



# Report and Recommendation of the President to the Board of Directors

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Project Number: 44926  
November 2010

## Proposed Equity Investments Clean Resources Asia Growth Fund and Renewable Energy Asia Fund

In accordance with ADB's public communications policy (PCP, 2005), this abbreviated version of the RRP excludes confidential information and ADB's assessment of project or transaction risk as well as other information referred to in paragraph 126 of the PCP.

**CURRENCY EQUIVALENTS**  
(as of 27 October 2010)

Currency Unit	–	euro (€)
€1.00	=	\$1.385799
\$1.00	=	€0.721605

**ABBREVIATIONS**

ADB	–	Asian Development Bank
CLSACP	–	CLSA Capital Partners
CPS	–	country partnership strategy
CRAG	–	Clean Resources Asia Growth
CRC	–	Clean Resources Capital
DMC	–	developing member country
EPIRA	–	Electric Power Industry Reform Act
ESMS	–	environmental and social management system
GDP	–	gross domestic product
IREDA	–	Indian Renewable Energy Development Agency
IPO	–	initial public offering
IRR	–	internal rate of return
MW	–	megawatt
OFC	–	offshore financial center
PIAL	–	Prohibited Investment Activities List
PRC	–	People's Republic of China
REA	–	Renewable Energy Asia

**NOTE**

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

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## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed equity investment in the Clean Resources Asia Growth (CRAG) Fund of up to \$20 million and in the Renewable Energy Asia (REA) Fund of up to \$20 million, in each case not to exceed 25% of the total commitments with respect to the fund and not resulting in the Asian Development Bank (ADB) being the largest investor in the fund. The design and monitoring framework is in Appendix 1.

## II. BACKGROUND AND RATIONALE

### A. Economic and Sector Background

2. Aggressive development throughout Asia has put substantial pressure on the region's resource base and natural environment. This development path will need to be balanced over the long term with resource alternatives that are more sustainable. The clean energy market comprises companies and projects that provide solutions to improve the use of natural resources to reduce negative ecological impacts. Increasingly broader in scope, the market embraces multiple industries with diverse needs and at varying points in the production cycle—generation, procurement, use and reuse, and residual disposal. (See Table 1 for examples of various industries related to the clean energy market.)

**Table 1: Industries Related to the Clean Energy Market**

Energy	Water and Agriculture	Pollution and Waste	Industrial	Consumer
Electricity generation	Treatment and purification	Industrial waste	Automotives	Green and sustainable goods and services
Storage	Distribution and reclamation	Consumer waste	Manufacturing	
Efficiency and demand management	Desalination	Carbon	Transport and logistics	
Fuels	Sustainable agriculture	Water, air, soil pollution	Biochemicals	
Biomass				

Source: CRAG Fund private placement memorandum, February 2010.

3. Through a combination of economic, political, regulatory, and social drivers, the clean energy industry has risen to prominence in mitigating strategic risks facing individual economies and the global community. Many proponents now view the clean energy industry as the most significant investment opportunity for 2010 to 2020. Investment in Asia and the Pacific provide a means to enhance investment returns in clean energy for three core reasons:

- (i) Asia's demand for clean energy and technology solutions will outpace that of the rest of the world. With some of the world's largest economies and two of the world's most populous nations, Asia is expected to remain a driver of world gross domestic product (GDP) over the next several years, outpacing many developed-world economies in the process. Asia's strong macroeconomic and demographic drivers will continue to spur superior growth in demand for innovative solutions in energy, water supply, and pollution control. Based on the International Energy Agency's latest estimates, the People's Republic of China (PRC) and India together are expected to account for over half of the global increase in energy demand from current levels to 2030. Combined, Asia's economies should drive 60% of new energy demand.

- (ii) A disproportionate share of the supply chain for clean technologies will originate in Asia. As has been the case in other manufacturing sectors, the region should benefit disproportionately from its unique supply chain manufacturing base. For example, even with limited domestic demand, the PRC has become the leading solar photovoltaic module manufacturer globally.
- (iii) Asia is relatively underserved by dedicated clean energy capital sources, attracting less than 5% of clean technology investment to date, versus about 15% of total private equity and venture capital investment. As satellite operations in the region are scaled back by firms without a core base in Asia because of the current global economic environment, the funds are well-positioned to be opportunistic and can capitalize on the reduced competition and focus of earlier and existing investors.

4. **Regulatory status.** There is considerable regulatory support for the clean energy market. The governments of the two funds' target countries are developing mechanisms to stimulate renewable energy and sustainable technology, as follows:

5. **People's Republic of China.** The PRC's policy goals provide for the building of an energy efficient society. The 11th Five-Year Plan (2006–2010) sets the goal of quadrupling GDP by 2020, while only doubling energy consumption. Energy consumption per unit of GDP must be cut by 20% of 2005 levels by the end of 2010. The PRC's Medium and Long-Term Energy Conservation Plan,<sup>1</sup> if implemented in full, will limit energy consumption by 2020 to 3 billion tons of coal equivalent, instead of the 4 billion tons of coal equivalent predicted if current trends continue. Since 2004, the PRC has been building an ultra-high-voltage electricity transmission infrastructure of the kind that renewable energy supporters in the United States and European Union are seeking, and the program has subsequently become the cornerstone of power-grid development of the current 5-year plan, further expanding opportunities for intermittent renewable energy generation. Additionally, as part of the \$498 billion economic stimulus package of November 2008, the government plans to enhance sewage and waste treatment facilities, prevent water pollution, accelerate forest planting programs, and increase energy conservation initiatives and pollution control projects.

6. **India.** India represents one of the most attractive current investment opportunities in Asia due to the combination of (i) growth in demand for energy, (ii) liberalized electricity markets that facilitate merchant selling and off-take structures that support independent power producers, (iii) high availability of untapped natural resources, and (iv) mature regulatory and fiscal incentives for foreign and local investment in renewable energy. Nationally, the Ministry for New and Renewable Energy provides financial support and implements renewable energy policies. The Indian Renewable Energy Development Agency (IREDA) provides low-cost financing. At the state level, individual state regulatory commissions implement renewable policies.

7. The Government of India has set an objective of achieving an installed renewable-based generation capacity of 10,000 megawatts (MW) by 2012, largely in the areas of wind and small hydropower. A number of fiscal benefits in the form of duty exemptions, income tax holidays, and accelerated depreciation norms have been extended. In addition, the IREDA has also been extending financial support to interested investors. Some of the key legislative, policy, and other measures initiated by the various stakeholders for promoting renewable energy are as follows:

- (i) the Electricity Act of 2003 provides for state commissions to fix a minimum percentage for purchase of energy from renewable energy sources. Some of the state commissions have initiated measures in this direction;

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<sup>1</sup> Beijing Energy Efficiency Center. Energy Saving. [http://www.beconchina.org/energy\\_saving.htm](http://www.beconchina.org/energy_saving.htm).

- (ii) the National Tariff Policy recognizes that renewable sources of energy should be offered a preferential tariff (until the time that technologies evolve) so that they can compete with conventional sources of electricity generation;
- (iii) power generation across India has been stepped up, with the federal government making strong promises to extend electricity across rural India between 2009 and 2014. Decentralized renewables will play an important role in the proposed rural electrification of almost 5,400 hamlets and villages as they speed up deployment and reduce the costs associated with transmission<sup>2</sup>;
- (iv) the government is attempting to provide incentives for the development of hydropower across the nation. Legislation has been proposed to allow private hydroelectric power developers to be eligible over 5 years for a tariff that would guarantee a fixed return on investment, as well as allowing generators to improve their returns by selling up to 40% of their electricity on the spot market.<sup>3</sup>

8. **The Philippines.** Driven by a growing population and increasing energy needs, the energy market in the Philippines has undergone a process of deregulation, with strong continuing support from the government for private investment in renewable energy generation. Highlights include the following measures:

- (i) The Electricity and Power Industry Reform Act (2001), which provides for an open and competitive power industry.
- (ii) The Wholesale Electricity Supply Market (2006), which enables market forces to set energy prices.
- (iii) The Renewable Energy Act (2008, implemented 2009), which provides
  - (a) prioritization of purchase, grid connection, and transmission of electricity generated by companies from renewable energy sources;
  - (b) income tax holidays for 7 years and reduced corporate tax thereafter;
  - (c) exemption from value added tax of generated renewable power ;
  - (d) tax exemption on income from carbon credits; and
  - (e) a maximum 1.5% import tax on original equipment and facilities to produce renewable energy.
- (iv) The Renewable Energy Act also provides for
  - (a) a renewable portfolio standard mechanism, which is a regulation that requires the increased production of energy from renewable energy sources; and
  - (b) a feed-in tariff offering a guaranteed fixed price for at least 12 years (and which must be above market rates) for electricity produced from renewables, notably wind, small hydropower, and biomass.

9. The combination of these factors makes the Philippines a very attractive environment for renewable energy investment. The effect of positive legislation and deregulation is to raise both the minimum and potential maximum of investment returns for an investor in renewable energy in the Philippines. The overall output from the stated policy is seeking to increase installed capacity by 100% by 2013 (to more than 4 gigawatts).

## **B. Alignment with ADB Strategy and Operations**

### **1. Consistency with Strategy 2020**

10. Each of the funds is established to make private equity investments in clean energy projects and companies in ADB's developing member countries (DMCs). As such, they are

<sup>2</sup> Government of India, Ministry of New and Renewable Energy. 2009. *Government of India Statistics*. Delhi.

<sup>3</sup> United States Department of Energy. 2008. *International Energy Outlook*. Washington, DC.

aligned with ADB's Strategy 2020<sup>4</sup>, which seeks to reduce poverty and improve living conditions and quality of life in part by scaling up private sector development and supporting environmentally sustainable development, particularly with respect to projects that aim to reduce carbon dioxide emissions and that address climate change.

## 2. Consistency with Country Strategies

11. The proposed investments are broadly aligned with the country strategies for the various countries to be targeted by the funds, key among which are the PRC, India, and the Philippines.

12. **People's Republic of China.** In its country partnership strategy<sup>5</sup> (CPS) with ADB, the PRC recognizes the need to improve its energy efficiency and redefine its energy mix toward a more environmentally friendly combination. The country's goals as outlined in the CPS include (i) ensuring resource efficiency and environmental sustainability by adopting clean and efficient energy, among other important sector-specific platforms; and (ii) creating an enabling environment for private sector development through private sector financing and other interventions needed to increase private sector participation in the development activities of the PRC. The second goal underscores the PRC's recognition of the need for private sector participation in sustaining economic growth and meeting the targets set for the coming decades.

13. The PRC CPS further emphasizes that an increasing level of private sector involvement would address certain funding gaps and investment needs in the country, and would complement the (relatively limited) public sector funds dedicated to infrastructure, including clean energy. While the public sector window of ADB is continuously collaborating with the Government of the PRC to improve the country's regulatory climate for both local and foreign clean energy investments, the Private Sector Operations Department can and should, in parallel, use its experience and competence to work with private entities in the PRC to catalyze investment into the clean energy sector.

14. **India.** India's CPS<sup>6</sup> for 2009–2012 emphasizes the urgent need to carry out energy infrastructure projects to meet future power requirements. At present, coverage of rural household electrification, for example, is still at a low level of about 33%, and the quality of power remains poor due to "(i) insufficient power generation capacities in these areas, (ii) lack of optimum utilization of the generation capacity, (iii) an inadequate and aging sub-transmission and distribution network, (iv) large scale theft and a skewed tariff structure, (v) the slow pace of rural electrification, and (vi) inefficient use of electricity by the consumers."

15. These challenges are seen to plague the country's energy security and the sustainability of economic progress. Thus, together with ADB, India has established an energy sector results framework within its strategy and has developed ambitious overall target outcomes, such as (i) adding at least 70 MW of solar power generation, (ii) adding at least 982 MW of hydropower generation, and (iii) building an efficient power transmission network. The strategy similarly acknowledges the greater role of the private sector in realizing these goals through funding some of the needed infrastructure.

16. **The Philippines.** The enactment and implementation of the Electric Power Industry Reform Act (EPIRA) initiated the privatization of the power sector in the country. It has created a competitive landscape for participants in the power sector, which is expected to provide affordable electricity tariffs in the long term. The EPIRA also started supporting ventures to

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<sup>4</sup> ADB, 2007. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

<sup>5</sup> ADB, 2008. *Country Partnership Strategy: People's Republic of China, 2008–2010*. Manila.

<sup>6</sup> ADB, 2009. *Country Partnership Strategy: India, 2009–2012*. Manila.

boost rural electrification and livelihood development. Renewable energy project proposals increased in recent years but only a few were realized (one wind energy project in northern Philippines and other small-scale waste-to-energy projects). As a result, the rapid urbanization in many parts of the country has strained the capacity of the limited number of power generating facilities. There are current efforts to increase these installations but they are stymied by the lack of foreign capital investments targeting the clean energy sector. The CPS for the Philippines<sup>7</sup> specifies targets in the energy sector, and is generally geared toward achieving reliable and affordable electricity supply.

### **3. Consistency with the Sector Strategy**

17. ADB's Energy Policy<sup>8</sup> seeks to facilitate a transition to a low-carbon economy and universal access to energy, thereby achieving ADB's vision of a region free of poverty. The objective of the policy is to help DMCs provide reliable, adequate, and affordable energy for inclusive growth in a socially, economically, and environmentally sustainable way. The policy emphasizes energy efficiency and renewable energy; access to energy for all; and energy sector reforms, capacity building, and governance. To achieve these objectives, policy implementation will be based in part on private sector participation (and public-private partnership) to improve energy sector efficiency through competition and an increase in investable resources in DMCs. ADB and other multilateral development organizations have poured capital into this sector through public sector loans and other financing mechanisms for clean energy projects. However, the investment has been insufficient to build and sustain the increasingly energy-intensive infrastructure and economic activities of countries in Asia and the Pacific. The private sector must fill the gap by allocating financial resources and technical expertise for clean energy businesses in ADB's DMCs.

### **4. Lessons Learned from Previous Operations**

18. ADB has learned lessons from its experiences investing in clean energy funds through a request for proposals (paras. 10–12). The lesson drawn from these experiences was that it takes time and effort to incubate first-time emerging markets funds in a challenging fund-raising environment. This incubating role is appropriate in particular circumstances, such as when ADB wants to help develop a new asset class (or sector within the asset class) where few managers exist and so there is not the luxury of choice among established managers (as was the case with the 2007 request for proposals for clean energy funds). However, where the asset class does exist and there are experienced managers in the market, ADB should focus on selecting those fund managers that have the highest likelihood of fund-raising and deployment success but which may fall short without ADB. This is the case for clean energy funds today; the development of this asset class was aided in part by ADB's institutional efforts to develop the clean energy sector across Asia and the Pacific. ADB's leadership in promoting this new asset class (i.e., clean energy funds) has been well received in the market, and market participants articulate the desire for ADB to continue taking a leadership role in the clean energy private equity industry in emerging Asian markets.

## **C. Development Impact**

### **1. Outputs and Outcome**

19. The key output of ADB's investment will be the establishment of the funds and their policies. The funds' investments in clean energy and environment projects or companies, and

<sup>7</sup> ADB. 2005. *Country Strategy and Program: Philippines, 2005–2007*. Manila.

<sup>8</sup> ADB. 2009. *Energy Policy*. Manila.



the fund managers' ongoing management advice to those investees, will increase access to finance and expertise in clean energy projects in the target regions.

20. **Impact.** The ultimate development impact of the proposed investment will be increased contribution of investee companies and projects to economic growth, improved corporate governance in investee companies and projects, and reductions in greenhouse gas emissions in ADB's DMCs.

### III. THE FINANCIAL INTERMEDIARIES

#### A. Clean Resources Asia Growth Fund

##### 1. Sponsor and Ownership

21. The CRAG Fund is sponsored by CLSA Capital Partners (CLSACP). CLSACP is a wholly owned subsidiary of the CLSA Group, an independent brokerage and investment group that has been operating in Asia since 1986. CLSACP has in excess of \$2.7 billion of assets under management across ten funds. The CRAG Fund is part of CLSACP's Clean Resources Capital (CRC) platform, which also includes four public equity funds, all of which focus on the shared theme of "clean and green" investing. The CRAG Fund is a Cayman Islands exempted limited partnership.

##### 2. Governance Structure

###### a. Management

22. **General partner.** The general partner of the fund is CLSA Clean Resources Asia Growth Management Limited, a Cayman Islands exempted company, which is wholly owned by CLSA and will be responsible for all investment and disposition decisions on behalf of the CRAG Fund.

23. Although this is a first-time fund team, its skill set—which combines clean energy and environment project development, corporate finance, operations, and equity (including private equity) transactional experience—is an appropriate combination of talents for the needs of the fund. Additionally, beyond the staff working directly on the fund team, the fund's operations will receive support through CLSACP's institutional experience and its lessons learned from investing in private equity in Asia over the past dozen years, as well as through other specific individuals within CLSACP and throughout CLSA, including support functions. The fund's investment committee will also represent an important contribution to the human resource capacity of the fund.

###### b. Corporate Governance

24. The CRAG Fund will have an advisory board consisting of representatives of the limited partners, including ADB.

###### c. Risk Management

25. The general partner will manage risk through its investment process, which involves several layers of approval, and through its investment committee, which is composed of members with extensive experience in clean energy and investment management.

### **3. Business Overview and Strategy**

#### **a. Investment Objectives**

26. The CRAG Fund seeks to leverage the domain knowledge and industry contacts of its sponsor's clean technology platform. The CRAG Fund will capitalize on its management team's United States and Asian clean technology experience and global network of clean technology investors to identify and invest in (i) proven clean technologies for application in Asian markets, (ii) critical elements of the Asia-based supply chain for clean resource technologies, and (iii) high-growth clean technology companies engaged in expanding sales volumes and production capacities.

#### **b. Investment Strategy**

27. The CRAG Fund intends to invest primarily in operating businesses within the global clean technology sector at the growth or expansion stage of development that have revenues and operations in Asian markets.

### **B. Renewable Energy Asia Fund**

#### **1. Sponsor and Ownership**

28. The REA Fund will be a limited partnership registered in England pursuant to the Limited Partnerships Act 1907. The general partner will be REAF General Partner, a Scottish limited partnership. The fund will be managed by Berkeley Energy, a first-time fund manager set up in 2007 to establish and manage the REA Fund. The REA Fund seeks to invest in renewable energy infrastructure projects in Asia, with a focus on India, the Philippines, and other countries in Southeast Asia. The management team is based in London and Manila, and is in the process of setting up an office in India. The REA Fund will be owned by its investors.

#### **2. Governance Structure**

##### **a. Management**

29. The REA Fund will be managed by the team of Berkeley Energy, an English limited liability partnership. Although this is a first-time fund management team, its skill set, which combines project development, corporate finance, operations, and equity transactional experience, is an appropriate combination of talents for the needs of the REA Fund.

##### **b. Corporate Governance**

30. The REA Fund will have a strategic advisory board and an investor advisory committee comprised of representatives of the REA Fund limited partners selected by the general partner (and will include ADB).

##### **c. Risk Management**

31. The REA Fund manager will manage risk through its investment process, which involves several layers of approval, and through its investment committee, which is composed of members with extensive experience in clean energy and investment management.

### **3. Business Overview and Strategy**

#### **a. Investment Objectives and Policies**

32. The REA Fund will invest into post-permitting renewable energy projects and project developers using proven technologies in, primarily, India and the Philippines, generating project revenue through green electricity, carbon credits, and/or energy by-products.

#### **b. Investment Strategy**

33. Over the course of its 5-year investment period, the REA Fund's strategy will be to mature and consolidate investments into operating portfolios. The REA Fund will seek to make investments in renewable energy projects and project developers in India, the Philippines, and other DMCs. Targeted renewable technologies will be wind, small hydro, and other proven technologies, in projects that are in the post-permitting stage.

## **IV. THE PROPOSED ADB ASSISTANCE**

### **A. ADB Assistance and Transaction Structure**

34. ADB proposes to make equity investments of up to \$20 million in each fund, or 25% of the total commitments in respect of each fund, whichever is less. ADB will not be the single largest investor in either fund.

35. The targeted CRAG Fund size is \$200 million, and the targeted REA Fund size is €150 million.

### **B. Justification for ADB Assistance**

36. There are a number of justifications for ADB's support of these investments. First, ADB will have a catalytic role in the fund-raising being undertaken by the funds. Even though the funds have already achieved first closings, ADB's participation will help them achieve the target fund size, and will assist in raising funds from potential investors that gain confidence from ADB's decision. This will help to develop the capital markets in the region by filling the gap that currently exists with regard to capital for clean energy projects.

37. Another important value addition of ADB's investment in the funds arises from the requirement that sustainable development issues and concerns are addressed in every investee project of the funds. ADB's environmental and social safeguard policies and procedures will help to guide the funds at every step in ensuring the sustainability of their future clean energy projects. This is an important value addition, since the funds' target countries frequently possess fragile and exploited environments as a result of prior uncontrolled industrial activity, as well as the possible existence of vulnerable communities including indigenous groups or ethnic minorities who may be adversely affected, and to which ADB's social safeguard policies and procedures may apply.

38. Lastly, it is also hoped, given the significant need for private investments in the clean energy sectors of the funds' target countries, that ADB's intervention through the funds will help mobilize capital to support other private equity funds to pursue this path. This demonstration effect will help to develop a class of new fund managers and financial professionals in the sustainability sectors in the target regions.

## V. POLICY COMPLIANCE

### A. Environment and Social Safeguards

39. ADB's investment in the funds is classified as category FI under ADB's Safeguard Policy Statement (2009). The funds will each be required to establish and implement an appropriate environmental and social management system (ESMS) to ensure that its investee companies meet national laws and ADB's requirements in the countries in which these companies are located. ADB will coordinate with the respective fund managers to ensure that the ESMS is adopted before disbursement for the first investment, and guide the fund managers in environmental and social safeguards due diligence, monitoring, and reporting.

### B. Anticorruption Policy

40. The fund managers were advised of ADB's Anticorruption Policy (1998, as amended to date) and policy relating to the Combating of Money Laundering and the Financing of Terrorism (2003). Consistent with its commitment to good governance, accountability, and transparency, ADB will require the funds' general partners, managers, and sponsors to institute, maintain, and comply with internal procedures and controls following international best practice standards for the purpose of preventing corruption or money laundering activities or the financing of terrorism, and covenant with ADB to refrain from engaging in such activities. The investment documentation between ADB and the funds will further allow ADB to investigate any violation or potential violation of these undertakings.

### C. Assurances

41. Consistent with the Agreement Establishing the Asian Development Bank, the Government of India will be requested to confirm that it has no objection to the proposed assistance to the REA Fund.<sup>9</sup> Following the approval of the proposed investment by ADB's Board of Directors, ADB will enter into suitable documentation, in a form and substance satisfactory to ADB.

## VI. RECOMMENDATION

42. I am satisfied that the proposed equity investments would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the investment of up to \$20,000,000 in the Clean Resources Asia Growth Fund and up to \$20,000,000 in the Renewable Energy Asia Fund from ADB's ordinary capital resources, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Haruhiko Kuroda  
President

4 November 2010

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<sup>9</sup> The Government of India's no objection will be sought for the REA Fund due to the high likelihood that investments from the REA Fund will be made in India subsequent to ADB's investment in the fund.

## DESIGN AND MONITORING FRAMEWORK

<b>Design Summary</b>	<b>Performance Targets and Indicators with Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
<p><b>Impact</b></p> <p>Increased contribution of investee companies and projects to the economy</p> <p>Improved corporate governance in investee companies and projects</p> <p>Reductions in greenhouse gas emissions</p>	<p>By time of fund's exit, investee companies and projects increase net income and taxes paid by 100% and 100% over levels at time of investment</p> <p>International standards for financial reporting and corporate governance established in 100% of funds' investment companies by 2019</p> <p>Savings in greenhouse gas emissions of 556,246 tCO<sub>2</sub>/year<sup>a</sup></p>	<p>The funds' quarterly and annual reports</p> <p>The funds' quarterly and annual reports</p> <p>ADB evaluation reports</p>	<p><b>Assumptions</b></p> <p>The fund managers invest in opportunities capable of generating commercially attractive returns.</p> <p>Investees of the respective funds are willing to accept the respective fund's advice to improve their business operations.</p>
<p><b>Outcome</b></p> <p>Increased access to finance and expertise in clean energy projects and companies in the target regions<sup>b</sup></p>	<p>Investors' committed capital is fully drawn down by 2015</p> <p>The funds invest in at least 16 renewable energy and clean technology projects by the end of their respective commitment periods<sup>c</sup></p> <p>Institutions in which the fund invests are compliant with ADB's Safeguard Policy Statement (2009)</p>	<p>The funds' quarterly and annual reports</p> <p>The funds' quarterly and annual reports</p> <p>ADB evaluation reports</p>	<p><b>Assumptions</b></p> <p>Targeted DMC governments maintain legal and regulatory frameworks that facilitate private equity investments in clean energy projects.</p> <p>The fund managers find attractive clean energy investment opportunities.</p> <p>Third-party debt and other financing schemes are available to provide leverage for the funds' investments.</p>
<p><b>Output</b></p> <p>The funds and their policies are established as planned</p>	<p>The funds raise their target sizes by 2011</p> <p>An ESMS is established by each fund.</p>	<p>An ESMS document satisfactory to ADB is approved by the fund and submitted to ADB before disbursement for the first subproject.</p>	<p><b>Assumption</b></p> <p>There is market interest to invest in clean energy projects and companies in targeted DMCs.</p>

Activities with Milestones	Inputs
<p><b>1. Operational arrangements</b></p> <p>1.1 Fund legal documentation (limited partnership agreement, subscription agreement, fund management agreement, etc.) are executed as appropriate by Q1 2011.</p> <p><b>2. Financing arrangements</b></p> <p>2.1 <b>CRAG Fund:</b> Fund sponsor invested \$20 million and institutional investors invested \$50 million for a first closing of the fund in November 2009. ADB invests \$20 million by second closing of the fund in Q1 2011. Other investors invest at least \$110 million by final closing in Q1 2011.</p> <p>2.2 <b>REA Fund:</b> Fund manager invested €1 million and institutional investors invested €50 million for a first closing of the fund in December 2009. Institutional investors invested an additional €7 million for a second close in June 2010. ADB invests \$20 million by third closing of the fund in Q1 2011. Other investors invest at least €72 million by final closing in Q1 2011.</p> <p><b>3. Investment activities</b></p> <p>3.1 Each fund promotes itself in the market, and attracts attention from project sponsors on an ongoing basis (approximately 2009–2014).</p> <p>3.2 Each fund evaluates these opportunities and selects projects for financing as appropriate (approximately 2009–2014).</p> <p>3.3 Each fund adds value to investments over time (approximately 2010–2021).</p> <p>3.4 Each fund seeks appropriate exit opportunities, such as strategic buyouts or preparing companies for initial public offerings, and achieves exits from investments (approximately 2014–Q2 2022).</p>	<p>ADB: \$20 million per fund, not to exceed 25% of either fund, whichever is less</p>

tCO<sub>2</sub> = tons of carbon dioxide, ADB = Asian Development Bank, APEC = Asia-Pacific Energy Research Center, DMC = developing member country, ESMS = environmental and social management system, IEA = International Energy Agency, IRR = internal rate of return.

<sup>a</sup> This calculation was based on the assumption that the Asia-wide proxy emissions factor is 793.73 tCO<sub>2</sub>/gigawatt-hour (GWh), and the assumption that the funds will in aggregate deliver at least 400 megawatts (MW) of clean energy power generation. Hence, 400 MW x 8,760 hours/year x 20% capacity factor x 793.73 tCO<sub>2</sub>/GWh = 556,246 tCO<sub>2</sub>/year.

<sup>b</sup> CRAG Fund: 70% in the People's Republic of China and India, 30% in Indonesia and other developing member countries. REA Fund: 50% in India, 25% in the Philippines, and 25% in other developing member countries.

<sup>c</sup> In 2022 for CRAG Fund, assuming final closing is done by 2010, investment period by 2014, divestment period including 2-year extension by 2022. In 2021 for Berkeley, assuming final closing is done by 2010, investment period by 2014, divestment period including 2-year extension by 2022.

Source: Asian Development Bank.