF EXPANDED USE OF GRANT RESOURCES UNDER THE INNOVATIVE FINANCING MECHANISM

### A. Buying-down of Guarantee Fees for Solar Power Generation in India

1. Relative to thermal, nuclear, and hydropower, solar power is a new technology for commercial, grid-scale electricity production. While in operation mostly in Europe and the United States, its application has not been sufficiently demonstrated in developing member countries (DMCs). Commercial banks perceive considerable project and sector risks, including commercial, technology, performance, regulatory, off-take, and solar insolation and/or resource risks. The Asian Development Bank (ADB) believes that a partial credit guarantee (PCG), supported by a parallel capacity building technical assistance program, will help spread these risks and improve the inclination of commercial banks to finance solar power generation projects.

2. The Solar Power Guarantee Facility in India, approved by the ADB Board on 19 April 2011,<sup>1</sup> has the twin objectives of (i) making limited recourse debt available at reasonable interest rates to the sector, and (ii) extending the tenor of loans to solar projects. The guarantee facility is approved for up to \$150 million and will be administered by ADB. Comprehensive guarantees (for both political and/or commercial risks) will be issued by ADB to multiple international and local lenders to cover up to 50% of the risks of nonpayment by the borrowers of debt service payments. These guarantees are for loans made to finance small (2–25 megawatt) solar power generation projects in India; larger solar projects would be financed directly by the Private Sector Operations Department. This guarantee would cover any payment default at an equal rate with the commercial banks; it is not a “first loss” guarantee that would be paid before any loss sharing by the commercial banks. In support of the facility, ADB Management also approved, on 7 April 2011, a separate \$1.25 million capacity building technical assistance program.<sup>2</sup> This will build the capacity of both the participating banks under the guarantee facility as well as other Indian commercial banks to appraise and undertake due diligence of solar power projects.

3. For private sector operations, ADB charges loan and guarantee margins commensurate with the risks assumed. Compared to conventional power, as solar power is relatively high risk in terms of plant performance, variability of solar resources, technology, and other risks, ADB must charge commercial banks a higher guarantee fee. In addition to the banks' margin on the loan, the guarantee fees paid by the banks would be passed on to the borrowers. As the goal of the program is to reduce the overall cost of financing and lengthen loan tenors, this could be counterproductive and makes the financing scheme too expensive from the investor's perspective.

4. The Department of Energy and Climate Change, represented by the Department for International Development of the United Kingdom, recently approved a grant fund of £6 million (\$10 million equivalent) to be used to help reduce the risks and/or costs of financing by subsidizing the guarantee fee, without which there may be little or no demand for the facility. This is an example of an innovative use of donor grant funds alongside an existing ADB financial product to leverage private investment in clean energy. Using this example, this

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<sup>1</sup> ADB. 2011. *Report and Recommendation of the President for Proposed Guarantee Facility Solar Power Generation (India)*. Manila.

<sup>2</sup> ADB. 2011. *Technical Assistance to India for Capacity Building for Commercial Bank Lending for Solar Energy Projects*. Manila.

innovative application of grant funds can be mainstreamed via a trust fund or framework arrangement.

## **B. First Loss Guarantee For Energy Efficiency in the People's Republic of China**

5. The Energy Efficiency Multi-project Financing Program<sup>3</sup> is a CNY800 million partial credit guarantee facility to selected partner banks in the People's Republic of China (PRC) to cover a portion of the principal payments due to these partner banks for loans targeted at building energy efficiency projects. It is ADB's first program aimed at improving demand-side energy efficiency through private sector participation. It was approved by the Board in November 2007.

6. The program aims to encourage and stimulate private sector participation in this growing sector in the PRC, where risk perceptions are high and market barriers continue to limit the expansion of energy efficiency projects. As ADB policies for nonsovereign operations require a guarantee fee that is commensurate with the risks taken on projects, without donor support for the program the guarantee fees passed through to the end users would be high, which would inadvertently put pressure on the projects' financial viability and dampened investor interest.

7. ADB intends to issue PCGs to multiple partner banks in the PRC. PCGs cover loans used for the purpose of both retrofitting existing buildings with energy efficiency technology and equipment and also financing new buildings, such as green buildings, with improved arrangements for more efficient energy use. The program will consider energy efficiency projects that have energy efficiency potential as confirmed through an energy audit by a selected technical partner, and are creditworthy, as evaluated and approved by the partner bank.

8. Each PCG will have a two-tier risk sharing arrangement. In the first tier (first loss), up to 80% of the aggregate amount of any losses of up to 10% of the outstanding principal amount under any partner bank's loan portfolio will be guaranteed by ADB. The remaining 20% will be borne by the partner bank. In the second tier, ADB will guarantee up to 45% of any losses exceeding the first-tier ceiling amount and the partner bank will bear the remainder. Overall, ADB will cover up to 48.5% of any partner bank's loan portfolio. ADB's aggregate liability under the program is limited to CNY800 million.

9. It is proposed that a grant of about \$6 million be used to (i) help reduce the cost of financing in connection with building energy efficiency projects under the program, and (ii) develop the capacity of partner banks to process energy efficiency finance projects. This is an example of combining two delivery modalities, innovative financing mechanisms, and technical assistance to increase the development impact and support project viability. The grant is expected to catalyze more than CNY1.6 billion of commercial financing to support more than 200 individual projects and pioneer innovative leveraging of donor grant funds for risk mitigation of projects.

## **C. Performance-Based or Incentive Financing**

10. Performance-based incentives are important aspects of promoting the introduction of clean energy technology but also of ensuring that the energy produced from such projects is in

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<sup>3</sup> ADB. 2007. *Report and Recommendation of the President for the Proposed Credit Guarantee People's Republic of China: Energy Efficiency Multi-project Financing Program*. Manila

line with projections and adequate operations and maintenance programs. High initial cost creates a barrier to the deployment of clean energy, especially solar and other renewable technology investment and deployment, which need sufficient economies of scales and conversion efficiencies to reduce the cost per unit effectively. In this case, the grant would only be disbursed based on annual production of energy from renewable sources, unlike a capital grant, which is paid up front to defray capital expenditures only.

#### **D. Feed-in Tariff Support**

11. Renewable energy may have no fuel costs, but equipment and financing costs make tariffs prohibitive. Savings from any energy efficiency improvement are being wiped out by steep start-up costs. A targeted tariff subsidy scheme, i.e., paying a portion of a government feed-in tariff, may be provided as a generation-based revenue support scheme. This type of incentive may be used for a limited period, for example for 5–8 years, after the start of commercial operations to help defray the high debt service costs during the initial years of operation.

#### **E. Other Bespoke Application of Grant Funds**

12. New concepts are being considered through bespoke guarantees to cover discrete risks associated with renewable energy production and regulatory orders. Traditional technical assistance or grant components of investments can be provided for a detailed solar or wind resource mapping exercise. This may be then linked to the estimated baseline resources to a performance guarantee or incentive scheme that would pay for net revenue lost due to the differential between the actual wind or solar irradiance received during a year compared with the baseline. Surplus revenue generated due to irradiance or wind above the baseline will be placed in a reserve account that would be used to offset deficit years before a claim can be made under the guarantee (reducing the chances of a loss under the program). This performance guarantee would be for a fixed period, e.g., for the initial 5–8 years after start of commercial operations when the stress of the project's cash flows is most severe and the data less extensive.

13. Another possible performance-based incentive scheme targeted at renewable energy projects could address perceived regulatory and market risk of renewable energy certificate programs. Regulators have issued orders in which electricity distribution utilities must purchase a fixed percentage of their power from renewable sources. If they cannot purchase such electricity supply directly, they have the option to purchase renewable energy certificates from the market to fulfill the regulatory requirement. Such costs are then included in the tariff rates for their customers. Such a bespoke guarantee would not cover the production of the certificate (which is linked to physical generation of electricity from the project) but the performance of the market where such certificates would be traded to meet renewable energy purchase obligations of distribution utilities. These markets are developing based on regulatory orders issued in recent years, and there is insufficient history to make lenders comfortable with this form of revenue. In this form, the financing partner funds would support very discrete risks through performance guarantees which would catalyze commercial lending to the project.

14. This process greatly diminishes the risk of investing in a renewable power project and also helps drive down the tariffs, making wind and solar more attractive as a mainstream electricity generation alternative.