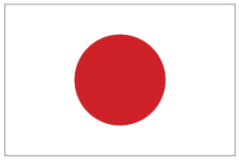
Clean Energy Financing Partnership Facility

Annual Report 2017



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ABBREVIATIONS

ACEF	–	Asian Clean Energy Fund
ACM	–	Annual Consultation Meeting
ADB	–	Asian Development Bank
CCS	–	carbon capture and storage
CCSF	–	Carbon Capture and Storage Fund
CCSC	–	Climate Change Steering Committee
CEF	–	Clean Energy Fund
CEFPF	–	Clean Energy Financing Partnership Facility
CEWG	–	Clean Energy Working Group
CFPS	–	Canadian Climate Fund for the Private Sector in Asia
PRC	–	China, People's Republic of
CO_2	–	carbon dioxide
DC	–	direct charge
DMC	–	developing member country
DMF	–	design and monitoring framework
GCI	–	grant component of investment
GHG	–	greenhouse gas
REG	–	regional
TA	–	technical assistance
TALL	–	technical assistance linked to loan

WEIGHTS AND MEASURES

MW	–	megawatt
TWh-eq	–	terawatt-hour equivalent
tCO_2	–	tons of carbon dioxide

NOTE

In this report, "$" refers to US dollars

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I. HIGHLIGHTS AND KEY ACHIEVEMENTS

1. The Clean Energy Financing Partnership Facility (CEFPF or the Facility) was established by the Asian Development Bank (ADB) in April 2007, to assist developing member countries (DMCs) improve energy security and transit to low-carbon use through cost-effective investments, particularly in technologies that result in greenhouse gas (GHG) mitigation (Appendix 1). CEFPF is composed of the Clean Energy Fund (CEF), the Asian Clean Energy Fund (ACEF), the Carbon Capture and Storage Fund (CCSF) and the Canadian Climate Fund for the Private Sector in Asia (CFPS).[1] The Facility contributes to the energy sector in achieving the scaled up ADB's annual target set in September 2015, ADB pledged to double its annual climate financing to $6 billion by 2020, with $4 billion for climate mitigation and $2 billion for climate adaptation. The energy sector aims to contribute about $3 billion to climate mitigation. The overall implementation progress and operational results of CEFPF from 01 January to 31 December 2017, measured against the design and monitoring framework (DMF), are provided in this 2017 Annual Report.[2] The DMF is attached as Appendix 2.

2. **CEFPF Progress Towards Targets.** The Facility's progress towards the 2020 targets is encouraging as it continues to provide critical financial support to clean energy projects. In 2017, the Facility provided a balance of both concessional and grant financing for technical assistance to enhance capability building and leverage financing in infrastructure and investments in clean energy and renewable energy. Since the Facility was established, it has allocated $228.5 million to support 174 projects[3] covering 37 DMCs and leveraging about $6.5 billion of clean energy investment. The Facility is expected to contribute about 7.0 terawatt-hour equivalent (TWh-eq) per year of energy savings, 1,569.4 megawatt (MW) installed renewable energy capacity and 5.4 TWh per year of renewable energy generation and 9.4 million tons of carbon dioxide (tCO_2) emission reduction per year (Figure 1).

3. **Promotion of Renewable Energy and Smart Grid Technology.** One of the priority areas for the year is to support renewable energy and deploy new technologies. Two regional projects featured in this 2017 annual report will promote the use of renewable energy and facilitate the deployment of smart grid systems in the region. These projects are the *REG: The University of South Pacific: Campus Smart Grid Project* that will promote the use of renewable energy and deploy smart grid technologies in six campuses in the Pacific region and the *REG: Regional Cooperation on Renewable Energy Integration to the Grid* that will facilitate integration of renewable energy into the grid in the Central and West Asia region. A project of note is the output based aid (OBA) approach through the grant component of investment (GCI) for *Bangladesh (BAN): Additional Financing to Loan 2769 for Solar Irrigation Component* for an investment facility which will finance renewable energy projects in the Bangladesh.

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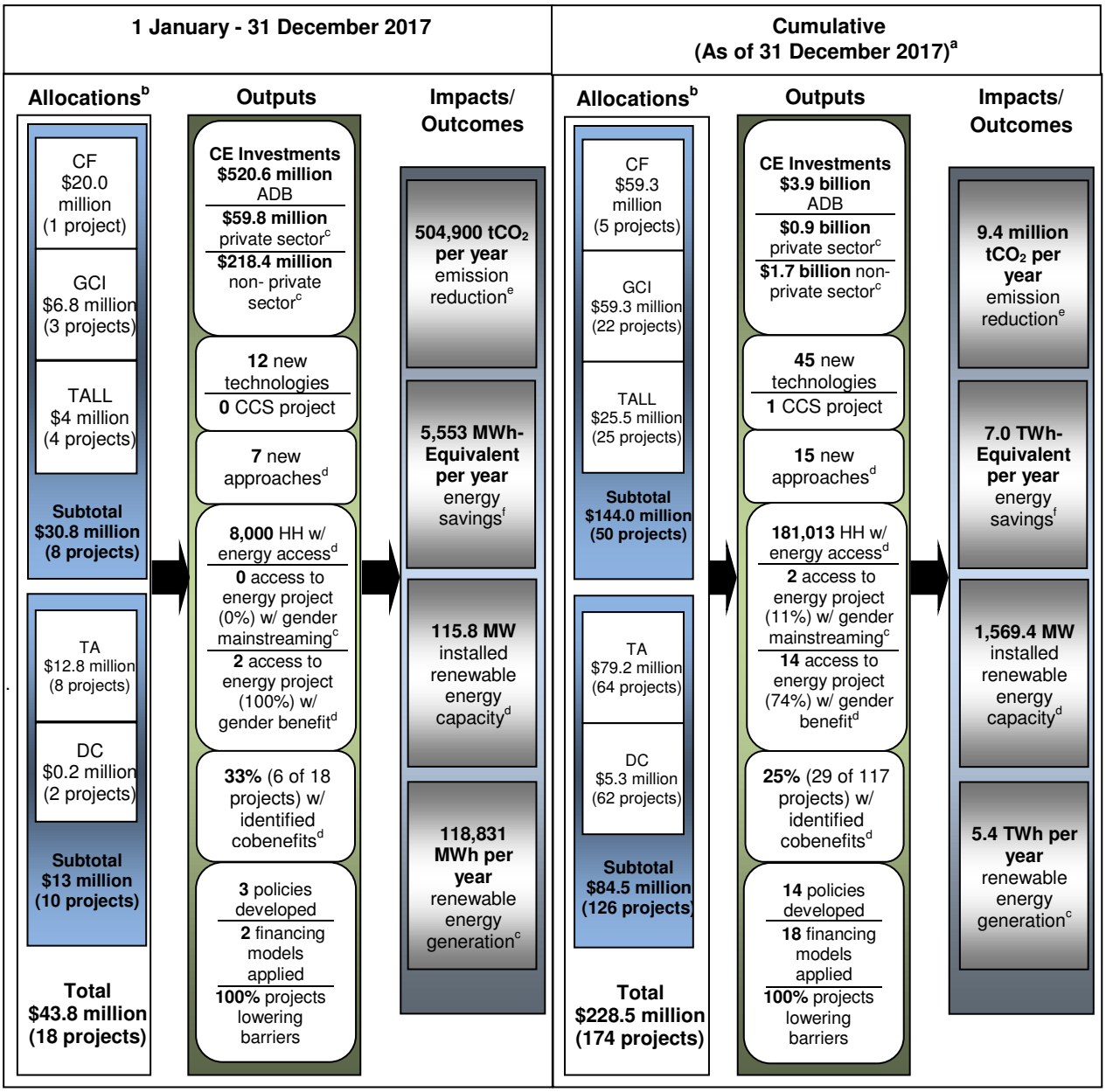
[1] The multidonor Clean Energy Fund is supported by the governments of Australia, Norway, Spain, Sweden and the United Kingdom; the single donor Asian Clean Energy Fund is supported by the Government of Japan; the Carbon Capture and Storage Fund is supported by the Global Carbon Capture and Storage Institute and the Government of the United Kingdom; while the Canadian Climate Fund on the Private Sector in Asia is supported by the Government of Canada.

[2] In monitoring and reporting on the facility's financial status and results, CEFPF considers all project allocations authorized by the Climate Change Steering Committee. Further, phrases "As of 31 December 2017" and "To date" refer to CEFPF's cumulative performance from the start of operations in the fourth quarter of 2007 up to the current reporting period.

[3] Excludes three adaptation projects that were provided allocation under the Canadian Climate Fund for the Private Sector in Asia.

Figure 1: CEFPF Activities Toward Outputs, Outcomes and Impacts



CE= clean energy, CEFPF = Clean Energy Financing Partnership Facility, DC = direct charge, GCI = grant component of investment, HH = households, MW = megawatt, MWh = megawatt hour, RE = renewable energy, TWh = terawatt hour, TA = technical assistance, TALL = technical assistance linked to loan, tCO_2 = ton of carbon dioxide.

[a] Includes adjustments made following approval or withdrawal of projects.

[b] Allocation refers to the allocation authorized by the Climate Change Steering Committee for projects but excludes three projects on adaptation with authorized allocation under the Canadian Climate Fund for the Private Sector in Asia. These numbers are not the same as those cited in paragraph 50 which reports on all funding allocations of CEFPF including the three adaptation projects under the Canadian Climate Fund for the Private Sector in Asia.

[c] Performance indicator effective in 2014.

[d] Performance indicator effective in 2011.

[e] Covers all clean energy investments attributed to CEFPF financing, including emission reductions from renewable energy projects.

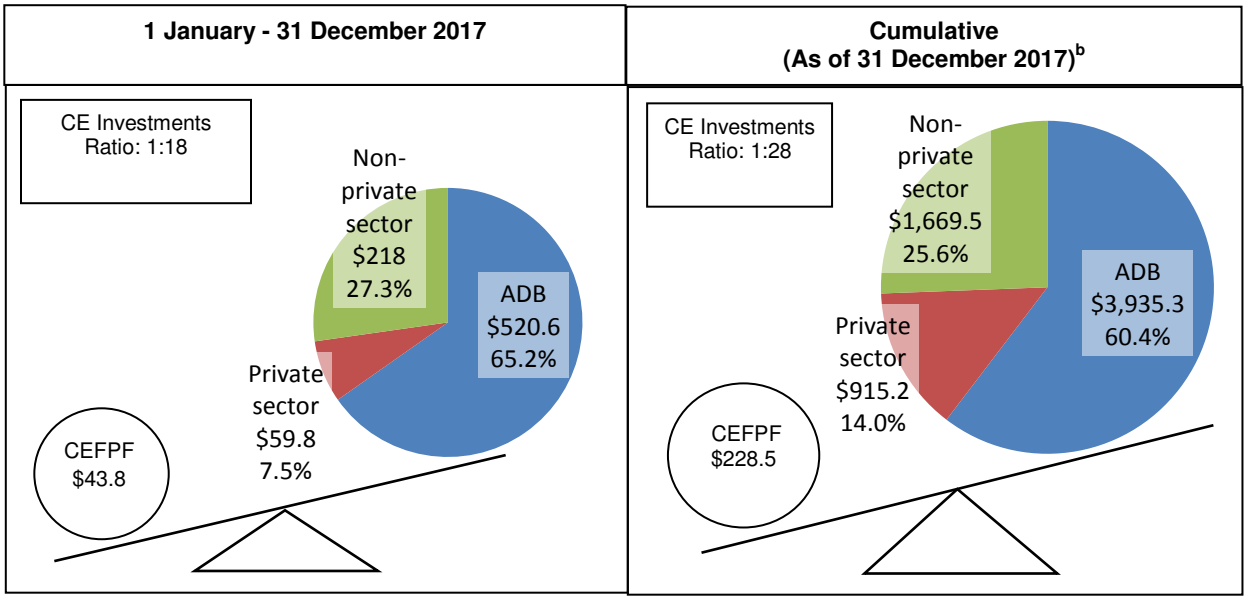
[f] Covers only energy efficiency investments attributed to CEFPF financing.

Note: The number of projects includes adjustments for cofinancing within the facility.

Source: ADB estimates.

4. **CEFPF Leverage Ratio.** In 2017, CEFPF's total project allocations of $43.8 million[4] is expected to leverage about $520.6 million of ADB clean energy investments, supporting ADB's institutional annual target where energy sector is expected to contribute about $3 billion to climate mitigation. It will also leverage about $59.8 million and $218.4 million of private sector and non-private sector clean energy investments, respectively. With a leverage ratio of 1:18, every $1 of CEFPF financing translates to $18 dollars of clean energy investments which can be broken down to $12 of ADB clean energy investments and $6 of private and non-private sector clean energy investments.[5] The total cumulative CEFPF project allocation is currently at $228.5 million[6], leveraging $3.9 billion in ADB clean energy investments, $915.2 million private sector clean energy investments, and $1.7 billion non-private sector clean energy investments; and resulting to a leverage ratio of 1:28 (Figure 2).

Figure 2. Leveraging ADB, Private Sector and Non-private Sector CE Investments[a] ($ millions)



ADB = Asian Development Bank, CE = clean energy Source: ADB estimates.

[a] Includes adjustments made following approval or withdrawal of projects.

[b] Private sector investments refer to volume of financing mobilized, including equity, loans and guarantees) from private enterprises or financial institutions such as banks, private companies, private pensions funds, and insurance companies; excluding resources from multilateral/regional development banks. Non-private sector investments refer to volume of financing mobilized from governments including other donors and partner governments, united nation agencies, and multilateral/regional development banks.

5. **Continued Support of Financing Partners of CEFPF**. During the second semester 2017, Norway remitted a new replenishment for CEFPF. Coordination with Office of Cofinancing Operations was conducted for a new instrument of contribution for their continued support to multi donor Clean Energy Fund. Earlier in the year, the second remittance from United Kingdom

[4] Amount excludes fees.

[5] Private sector investments refer to volume of financing mobilized, including equity, loans and guarantees) from private enterprises or financial institutions such as banks, private companies, private pensions funds, and insurance companies; excluding resources from multilateral/regional development banks. Non-private sector investments refer to volume of financing mobilized from governments including other donors and partner governments, united nation agencies, and multilateral/regional development banks.

[6] Amount excludes fees.

was made as part of the multi-donor Clean Energy Fund to support renewable energy technical assistance projects. SDSC in cooperation with the Office of Cofinancing Operations continuously coordinates with existing financing partners and continues to look for new contributors to ensure that the Facility will have funds available to support innovative clean energy projects.

6. **Design and Monitoring Framework Review 2017.** The Facility is on track to achieve most of its targets by 2020, but for some indicators, significant progress is needed to be able to meet the target numbers by 2020. There is a need to update the DMF to reflect the changes within the Facility itself and to better reflect the donor inputs for targets that have evolved since the start. The Facility has already achieved its targets for leveraged clean energy investments from ADB and non-private sector; and number of introduced approaches or methodologies to promote clean energy and/or CCS. The increase in leveraged financing reflects the increase in ADB's investment portfolio of projects with clean energy components and increased cofinancing with other donors and fund facilities including the Green Climate Fund and the Strategic Climate Fund – Scaling Up Renewable Energy Program. The number of introduced approaches or methodologies to promote clean energy and/or CCS has increased significantly in the last three years indicating that ADB projects have become more innovative and have used lessons learned from completed projects to promote clean energy in the DMCs. Alternatively, the agreement for the Canadian Climate Fund for the Private Sector in Asia (CFPS) under CEFPF will close in 2018 and the Facility will no longer extend support for concessional financing. This fund was a major contributor for the renewable energy 2020 target indicators which were based on the expectation that additional funds (or funds of a similar nature) would be added to the Facility. As additional funds were contributed to ADB, but outside the Facility, CEFPF targets may need to be updated. Discussions with the financing partners also confirm that there is a need to focus in innovation and pilot clean energy technologies. ADB is developing the proposed update on the DMF to address this context and some target values will be adjusted based on the projections for succeeding years using data from 2008 to 2017. Changes will also be proposed in the reporting mechanism and assumptions to better capture the benefits of supported projects. The final update of the DMF will be guided by consultations and agreements with the financing partners.

II. RESULTS FRAMEWORK

7. The design and monitoring framework (DMF) remains to be the measure for judging CEFPF's performance against its objectives and targets, and reporting its results. This section provides a summary of the progress on CEFPF's outputs, outcomes and impacts.[7] The DMF is provided in Appendix 2.

A. Impacts

8. The target impact is two-fold: (1) to contribute to improved energy access and security in DMCs and (2) to decrease the rate of climate change. These targets are to be measured by:

[7] In monitoring and reporting the facility's financial status and results, ADB considers all project allocations authorized by the Climate Change Steering Committee (CCSC), which may include project allocations still for concurrence by the Government of Japan and/or under consideration by ADB.

(i) Average CO_2 emissions per unit of GDP in participating DMCs is maintained at or lowered from 2006 level, by year 2030;
(ii) Average electrification rates in participating DMCs increased from 2006 level, by year 2030; and
(iii) Average percentage of RE share in energy mix in participating DMCs is maintained at or increased from 2006 level by year 2030.

B. Outcomes

9. The target outcome, to increase the use of clean energy in DMCs, is measured by:

(i) Expected Cumulative CO_2 emission reduction in participating DMCs of 20 million tCO_2 per year by 2020;
(ii) Expected Cumulative energy savings in participating DMCs of 18 TWh-equivalent per year by 2020;
(iii) Expected Cumulative installed renewable energy capacity in participating DMCs of 3,500 MW by 2020; and
(iv) Expected Cumulative renewable energy generation in participating DMCs of 10 TWh per year by 2020

C. Progress Towards Impacts and Outcomes

10. CEFPF's performance will be measured against target impacts and outcome at the completion of all projects in its portfolio, noting that a project's outcome is determined at project completion while the impact is often only achieved long after project implementation. Currently, ADB tracks projects' contributions and reports on progress by monitoring the implementation of all financed projects in its portfolio. Specifically, CEFPF accounts the contributions to energy savings, renewable energy capacity installed, renewable energy generation and CO_2 emissions reduction of projects in its portfolio. The guidelines on monitoring and reporting of results are provided in Appendix 3.[8]

11. CEFPF outcome is primarily measured from the expected contributions of concessional financing (CFs), grant component of investments (GCIs) and technical assistance linked to loan projects (TALLs), including project preparatory technical assistance of loan projects in the portfolio. Table 1 presents a summary of the progress towards outcomes and impacts while details are presented in Appendix 4.

[8] The Clean Energy Funds' Guidelines on Monitoring and Reporting of Results, applied in measuring the facility's performance against target outputs, outcomes and impacts, is a standard appendix to CEFPF's Annual Report and must be read together with the design and monitoring framework.

Table 1: Expected Progress Towards Outcomes and Impacts

Indicator	Target (By 2020)	1 January - 31 December 2017	Cumulative (As of 31 December 2017)[a]
Cumulative CO_2 emission reduction in participating DMCs (tCO_2 per year)	20 million	504,900	9,441,308
Cumulative energy savings in participating DMCs (MWh-equivalent per year)	18 million	5,553	7,013,959
Cumulative installed renewable energy capacity in participating DMCs (MW)[b]	3,500	116	1,569
Cumulative renewable energy generation in participating DMCs (MWh per year)[c]	10 million	118,831	5,377,955

CO_2 = carbon dioxide, DMC = developing member country, MW = megawatt, RE = renewable energy, MWh = megawatt-hour, tCO_2 = ton of carbon dioxide.
[a] Includes adjustments made following approval or withdrawal of projects.
[b] Performance indicator effective beginning 2011.
[C] Performance indicator effective beginning 2014. The estimates include an allocation in 2013, when monitoring on indicators was initiated.
Source: ADB estimates

12. In 2017, CEFPF financed 18 projects that are expected to contribute to CO_2 emission reduction, energy savings, installed renewable energy capacity and renewable energy generated. One of the projects contributing to these targets is the *BAN: Additional Financing to Loan 2769 for Solar Irrigation Component* (Box 1).

Box 1. Bangladesh: Additional Financing to Loan 2769 for Solar Irrigation Component (Clean Energy Fund)

The Clean Energy Fund under the Clean Energy Financing Partnership Facility (CEFPF) is providing $3 million as output-based aid (OBA) grant to the solar irrigation component of the project BAN: Power System Efficiency Improvement Project. This component will scale-up solar power irrigation solutions to poor farmers in Bangladesh by avoiding diesel use with solar irrigation systems through an OBA mechanism which will help subsidize the difference between the total cost and the farmers' capacity to pay. An estimated 13,624 tons of CO_2 emission reduction annually and at least 18.3 MWp solar generation capacity are the expected benefits of the solar irrigation component, among others. The OBA grant from CEFPF will form part of the project cost also consisting of a sovereign loan of $20 million from ADB and a $22.442 million grant from the Strategic Climate Fund – Scaling Up Renewable Energy Program. The OBA grant support will be distributed among the beneficiaries to bring down the debt to be paid by each sponsor. Aside from co-financing the solar irrigation system, the OBA grant support will also lower the barrier to the solar irrigation market development in Bangladesh through on-the-job training and awareness campaign.

D. Outputs

13. Outputs are the physical and/or tangible goods and services delivered. Based on the DMF, ADB monitors six general outputs: (i) clean energy investments in DMCs increased; (ii) deployment of new technologies with strong demonstration effect facilitated; (iii) new approaches and/or methodologies to promote clean energy and carbon capture and storage (CCS) introduced; (iv) benefits from access to energy delivered; (v) health, environment and productivity benefits provided; and (vi) barriers to clean energy and CCS technology investments lowered.

14. **CE Investments in DMCs Increased.** By 2020, clean energy funds aim to leverage $4 billion of ADB clean energy investments in DMCs. It is also targeting to leverage $1.2 billion of private sector investments and $1.2 billion of non-private sector investments for clean energy. For 2017, the Facility leveraged clean energy investments of about $520.6 million from ADB, the private sector and non-private sectors. Cumulatively, CEFPF is on track to reach its leverage target with about $3.9 billion of clean energy investments from ADB (Table 2). It has also leveraged $915.2 million CE investments from the private sector. And as of 2017, it has surpassed the target for leveraged CE investments from the non-private sector with about $1.7 billion.

15. The *BAN: Additional Financing to Loan 2769 for Solar Irrigation Component* will significantly contribute to the Facility's clean energy investment target (Box 1). The Output-based Aid (OBA) grant from CEFPF will form part of the project financing also consisting of a sovereign loan of $20 million from ADB and a $22.44 million grant from the Strategic Climate Fund –Scaling Up Renewable Energy Program. For the grant financing of the *REG: The University of South Pacific: Campus Smart Grid Project*, the newly established High Level Technology Fund of ADB is financing the TA study to support the installation of the 5.5 MW solar PV and 7 MWh energy storage systems in six campuses across the Pacific while CEFPF will support installation of the smart grid system and the training on smart grids and renewables (Box 2). A project that will facilitate clean energy investment through credit guarantees is the regional technical assistance *REG: Additional Financing Project Development and Investment Facilitation* (Box 2). The project will help support finance institutions to evaluate and process funding applications from clean energy small-to-medium enterprises (SMEs), increase the clean energy portfolio of Credit Guarantee Institutions (CGIs) and Insurance Agencies (IAs) in the Asia Pacific Region.

Table 2: Expected Leveraged Clean Energy Investments in ADB's DMCs

Indicator	Target (By 2020)	1 January - 31 December 2017	Cumulative (As of 31 December 2017)[a]
CEFPF Allocations		$43.8 million	$228.5 million
ADB's clean energy investments in DMCs leveraged	**$ 4 billion[b]**	**$520.6 million**	**$3.9 billion**
CEFPF Funds - ADB Clean Energy Investments Leverage Ratio		1 : 12	1 : 17
Private sector clean energy investments leveraged [c]	**$ 1.2 billion**	**$ 59.8 million**	**$ 915.2 million**
Non-private sector clean energy investments leveraged[c]	**$ 1.2 billion**	**$218.4 million**	**$1.7 billion**
CEFPF Funds - Other Clean Energy Investments Leverage Ratio		1 : 6	1 : 11

ADB = Asian Development Bank, CEFPF = Clean Energy Financing Partnership Facility, DMC = developing member country.
[a] Includes adjustments made following approval or withdrawal of projects.
[b] This is the cumulative total target of the clean energy funds by 2020, supporting the $2 billion annual target of ADB.
[c] Performance indicator effective in 2014.
Source: ADB estimates.

Box 2. Regional: Additional Financing Project Development and Investment Facilitation (Clean Energy Fund)

The Clean Energy Financing Partnership Facility is providing $1 million as additional grant financing to a regional technical assistance which aims to support the promotion of renewable energy, energy efficiency and energy access in ADB's DMCs in line with ADB's Energy Policy, and to achieve ADB's long term strategic goals of sustainable energy development. The additional grant will (i) support finance institutions to evaluate and process funding applications from clean energy small-to-medium enterprises (SMEs), increase the clean energy portfolio of Credit Guarantee Institutions (CGIs) and Insurance Agencies (IAs) in the Asia Pacific Region; and (iii) lower the due diligence cost of clean energy investment application to the ADB Private Sector Operations Department. Specifically, the activities will (i) promote an additional 30 clean energy SMEs to Finance Institutions (FIs) and other potential investors; (ii) support the due diligence of 5 clean energy investment transactions of ADB Private Sector Operations Department, financing institutions, credit guarantee institutions (CGIs) or insurance agencies (IAs) in the clean energy sector; (iii) secure funding for 3 clean energy SMEs; (iv) create profiles of 20 investors, FIs, CGIs and IAs. In achieving these targets, the project can potentially mitigate 400,000 tons of CO_2 equivalent per year.

Regional: The University of South Pacific: Campus Smart Grid Project (Clean Energy Financing Partnership Facility)

The Clean Energy Financing Partnership Facility is providing $1.8 million grant to a project which will improve energy security and energy management in six campuses of the University of the South Pacific (USP) in six countries: Fiji, Samoa, Tonga, Vanuatu, Republic of Marshall Islands and Kiribati. The grant component of the investment project will be used for the installation of the smart grid systems in the six USP campuses, the procurement and operations of an electric bus for the main campus in Fiji, and certifiable capacity building program on renewable energy and smart grid. The smart grid system will maximize the utilization of produced renewable energy in the campus, and will contribute to sustainable demand and supply of electricity by using clean energy. It will help improve the respective countries' energy security since the university is one of the big consumers of power. Smart grid technology and electric vehicle are new to the Pacific region and their introduction in the campuses will showcase their positive impact and open opportunities for replication in the Pacific region. The project will also add great value in research and education by providing internationally recognized certificate on smart grid and renewable energy training. The project will install 5.5 MWp Solar PV and generate roughly over 6,000 MWh/year of renewable energy. The campus smart grid with integrated solar PV and storage systems will reduce an estimated 5,000 tons of CO_2 annually upon completion. About 29,000 students and university staffs will benefit from this project and all target countries are among the climate vulnerable countries.

16. **Deployment of New Technologies in DMCs.** Clean energy funds aims at the deployment of 55 new clean energy and/or CCS technologies in DMCs by 2020 and commencement of two CCS demonstration projects in identified priority countries by 2020. In 2017, eleven projects are expected to contribute to the demonstration and deployment of 12 new technologies in the DMCs such as smart grid, low carbon emission technologies, CCS, solar PV, energy efficient technologies and practices applicable to transport system, geothermal, solar PV for irrigation, energy storage, electric vehicle, light emitting diode, landfill gas utilization for power.

17. Cumulatively, 105 (about 60%) of CEFPF-supported projects are expected to contribute to the deployment of new technologies. Table 3 provides a summary of deployment of new technologies in DMCs while more details are in Appendix 5.

Table 3: Expected Deployment of New Technologies in DMCs

Indicator	Target (By 2020)	1 January - 31 December 2017	Cumulative (As of 31 December 2017)[a]
New clean energy/CCS technologies deployed	**55 technologies**	**12**	**45**
No. of contributing projects on technology deployment		*12*	*105*
No. of projects receiving allocation		*18*	*174*
% of contributing projects on technology deployment		*67%*	*60%*
No. of CCS demonstration projects in identified priority countries commencing[b]	**2**	-	**1**

CCS = carbon capture and storage, CE = clean energy, DMC = developing member country.
[a] Includes adjustments made following approval or withdrawal of projects.
[b] Performance indicator effective in 2011.

18. CEFPF supports projects that enable DMCs to further explore alternative options to reduce CO_2 emissions. In 2017, additional financing was provided to *REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia* to help better coordinate ongoing CCS activities of the Centres of Excellence and explore the expansion of the activities in some of the major fossil fuel consuming countries of Asia like India, Vietnam, Bangladesh and Kazakhstan. The grant component for the project *REG: The University of South Pacific: Campus Smart Grid Project* will install solar PV systems and smart grid system for the University of South Pacific in six campuses as well as introduce electric vehicle in the Fiji campus (Box 2).

Box 3. Regional: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia - Additional Financing (Carbon Capture and Storage Fund)

The Clean Energy Financing Partnership Facility is providing $1.5 million additional financing to technical assistance (TA) to support Carbon Capture and Storage (CCS) development. The TA has already established three Centres of Excellence (COEs), in PRC (at the Shanghai Jio Tong University and at the Guangdong Energy Development Institute (GEDI); and one COE in Indonesia (as knowledge partnership with Institute of Technology Bandung and LEMIGAS). The TA is also extending support to the preparation of the Gundih Pilot CCS project in Indonesia. While the TA has achieved its initial objective of creating institutional infrastructures for CCS promotion in PRC and Indonesia, the CCS technologies are still maturing. Further, the PRC and Indonesia seem to be considering the creation of legal/regulatory framework for advancing CCS. The additional financing from CEFPF will be used to help better coordinate ongoing CCS activities of the COEs and also explore the expansion of the activities in some of the major fossil fuel consuming countries of Asia like India, Vietnam, Bangladesh and Kazakhstan. The additional scope will only result in expanding the targets of the original outputs of the TA and help in the identification of the next generation of support for CCS in ADB DMCs.

19. Guided by the categories for stages in technology development/adoption, Table 4 summarizes how the Facility performed; with 12 of 18 projects this year, and 105 of 174 projects, in total, supporting technology development.

Table 4: Expected Technologies Deployed Distributed by Stages of Technology Development and/or Adoption

	1 January - 31 December 2017	Cumulative (As of 31 December 2017)[b]
Research and development	0	0
Demonstration	1	1
Deployment	4	16
Competitive/commercial[c]	7	28
No. of contributing projects on technology deployment	*12*	*105*
No. of projects receiving allocation	*18*	*174*

[a] Totals will not necessarily add-up because some projects cover more than one technology. Other projects are not credited with deployment but are valued as key interventions for lowering barriers to deploying clean energy technologies.
[b] Includes adjustments made following approving or withdrawal of projects.
[c] While there may be commercialization in some parts of the globe, technology adoption in a specific DMC may be weak due to barriers present.
Note: Based on Organization for Economic Co-Operation and Development (OECD) / International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris, and ADB estimates.
Source: ADB estimates.

20. **New Approaches and/or Methodologies Introduced.** The facility's DMF target is to supporting projects to introduce 15 new approaches and/or methodologies to promote clean energy and CCS in participating DMCs by 2020. A summary of new approaches and/or methodologies introduced for the year and in total is provided in Table 5. In 2017, allocation was approved for the *REG: Regional Cooperation on Renewable Energy Integration to the Grid* which will promote the increased use of clean energy in the target countries in Central and West Asia by providing a more favourable grid environment for renewable energy generators utilizing a regional cooperation mechanism (Box 4).

Box 4. Regional: Regional Cooperation on Renewable Energy Integration to the Grid (Asian Clean Energy Fund)

The Clean Energy Financing Partnership Facility is providing $1.5 million to a regional knowledge and support technical assistance (TA) which will promote the increased use of clean energy in the target countries by providing a more favourable grid environment for renewable energy generators utilizing a regional cooperation mechanism. The TA will evaluate the impact of adopting state-of-the-art clean energy technology, such as a renewable energy output forecast system and area balancing coordination to the region, providing capacity building on the use of such technology in daily power dispatching operation. By providing complex technical analysis, such as estimating of necessary balancing reserve, on behalf of the countries, the TA will lower barriers for the countries to new CE technologies. The expected outputs from the TA include (i) a regional cooperation framework to promote more renewable energy generation; (ii) demonstration of state-of-the-art clean technologies which strengthens grids to accept large scale renewable energy integration; (iii) a roadmap of renewable energy integration by country in regionally harmonized manner, which includes an investment list to enable the country's grid, ready to absorb large-scale renewable energy; and (iv) capacity building on the system operation of grid with renewable energy. Finally, the TA will contribute to the countries reducing CO_2 emission, mitigating climate change, and achieving NDC goals.

Table 5: Expected New Approaches and/or Methodologies[a]

Indicator	Target (By 2020)	1 January - 31 December 2017	Cumulative (As of 31 December 2017)[a]
New approaches/methodologies to promote clean energy/CCS introduced[b]	**15 approaches**	**7**	**15**
No. of contributing projects on new approach		*7*	*23*
No. of projects receiving allocation		*18*	*174*
% of contributing projects on new approach		39%	20%

CCS = carbon capture and storage, DMC = developing member country.
[a] Includes adjustments made following approval or withdrawal of projects.
[b] Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards.
Source: ADB estimates.

21. The regional Pacific project, *REG: The University of South Pacific: Campus Smart Grid Project* (Box 2) is an example of the support provided for the promotion of clean energy in non-energy sectors. The financing support is cross sector complementing the work to promote solar and smart grid integration in the Pacific Islands and at the same time providing facilities that would serve the six campuses of University of South Pacific showing that renewable energy for education facilities. This regional project is also a scale up of the demonstration site in the University of the South Pacific campus in Solomon Islands that will be replicated in other campuses in the region. The project will also add great value in research and education by providing internationally recognized certificate on smart grid and renewable energy training. This regional project illustrates the synergy between education and energy sectors.

22. **Benefits from Access to Energy Delivered**. In 2017, two projects will deliver access to energy benefits with support from the Facility. One of these is the *BAN*: *Additional Financing to Loan 2769 for Solar Irrigation Component,* a grant component of investment that will scale-up solar power irrigation solutions to poor farmers in Bangladesh by avoiding diesel use with solar irrigation systems through an output based aid mechanism by subsidizing the difference between the total cost of the irrigation system and the farmers' capacity to pay *(Box 1).* The other access to energy project is the grant for *REG: The University of South Pacific: Campus Smart Grid Project* which will promote the use of solar PV and install smart grid systems in the six USP campuses across the Pacific region (Box 2). About 29,000 students and university staffs will benefit from this project. Another project of note will facilitate future energy access in Indonesia using geothermal power, the Indonesia *INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia* (Box 5). The INO direct charge will conduct the initial study to assess the viability of the sites considering potential environmental and social impacts from geothermal project development.

23. To date, 19 projects are expected to contribute to the delivery of access to energy benefits, including gender benefits (Table 6). Two access to energy projects address gender concerns in their project designs. These are the *BAN*: *Additional Financing to Loan 2769 for Solar Irrigation Component* (Box 1) which will benefit local farmers including women farmers and the *REG: The University of the South Pacific: Campus Smart Grid Project* (Box 2) whose target includes increasing women participants in their certificate programs.

Box 5. Indonesia: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia (Clean Energy Fund)

Geothermal energy in Indonesia has the potential to help meet the country's rising electricity demand while contributing to a more sustainable energy mix. The Clean Energy Financing Partnership Facility is providing $75,000 direct charge allocation to support the development of potential geothermal sites in Indonesia. The direct charge will provide the funds required to: (i) conduct initial screening of social and environmental conditions of two potential sites for future geothermal power development; (ii) assess the environmental and social safeguard compliance risks of each site against applicable Indonesian National Legislation, ADB SPS 2009, and the World Bank environmental and social safeguards policies; and (iii) inform decision making on future development steps.

Table 6: Expected Access to Energy Benefits[a]

Indicator	Target (By 2020)	1 January - 31 December 2017	Cumulative (As of 31 December 2017)[a]
No. of projects with access to energy component		*2*	*19*
% of projects with access to energy component		*11%*	*16%*
No. of HHs provided with access to energy in participating DMCs[b]	**700,000**	**8,000**	**181,013**
HHs connected to electricity[b]	350,000	**8,000**	171,013
HHs connected to moderm fuels and/or efficient devices for cooking[b]	175,000	**0**	10,000
HHs connected to modern fuels and/or efficient devices for heating[b]	175,000	**0**	0
% of access to energy projects with gender mainstreaming[c]	**30%**	**0%**	**11%**
No. of contributing access to energy projects projects on gender mainstreaming		*0*	*2*
% of access to energy projects with gender concerns[b]	**80%**	**100%**	**74%**
No. of contributing access to energy projects on gender concerns		*2*	*14*

HH = households, DMC = developing member country.

[a] Includes adjustments made following approval or withdrawal of projects.

[b] Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards.

[c] Performance indicator effective in 2014.

Source: ADB estimates.

24. **Health and Productivity Benefits Provided**. Clean energy funds aim to finance projects that directly and indirectly provide health and productivity benefits derived from clean energy and/or CCS interventions, supporting a critical strategic agenda identified in ADB's Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008-2020, i.e. inclusive economic growth. Per DMF, clean energy funds aim for 50% of projects supported to deliver co-benefits on health and productivity in DMCs. In 2017, there are 2 projects expected to directly and indirectly contribute to the provision of health and productivity benefits (Table 7). One of the projects is the Bangladesh *Additional Financing to Loan 2769 for Solar Irrigation Component* which will increase agricultural productivity with the use of the solar PV for irrigation (Box 1). The other project is the Pacific project (Box 3) within which the provision of the solar PVs to the campuses will provide access to renewable energy that will directly benefit the students and faculty and in the long term will bring about productivity in the region through education.

Table 7: Expected Health and Productivity Benefits[a]

Indicator	Target (By 2020)	1 January - 31 December 2017	Cumulative (As of 31 December 2017)[a]
% of projects supported highlighting cobenefits on health and productivity[b]	**50%**	**33%**	**25%**
No. of contributing projects on cobenefits		**6**	**29**
No. of individuals employed[c]		TBD	7,349
No. of women employed[c]		TBD	267
% of women employed[c]		0%	4%
No. of contributing projects on employment		*1*	*6*

[a] Includes adjustments made following approval or withdrawal of projects.
[b] Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards.
[c] Performance indicator effective in 2014. The estimates include an allocation in 2013, the Indonesia: Sarulla Geothermal Power Generation Project when monitoring on indicators was initiated.
Note: The concessional financing of a project in 2017 would create employment but the number of jobs is not yet finalized.
Source: ADB estimates.

25. In general, projects supported by CEFPF are fully compliant with ADB's Safeguard Policy Statement covering involuntary resettlement, indigenous peoples and the environment. The projects also comply with ADB's Policy on Gender and Development and ADB's Operations Manual section on the incorporation of social dimensions into ADB operations. These policies promote the avoidance, minimization and mitigation of harmful environmental impacts, social costs and risks and also provide a platform for participation by affected people and other stakeholders in project design and implementation.

26. **Barriers to Clean Energy and CCS Technology Investments Lowered**. Clean energy funds measure the outputs on barriers lowered by tracking the projects with respect to the following targets: (i) 20 national and local policies enabling clean energy and CCS development in participating DMCs developed by 2020; (ii) 25 financing models suitable for bundling small clean energy and/or CCS investment applied in participating DMCs by 2020; and (iii) 100% of projects supported produce and/or disseminate knowledge products or contribute in building capacity to promote clean energy/CCS development in participating DMCs by 2020.

27. In 2017, all projects supported by CEFPF are expected to contribute to the lowering of barriers and enhancing the enabling environment to facilitate the deployment of clean energy and/or CCS technologies. To date, 19 projects are expected to help address policy barriers while 28 projects will contribute to lowering financing barriers. As targeted, all 174 projects[9] will produce and/or disseminate knowledge products or contribute to capacity building to promote clean energy/CCS development in DMCs. Of note is the TA for *PRC: Developing Cost-Effective Policies and Investment to Achieve Climate and Air Quality Goals in Beijing-Tianjin-Hebei Region — Additional Financing* (Box 6), and the direct charge *INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia* (Box 5). The TA for PRC will support in assessing the interaction of climate and clean air policies and identify policy and management approaches that will strengthen incentives for compliance with energy transformation and environmental objectives as well as study the health impacts of these policies. The INO Direct Charge will fund an initial study to assess the viability of the sites considering potential environmental and social impacts from geothermal project development.

[9] Excludes allocations to three projects on adaptation under the Canadian Climate Fund for the Private Sector in Asia.

This will consider biodiversity baseline, likely environmental considerations for project development, and potential impact on communities due to infrastructure development in the proposed areas.

Box 6. PRC: Developing Cost-Effective Policies and Investment to Achieve Climate and Air Quality Goals in Beijing-Tianjin-Hebei Region — Additional Financing (Clean Energy Fund)

The Clean Energy Financing Partnership Facility (CEFPF) is providing $75,000 as additional financing to a technical assistance (TA) which will use, expand, and tailor an existing model to the Beijing-Tianjin-Hebei (BTH) region to support the government in (i) assessing the interaction of climate and clean air policies; (ii) capturing co-benefits and identifying synergies between policies across sectors; (iii) taking measures that are cost-effective and well-coordinated within the BTH region; (iv) identifying policy and management approaches that strengthen incentives for plant-level compliance with energy transformation and environmental objectives; (v) projecting the impact of incentives created by market-based instruments to be established, such as the national emissions trading system; and (vi) studying the health impacts of policies. The additional financing from CEFPF will support a study which will conduct a detailed assessment on the energy sustainability performance of up to three strategically selected pilot provinces within the greater BTH region in line with ADB's priorities. The study will enable comparison, ranking and assessment of the success of energy and low carbon policies which determine the provinces' energy sustainability performance. CEFPF support will cover two junior researchers, organizing workshops and high-level meetings for stakeholder consultations and disseminating study results.

28. Table 8 presents CEFPF's performance summary on lowering the barriers to clean energy technology investments for 2017 and for the entire portfolio.

Table 8: Barriers to CE and CCS Technology Investments Expected to be Lowered

Indicator	Target (By 2020)	1 January - 30 June 2017	Cumulative (As of 30 June 2017)[a]
No. of projects receiving allocation		*18*	*174*
National or local policies enabling CE/CCS development in participating DMCs developed[b]	**20**	**3**	**14**
No. of contributing projects on policy development		*3*	*19*
Financing models suitable for bundling small CE/CCS investment applied in participating DMCs[b]	**25**	**2**	**18**
No. of contributing projects on financing models		*2*	*28*
% of projects producing/disseminating knowledge products or contributing to capacity building	**100%**	**100%**	**100%**
No. of contributing projects on knowledge products and/or capacity building		18	174
No. of projects that disseminate knowledge products, practices and information in a gender sensitive manner[c]		0	2
No. of knowledge products produced and/or disseminated[c]		9	29
No. of individuals trained[c]		608	6460
No. of women trained[c]		44	2118
% of women trained[c]		7%	33%
No. of trainings/conferences/workshops held[c]		34	161

CCS = carbon capture and storage, CE = clean energy, DMC = developing member country.
[a] Includes adjustments made following approval or withdrawal of projects.
[b] Total may not add-up due to coverage of policies or financing models by various projects.
[c] Performance indicator effective in 2014.
Source: ADB estimates.

29. The details on how each supported project contributes to CEFPF's target outputs are contained in Appendix 6 while the summary of CEFPF's performance for 2017 and to date against its target outputs are presented in Appendix 7.

E. Progress Toward Output, Outcome and Impacts – Adaptation Project Allocation

30. For 2017, Canadian Climate Fund for the Private Sector in Asia (CFPS) under the Clean Energy Financing Partnership Facility allocated $400,000 to the regional technical assistance *REG: Olam International Limited: Inclusive, Sustainable, and Connected Coffee Value Chain – Timor-Leste, Indonesia, Viet Nam, and Papua New Guinea* (Box 7). The TA will help smallholder coffee farmers benefit from inclusion in the coffee value chain by improving the productivity and quality of crops, and ensuring that these farmers are better prepared to cope with the negative consequences of climate change.

Box 7. Regional: Olam International Limited: Inclusive, Sustainable, and Connected Coffee Value Chain – Timor-Leste, Indonesia, Viet Nam, and Papua New Guinea (Canadian Climate Fund for the Private Sector in Asia)

The Canadian Climate Fund for the Private Sector in Asia (CFPS) under the Clean Energy Financing Partnership Facility is providing $400,000 to a transaction technical assistance (TRTA) that will support 20,000 smallholder coffee farmers, including at least 25% women farmers, across Timor-Leste, Indonesia, Viet Nam and Papua New Guinea. The TA will help these farmers benefit from inclusion in the coffee value chain by improving the productivity and quality of crops, and ensuring that these farmers are better prepared to cope with the negative consequences of climate change. CFPS resources will be utilized to support the climate adaptation component of the TA. Specifically, CFPS will support the following activities: (i) develop and provide training to farmers in climate smart agriculture; (ii) establish network of trial demonstration plots for good agricultural practices and climate smart agricultural practices at central, district, and village levels to design, implement and propagate the appropriate methodologies; and (iii) develop and provide training for 2,000 farmers in Viet Nam in innovative technologies for resource conservation, innovative technologies for climate adaptation, sustainable use of agrichemicals and organic inputs; and pollution control. It is envisioned to establish 130 trial demonstration plots of approximately 65 hectares for rehabilitation, renovation and replanting across Timor-Leste, Indonesia, Viet Nam and Papua New Guinea.

F. Actual Accomplishments and Progress of Projects

31. To date, CEFPF is supporting a total of 174 projects[10] which aims to contribute to the enhancement of energy security, access and decreased rate of climate change through increased use of clean energy. These projects target to leverage clean energy investments and lower policy, financing, and capacity barriers. A total of 164 projects have been approved for implementation by ADB. The other 10 projects have received Climate Change Steering Committee (CCSC) authorization, and are awaiting ADB approval. Of the ADB-approved projects, there were 104 projects, i.e. seven GCI, seven TALL, 38 technical assistance (TA), and 52 direct charges (DC), which have completed their proposed activities.[11] The remaining

[10] Excludes allocations to three projects on adaptation under the Canadian Climate Fund for the Private Sector in Asia.

[11] These numbers do not include projects which have completed their activities but will still process financial close and prepare completion reports. These projects will be reported on once they have obtained financial close and completion reports are made available (if required).

projects in the portfolio are progressing with no major issues, albeit some are experiencing delays which are not expected to provide significant repercussions on planned outputs, outcome and impacts.

32. **Completed Activities and Outputs.**[12] There were six TAs that were completed and financially closed in 2017 (Box 7). These completed projects were generally successful in achieving their designed outputs and outcome supporting clean energy development and promotion, specifically increasing access to energy, promoting solar energy technologies; and exploring biomass power generation technology deployment. The regional technical assistance *REG: Empowering the Poor Through Increasing Access to Energy* was completed in 2017. Within this TA, three TA allocations were approved for separate and distinct objectives and activities. The first allocation of $2 million financing was aimed at increasing energy access by promoting strategic approaches and partnerships to replicate and scale up access to modern, reliable and clean energy services among the region's poor. It supported the activities of the Energy for All (E4ALL) Partnership, a regional platform for coordination and cooperation on energy access projects. The E4ALL assisted ADB's operations departments to develop and scale-up energy access projects either through grant interventions or large-scale loans. These projects were implemented in Viet Nam, Pakistan, Myanmar, the Philippines and India. The second allocation amounting to $1 million was supplementary to cover application of output-based aid (OBA) and other results-based financing mechanisms, including market assessments and identification of market opportunities, development of project proposals and assistance in securing financing, establishment of guidelines, and pilot projects applying OBA and other results-based financing. The E4ALL assisted ADB's operations department in developing five individual projects in Cambodia, Viet Nam, Pakistan, Nepal and Myanmar using the OBA mechanism to provide poor households with access to affordable electricity. Guidelines on designing and processing of energy sector OBA were drafted and shared with the Operations Department for guidance in connection with new OBA proposals. The third allocation amounting $225,000 supported the Asia Solar Energy Forum (ASEF) to Scale Up Solar energy Development in Asia and the Pacific. This included the conduct of its meetings and general assemblies and the maintenance of its secretariat. This support deepened the capacity of ADB DMCs in solar energy development, sustain the momentum of the ASEF as an organization and a network, and strengthen the knowledge and technology platform.

33. The project preparatory technical assistance for the *AZE: Renewable Energy Development (Biomass Cogeneration) Project* was completed in 2017 which explored biomass power generation technologies and conditions in Azerbaijan, and conducted detailed feasibility studies on the construction of pilot biomass cogeneration plants in Oghuz and Agjabedi. Three biomass cogeneration plants using wheat straw, cotton stalk, and animal manure were proposed with total outputs of 10 MWe electricity and 8 MWth thermal capacities. Detailed feasibility study demonstrated that the proposed projects meet the criteria of efficient state-of-the-art biomass power plant. However, to achieve project financial viability, the required feed-in tariff was estimated at $0.10 – 0.17/kWh, which are much higher than the existing feed-in power generation tariff of $0.024- 0.026/kWh. To foster sustainable development of bioenergy in Azerbaijan, tariff reform including cross-subsidies to renewable energy will be required, which is ongoing. With Azerbaijan's economy hit by a series of negative external shocks since 2015, particularly the decline on oil prices, slowdown on economy growth, and currency depreciations, the government intends to postpone implementation of the proposed project. Although the TA has yet to progress into a loan, the TA was also able to addresses strategic goals in the renewable energy development in Azerbaijan. It supported ADB and government's efforts in

[12] This subsection reports on projects completed in 2017 with available completion reports.

promoting the use of advanced technologies for mitigating climate change and environmentally sustainable growth. Through capacity building activities, the EA's (i.e. State Agency for Alternative and Renewable Energy Sources - SAARES) knowledge in bioenergy technologies and renewable energy policies were improved. The TA also identified barriers in the renewable energy development and provided policy recommendations. Recognizing the challenges in renewable energy development the government has embarked on broad structural reforms including the tariff reforms. Through the TA study, it was determined that low cost of natural gas and oil supply in Azerbaijan may stimulate investments in thermal power generation, which on the other hand impacts the achievement of sustainable renewable energy development targets. A comprehensive tariff reform in oil, gas, and electricity subsectors, will be urgently required in promoting renewable energy development as well as achieving strategic targets. It was also ascertain that while biomass cogeneration is a mature and technically feasible solution, it may not be commercially viable without adequate supporting measures. A combination of government policy support, cross-subsidies, regulatory incentives including licensing and permitting, will be needed to ensure sustainability and attract investors.

34. The TA *REG: Asia Energy Efficiency Accelerator* was also completed in 2017. This TA was aimed at establishing a more systematic approach to energy efficiency to help significantly improve the effectiveness of ADB's energy efficiency lending and investments in the developing member countries. The TA was able to deliver the following outputs: (i) create enabling DMC environments for increased investment in demand-side energy efficiency through improved policy, strategy, regulatory, and institutional frameworks; (ii) initiate projects that can be replicated to scale-up ADB investment in energy efficiency; and (iii) strengthen regional DSEE knowledge networks and benchmarking information. The TA enhanced awareness of decision makers on DSEE, provided data-based recommendations to improve the policy, institutional and regulatory framework, and paved the road for increased investment in demand-side-energy efficiency in target DMCs. The TA created an enabling environment for increased investment in DSEE through improved policy, institutional and regulatory framework in Indonesia; assessment of energy efficiency potential, development of business models, and recommendation for a sovereign DSEE loan in Mongolia; and conducted an LR study in Sri Lanka. There are ongoing discussions to include DSEE investments in the country operations and business plan in Bangladesh, Indonesia, and Sri Lanka. To initiate projects that can be replicated to scale-up ADB investment in energy efficiency, it was decided to do energy audit for large energy consuming facilities that have more energy saving potential instead of doing energy audit for small facilities. Bangladesh, Indonesia, and Nepal already have a substantive number of facilities audited by other development partners, hence, support focused on energy audit of large facilities and towards more policy support and pilot projects in Sri Lanka and Bangladesh. The TA Strengthened regional DSEE knowledge networks and benchmarking information by building knowledge networks and financing partnerships with KEA, the Government of United Kingdom, and USAID; supported two regional knowledge events of 2015 and 2016 ACEF in attendance of about 2,000 participants in total; and organized three joint workshops with KEA in Seoul, Republic of Korea engaging a total of 58 participants from the seven target DMCs. These were: (i) Capacity Building Workshop on Load Profile Analysis and Energy Efficiency Improvement on 19–21 October 2015, (ii) Knowledge Sharing Workshop on Energy Efficiency Labeling and ESCO on 28–31 March 2016, and (iii) Knowledge Sharing Workshop on Demand Side Energy Efficiency on 4–7 October 2016. Apart from the above, a knowledge product on street lighting was also published (https://www.adb.org/publications/led-lighting-best-practices-indonesia).

Box 8: Selected Completed TA projects

Regional: Empowering the Poor Through Increasing Access to Energy (Asia Clean Energy Fund)

Maximizing access to energy for all is one of the three pillars emphasized in ADB's 2009 Energy Policy. The CEFPF provided $2 million financing in support of increasing energy access by promoting strategic approaches and partnerships to replicate and scale up access to modern, reliable and clean energy services among the region's poor. The technical assistance helped operations departments to consolidate and replicate successful models, and facilitate adoption and adaption of these models by identifying, developing and scaling-up energy access projects throughout the Asia-Pacific region. It will also support the activities of the Energy for All Partnership, a regional platform for coordination and cooperation on energy access projects. These projects were implemented in Viet Nam, Pakistan, Myanmar, the Philippines and India.

Regional: Empowering the Poor through Increasing Access to Energy (Supplementary Funding for Output Based Aid) (Clean Energy Fund)

The CEFPF provided $1 million as supplementary financing to the technical assistance designed to enhance the delivery of access to energy for the poor by increasing access to energy investments through capacity building of ADB's developing member countries in coordination with operations departments and support for the Energy for All Partnership. The supplementary financing covers application of output-based aid (OBA) and other results-based financing mechanisms, including market assessments and identification of market opportunities, development of project proposals and assistance in securing financing, establishment of guidelines, and pilot projects applying OBA and other results-based financing. Support was extended to ADB's operations department to develop five individual projects in Cambodia, Viet Nam, Pakistan, Nepal and Myanmar using the OBA mechanism to provide poor households with access to affordable electricity. Guidelines on designing and processing of energy sector OBA were drafted and shared with the Operations Department for guidance in connection with new OBA proposals.

Azerbaijan: Renewable Energy Development (Biomass Cogeneration) Project (Clean Energy Fund)

The CEFPF financed the project preparatory technical assistance (PPTA) for the renewable energy development project aimed at efficient and sustainable renewable energy development in Azerbaijan with increased renewable energy share in power generation through demonstration of the viability of biomass cogeneration plants and heating supply systems. Specifically, the PPTA had two phases. First, a detailed feasibility study was conducted to assess the viability of the proposed renewable energy investment projects. This included biomass resource assessment, design of policy and regulatory framework, economic and financial analysis, capacity assessment and technical design. Second, a due diligence assessment was conducted to further develop and optimize the investment project.

Regional: Asia Energy Efficiency Accelerator (Clean Energy Fund)

The CEFPF provided $2 million to this regional capacity building technical assistance (R-CDTA) to establish a more systematic approach to energy efficiency to help significantly improve the effectiveness of ADB's energy efficiency lending and investments in the developing member countries (DMCs). With focus on demand-side energy efficiency, this R-CDTA established systematic energy efficiency strategies and action plans in selected priority DMCs with a view on integrating them into the Country Partnership Strategy and/or Country Operations Business Plans. Specifically, the R-CDTA: (i) created the enabling environment in DMCs for increased investment in demand-side energy efficiency through support for improved policy, strategy, regulatory and institution frameworks, (ii) initiated projects that can be replicated to scale-up ADB energy efficiency investments and, (iii) strengthened regional demand-side knowledge networks and benchmarking information. The R-CDTA increased institutional capacity, access to information and targeted technical assistance and demand-side energy efficiency investments and deployment as well as integrate energy efficiency targets, policies and strategies into the national development plans. These would help reduce greenhouse gas emissions and improve economic productivity through increased adoption of and investment in demand-side energy efficiency in DMCs.

35. The activities of one GCI were completed in 2017. The grant for Indonesia *INO: West Kalimantan Power Grid Strengthening Project* improved electricity access in the West Kalimantan (Box 9). Originally, the grant was to connect 8,000 new households to the electricity network. However, during implementation, the executing agency, PLN, requested a change in scope to accommodate the situation under the implementation of the subprojects of the main investment project. Several communities requested electricity access and blocked access to the sites so the grant scope was expanded to medium voltage (MV) and low voltage (LV) networks and establish several house connections to the affected households. Construction of 52.973 km MV and 46.760 km LV with 21unit of distribution transformers were completed in 11 villages under 3 districts (Bengkayang, Landak and Sanggau). Upon grant closing, only 975 households were connected to MV and LV network out of the targeted 8,000 households. The number of household connection was below the target as it depends on the financial capacity of the respective households to pay additional charge for the connection (around $300 instead of $35 to $100, as indicated in the project design). This additional charge is to be paid to the third-party contractor who has no standard price policy and is not under PLN authority as the electricity provider. Follow up activities of the grant has PLN taking the initiative to increase number of household connections. PLN is planning to conduct a joint mobile installation services with the contractors. This program, called *"Pemasaran Keliling (Sarling)",* is one of PLN's existing program, which includes direct electricity installation to the visited households. This will increase number of household connections to MV and LV lines, which have been built and financed by the grant.

36. In 2017, six direct charges were completed and financially closed.[13] These include: *the 10th Asia Clean Energy Forum 2015; the 11th Asia Clean Energy Forum 2016; REG: CAREC ESCC Investment Forum; KAZ: Introducing the Auction Mechanism for Renewable Energy Projects; REG: External Evaluation of Clean Energy Financing Partnership Facility (Carbon capture and Storage Fund Component), and REG: External Evaluation of Clean Energy Financing Partnership Facility (Clean Energy Fund Component)*. The Facility continued to support the Asia Clean Energy Forum (ACEF), Asia's premiere clean energy event, for 2015 and 2016. Both fora brought together policymakers, practitioners, donors, financiers, and other experts from countries in the region and throughout the world. Though similarly structured, deep dive workshops were increased as they were found to be very beneficial to the participants. The Facility also supported the Central Asia Regional Economic Cooperation (CAREC) Energy Sector Coordinating Committee Investor Forum which aims make key stakeholders in the energy sector aware about global energy trends and recent innovations in clean technologies, and create a market for it by bringing together regulators, project sponsors, the private sector, financing institutions, and technology providers. The Facility also supported the introduction of the auction mechanism for implementing renewable energy projects in Kazakhstan, not only for transparency but also to attract leading investors and contractors, and promote efficient technologies while minimizing end-user tariff increases. To provide an opportunity for ADB and the financing partners to learn how to better manage the trust funds under the Facility for the remainder of their time in order to effectively achieve their intended goals, an external evaluation was conducted which started in 2014. The evaluation report was submitted to ADB and disseminated to the financing partners in December 2015 and the final version of the report incorporating the financing partners' comments was submitted in February 2016. The recommendations of the external report were discuss among ADB and the financing partners during the CEFPF session of the Annual Consultation Meeting in March 2016. Details of these direct charges are in Appendix 8.

[13] Some DCs have completed their activities but will still process financial close and prepare completion reports. These projects will be reported on once they have obtained financial closure and completion reports are submitted.

Box 9: Indonesia: West Kalimantan Power Grid Strengthening Project (Clean Energy Fund)

The Clean Energy Financing Partnership Facility provided $2 million co-financing for the output-based aid (OBA) program under a project that will strengthen the power supply grid and connect new customers in West Kalimantan by investing in new power transmission lines and substations. Specifically, the CEFPF cofinanced the provision of access to electricity to 975 households through medium voltage and low voltage networks in the West Kalimantan. It supported the introduction of connection charge payment on installment basis, especially for poor households. With this demonstration, this model can be replicated in other parts of the country. Indonesia's rate of electricity is about 94% in 2017 and targeted to achieve 99% by 2025. The Government of Indonesia places high priority on making service delivery responsive to the needs of the poor to alleviate poverty and improve the standard of living. This priority is supported by ADB through its Energy for All Initiative that aims at increasing access to modern forms of energy in Asia. By connecting households to electricity, the grant project provided greater opportunity for communities to increase productivity, improve health condition, extend learning duration at home, stop using kerosene or oil lamps for lighting. The electricity connections have supported their daily activities especially household works and added productive activities, which can generate income.

Low Voltage (LV) lines along access road to households

Communities in Darit Village with access to electricity through medium and low voltages line financed by the grant.

Photographs courtesy of the project team.

37. **Ongoing Activities and Outputs.**[14] CEFPF projects are generally progressing well and on-track in achieving their target outputs, outcome and impacts (Box 10). Of note is the Output Based Aid (OBA) for rural electrification in Viet Nam under the ongoing project *VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector* has been physically completed in 31 December 2017 with overachieved targeted outcome and outputs. The Grant proceeds are being used to subsidize the one-off electricity service connection including in-house wiring costs and rehabilitation costs of ad hoc service connections for 58,497 eligible households in nine provinces in north, central and south of Viet Nam from 2015 until 2017. This achievement of more than target 48,333 beneficiary households also increased the amount of CO_2 emission avoided to an estimated 72,500 tons of CO_2 equivalent per year. Verification of the installed service connections by grant-funded independent consultant was carried out during October - December 2017, and consultant's reports have been submitted to ADB in January 2018. The average cost of subsidized connection is US$45.45 while the total grant proceeds committed is $2.42 million including $0.095 million for consulting services. The households which were eligible to receive subsidy for new electricity service connections including in-house wiring are either (i) poor below the poverty line; (ii) in danger of falling into poverty; (iii) female-headed household; (iv) elderly; (v) disabled or invalid; (vi) chronic ill; or (vii) ethnic minority group.[15] Other households eligible to receive subsidy for rehabilitation for rehabilitation of service connections shall have at least one of above eligible criteria and damaged conductor from meter to house which is unsafe and construction is substandard.

38. Another Output-based Aid project nearing its target is the *CAM: Medium-Voltage Sub-Transmission Expansion Sector Project*. The grant will provide subsidized grid electricity connections to eligible poor households living in five project provinces in Cambodia. As of 30 September 2017, 219 eligible poor households have received subsidized grid electricity connections. The executing agency (EA) has also approved the list of other 6,297 eligible households, and it is expected that electricity connections for these households will be completed by 30 November 2017. It is expected to achieve 100% of the output target by 30 March 2018, before the grant closing date of 30 June 2018. Project administration was transferred to the ADB Cambodia Resident Mission (CARM) in February 2017 for close monitoring.

39. Some projects have experienced delays during implementation and the project teams work in resolving any issue through discussions internally within ADB and externally with the governments, implementing and executing agencies, without significantly affecting planned outputs, outcomes and impact of the project. Some projects had concerns on slow procurement and consultant engagement. The Facility provided support to the project *TAJ: Strengthening Private Sector Participation in Technical and Vocational Education and Training (TVET)* to enhance capacity of Tajikistan's energy sector and achieve emission reduction outcomes through upgrade works in (i) energy efficiency and (ii) clean energy generation at selected TVET educational facilities. The project implementation is on track and both physical and financial performances are satisfactory. Since this is the first TVET project in the country, the project implementation unit (PIU) is new to ADB-supported project and lack familiarity with ADB's

[14] This subsection reports on the progress of the ongoing projects based on information received from project teams in Q4 2017 via email correspondence. This subsection does not provide an exhaustive discussion on all projects in the CEFPF portfolio but rather inform on the general experiences and progress of the projects.

[15] The female-headed household refers to a household where a woman is the main income earner (e.g. living alone, with children, or elders). The categories of "elderly, disabled, and chronic-ill" refer to the main income earner, who is not necessarily the owner of the household.

guidelines and operation policies which caused slow procurement of goods and services. With ADB's intensive supports, PIU has gradually improved its capacity and many activities including support to 3 TVET schools under the grant have been expedited. All consultancy services required for the grant component have been engaged and the physical rehabilitation at Bokhtar Energy Institute has been completed. Civil works for the rehabilitation of the Polytechnic Lyceum in Khujand and the Construction Lyceum in Dushanbe will be advertised in Q2 2018. The project team has re-packaged some civil works contracts in accordance with geographical conditions, but these are minor changes and will not affect the target impact/outcome/outputs. Similarly, the technical assistance linked to the project *PRC: Strengthening Capacity in the Implementation of the Green Financing Platform for the Greater Beijing–Tianjin–Hebei Region* which will set up a dedicated platform to leverage financing and scale up investments in green and pollution-reduction projects under a financial intermediation loan, has experienced delay in the recruitment of consultants to develop the online application and data collection platform. Details for the data platform, a key component of the TA deliverables, were finalized at the early stage of TA implementation. A detailed term of reference and implementation arrangements have to be developed after extensive consultation with the Executing Agency and ADB, and a change memo was processed to identify the appropriate selection method. ADB is providing full support to ensure immediate and quality recruitment.

40. A project which encountered technical issues on site is the PPTA for the *INO: Banten and South Sulawesi Wind Power Development*. A change in the selection of the project site caused some delay in the grid study of the project. The change was recommended by the consultant and requested by the sponsor. One of the challenges faced was that the sponsor has been slow in providing site specific information, partly due to changes in the regulatory environment and inability to obtain necessary information from PLN, the state owned national power utility. The Environmental and Social Impact Assessment was delayed because only one of the project sites out of the planned three was identified initially so the TA work was focused on this one project site. The remaining two project sites were only recently identified. An extension for the contract was granted to complete the study. For the project *INO: Pilot Carbon Capture and Storage Activity in the Natural Gas Processing Sector*, the initiation of the main activities under the TA to achieve target outputs/outcomes/impacts were delayed due to technical issues at the project site identified after TA approval. As the technical issues are now being address, recruitment of a firm is in process (EOIs are under evaluation) and mobilization is expected by March 2018. The main issue was that the baseline conditions at the project site were not as expected, which required further evaluation before the primary tasks could be initiated. These have been further assessed, necessary works to address problems are underway, and the firm to undertake the primary project preparatory works is under recruitment.

41. The implementation of grant for the project *VIE: Energy Efficiency for Ho Chi Minh City Water Supply* was affected by issues relating to Viet Nam's systemic country disbursement. The grant will support the project's request for energy efficiency improvements in pumping and air conditioning system. All energy efficiency equipment were purchased and currently being installed. However, fund disbursement did not go smoothly because the government did not include all ODA grant investment projects in their 2017 Official Development Assistance (ODA) disbursement plan. This negatively affected achievement of its remaining disbursement, i.e. $1.8 million, in 2017. ADB sent on 22 June 2017 a letter expressing its concerns to Ministry of Planning and Investment Vice-Minister and requesting for his support. Meanwhile, the project team agreed with Saigon Water Corporation (SAWACO) to use their own resources first to make necessary payments in 2017. Following the National Assembly in November 2017, the 2017 ODA budget allocation was approved in December 2017. However, the allocated amount of $0.9 million cannot cover the whole amount, and its financial window for 2017 budget

utilization will be closed on 31 January 2018. The project team continuously work with the government to allocate the remaining amount for 2018, so that the grant will be closed timely at the end of June 2018.

42. Some project slowdown was due to external factors. The progress of the grant implementation for the *NEP: Lumbini Clean Public Transport Project* (under the *South Asia Tourism Infrastructure Development Project - Nepal portion*) faced issues in the limited number of suppliers. The grant aims to support improvement of energy efficiency in public transport services and mitigation of climate change, and will have significant demonstration effects for possible replication in Nepal and other developing member countries. Initially, implementation has been slow due to limited capacities of the Executing agency (EA) and Implementing agency, but it is now on track, supported by the consultant team. The concern now is the limited electric vehicle manufacturers/suppliers who have shown interest to participate in the bidding due to small in package size. Procurement is currently in the awarding stage. The EA has issued the notification of award to the successful bidder in December 2017 and the contract agreement is expected to be signed in Q1 2018.

43. Some projects also made changes in their scope to remain responsive to the needs of the DMCs. The PPTA for *IND: Preparing the India Solar Park Development and Transmission Sector Project* was to support the project's due diligence, analyses, and safeguard preparation. The project was recognized as the first ADB case that adopted the country systems on safeguards and procurement. The solar park component was excluded from the ensuing loan project's scope earlier since it was not needed for the sovereign lending operations to the Solar Energy Corporation of India (SECI), which decided to bid out the component to other public and private solar park developers. Instead, the TA is supporting capacity development of SECI, the line ministry, and state agencies through planning of future solar parks since the capacity is relatively weak for development of solar parks. The work was extended to the detailed project reports (DPR) for specific solar parks in seven states, which are ongoing. In addition, the ongoing capacity building will help prepare project documents, institutional manuals and framework documents. TA support was given to Power Grid Corporation of India (POWERGRID) in preparing transmission subprojects related to solar parks and strengthening its institutional capacity on gender and safeguard activities. This integrated support was seen as essential and justified to accelerate overall work on solar park development throughout India in line with the government's policy. The TA was also used in preparing the Tamil Nadu and Kerara underground transmission interconnection of POWERGRID for more efficient delivery of renewable energy, which applied for advanced technology from Germany and Japan. To ensure the above scope of work, the TA completion date was extended to May 2018. For another PPTA, the changes made were on the composition of the consultants engaged. The deliverables for the PPTA of the *INO: Eastern Indonesia Sustainable Energy Access Sector Project* have been submitted but they were 4-5 months delayed. There were serious underperformance issues with the TA Consultant team up to early 2017, which was addressed through the change in the team leader and several team members. Performance has improved since however they are still well behind on compiling the necessary documents for minor contract variations and claim submissions. The TA completion date was also extended to ensure completion and delivery of all TA outputs and reduce the gap in support to the EA for timely loan implementation.

Box 10: Status of Selected Progressing Projects

Nepal: Lumbini Clean Public Transport Project (under the South Asia Tourism Infrastructure Development Project - Nepal portion)
(Asian Clean Energy Fund)

Under the South Asia Tourism Infrastructure Development Project, the Clean Energy Financing Partnership Facility is providing $3 million to the Lumbini Clean Public Transport Project in Nepal to finance the purchase and introduction of advanced electric vehicles powered by Lithium-ion (Li-ion) batteries, along with the installation of a solar power supply system of about 350 kilowatt capacity to ensure electric supply to power the electric vehicles; and required consultancy services relating to their procurement and initial operations. These Li-ion battery powered electric vehicles have clear advantages over electric vehicles powered by obsolete lead-acid batteries in terms of operation and maintenance, and environmental friendliness. The CEFPF financing aims to contribute to improvement of energy efficiency in public transport services and mitigation of climate change, and will have significant demonstration effects for possible replication in Nepal and other developing member countries. It supports the investment project targeting the improved nature and culture-based tourism destinations with improved connectivity, better quality environment and visitor services, enhanced natural and cultural heritage, and stronger linkages with communities. Other co-benefits include reduction of noise pollution and other pollutants such as carbon monoxide and sulfide, which, in turn, help reduce the level of respiratory diseases. CEFPF support is expected to contribute about 840 megawatt-hour energy savings per year and 156 tons of carbon dioxide emission reduction per year.

Viet Nam: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project - Additional Cofinancing
(Clean Energy Fund)

The Clean Energy Financing Partnership Facility provided $3 million co-financing for the output-based aid (OBA) program subsidize the one-off electricity service connection including in-house wiring costs and rehabilitation costs of ad hoc service connections for 58,497 eligible households in nine provinces in north, central and south of Viet Nam under the ongoing rural network rehabilitation and expansion project. The households eligible to receive subsidy for new electricity service connections including in-house wiring are either (i) poor below the poverty line; (ii) in danger of falling into poverty; (iii) female-headed household; (iv) elderly; (v) disabled or invalid; (vi) chronic ill; or (vii) ethnic minority group. Other households eligible to receive subsidy for rehabilitation for rehabilitation of service connections shall have at least one of above eligible criteria and damaged conductor from meter to house which is unsafe and construction is substandard. The CEFPF support aims to demonstrate the OBA mechanism that would contribute to improvement in livelihood of many low-lying households in the country, particularly those located in remote areas and belonging to ethnic minority groups.

Low Voltage Line along Commune Road and Service Connections; and Service Connection from Power Meter to the House

Photographs courtesy of the project team.

III. FINANCIAL STATUS

44. The Facility remained responsive in supporting clean energy programs and activities, while contributions from commitments to the CEF were received on schedule. This section details the Facility's financial performance for 2017.

A. Financing Partner Contributions and Status of Grant

45. The CEF received two contributions during the year. The Government of the United Kingdom remitted $5.0 million in February representing the second tranche of its commitment[16] to the CEF while the Government of Norway remitted $4.8 million in December as its new contribution to the fund[17]. Overall, the CEF received $9.8 million in replenishment for 2017.

46. To date, a total of $275.5 million has been remitted to ADB for CEFPF (Table 9).

Table 9: Summary of Actual Remittances, As of 31 December 2017 ($ millions)

Financing Partners	2007-2016	2017	TOTAL
Clean Energy Fund (CEF)	**86.0**	**9.8**	**95.8**
Australia	13.3	-	13.3
Norway[a]	36.2	4.8	41.0
Spain	9.5	-	9.5
Sweden	24.2	0.0	24.2
United Kingdom[b]	2.8	5.0	7.8
Asian Clean Energy Fund (ACEF)	**57.1**	**-**	**57.1**
Japan	57.1	-	57.1
Carbon Capture and Storage Fund (CCSF)	**41.1**	**-**	**41.1**
Global CCS Institute[c]	17.3	-	17.3
United Kingdom	23.8	-	23.8
Canadian Climate Fund for the Private Sector in Asia (CFPS)	**81.5**	**-**	**81.5**
Canada	81.5	-	81.5
Total	**265.8**	**9.8**	**275.5**

[a] Includes new contribution remitted in December 2017 ($4.8 million).
[b] Includes the second tranche of its commitment remitted in February 2017 ($5.0 million). The United Kingdom signed a Memorandum of Understanding with ADB on 17 December 2015 to become a financing partner of the CEF with commitment of £10.0 million to be remitted in three tranches thru 2018.
[c] Global Carbon Capture and Storage Institute
Note: Totals may not add-up due to rounding off.
Source: ADB estimates.

47. As of year-end 2017, cumulative allocations of the Facility sum up to $242.1 million, inclusive of fees. CEFPF's unaudited status of grant as of 31 December 2017, as prepared by the Controller's Department, is presented in Appendix 9 while the actual contributions and allocations tabulated by the secretariat is presented in Table 10.[18]

[16] The United Kingdom signed a Memorandum of Understanding with ADB in December 2015 to become a financing partner of the CEF with commitment of £10.0 million to be remitted in three tranches thru 2018.
[17] Norway committed NOK 40.0 million to the CEF per instrument of contribution dated 06 December 2017.
[18] The funds status in Table 10 is at facility level reporting which accounts for all of CEFPF's allocations to projects as authorized by the Climate Change Steering Committee (CCSC) including those still undergoing ADB's approval process. To guide in budgeting and prevent over-allocation of resources, it does not count receivables from financing partners as part of contributions until they have actually been remitted and are available for allocation. On the other hand, the Status of Grant report in Appendix 9 by the Controllers is at ADB level reporting which only accounts for projects approved by ADB while already including receivables as part of contributions. This explains the difference between Table 10 on Actual Contributions vs. Allocations and the Status of Grant reports in Appendix 9.

Table 10: CEFPF Actual Contributions vs. Allocations, As of 31 December 2017 ($ millions)

ITEM	CLEAN ENERGY FUND (CEF)		ASIAN CLEAN ENERGY FUND (ACEF)		CARBON CAPTURE AND STORAGE FUND (CCSF)		CANADIAN CLIMATE FUND FOR THE PRIVATE SECTOR IN ASIA (CFPS)		TOTAL
	2007-2016	2017	2008-2016	2017	2009-2016	2017	2013-2016	2017	
Contributions, Beginning Balance (A)		**14.0**		**16.5**		**14.4**		**38.2**	
Remittances (B)									
Australia	13.3	-	-	-	-	-	-	-	13.3
Canada	-	-	-	-	-	-	81.5	-	81.5
Global CCS Institute[a]	-	-	-	-	17.3	-	-	-	17.3
Japan	-	-	57.1	-	-	-	-	-	57.1
Norway	36.2	4.8	-	-	-	-	-	-	41.0
Spain	9.5	-	-	-	-	-	-	-	9.5
Sweden	24.2	0.0	-	-	-	-	-	-	24.2
United Kingdom	2.8	5.0	-	-	23.8	-	-	-	31.6
Subtotal - CONTRIBUTIONS (C=A+B)	**86.0**	**23.8**	**57.1**	**16.5**	**41.1**	**14.4**	**81.5**	**38.2**	**275.5**
Income / Gain (D)									
Interest/Investment Income	0.8	0.6	1.3	0.3	0.4	0.4	0.5	0.5	4.7
Interest / service charge on loans	-	-	-	-	-	-	3.0	1.4	4.4
Other income from loans	-	-	-	-	-	-	0.0	0.0	0.0
Total Available Funding Resources (E=C+D)	**86.8**	**24.4**	**58.4**	**16.8**	**41.6**	**14.8**	**85.1**	**40.1**	**284.7**
Funds Utilization[b] (F)									
Grant Allocations	(69.8)	(6.3)	(51.0)	(3.0)	(26.0)	(7.0)	(4.6)	(1.4)	(169.0)
Non-Grant Allocations	-	-	-	-	-	-	(104.3)	(30.6)	(134.9)
Project Fees	(3.2)	(0.3)	(2.6)	(0.2)	(1.3)	(0.4)	(5.4)	(1.6)	(15.0)
Direct Charges	(4.7)	(0.2)	-	-	(0.4)	-	-	-	(5.3)
Other Activities Affecting Balance (G)									
Audit Fees/Bank Charges[c]	(0.2)	(0.0)	(0.3)	-	(0.1)	(0.0)	(1.0)	(0.0)	(1.7)
Project Adjustments/Withdrawals[d]	0.4	1.0	6.5	1.5	(1.0)	-	65.3	11.6	85.3
Project Fees Adjustments	0.0	0.1	0.5	0.1	(0.1)	-	3.3	0.6	4.5
Project Savings	4.8	1.2	4.9	1.0	1.7	0.0	0.1	-	13.8
Deferred loan fees/ origination costs	-	-	-	-	-	-	0.2	(0.0)	0.2
Direct loan origination costs	-	-	-	-	-	-	0.0	-	0.0
Special Reserve	-	-	-	-	-	-	(0.5)	-	(0.5)
Ending Balance (H=E+F+G)	**14.0**	**19.8**	**16.5**	**16.2**	**14.4**	**7.4**	**38.2**	**18.6**	**62.1**
Less: **Projects Under Consideration[e] (I)**									
Project Cost		-		(7.3)		-		-	(7.3)
Applicable Fees		-		(0.4)		-		-	(0.4)
Available Balance (J=H+I)		**19.8**		**8.6**		**7.4**		**18.6** [f]	**54.4**

[a] Global Carbon Capture and Storage Institute

[b] Projects allocated with funding by the Climate Change Steering Committee. For ACEF, this pertains to projects that have received CCSC allocation and concurrence from the Government of Japan.

[c] Includes estimates for audit fees.

[d] 2009 CEF - Realignment of SRI: Clean Energy and Access Improvement Project ($800K) from CCF to CEF; 2009 ACEF - Project Withdrawal-IND: Support for Clean Power Technology Transfer ($2.0M); 2009 CCSF - Realignment of PRC: Carbon Dioxide Capture and Storage Demonstration-Strategic Analysis and Capacity Strengthening from CCF to CCSF ($1.0M); 2010 ACEF - Project Withdrawal-THA: Chaiyapun Wind Farm Development ($160K), THA: Lamthakong Wind Farm Development ($160K); 2011 CEF - Project Withdrawal - PRC: Railway Sector Energy Efficiency Strategy ($800K); 2011 ACEF - Project Withdrawal - PAK: Cattle Colony Waste to Fertilizer and Energy Project ($900K), PAK: Developing Renewable Energy in Baluchistan and Sindh Provinces ($1.5M), SRI: Nonsovereign Loan to People's Leasing Company Limited ($750K); 2012 CEF - Project Withdrawal - IND: NTPC Renewable Energy Development Project ($225K); 2012 ACEF - Project Withdrawal - LAO: Renewable Energy Development in Remote Communities ($1.0M); 2013 CEF - Project Withdrawal - LAO: S-CDTA for Hydropower Impacts and Best Practices: A Communications Project ($180K); 2015 CFPS - Project Withdrawal - PAK: Gulpur Hydro Power Projects ($20.0M), PHI: 60 MW Calatagan Solar Power Plants($20M); 2016 CFPS - Project Withdrawal - MYA: Mandalay Solar Power Project ($20.0M), INO: Toll Road Upgrade and Climate Change Adaptation Project ($5.3M); 2017 CEF - Project Withdrawal-IND: Railway Energy Efficiency Project ($1.0M); 2017 ACEF - Project Withdrawal- BAN: Rural Hybrid Power Project ($1.5M); 2017 CFPS - Project Withdrawal-MYA: Mandalay Solar Power Project ($8.6M); REG: Access to Quality Vegetable Seeds for Smallholder Farmers ($3.0M).

[e] Projects under consideration by the Government of Japan for funding under ACEF.

[f] Of the balance under CFPS, only $2.6M is available for allocation to TA projects; while, the remainder primarily represents returns on loans and uncommitted concessional financing resources for repayment to Canada.

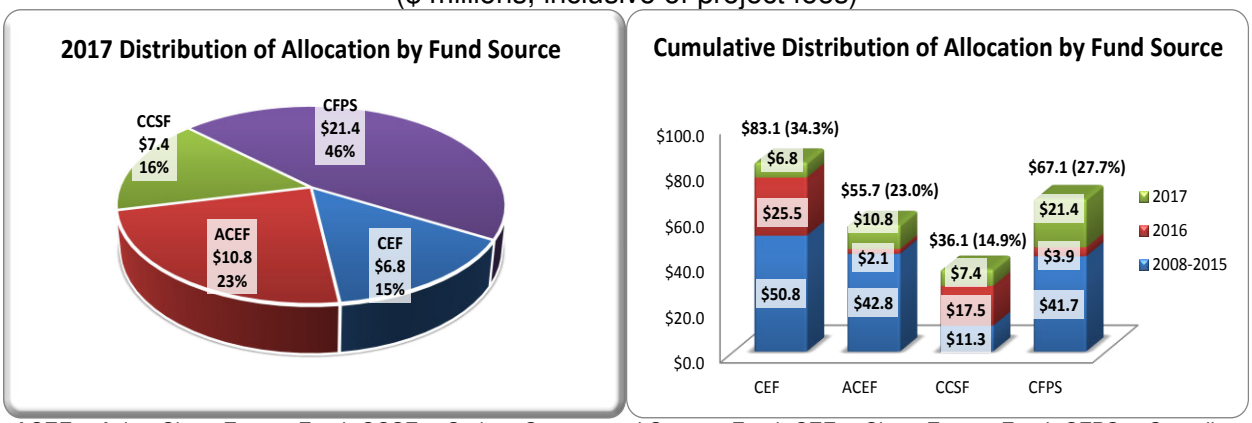
Note: Totals may not add-up due to rounding-off.

B. Resource Utilization

48. CEFPF received requests for funding support amounting to about $57.3 million for various projects during the year.[19] The Facility Manager is in constant communication with the project team leaders throughout the project application process. Projects that are not eligible for financing support are advised to seek other sources of financing while those that proceed are thoroughly evaluated by the Clean Energy Working Group (CEWG) and the Facility Manager.

49. In 2017, CEFPF allocated $44.2 million to 19 projects, with $2.2 million in corresponding project fees. Inclusive of fees, the CCSC allocated $6.8 million to 8 projects under CEF, $10.8 million to 7 projects under ACEF[20], $7.4 million to 2 projects under CCSF, and $21.4 million to 2 projects under CFPS. Figure 3 presents the distribution of allocation by fund source.

Figure 3: Distribution of Allocations by Fund Source
($ millions, inclusive of project fees)



ACEF = Asian Clean Energy Fund, CCSF = Carbon Capture and Storage Fund, CEF = Clean Energy Fund, CFPS = Canadian Climate Fund for the Private Sector in Asia.

Source: ADB estimates.

50. To date, CEFPF has allocated $242.1 million (inclusive of fees) to 177 projects.[21] Of the total, $106.2 million went to projects that promote renewable energy, $71.6 million to multiscope projects, $36.1 million to CCS, $24.7 million to energy efficiency, and $0.7 million to carbon market development.[22] Further, $57.7 million of these project allocations have components that contribute to access to energy. Figure 4 shows the distribution of allocation by clean energy project type and access to energy.

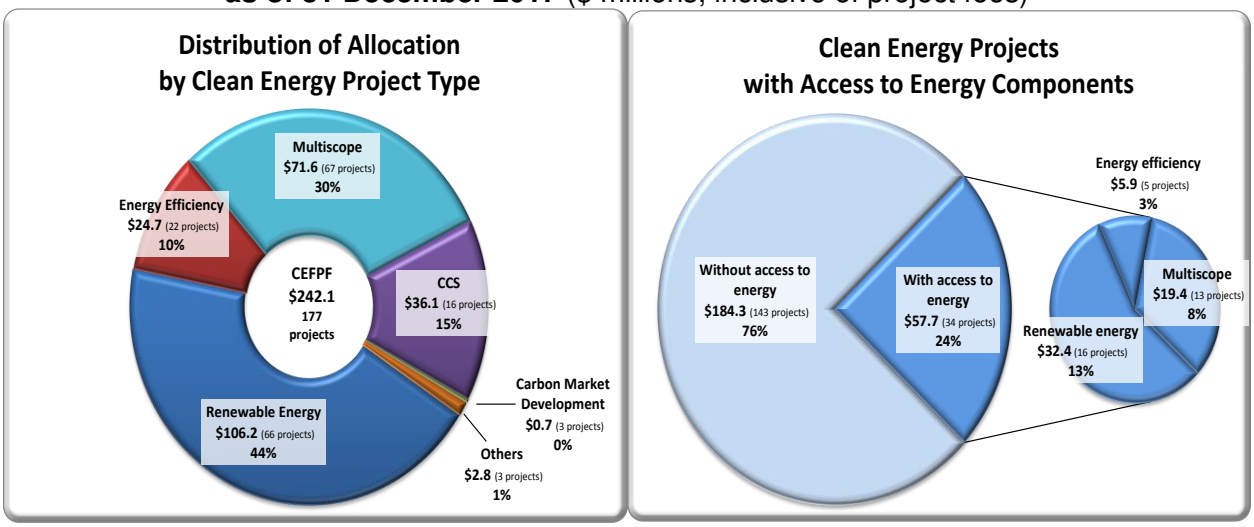
[19] Two private sector projects, one requesting $8.6 million of concessional financing and another requesting $2.0 million of concessional financing with a $1.0 million technical assistance (grant), were withdrawn after CCSC allocation. Another project requesting $1.5 million is subject to fulfillment of CEWG recommendations.

[20] Includes four projects in the total amount of $7.3 million ($7.8 million, inclusive of fees) that are for consideration by the Government of Japan for funding under ACEF. The proposals are in different stages of submission to and review of OCO.

[21] Includes three projects on adaptation under the Canadian Climate Fund for the Private Sector in Asia.

[22] *Multiscope* projects cover two or more clean energy project categories, have broad focus, or are general in nature; *carbon market development* involves projects that support the establishment of a carbon market through development of market infrastructure and capacity building.

Figure 4: Distribution of Allocations by CE Project Type and Access to Energy, as of 31 December 2017 ($ millions, inclusive of project fees)



CE= clean energy, CEFPF=Clean Energy Financing Partnership Facility.

Notes: *Carbon Market Development* supports the establishment of a carbon market through development of market infrastructure and capacity building; *CCS* involves projects that deploy, demonstrate, or support Carbon Capture and Storage technologies; *Energy Efficiency* involves projects that deploy/support technologies which use less energy to provide the same or improved level of output; *Multiscope* covers two or more clean energy project categories, have broad focus, or are general in nature; *Renewable Energy* projects deploy/help support technologies that use energy from natural resources; *Others* pertain to adaptation projects supported by CFPS; *With Access to Energy* are clean energy projects with components that support scaling up of access to modern, cleaner energy for the poor.

Source: ADB estimates.

51. **Disbursement**. Of CEFPF's $242.1 million allocations to date, ADB has approved a total of $195.6 million ($204.7 million, inclusive of fees) with $136.4 million coming from grant and $59.3 million from non-grant resources.[23] CEFPF generally accepts project application for financing support at the concept paper stage. This is ideal as the Facility would be able to provide inputs to improve the project quality at entry. As CEFPF authorization is obtained early in the project design process, there is a significant time interval between CEFPF authorization and ADB approval, wherein the project undergoes a series of interdepartmental and management reviews.

52. Of the resources approved by ADB, $71.9 million or 58.4% of grant resources and $39.3 million or 66.2% of non-grant resources have been disbursed. Overall facility disbursements amount to $111.2 million or 60.9%,[24] which is lower than the 2016 yearend rate of 62.9% primarily due to a private sector concessional financing project (loan) amounting to $20.0 million that was approved during the year. As said project has just gotten off the ground and still in process of procurement/awarding contracts, no disbursement has been made.

53. In general, disbursements of GCIs and TALLs are relatively slower than TAs. As GCIs and TALLs are connected to a loan which usually involves civil works, disbursement of the CEFPF support may occur at a later time considering all the civil works (usually funded by the

[23] Total approved amount excludes withdrawn/cancelled projects.

[24] Disbursement rate is computed as total disbursements over approved allocations less project savings. Amounts exclude project fees.

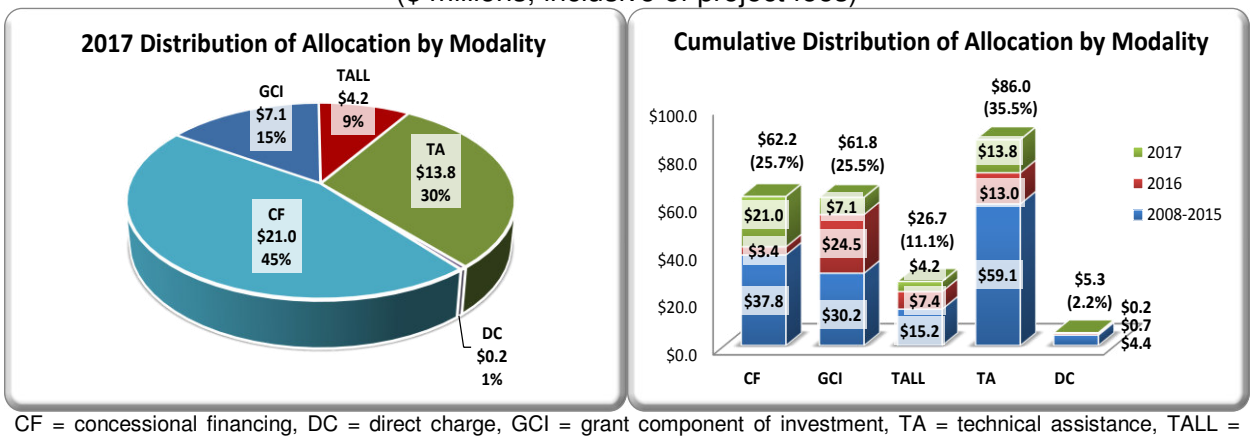
loan) that would have to be completed before the installation of clean energy equipment or implementation of the specific component supported by the facility.

54. ADB is mindful of the CEFPF's disbursement rate and continues to monitor facility disbursements, look into causes of delay, and explore and propose ways to improve disbursements. The actions taken to address this issue include: (i) regular disbursement review, wherein CEFPF supported projects that have been approved by ADB are reviewed twice a year to determine progress based on the rate of disbursements and contracts awarded; and (ii) coordination with project team leaders to maximize disbursement activities, such as expediting the awarding of contracts, front-loading CEFPF resources, processing final payments and facilitating official closure of projects, assisting DMCs in meeting the effectiveness criteria, and cancelling projects that are not likely to progress. Details on disbursement ratios and reasons for disbursement delay are provided in Appendix 10.

C. Resource Allocation Structure

55. Per Implementation Guidelines, CEFPF targets a resource sharing ratio of 70:30 between investments and stand-alone technical assistance over the Facility's lifetime, to prioritize the implementation of clean energy projects with direct GHG emission impacts.[25] This year ended with an INV: TA ratio of 70:30. Overall, the cumulative ratio which covers all projects receiving CEFPF allocations since the start of the Facility's operations is at 62:38. As the Facility continues to operate, this ratio is expected to change overtime to eventually reach 70:30. Figure 5 presents the distribution of allocation by modality.

Figure 5: Distribution of Allocations by Modality
($ millions, inclusive of project fees)



CF = concessional financing, DC = direct charge, GCI = grant component of investment, TA = technical assistance, TALL = technical assistance linked to loan.

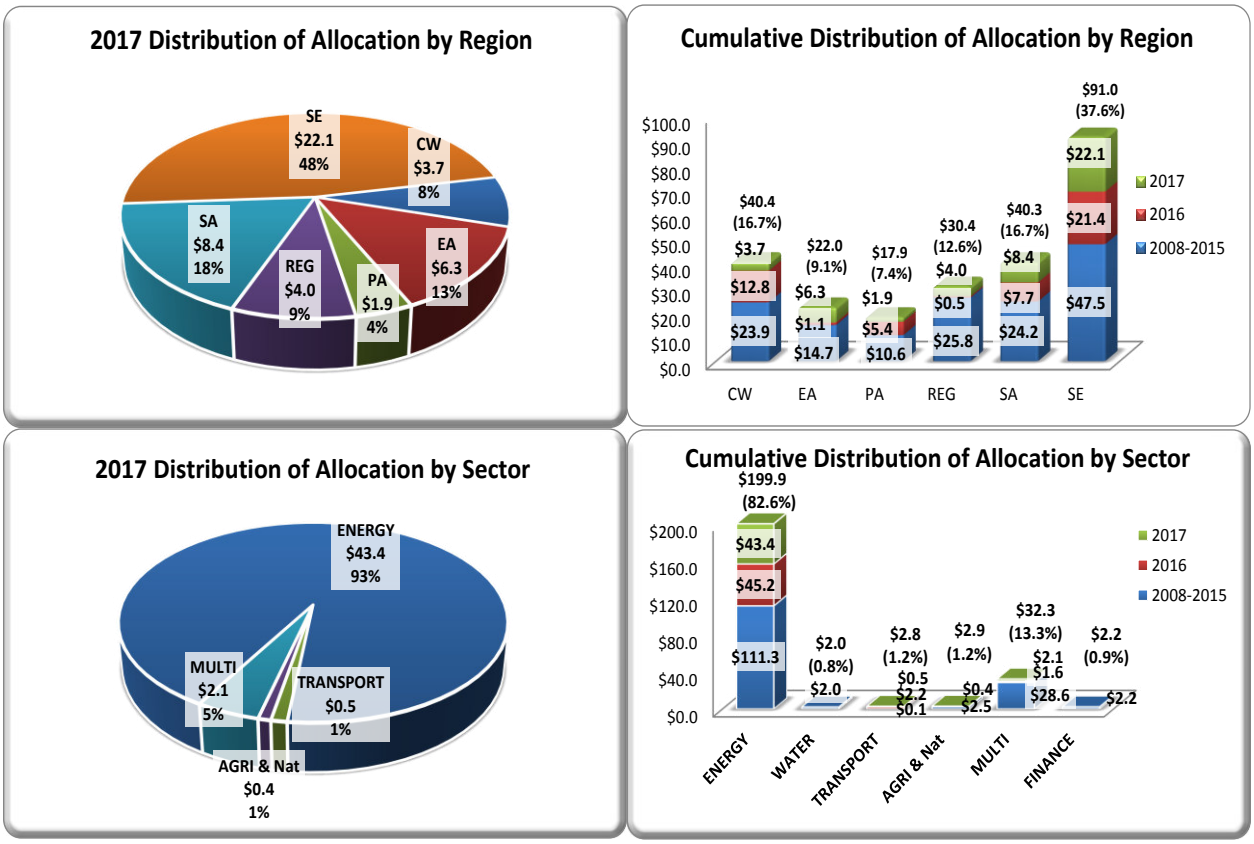
Source: ADB estimates.

56. In 2017, Southeast Asia received majority of the allocations (48%), followed by South Asia (18%), East Asia (13%), and Regional projects (9%), with the remainder shared between Central and West Asia and the Pacific. Figure 6 provides the summary of distribution of

[25] The 70:30 INV-TA ratio is a target for overall facility operations during its existence, with concessional financing, GCIs, and TALLs comprising the investment component while TAs and DCs make up the TA component of the ratio. CEFPF also tries to achieve the same allocation ratio on an annual basis. The annual fund allocation is based on prevailing needs and priorities. CEFPF management balances allocation to investments in technology and infrastructure that directly contribute to GHG reductions versus allocating resources to developing institutional and technical capacity, and regulatory framework.

allocations by region and sector, while Appendix 11 contains the details and Appendix 12 shows the cumulative allocation by DMC.

Figure 6: Distribution of Allocations by Region and Sector
($ millions, inclusive of project fees)



AGRI & Nat = Agriculture & Natural Resources, CW = Central and West Asia, EA = East Asia, MULTI = multisector, PA = Pacific, REG = regional, SA = South Asia, SE = Southeast Asia.

Source: ADB estimates.

IV. MANAGEMENT OF THE FACILITY

A. Steering Committee and Working Group Membership

57. The CCSC and CEWG continued effective participation in the management of the Facility in 2017. There was nominal movement in both CCSC and CEWG membership, and all responsibilities were met effectively and efficiently. The practice of sending alternates to the regular CEWG review and management meetings remains valuable when a regular member was away, ensuring a high level of transparency and participation in the management of the Facility and allocation of funds. This arrangement also helps build a critical mass of sector professionals who are aware of and regularly engaged in the Facility's operations and clean energy program overall.

B. Steering Committee and Working Group Meetings

58. In 2017, the CEWG convened six times to discuss policy and procedural recommendations regarding CEFPF operations and to deliberate on and endorse projects applications to CCSC for allocation. Recommendations of the CEWG on the allocation of resources or on policies and procedures were forwarded to, and received concurrence from CCSC. The Facility's activities and operations proceeded as planned, particularly on the processing of applications, preparation and submission of reports to the financing partners, meeting with the financing partners during the Annual Consultation Meeting, and dissemination activities.

C. Approval of Procedural Matters

59. For the year 2017, the following administrative and strategic matters were discussed and agreed to by the CEWG:

(i) Proceed with normal operations regarding allocation and fund use;
(ii) Strengthen partnerships and coordination with current financing partners and engage other partners for future cooperation;
(iii) Endorse to financing partners and CCSC the implementation guidelines for CFPS;
(iv) Assess the effective utilization of resources from all funds under CEFPF;
(v) Review of the Investment:TA ratio and targets for the DMF;
(vi) Facilitate approval and implementation, including disbursements, of projects supported by CEFPF.
(vii) Monitor and maintain accurate facility level results reporting; and
(viii) Request for pipeline of priority projects from operations departments for 2017.

D. Audit Compliance, Issues and Actions

60. The audited financial statement for the multidonor CEF, CFPS, CCSF for the year ending 31 December 2016 was circulated to the financing partners as scheduled in August 2017, with CEFPF's 2017 Semiannual Progress Report.

E. Dissemination Activities

61. In 2017, a two-pronged approach to information dissemination concerning CEFPF was sustained. Internally, information dissemination activities were maintained as ad-hoc responses to on-demand requests for information on the Facility's objectives, resources, requirements, and the like by a range of audiences from individuals to ADB's operations departments.

62. Externally, project teams are encouraged to promote the visibility and local awareness of the Facility and the supported projects in recipient countries. Also, within ADB's Climate Change Program, CEFPF's overall performance and achievements, specifically the contributions on energy savings and CO_2 emissions reductions, were presented on various occasions by management and staff in workshops and conferences in and outside the region.

V. RELATIONSHIP WITH FINANCING PARTNERS

63. The 2016 Annual Report, 2017 Annual Work Program, 2017 Semiannual Progress Report, and 2016 Audited Financial Statements to the financing partners were delivered on schedule. These reports were prepared in consideration of financing partners' suggestions and comments. In March 2017, the 10th Annual Consultation Meeting (ACM) between the financing partners and ADB was held at ADB Headquarters in Manila, Philippines.

64. In February 2016, the UK through the Business, Energy and Industrial Strategy formerly known as the Department of Energy and Climate Change have provided second tranche of remittance for their contribution to the multi-donor Clean Energy Fund in line with the MOU signed in December of 2015. UK now is the financing partner for two trust funds under the Facility. In December 2017, Norway signed a new Instrument of Contribution and provided replenishment to the multi donor Clean Energy Fund.

65. During the ACM, dialogue between ADB and financing partners began with discussions on ADB's Clean Energy Program, CEFPF's annual report for 2016, strategic direction and annual work program for 2017. Other highlights of the ACM included discussions on the performance in meeting targets, result based management, project allocations, Investment:TA ratio analysis, facilitating disbursements, project processing timeline, priorities of financing partners, internal marketing of the facility, approval of the amended multidonor CEF implementation guidelines, and other matters such as collaboration with other MDBs, Asian Clean Energy Forum and presentation of the approach and process for the planned second external evaluation for the FPFs.

VI. LESSONS LEARNED, EXPERIENCES GAINED, AND KEY CONSTRAINTS

66. **Design and Monitoring Framework Review 2017.** The DMF of the Facility is reviewed and evaluated every 3 years of operation. The last DMF review conducted was in 2014. The Facility is on track to achieve most of its targets by 2020, but for some indicators, significant progress is needed to be able to meet the target numbers. The Facility has already achieved its targets for leveraged clean energy investments and the number of introduced approaches to promote clean energy and/or CCS. The increase in leveraged financing reflects the increase in ADB's investment portfolio of projects with clean energy components and increased cofinancing with other donors and fund facilities. The increase in the number of introduced approaches to promote clean energy and/or CCS indicates that ADB projects have become more innovative and have used lessons learned from completed projects to promote clean energy in the DMCs. Coordination with the Energy for All team and the Energy for All Partnerships which includes workshops and knowledge sharing events in DMCs provide opportunities and venues to encourage access to energy projects. While the Facility has been progressing well, there is a need to update the DMF to reflect the changes within the Facility itself and to better reflect the donor inputs for targets that have evolved since the start. Alternatively, the agreement for the CFPS under CEFPF will close in 2018. This fund was a major contributor for the renewable energy indicators 2020 targets which were based on the expectation that additional funds (or funds of a similar nature) would be added to the Facility. As additional funds were contributed to ADB, but outside the Facility, CEFPF targets may need to be updated. Discussions with the financing partners also confirm that there is a need to focus in innovation and pilot clean energy technologies and approaches. ADB is developing updates on the DMF to address this context and the final update of the DMF will be guided by consultations and agreements with the financing partners.

67. **Increased Promotion of the Facility.** With a healthy fund balance including recent remittances to the CEF, active promotion of the facility will be undertaken in 2018. The facility will coordinate with the operations departments as it seeks to support more clean energy projects towards the attainment of its target impact, outcome, and outputs. Continued support for Access to Energy will be targeted by the Facility in line with the OBA targets of the trust fund

VII. EXTERNAL FACTORS RELEVANT TO THE FACILITY

68. **Climate Change Operational Framework 2017-2030.** The CCOF2030 is intended to provide broad direction and guidance for enhancing resilience and strengthening climate actions in ADB's operations and business processes, including country partnership strategies (CPSs), country operations business plans (COBPs), sector and thematic strategies, DMC programs and projects, TA, and knowledge and capacity-building support. The CCOF2030 positions ADB to facilitate, collaboratively and proactively, a regional shift toward a low GHG emissions and climate-resilient development path. The ultimate intent is to support this transition, in line with the Paris Agreement, by making finance flows consistent with a pathway toward low GHG emissions and climate-resilient development. The CCOF2030 also recognizes and supports the heterogeneity of DMCs and their national climate and development aspirations. In particular, ADB acknowledges their different starting points and their varying levels of capacity for implementation, and will tailor its support to reflect those distinctions. The CCOF2030 supports climate mitigation actions, primarily in the energy, transport, and urban sectors, the region's major sources of GHG emissions, which are among the world's largest and fastest growing (at both the national and city levels). The CCOF2030 guides ADB in scaling up its lending for low-GHG-emitting technologies, through its public and private sector windows, in a way that will reduce the economic costs of emission reduction and foster sustained economic growth. Technical assistance complementing the low GHG emission investments will address policy, local capacity, and other barriers to the scaling up of new technologies.[26]

69. **Green Climate Fund Accreditation Master Agreement.** ADB is an accredited organization under the Green Climate Fund (GCF). The GCF was established by 194 governments to limit or reduce greenhouse gas emissions in developing countries, and to help vulnerable societies adapt to the unavoidable impacts of climate change. It is expected to channel a significant portion of the developed countries' pledge to mobilize $100 billion a year by 2020 (and possibly rising thereafter) to address climate change adaptation and mitigation in developing countries. Being able to access and deploy GCF funds is critical for the Asian Development Bank (ADB) to scale up the delivery of climate financing to its developing member countries (DMCs), beyond its own resources. GCF funds will be transferred to and administered by accredited entities, including ADB, under the accreditation master agreement (AMA)—a framework agreement that provides for the overarching rights and obligations of ADB and GCF.[27]

70. **Sustainable Development Goals (SDG).** There are two SDGs that can directly influence the Facility these are SDG Goal 13: "Take urgent action to combat climate change and its impacts" according to the UN, climate change presents the single biggest threat to development, and its widespread, unprecedented impacts disproportionately burden the poorest

[26] Climate Change Operational Framework 2017-2030, ADB, Manila 2017.

[27] Green Climate Fund: Proposed Participation by the Asian Development Bank through the Accreditation Master Agreement. July, 2017. ADB, Manila

and most vulnerable. Urgent action to combat climate change and minimize its disruptions is integral to the successful implementation of the Sustainable Development Goals.[28] SDG 13 is directly aligned with the target impact of CEFPF in decreasing climate change. Climate change mitigation is closely linked to energy which centrally placed amongst the sustainable development goals SDG Goal 7: "Ensure access to affordable, reliable, sustainable and modern energy for all". ADB is one of the institutions in the Asia Pacific region that can help the global community to fulfill the aim of SDGs.

71. The CEFPF given the expanded scope as a facility, become even more relevant this time when financing clean energy projects is at the core of mitigation action against climate change. Climate action and mitigation initiatives would definitely require financial support. Developing countries need help in the implementation of their NDCs as part of their international commitments. Reviews and studies have cited that the cost of no action greater than implementing climate actions. DMC options to choose clean energy vs business as usual would be a smooth transition with global support. ADB priority projects in the pipeline can be supported with the new commitments and replenishment from financing partners have been made during the past year.

VIII. OVERVIEW OF 2018 ANNUAL WORK PROGRAM

72. At the start of 2018, CEFPF has approximately $54.4 million available for allocation to activities and projects requesting CEFPF support, of which $7.4 million under CCSF will be used specifically for exploring CCS technology and $18.6 million under CFPS[29] will be used to finance clean energy activities in the private sector. The multi donor CEF which received replenishment and new contributions in 2017 has a total available balance of $19.8 million while ACEF has an available balance of $8.6 million as of yearend. As in the past, ADB will endeavour to meet the targets outlined in the DMF, while selection and prioritization of projects will continue to be guided by CEFPF eligibility criteria, particularly on being innovative, participatory, catalytic, scalable and replicable. The Investment:TA ratio and the project's transformational impact on the DMC's energy consumption and use will be strongly considered in determining support from CEFPF.

73. For 2018, CEFPF will continue to support projects that focus on energy efficiency, access to energy, renewable energy, CCS, sustainable transport, as well as projects that leverage private sector investments. CEFPF will prioritize support for project preparatory assistance for clean energy and energy access related projects, and pilot projects which will deliver innovative designs and high-level technology adoption and deployment in the DMCs.

[28] https://sustainabledevelopment.un.org/sdg13

[29] Of the balance under CFPS, only $2.6M is available for allocation to TA projects; while, the remainder primarily represents returns on loans and uncommitted concessional financing resources for repayment to Canada.

OVERVIEW AND GOVERNANCE STRUCTURE
CLEAN ENERGY FINANCING PARTNERSHIP FACILITY/CLIMATE CHANGE FUND

CLEAN ENERGY FINANCING PARTNERSHIP FACILITY[1]

A. Overview

1. Energy use in developing member countries (DMCs) of the Asian Development Bank (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 sustainable nor economically desirable. The Clean Energy Financing Partnership Facility (CEFPF) as encapsulated in its design and monitoring framework was developed to bolster ADB's response to the dual issues of energy security and climate change confronting its DMCs today. As in all operations of ADB, the approach to helping DMCs in this area is anchored in poverty reduction and pro-growth strategies leading toward sustainable development.

1. Objectives and Scopes

2. Established in April 2007, the CEFPF aims to help provide financing to DMCs to improve energy access and security and transition to low carbon economies through cost effective investments in technologies and practices that result in greenhouse gas mitigation. CEFPF resources also finance policy, regulatory, and institutional reforms that encourage clean energy (CE)/carbon capture and storage (CCS) development.[2] Potential investments include (i) deployment of new CE/CCS technologies; (ii) projects that lower the barriers to adopting CE/CCS technologies, e.g., innovative investments and financing mechanisms, and bundling of smaller CE projects; (iii) projects that increase access to modern forms of clean and efficient energy for the poor; and (iv) technical capacity programs for CE/CCS.

2. Eligible Activities

3. About 30% of CEFPF's resources will be used for standalone technical assistance projects and direct charges that fund consulting services and related equipment and works needed to achieve technical assistance and direct charges objectives; and about 70% will be used for concessional financing and grant components of investments and may also be used to procure equipment and works based on advanced technologies, back financing mechanisms or risk sharing facilities to promote CE/CCS, and services to lower barriers. CEFPF's Implementation Guidelines detail the facility's eligibility criteria. Following are examples of activities supported by CEFPF:

(i) Biomass/biofuel/biogas;
(ii) Rural electrification/energy access;

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[1] Financing partners contributing to the multidonor Clean Energy Fund are the governments of Australia, Norway, Spain, Sweden and the United Kingdom. The financing partner contributing to the single donor Asian Clean Energy Fund is the Government of Japan. Financing partners contributing to the Carbon Capture and Storage Fund are the Global Carbon Capture and Storage Institute and the Government of United Kingdom. The financing partner contributing to the Canadian Climate Fund for the Private Sector in Asia is the Government of Canada. As of 31 December 2013, total contributions amount to $246.8 million. Overall target: $250 million.

[2] CE initiatives in ADB include initiatives in renewable energy, energy efficiency, and cleaner fuel.

(iii) Distributed energy production;
(iv) Waste-to-energy projects;
(v) Carbon capture and storage;
(vi) Demand-side management projects;
(vii) Energy efficient district heating;
(viii) Energy efficient buildings and end-use facilities;
(ix) Energy efficient transport;
(x) Energy efficient streetlighting;
(xi) CE power generation, transmission, and distribution;
(xii) Manufacturing facilities of CE system components, high efficiency appliances and industrial equipments; and
(xiii) Energy service company development.

3. How to Apply

4. User departments will submit project proposals to the Facility Manager using CEFPF's application form and ADB's standard concept paper template. Applications are reviewed in six batches and are due on: 31 January, 31 March, 31 May, 31 July, 30 September, and 30 November. The Clean Energy Working Group will review and endorse project proposals based on implementation guidelines, guided by the design and monitoring framework, both agreed between CEFPF's financing partners and ADB. The Climate Change Steering Committee finally authorizes allocations of resources to selected project proposals. Following fund allocation from CEFPF, the approval of the proposed project follows the standard ADB procedure.

B. Governance Structure (Based on CEFPF Implementation Guidelines)

Party	Responsibilities
Financing Partners	
Members: CEFPF contributors	(i) Provide strategic direction to CEFPF (ii) Meet with the Asian Development Bank for annual consultation (iii) Review progress and administration and annual work program
Climate Change Steering Committee (CCSC)[a]	
Chair: Director General, SDCC **Secretariat: SDSC-ENE** Members: Directors general of operation departments, and Chief Economist	(i) Provide strategic direction to CEFPF (ii) Director General, SDCC approves CEFPF policy and procedures (iii) Approves allocation of funds to applications for TAs, concessional financing and grant components of investments
Clean Energy Working Group (CEWG)	
Chair and Co-Chairs: Chair and Co-Chairs, ADB's Technical Advisor- Energy **Secretariat: SDSC-ENE** Members: Energy specialists nominated by the Directors general of operation departments as members	(i) Review and endorse proposals for CEFPF support (ii) Recommend policy and procedures of CEFPF to CCSC
CEFPF Manager (SDSC)	
Manager: Senior Director, SDSC or Designate Assistant: A team of staff and consultants	(i) Serve as Secretariat and oversee CEFPF day-to-day operations (ii) Oversee review process for applications (iii) Review applications for compliance with Implementation Guidelines for use of funds (iv) Prepare annual work program and progress reports (v) Serve as focal point for CEFPF partners for technical matters
Office of Cofinancing Operations (OCO)	
Contact: Designated by Head, OCO	(i) Facilitate partner contributions to CEFPF (ii) Communicate on financial issues among the partners (iii) Lead negotiations with partners on financial and procedural agreements for CEFPF contributions and framework agreement

CEFPF = Clean Energy Financing Partnership Facility, SDAS = Sector Advisory Services Division, SDCC = Sustainable Development and Climate Change Department.

[a] Functions of the Clean Energy Steering Committee under the CEFPF will now be carried out by the Climate Change Steering Committee, as per memorandum circulated from the Vice President, Knowledge Management and Sustainable Development, to the Directors General of the operations departments and the Chief Economist on 18 June 2008.

CLIMATE CHANGE FUND[3]

A. Overview

1. The Asian Development Bank (ADB) is working to make climate change an integral part of its entire future development work cutting across multiple sectors and covering a wide range of focus/themes. The Climate Change Fund (CCF) addresses climate change through scaling up developing member countries' (DMCs) mitigation, adaptation, forest management, and land use management activities.

1. Objectives and Scope

2. On 6 May 2008, ADB established CCF to facilitate greater investments in DMCs to effectively address the causes and consequences of climate change, by strengthening support to low carbon and climate-resilient development in DMCs. CCF will invest in projects that lead to greenhouse gas (GHG) emission reductions and carbon sequestration, biological diversity conservation, climate and disaster resilience of physical assets, communities, and livelihoods.

2. Eligible Activities

3. All DMCs are eligible for CCF resources.

(i) Specific Criteria and Scope for Clean Energy (Mitigation).[4] Proposals must be consistent with ADB's Energy Policy, as amended from time to time, and aligned with the joint Multilateral Development Bank (MDB)[5] approach and methodology for tracking climate mitigation finance. Responding to the dual issues of energy security and climate change confronting its DMCs today, CCF will prioritize interventions that (i) help DMCs achieve energy security and transition to low carbon economies through cost effective investments that result in GHG mitigation; and (ii) financial, policy and institutional reforms, as well as regulatory frameworks that encourage clean and sustainable energy, and energy access;

(ii) Specific Criteria and Scope for Reduced Emissions from Deforestation and Degradation and Improved Land Use Management (Mitigation). Responding to international initiatives to slow deforestation and degradation rates accounting for more than 50% of anthropogenic GHG emissions in many countries of Asia and the Pacific, CCF will prioritize interventions that (i) maintain, restore and enhance carbon-rich natural ecosystems, especially forests, and prevent these carbon sinks from becoming sources of GHG emissions; and (ii) maximize co-benefits from sustainable development and the conservation of biodiversity and generation of other ecosystem services and ecological processes;

(iii) Specific Criteria and Scope for Adaptation. Responding to special threats facing

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[3] Established with financing from ADB's ordinary capital resources. Information provided herein are based on the Climate Change Fund Implementation Guidelines. January 2018.

[4] Clean Energy initiatives in ADB include initiatives in renewable energy (RE), energy efficiency (EE) and cleaner fuels (CF).

[5] The group of multilateral development banks (MDBs), composed of the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IDBG) and the World Bank Group (WBG).

Asia and the Pacific, the CCF will prioritize interventions that will (i) assess climate risks and adaptation options for at-risk investment projects (CRAs);[6] (ii) enhance the climate and climate-related disaster resilience of investment projects (i.e., "adaptation in projects"); and (iii) strengthen climate and climate-related disaster resilience in key sectors in DMCs (i.e., "adaptation through projects").

3. How to Apply Specifically for the Clean Energy Component

4. User departments will submit project proposals on the clean energy to the Climate Change Steering Committee through the CCF Coordinator using the CEFPF/CCF application form and ADB standard concept paper template.[7] Applications are reviewed in six batches and are due on 31 January, 31 March, 31 May, 31 July, 30 September, and 30 November.

5. The applications will be reviewed to ensure that they comply with the implementation guidelines. If the application does not meet the criteria, the CCF Coordinator will discuss the issues with the user department for revision or withdrawal. If the application complies, the application will be included in the batch for circulation to the Clean Energy Working Group (CEWG). The CCF Coordinator will make a recommendation to the CEWG on each proposal based on three criteria: (i) anticipated amount of energy saved or amount of CO_2 abated, (ii) estimated amount of climate finance, and (iii) likelihood that the project will be implemented in a timely fashion. The CCF Coordinator will also advise the CEWG on the availability of CCF resources to support the applications.

[6] CRAs include the studies to be carried out for assessing climate risks and adaptation options for at-risk investment projects. ADB sectoral climate proofing guidance notes developed for climate risk, vulnerability and adaptation assessments can be used to guide CRAs.

[7] The CCF Coordinator is also the Facility Manager of the Clean Energy Financing Partnership Facility. Project proposals on reduced emissions from deforestation and degradation and improved land use management, and adaptation are submitted and processed through the CCF Manager.

B. Governance Structure (Based on the CCF Implementation Guidelines)

Party	Responsibilities
Financing Partners	
Members: CCF contributors	(i) Provide strategic direction to CCF (ii) Meet with the Asian Development Bank for annual consultation (iii) Review progress and administration and annual work program
Climate Change Steering Committee (CCSC)	
Chair: Director General, SDCC **Secretariat: SDSC and SDES** Members: DGs of User Departments (UDs), Chief Economist	(i) Provide strategic direction to CCF (ii) Director General, SDCC approves CCF policy and procedures (iii) Approves allocation of funds to applications for TAs and grant components of investments
Working Groups (CEWG and ALUWG)	
CEWG Chair: Chief (Energy Sector Group) **Co-Chair: Co-Chair, –Energy Sector Group** **Secretariat: SDSC** **ALUWG Chair: Director, SDCD** **Secretariat: SDCD** Members: Representatives from the operation departments (and ERD for CEWG), as well as any additional technical specialists nominated by the Chair as members	(i) Review and make recommendations on mitigation and adaptation related activities to be supported from CCF (ii) Recommend policy and procedures of CCF to CCSC
CCF Manager (SDCD)	
Manager/Coordinator: **Overall: Director, SDCD or Designate** **Clean Energy/Mitigation: Chief Sector Officer, SDSC or Designate** **Adaptation and Land Use: Director, SDCD or Designate** Assistant: A team of staff and consultants	(i) Serve as Secretariat and oversee CCF day-to-day operations (ii) Oversee review process for applications (iii) Review applications for compliance with Implementation Guidelines for use of funds (iv) Prepare annual work program and progress reports (v) Serve as focal point for CCF partners for technical matters
Office of Cofinancing Operations (OCO)	
Contact: Designated by Head, OCO	(i) Facilitate partner contributions to CCF (ii) Communicate on financial issues among the partners (iii) Lead negotiations with partners on financial and procedural agreements for CCF contributions and framework agreement

ADB = Asian Development Bank, ALUWG = Adaptation and Land Use Working Group, CCF = Climate Change Fund, CEWG = Clean Energy Working Group, ERCD = Economics Research and Regional Cooperation Department, SDCC = Sustainable Development and Climate Change Department, SDSC = Sector Advisory Services Division, SDES = Environment and Social Safeguards Division, TA = technical assistance.
Source: Asian Development Bank

Clean Energy Funds Design and Monitoring Framework (DMF)

1. The Asian Development Bank's (ADB) clean energy funds are intended to provide financing to its developing member countries (DMCs) in enhancing energy access and security and transitioning to low carbon economies through cost-effective investments, especially in technologies that results in greenhouse gas mitigation. Extensive and effective adoption of new technologies and effective policies will enable DMCs to respond to the environmental challenges in the economic and social development. The clean energy funds give preference to the demonstration and deployment of new technologies and capacity-building for low carbon development. They support ADB's operations on clean energy, energy for all, climate change mitigation, and sustainable transport. Aligned with ADB's Strategy 2020 and Energy Policy 2009, the clean energy funds embody ADB's commitment to be Asia and Pacific region's catalyst for mobilizing greater financial flows and technology transfer to assist DMC's transition toward low carbon development.

2. This DMF defines the clean energy funds' objectives and targets. It guides management in the review of applications submitted for financing and in the monitoring and assessment of facility's performance. It applies amongst all funds under the Clean Energy Financing Partnership Facility (CEFPF) and the Climate Change Fund-Clean Energy Development Component (CCF-CE), allowing consolidated operations and holistic assessment.[8] Originally implemented in 2008, the DMF was initially updated in 2011, in accordance with the agreement with financing partners.[9] Updates on the DMF are intended to preserve the funds relevance in responding to the needs of the DMCs, reflect latest and emerging trends and opportunities, and contribute more effectively to ADB's overall poverty alleviation and sustainable development agenda. Future updates may be possible (if necessary) and will be guided by consultations and agreements with the financing partners.

3. This DMF is guided by the principles outlined below and uses proxy indicators in place of indicators with data availability constraints:

(i) The *Impact* is the desired medium-term and beneficial impact to people that is partly, but not exclusively, attributable to ADB's clean energy funds. Other external factors may have influence on the impact. The baseline year is 2006.[10]

(ii) The *Outcome* is the development results from the successful completion of outputs. It is directly attributable to ADB's clean energy funds and achievable having delivered the outputs.

(iii) The *Outputs* are the main deliverables that arise from using the *Inputs* and transforming these through the *Activities*.

Clean Energy Funds Design and Monitoring Framework[11]

[8] ADB's clean energy funds include CCF and the four funds under the CEFPF, i.e. (a) multi-donor Clean Energy Fund with contributing partners from governments of Australia, Norway, Spain, Sweden, and the United Kingdom (b) single-donor Asian Clean Energy Fund with contributing partner from the Government of Japan, (c) Carbon Capture and Storage Fund with contributing partners from the Global Carbon Capture and Storage Institute and the Government of United Kingdom and (d) Canadian Climate Fund for the Private Sector in Asia with contributing partner from the Government of Canada.

[9] The 2011 update reflected a high level of ambition with increased targets and additional indicators on access to energy and co-benefits on health, environment and productivity. It built on the key recommendations of the evaluation undertaken by ADB's Independent Evaluation Department in 2010 and absorbed the lessons from operations (i.e. trends on contributions, demand for financing support, allocations, and expected outputs and outcomes) to feed into more appropriate performance indicators.

[10] CEFPF was established in 2007. Latest available information in participating DMCs for the performance indicators identified is 2006, thus, used as baseline year. This will be updated if and when 2007 data become available.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
Impact[12]			
Improved access to energy, enhanced energy security, and decreased rate of climate change in DMCs	Average CO_2 emissions per unit of GDP in participating DMCs is maintained at or lowered from 2006 level (see Appendix A2.1), by year 2030 Average electrification rates in participating DMCs increased from 2006 level (see Appendix A2.1), by year 2030[13] Average percentage of RE share in energy mix in participating DMCs is maintained at or increased from 2006 level (see Appendix A2.2), by year 2030	(a) Primary: Energy Statistics in Asia & the Pacific (ADB), World Energy Outlook (IEA), Key World Energy Statistics (IEA); and other publications such as the Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment (b) Secondary: Ministry of Energy and Power (or equivalent) in DMCs	A: DMCs are committed to prioritizing clean energy technologies to address energy access and security and climate change A: New clean energy technologies are available to DMCs A: GDPs in DMCs are maintained or improved A: Year 2006 provides the latest available baseline information in participating DMCs for the performance indicators identified
Outcome			
Increased use of clean energy	Cumulative CO_2 emission reduction in participating DMCs of 20 million tCO_2 per year by 2020[14] Cumulative energy savings in participating DMCs of 18TWh-equivalentper year by 2020(footnote 10) Cumulative installed renewable energy capacity in participating	(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) ADB PPIS database (c) Project implementation and monitoring reports (d) Project updates from project teams	A: Support from financing partners continue and increase A: Project outcomes are counted and adjusted as project goes through the process of approval up to completion A: At least one clean energy technology is accessible and affordable for each DMC A: Energy efficiency and

[11] The Guidelines on Clean Energy Funds Results Monitoring and Reporting is an accompanying document to the DMF and provides the details on the indicators and how they are measured.

[12] Impact targets are anticipated by the 10th year after the final fund allocation.

[13] Electrification rate is the ratio of population with electricity to the total population of a DMC expressed as a percentage

[14] Reduction in other greenhouse gas emissions and the realized avoided annual CO2 emission reduction, electricity or energy savings, energy generated using renewable energy will be reported, as available.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
	DMCs of 3,500 MW by 2020 Cumulative renewable energy generation in participating DMCs of 10 TWh per year by 2020 (footnote 10)		renewable energy projects are submitted and approved A: Expected outputs of access to energy projects will contribute to RE capacity installed A: Profile of projects reviewed, allocated and approved for the coming years continues, following the pattern as experienced by CEFPF and CCF in previous years (i.e. substantial number of GCI/TALL projects submitted and approved), or improves A: Outcome performance of CEFPF and CCF in previous years provides a reliable trend and basis for the indicated values of targets/indicators A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
Outputs			
1. Clean energy investments in DMCs increased	Cumulative $ 4 billion in ADB's clean energy investments leveraged by 2020 (contributing to ADB's $2 billion clean energy investments target every year)	(a) ADB PPIS database (b) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR	A: Project approvals versus disbursements are counted as investments A: Support from financing partners continue and increase

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
	Cumulative $1.2 billion of private sector investments leveraged by 2020[15] Cumulative $1.2 billion non-private sector investments leveraged by 2020[16]	(c) Project updates from project teams	A: Profile of projects reviewed, allocated and approved for the coming years continues, following the pattern as experienced by CEFPF and CCF in previous years (i.e. substantial number of GCI/TALL projects submitted and approved), or improves A: Output performance of CEFPF and CCF in previous years provides a reliable trend and basis for the indicated values of targets/indicators A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
2. Deployment of new technologies with strong demonstration effect facilitated	55 new clean energy/CCS technologies deployed in DMCs by 2020	(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	A: Support from financing partners continue and increase A: Projects are generating and systematically using lessons towards scaling-up and/or replication A: Output performance of CEFPF and CCF in previous

[15] Private sector investments refer to volume of financing mobilized, including equity, loans and guarantees) from private enterprises or financial institutions such as banks, private companies, private pensions funds, insurance companies, and the like; excluding resources from multilateral/regional development banks.

[16] Non-private sector investments refer to volume of financing mobilized from governments including other donors and partner governments, united nation agencies, multilateral/regional development banks, and the like.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
			years provides a reliable basis for the indicated value of target/indicator A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
	2 CCS demonstration projects in identified priority countries commenced by 2020	(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	A: Support from financing partners on CCS technology continue and increase A:CCS projects are submitted and approved A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
3. New approaches/ methodologies to promote clean energy/CCS introduced	15 new approaches/ methodologies to promote clean energy/CCS introduced in participating DMCs by 2020	(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	A: Support from financing partners continue and increase A: DMC governments develop enabling regulatory frameworks to promote new approaches/methodologies A: Projects are generating and systematically using

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
			lessons towards scaling-up and/or replication A: Output performance of CEFPF and CCF in previous years provides a reliable basis for the indicated value of target/indicator A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
4. Benefits from access to energy delivered	Cumulative total of 700,000 households provided with access to energy in participating DMC's supported by 2020 (contributing to ADB-led Energy for All Partnership target of 100 million people by 2015) • 350,000 households connected to electricity • 175,000 households connected to modern fuels and/or efficient devices for cooking • 175,000 households connected to modern fuels	(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	A: Support from financing partners continue and increase A: Per Energy for All Initiative, access to energy projects are submitted and approved A: At least 25% of supported projects annually comprise access to energy A: Access to energy will involve any or combination of the following: (a) provision of electricity and motive power to households; (b) improvement in the supply and delivery of energy services to households; (c) provision of modern fuels and/or efficient devices for cooking and/or heating to households; and (d) provision of finance to

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
	and/or efficient devices for heating		households to access energy A: Target households are effective, aligned with the Energy for All Partnership target by 2015, and may be updated beyond 2015. A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
	30% of access to energy projects with gender mainstreaming by 2020[17] 80% of access to energy projects with gender concerns by 2020[18]	(a) ADB projects approved with gender category i) Gender Equity (GEN), ii) Effective Gender Mainstreaming (EGM) or iii) some gender elements (SGE) (b) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (c) Progress updates and final/completion reports for DC	A: Support from financing partners continue and increase A: Per Energy for All Initiative, access to energy projects are submitted and approved A: ADB projects are categorized based on the Guidelines for Gender Mainstreaming Categories of ADB Projects (http://www.adb.org/themes/gender/gender-mainstreaming-categories) A: Clean energy funds will capture all efforts to address gender benefits, covering

[17] Projects with Gender Mainstreaming include those classified under Gender Equity Theme and Effective Gender Mainstreaming.

[18] Projects with gender concerns include those classified under Gender Equity Theme, Effective Gender Mainstreaming and Some Gender Benefits.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
			gender categories: GEN, EGM, SGE; and at the minimum, provide some gender elements. Some gender element is provided if a project is likely to directly improve women's access to social services; and/or economic and financial resources and opportunities, and/or basic rural and urban infrastructure, and/or enhance their voices and rights, or unlikely to directly improve women's access to these but significant efforts were made during project preparation to identify potential positive and negative impacts on women and some gender design features were included to enhance benefits to women and where resettlement is involved includes attention to women in the mitigation/resettlement plans A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
5. Health and productivity benefits provided[19]	40% of projects supported highlights co-benefits on health/ productivity by 2020[20]	(a) ADB project documents: concept clearance paper, TAR, RRP,	A: Support from financing partners continue and increase

[19] All ADB projects are expected to contribute to economic growth of DMCs. The output and indicator indicate increasing productivity in terms of improved education, income, livelihood and social services.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
		PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	A: At least 25% of supported projects annually comprise access to energy A: 100% of access to energy projects supported will provide health/ productivity co-benefits A: Co-benefits may not be easily identified in all supported projects. But where they can be, they will be highlighted. E.g. access to energy projects and renewable energy projects: (a) offering increased local control of energy production to stabilize prices, (b) helping improve local air quality, and (c) boosting local economies through job creation or livelihood development. A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
6. Barriers to clean energy/CCS investments lowered	20 national/local policies enabling clean energy/CCS development in participating DMCs developed by 2020	(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates	A: Support from financing partners continue and increase A: Major barriers to adopting CE technologies are identified and prioritized

[20] The clean energy funds will monitor and report on the cumulative total number of individuals employed, including employment of women.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
		and final/completion reports for DC	A: The development of national/ local policies is coordinated with ADB A: Output performance of CEFPF and CCF in previous years provides a reliable basis for the indicated value of target/indicator A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
	25 financing models suitable for bundling small clean energy/CCS investment applied in participating DMCs by 2020	(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	A: Support from financing partners continue and increase A: Output performance of CEFPF and CCF in previous years provides a reliable basis for the indicated value of target/indicator A: Necessary updates on the DMF to be implemented every 3 years (if necessary and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
	100% of projects	(a) ADB project	A: Support from financing

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
	supported produce and/or disseminate knowledge products or contribute in building capacity to promote clean energy/CCS development in participating DMCs by 2020[21]	documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	partners continue and increase A: Knowledge products and capacity services are effectively targeting policy and decision makers A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners) R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments
Activities and Milestones (For 2008-2020)			**Inputs (For 2008-2020)**
1.1 Pool grants from multilateral and bilateral sources • Promote CEFPF and CCF to the multilateral and bilateral donor community • Build and maintain network of financial partners • Secure $700 million equivalent for CEFPF and CCF[22] • Maintain relations with financing partners through annual consultation meetings, as well as submission of annual work programs, annual reports, semiannual progress reports 1.2 Explore and develop innovative investment programs and financing mechanisms • Engage expert services to develop innovative investment programs and financing mechanisms • Develop new and innovative investment programs and financing mechanisms • Facilitate the implementation of investment programs and financing mechanisms in priority DMCs • Monitor and evaluate results of programs and financing			• $250 million for CEFPF and CCF to facilitate investments • $450 million for CEFPF and CCF to facilitate investments[23] • 120 person-month of ADB professional staff • 528 person month of domestic consultants • 130 person-month of international consultants • Series of clean energy reports and knowledge sharing events

[21] The clean energy funds will monitor and report on the cumulative total of: (a) projects that disseminate knowledge products, practices and information in a gender sensitive manner, (b) knowledge products produced and/or disseminated, (c) individuals trained, including average percentage of women, and (d) trainings/conferences/workshops held.

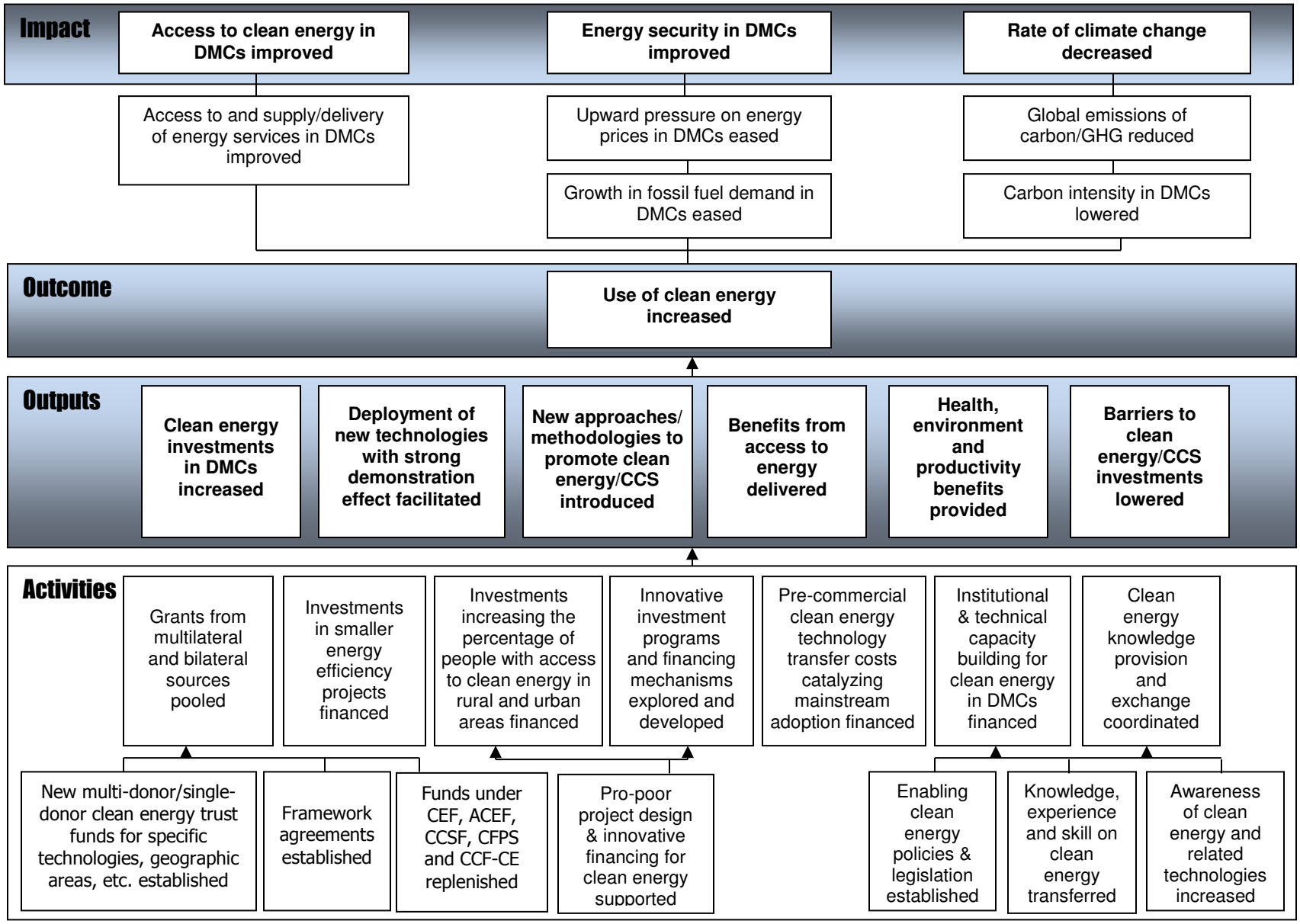
[22] Upon securing the $250 million targeted, ADB will aim at raising an additional $450 million by 2020 to further facilitate clean energy investments.

[23] The $450 million is additional financing by 2020. The outputs, outcomes and impacts for this additional financing will be developed and determined in consultation with financing partners.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
mechanisms • Use lessons to innovate for more effective investment programs and financing mechanisms 1.3 Finance proven investments in smaller clean energy projects • Develop and update CEFPF/CCF Implementation Guidelines, as necessary • Initiate call for proposals/applications to the CEFPF/CCF six times a year • Review and prioritize proposals to finance 1.3, 1.4, 2.1, and 3.1 • Allocate available resources to finance 1.3, 1.4, 2.1 and 3.1 • Monitor and evaluate results of financed proposals 1.4 Finance investments that increase the percentage of people with access to clean energy in rural and urban areas 2.1 Finance technology transfer costs of pre-commercial (i.e., proven and ready for deployment) clean energy technology catalyzing mainstream adoption 3.1 Finance technical and capacity building programs for clean energy in DMCs 3.2 Coordinate clean energy/CCS knowledge provision and exchange • Disseminate lessons learned in project report documents and publications • Produce technical studies that enable the increased use of clean energy/CCS in DMCs (given available resources) • Network with other institutions to maximize information dissemination and acquisition on best practices, model templates and procedures, advocacy, and the like • Co-sponsor annual Clean Energy Forum • Engage and deploy expert services to operations departments to aid in project planning, design implementation, monitoring and evaluation, and adaptive management • Update technical and management capacity to support progressive CEFPF/CCF implementation			Also activities for 1.4, 2.1 and 3.1

ADB = Asian Development Bank, CCS = carbon capture and storage, CCF = Climate Change Fund, CEFPF = Clean Energy Financing Partnership Facility, DC = direct charge, DMC = developing member country, GCI = grant component of investment, GDP = gross domestic product, IEA = International Energy Agency, MW = megawatt, PCR = project completion report, PPIS = Project Processing Information System, PPR = project performance report, RE = renewable energy, RRP = report and recommendation of the President, TAR = technical assistance report, TCR = technical assistance completion report, TPR = technical assistance performance report, TALL = technical assistance linked to loan, TWh = terawatt-hour, tCO_2 = ton of carbon dioxide.

CLEAN ENERGY FUNDS RESULTS CHAIN



ACEF = Asian Clean Energy Fund, CCS = carbon capture and storage, CCSF = Carbon Capture and Storage Fund, CEF = Clean Energy Fund, CCF-CE = Climate Change Fund – Clean Energy Development component, CFPS = Canadian Climate Fund for the Private Sector in Asia, DMC = developing member country, GHG = greenhouse gas.

Table A2.1: Carbon Intensity and Electrification Rate, 2006
ADB's Developing Member Countries

	Country	Carbon Intensity (in ton of carbon equivalent/constant 2000 US$ million)[a]	Electrification Rates (%)[b]
1	Afghanistan	19	29.5
2	Azerbaijan	703	81.3
3	Bangladesh	153	53
4	Bhutan	90	33.6
5	Cambodia	177	15.8
6	China, People's Republic of	831	74.9
7	Cook Islands	117	90.9
8	Fiji	212	55.1
9	Georgia	281	74.1
10	India	504	75.8
11	Indonesia	391	79.5
12	Kazakhstan	1611	73
13	Kiribati	112	2.6
14	Kyrgyz Republic	776	86.2
15	Lao People's Democratic Republic	131	22
16	Malaysia	304	90.2
17	Maldives	230	53.6
18	Federal States of Micronesia	143	79.6
19	Mongolia	1824	52.2
20	Myanmar	229	26.2
21	Nepal	105	30.1
22	Pakistan	342	90.8
23	Papua New Guinea	340	17.9
24	Philippines	161	62.8
25	Samoa	135	49.6
26	Solomon Islands	96	0.5
27	Sri Lanka	154	95.3
28	Tajikistan	480	87.1
29	Thailand	319	70.2
30	Timor-Leste	184	9
31	Tonga	228	85.4
32	Tuvalu	nd	1.4
33	Uzbekistan	1629	94.5
34	Vanuatu	44	15
35	Viet Nam	490	80.3
Average		**398**	**55**

nd = no data.

[a] Source: Asian Development Bank. 2013. Energy Statistics in Asia and the Pacific (1990-2009)

[b] C. Elvidge, et.al. 2011. Who's in the Dark: Satellite Based Estimates of Electrification Rates. In X. Yang, ed. Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment. West Sussex, UK: John Wiley & Sons, Ltd. Additional Note: The electrification count was estimated by tallying the total population count in areas having lighting (i.e. night-time lights collected by the US Air Force Defense Meteorological Satellite Program Operational Linescan System) as compared with total population count.

Table A2.1: Renewable Energy Share in Energy Mix, 2006
ADB's Developing Member Countries

	Country	2006									
		Power Generation (in GWh)									RE share (%)
		Thermal	Nuclear	Renewable Energy						Total	
				Hydro	Geothermal	Solar	Wind	Others	Subtotal		
1	Afghanistan	375	-	601	-	-	-	-	601	976	62%
2	Azerbaijan	21,093	-	2,518	-	-	-	-	2,518	23,611	11%
3	Bangladesh	28,490	-	1,389	-	-	-	-	1,389	29,879	5%
4	Bhutan	2	-	4,519	-	-	-	-	4,519	4,521	100%
5	Cambodia	1,035	-	51	-	-	-	2	53	1,088	5%
6	China, People's Republic of	2,369,604	54,843	435,786	-	-	-	5,494	441,280	2,865,727	15%
7	Cook Islands	32	-	-	-	-	-	-	-	32	0%
8	Fiji	152	-	688	-	-	-	-	688	840	82%
9	Georgia	1,972	-	5,315	-	-	-	-	5,315	7,287	73%
10	India	610,084	18,802	113,720	-	19	8,690	1,930	124,359	753,245	17%
11	Indonesia	116,795	-	9,623	-	-	-	32	9,655	126,450	8%
12	Kazakhstan	63,889	-	7,768	-	-	-	-	7,768	71,657	11%
13	Kiribati	24	-	-	-	-	-	-	-	24	0%
14	Kyrgyz Republic	2,195	-	14,887	-	-	-	-	14,887	17,082	87%
15	Lao People's Democratic Republic	-	-	3,595	-	-	-	-	3,595	3,595	100%
16	Malaysia	83,344	-	6,439	-	-	-	-	6,439	89,783	7%
17	Maldives	212	-	-	-	-	-	-	-	212	0%
18	Federal States of Micronesia	58	-	-	-	-	-	-	-	58	0%
19	Mongolia	3,649	-	-	-	-	-	-	-	3,649	0%
20	Myanmar	2,839	-	3,325	-	-	-	-	3,325	6,164	54%
21	Nepal	13	-	2,735	-	-	-	-	2,735	2,748	100%
22	Pakistan	64,109	2,288	31,953	-	-	-	-	31,953	98,350	32%
23	Papua New Guinea	2,222	-	863	227	-	-	-	1,090	3,312	33%
24	Philippines	36,325	-	9,939	10,465	1	53	-	20,458	56,783	36%
25	Samoa	64	-	53	-	-	-	-	53	117	45%
26	Solomon Islands	75	-	-	-	-	-	-	-	75	0%
27	Sri Lanka	4,847	-	4,634	-	15	2	2	4,653	9,500	49%
28	Tajikistan	234	-	16,701	-	-	-	-	16,701	16,935	99%
29	Thailand	116,883	-	8,125	-	-	-	13,732	21,857	138,740	16%
30	Timor-Leste	86	-	-	-	-	-	-	-	86	0%
31	Tonga	45	-	-	-	-	-	-	-	45	0%
32	Tuvalu	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
33	Uzbekistan	41,760	-	9,160	-	-	-	-	9,160	50,920	18%
34	Vanuatu	46	-	-	-	-	-	-	-	46	0%
35	Viet Nam	41,008	-	20,408	-	-	-	43	20,451	61,459	33%
	AVERAGE	**32%**									

Nd = no data.

Source: Asian Development Bank. 2013. Energy Statistics in Asia and the Pacific (1990-2009).

Guidelines on Monitoring and Reporting of Results of the Clean Energy Funds[24]

1. The Asian Development Bank's (ADB) clean energy funds[25] are intended to provide financing to its developing member countries (DMCs) to achieve improved energy access and security and transition to low carbon economies through cost-effective investments, especially in technologies that result in greenhouse gas mitigation. The primary benchmark used in reporting on clean energy funds results and judging its achievements is the Design and Monitoring Framework (DMF). The DMF defines the objectives and targets of the funds and directs resource allocations. It is a result of the close collaboration between the ADB and its financing partners.[26] This document discusses in detail each part of the DMF and the approach used in monitoring and reporting the overall performance of the funds against the set targets. Projects receiving support from clean energy funds enter the clean energy funds results monitoring and reporting system when authorization from the Climate Change Steering Committee is received. Except where indicated, data from clean energy fund s portfolios as of 31 December 2013 were used for illustration purposes.

I. MEASURING IMPACTS

2. Clean energy funds aim to contribute to the following impacts: (a) improved access to energy in DMCs, (b) enhanced energy security in DMCs, and (c) decreased rate of climate change. These target impacts will be measured by:

(i) *Average electrification rates in participating DMCs increased from 2006 level by year 2030*. This impact indicator is measured using the ratio of population with electricity to total population of a DMC, expressed as a percentage, compared with a given baseline.

(ii) *Average percentage of renewable energy share in energy mix in participating DMCs is maintained at or increased from 2006 level by year 2030.*[27] This impact indicator is measured by the ratio of power generation from renewable energy sources (as reported

[24] This guidelines accompanies the 2014 Clean Energy Funds Design and Monitoring Framework, as agreed between the ADB and financing partners in June 2014. This is a working document refined as projects receiving allocations enter implementation and clean energy funds gain experience in monitoring its portfolio and adapts its approach accordingly.

[25] ADB's clean energy funds include the donor funds under the Clean Energy Financing Partnership Facility, i.e. (a) multi-donor Clean Energy Fund with contributing partners from governments of Australia, Norway, Spain, Sweden and the United Kingdom (b) single-donor Asian Clean Energy Fund with contributing partner from the Government of Japan, (c) Carbon Capture and Storage Fund with contributing partners from the Global Carbon Capture and Storage Institute and the Government of United Kingdom and (d) Canadian Climate Fund for the Private Sector in Asia with contributing partner from the Government of Canada; and the resources from ADB's Climate Change Fund – Clean Energy Development Component.

[26] In accordance with the agreement made with the financing partners, the original DMF designed in 2008 was updated in 2011 to reflect greater level of ambition with increased targets and additional indicators, and will be regularly revisited every three years and may be updated in consultation with financing partners, to preserve the funds' relevance in responding to the needs of the DMCs, reflect latest and emerging trends and opportunities, and contribute more effectively to ADB's overall poverty alleviation and sustainable development agenda. The latest update was made in June 2014.

[27] CEFPF will continue to support projects in countries with a high RE share in the energy mix, such as Bhutan (100% RE), Nepal (~99.8% RE) and Lao (~97%), for as long as these projects are: (i) demonstration projects that can be up-scaled and replicated in other DMCs in the region; (ii) energy access projects, increasing the number of people with access to modern forms of electricity obtained from clean energy sources, and; (iii) regional cooperation projects, supporting the export of clean energy to countries still showing high fossil fuel use and corresponding carbon emissions.

in megawatt-/terawatt-hour equivalent) to total power generation of a DMC, expressed as a percentage, compared with a given baseline.

(iii) *Average carbon dioxide (CO_2) emissions per unit of gross domestic product (GDP) in DMCs is maintained at or lowered from 2006 level by year 2030.* This impact indicator is measured using carbon intensity or the carbon emission relative to production level or gross domestic product, compared with a given baseline.

II. MEASURING OUTCOMES

3. The clean energy funds outcomes anchor its design, and describe what they are intended to accomplish at the conclusion of the activities described in the DMF. The target outcome is to increase use of clean energy[28] in DMCs, and is measured by four indicators:

(i) *Cumulative carbon dioxide (CO_2) emission reduction in participating DMCs of 20 million tons of carbon dioxide (tCO_2) per year by 2020*. The avoided annual CO2 emission of a project or component, measured in metric ton, accounted from investment or investment-related projects.[29]

(ii) *Cumulative energy savings in participating DMCs of 18 terawatt-hours equivalent (TWh-eq.) by 2020*.[30] The electricity/fuel or energy savings of a project or component, measured in TWh-eq., accounted from investment or investment-related projects. It is the difference between electricity or energy converted or used with or without the energy efficiency component.

(iii) *Cumulative installed renewable energy capacity in participating DMCs of 3,500 megawatt (MW) by 2020*. The rated capacity of project or component using renewable energy, measured in MW (broken down for off-grid/on-grid), accounted from investment or investment related projects.

(iv) *Cumulative renewable energy generation in participating DMCs of 10 terawatt-hour (TWh) per year by 2020*. The renewable energy generation of a project or component, measured in TWh, accounted from investment or investment-related projects.

4. The target values for the outcomes were derived from rationalized projections based on the average outcome performance of clean energy funds in the last 6 years (i.e. 2008-2013) which is assumed to provide a reliable trend and basis for the indicated values of outcome targets/indicators.

III. PROGRESS TOWARDS IMPACTS AND OUTCOMES

5. At the conclusion of the clean energy funds operations, after the implementation of its last financed project is completed, the data available at that time on the identified impact indicators will be collated and compared against the established baseline. Data may also be

[28] Clean energy category in ADB includes renewable energy, energy efficiency and cleaner fuel.

[29] Reduction in other greenhouse gas emissions will be provided, as available.

[30] Energy savings will include electricity and thermal/fuel savings.

collated at meaningful, regular intervals in the interim to review the continued relevance of the funds' targets and interventions overall. The impact targets are anticipated by the 10th year after the final fund allocation. As final fund allocation is currently expected by year 2020, impacts are expected by year 2030.

6. The baseline data for the average electrification rate and carbon intensity are presented in Table A3.1 while the renewable energy share in energy mix baseline is found in Table A3.2.[31] Presently, the baseline information includes 35 DMCs that were covered by the range of allocations to projects as of 31 December 2015. As can be seen, one smaller country reflects "no data" readily available. In this regard, the clean energy funds will continue to explore other data sources to arrive at an estimate.

[31] Year 2006 is the baseline year used because it provides the latest available information that is nearest the year the clean energy funds were established.

Table A3.1: Carbon Intensities and Electrification Rates, 2006
Developing Member Countries Covered by Clean Energy Funds Support

	Country	Carbon Intensity (in ton of carbon equivalent/constant 2000 US$ million)[a]	Electrification Rates (%)[b]
1	Afghanistan	19	29.5
2	Azerbaijan	703	81.3
3	Bangladesh	153	53
4	Bhutan	90	33.6
5	Cambodia	177	15.8
6	China, People's Republic of	831	74.9
7	Cook Islands	117	90.9
8	Fiji	212	55.1
9	Georgia	281	74.1
10	India	504	75.8
11	Indonesia	391	79.5
12	Kazakhstan	1611	73
13	Kiribati	112	2.6
14	Kyrgyz Republic	776	86.2
15	Lao People's Democratic Republic	131	22
16	Malaysia	304	90.2
17	Maldives	230	53.6
18	Federal States of Micronesia	143	79.6
19	Mongolia	1824	52.2
20	Myanmar	229	26.2
21	Nepal	105	30.1
22	Pakistan	342	90.8
23	Papua New Guinea	340	17.9
24	Philippines	161	62.8
25	Samoa	135	49.6
26	Solomon Islands	96	0.5
27	Sri Lanka	154	95.3
28	Tajikistan	480	87.1
29	Thailand	319	70.2
30	Timor-Leste	184	9
31	Tonga	228	85.4
32	Tuvalu	nd	1.4
33	Uzbekistan	1629	94.5
34	Vanuatu	44	15
35	Viet Nam	490	80.3
Average		**398**	**55**

nd = no data.

[a] Source: Asian Development Bank. 2013. Energy Statistics in Asia and the Pacific (1990-2009).

[b] C. Elvidge, et.al. 2011. Who's in the Dark: Satellite Based Estimates of Electrification Rates. In X. Yang, ed. Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment. West Sussex, UK: John Wiley & Sons, Ltd. Additional Note: The electrification count was estimated by tallying the total population count in areas having lighting (i.e. night-time lights collected by the US Air Force Defense Meteorological Satellite Program Operational Linescan System) as compared with total population count.

Table A3.2: Renewable Energy Share in Energy Mix, 2006
Developing Member Countries Covered by Clean Energy Funds Support

	Country	Power Generation (in GWh)								RE share (%)
		Thermal	Nuclear	Renewable Energy					Total	
				Hydro	Geothermal	Solar	Wind	Others	Subtotal	
1	Afghanistan	375	-	601	-	-	-	-	601	976	62%
2	Azerbaijan	21,093	-	2,518	-	-	-	-	2,518	23,611	11%
3	Bangladesh	28,490	-	1,389	-	-	-	-	1,389	29,879	5%
4	Bhutan	2	-	4,519	-	-	-	-	4,519	4,521	100%
5	Cambodia	1,035	-	51	-	-	-	2	53	1,088	5%
6	China, People's Republic of	2,369,604	54,843	435,786	-	-	-	5,494	441,280	2,865,727	15%
7	Cook Islands	32	-	-	-	-	-	-	-	32	0%
8	Fiji	152	-	688	-	-	-	-	688	840	82%
9	Georgia	1,972	-	5,315	-	-	-	-	5,315	7,287	73%
10	India	610,084	18,802	113,720	-	19	8,690	1,930	124,359	753,245	17%
11	Indonesia	116,795	-	9,623	-	-	-	32	9,655	126,450	8%
12	Kazakhstan	63,889	-	7,768	-	-	-	-	7,768	71,657	11%
13	Kiribati	24	-	-	-	-	-	-	-	24	0%
14	Kyrgyz Republic	2,195	-	14,887	-	-	-	-	14,887	17,082	87%
15	Lao People's Democratic Republic	-	-	3,595	-	-	-	-	3,595	3,595	100%
16	Malaysia	83,344	-	6,439	-	-	-	-	6,439	89,783	7%
17	Maldives	212	-	-	-	-	-	-	-	212	0%
18	Federal States of Micronesia	58	-	-	-	-	-	-	-	58	0%
19	Mongolia	3,649	-	-	-	-	-	-	-	3,649	0%
20	Myanmar	2,839	-	3,325	-	-	-	-	3,325	6,164	54%
21	Nepal	13	-	2,735	-	-	-	-	2,735	2,748	100%
22	Pakistan	64,109	2,288	31,953	-	-	-	-	31,953	98,350	32%
23	Papua New Guinea	2,222	-	863	227	-	-	-	1,090	3,312	33%
24	Philippines	36,325	-	9,939	10,465	1	53	-	20,458	56,783	36%
25	Samoa	64	-	53	-	-	-	-	53	117	45%
26	Solomon Islands	75	-	-	-	-	-	-	-	75	0%
27	Sri Lanka	4,847	-	4,634	-	15	2	2	4,653	9,500	49%
28	Tajikistan	234	-	16,701	-	-	-	-	16,701	16,935	99%
29	Thailand	116,883	-	8,125	-	-	-	13,732	21,857	138,740	16%
30	Timor-Leste	86	-	-	-	-	-	-	-	86	0%
31	Tonga	45	-	-	-	-	-	-	-	45	0%
32	Tuvalu	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
33	Uzbekistan	41,760	-	9,160	-	-	-	-	9,160	50,920	18%
34	Vanuatu	46	-	-	-	-	-	-	-	46	0%
35	Viet Nam	41,008	-	20,408	-	-	-	43	20,451	61,459	33%
AVERAGE		**32%**									

nd = no data.

Source: Asian Development Bank. 2013. Energy Statistics in Asia and the Pacific (1990-2009).

7. The specific contributions of clean energy funds portfolio toward meeting the sectoral objectives can be measured by the contributions on: (i) carbon dioxide emissions reductions, (ii) energy savings, (iii) installed renewable energy capacity, and (iv) renewable energy generation from implementing concessional financing (CF), grant component of investment (GCI) and technical assistance linked to loan (TALL) projects, including project preparatory technical assistance of loan projects. Actual contributions can only be measured after the full implementation of projects. Following project implementation and towards plant operations, the project will determine the actual contributions with respect to the target outcomes.[32] The outcomes may differ from the original estimate because of design changes, better or superior technologies introduced, or broadened project scope (within budget).

8. Meanwhile, the individual projects are being monitored whether they are on-track toward keeping their implementation targets, and any adjustments, as the individual projects undergo ADB's project design and implementation cycle. The cycle is further described in para. 45.

9. As of 31 December 2015, the clean energy funds portfolio is expected to contribute to annual emission reduction of about 7.6 million tCO_2, annual energy savings of about 6.7 TWh-eq., installed renewable energy capacity of 733.6 MW and renewable energy generation of 3.2 terra-hour (TWh).[33] These estimates are updated based on the clean energy funds yearly operations and when new information on project implementation becomes available.

IV. MEASURING OUTPUTS

10. Outputs are the physical and/or tangible goods and services delivered by clean energy funds and describe the scope of funds. Clean energy funds outputs are as follow: (i) clean energy investments in DMCs increased, (ii) deployment of new technologies with strong demonstration effect facilitated, (iii) new approaches/methodologies to promote clean energy/carbon capture and storage (CCS) introduced, (iv) benefits from access to energy delivered, (v) health and productivity benefits provided, and (vi) barriers to clean energy/CCS investments lowered. Details are provided in the succeeding subsections

11. Outputs are accounted based on the features identified in the project documents and linked with the scope of work financed by the funds. Many clean energy projects in ADB proceed without clean energy funds support. If a project has approached clean energy funds for financing and successfully receives allocation, it has been determined that the project: (a) is aligned with the design and monitoring framework, contributing to target indicators, (b) meets the funds eligibility criteria,[34] and (c) aligned with the strategic priorities as programmed annually.[35]It was also deemed that the clean energy funds support is catalytic to the project, in particular, clean energy funds help defray the higher cost of clean energy investments (in terms

[32]Realized avoided annual CO2 emission reduction, electricity or energy savings, energy generated using renewable energy will be reported, as available.

[33] Installed renewable energy capacity and renewable energy power generation are additional indicators implemented effective 2011 and 2014, respectively.

[34] Per the funds general eligibility criteria, projects should: (a) be consistent with the country partnership strategy and results framework, (b) be consistent with the objectives of ADB's Energy Efficiency Initiative, (c) introduce innovative solutions, (d) adopt a participatory approach, (e) be catalytic, (f) have high demonstration value in the sector, and (g) have good potential for replication and scalability in the country and/or region. The clean energy funds eligibility criteria are detailed in the Implementing Guidelines.

[35] The strategic priorities for the utilization of the clean energy funds are identified in the Annual Work Program.

of financial, technical and non-technical barriers) that deter them from being the preferred option for governments and the private sector.

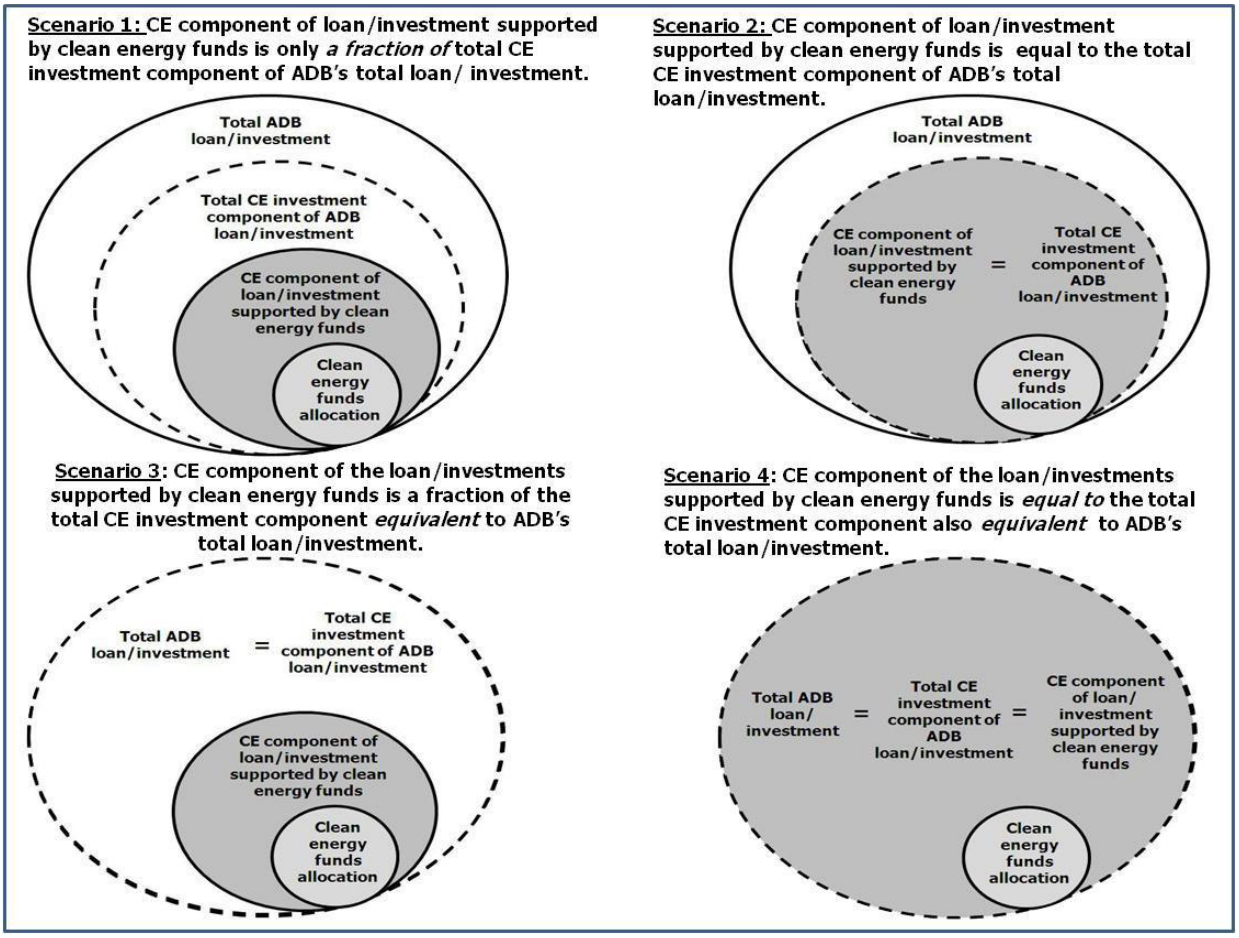
A. Clean Energy Investments in DMCs increased

12. Per the DMF, clean energy funds will directly contribute to increased clean energy investments in ADB's DMCs, targeting:

(i) *Cumulative $4 billion in ADB's clean energy investments leveraged by 2020 (contributing to ADB's $2 billion clean energy investments target every year)*. This indicator measures the amount of clean energy co-financing from ADB and ADB-administered funds, in US dollars, accounted from investment or investment-related projects.

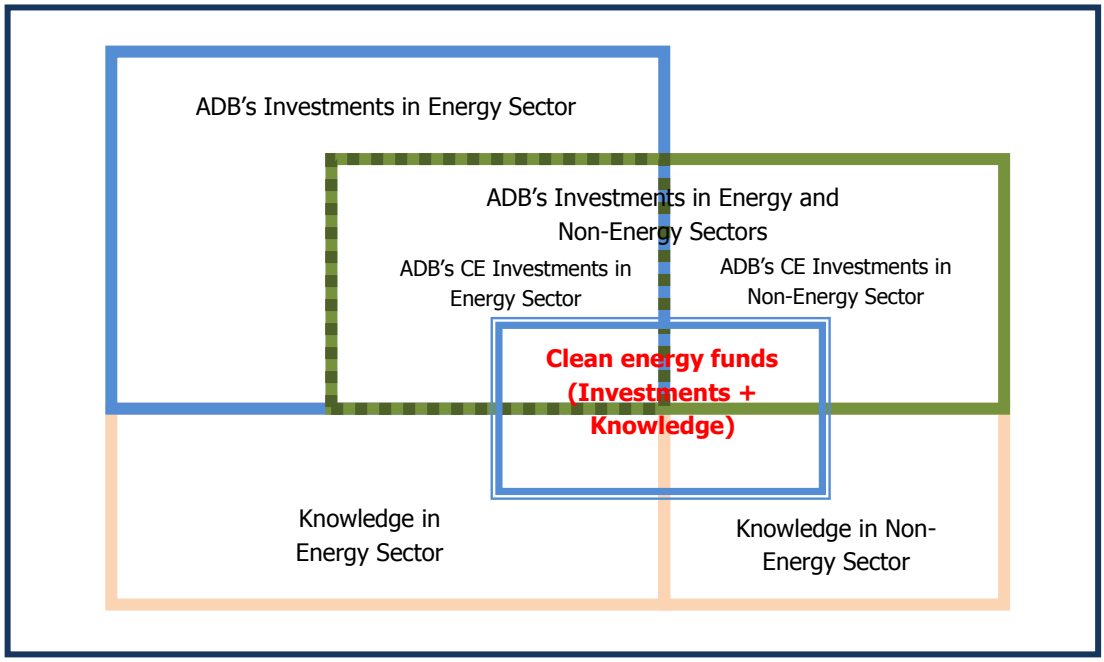
13. Figure A3.1 shows how the clean energy funds allocations relate with ADB's total and clean energy investments while Figure A3.2 presents how clean energy financing contributes in terms of investments and knowledge in the energy and non-energy sectors.

Figure A3.1: Clean Energy Funds Allocations and Clean Energy Components of ADB Investments



ADB = Asian Development Bank, CE = clean energy.

Figure A3.2: Clean Energy Funds' Allocations and ADB's Investments in Energy and Non-Energy Sectors



ADB = Asian Development Bank, CE = clean energy.

14. The clean energy funds will also directly contribute to enhanced private and non-private sector investments, targeting:

(i) *Cumulative $1.2 billion in private sector investments leveraged by 2020; and*
(ii) *Cumulative $1.2billion non-private sector investments leveraged by 2020.*[36] These two indicators measure the amount of co-financing from private and non-private sectors, accounted from investment or investment-related projects.

a. Determining the Amount of Clean Energy Components

15. In determining the amount of total clean energy investments (or investment components), the project document that completed the review and approval process of the clean energy funds and ADB management, in particular, the amount pre-determined therein is used. For example:

(i) Bhutan: Green Power Development (Allocation from ACEF under CEFPF: $1 million). The total ADB loan is for $80 million. Although the entire loan is characteristically on clean energy, only $25.28 million is accounted as the resulting clean energy investment attributed to CEFPF allocation, identified by the project team leader as the rural electrification component which the Clean Energy Financing Partnership Facility is

[36] Private sector investments refer to volume of financing mobilized, including equity, loans and guarantees) from private enterprises or financial institutions such as banks, private companies, private pensions funds, insurance companies, and the like; excluding resources from multilateral/regional development banks. Non-private sector investments refer to volume of financing mobilized from governments including other donors and partner governments, united nation agencies, multilateral/regional development banks, and the like.

helping to finance. The rest of the loan pertains to the regional power trade which includes hydropower development for export to India.

16. If the clean energy component is not already delineated in the project document, the estimates are derived from the Guidelines for Estimating ADB's Investments in Renewable Energy and Energy Efficiency Projects.[37] A summary of factors/percentages is presented in Table A3.3. These percentages are estimated based on a review of ADB's loans with clean energy components from 2004 to 2006, and will be updated at meaningful, regular intervals to remain representative of ADB's total loan portfolio over time.

17. Following is an example of a clean energy project where the pre-determined factor was applied in determining the clean energy component of the ADB investment. The clean energy component will be continuously validated as relevant information from the project team become available:

(i) Thailand: Solar Power Project (Allocation from CEF under CEFPF: $2 million). The total loan ADB is $70 million. Per the guidelines, the percentage renewable energy investment share is 100%. Thus, the $70 million is accounted as the resulting CE investments attributed to its allocation providing contingency financing for a large-scale solar farm project using thin film photovoltaic technology.

(ii) Indonesia: Sarulla Geothermal Power Generation Project (Allocation from CFPS under CEFPF: $20 million). The total ADB loan is $330 million while the private and non-private sector investments are $698.8 million and $533.6 million, respectively. As the entire renewable energy investments are characteristically on clean energy, the resulting investments attributed to CEFPF allocation are these whole amounts for ADB, private and non-private investments.

[37] The full document is available online on ADB's energy webpage: http://www.forum-adb.org/BACKUP/pdf/PDF-Energy/CE%20Investment%20Estimation%20Guidelines.pdf

Table A3.3: Percentages for Estimating Clean Energy Components of Project Loans/Investments in the Asian Development Bank's Portfolio.

Projects	Fuel	% RE/EE/CF Investment	Remarks/Assumptions
A. Renewable Energy			
Power/Energy Generation using Wind, Solar, Hydro, Geothermal, biomass, biofuel, biogas, landfill gas, municipal wastes		100%	RE projects are carbon neutral
Dedicated T&D from RE sources		100%	T & D is considered part of the RE project
B. Demand Side Energy Efficiency			
Dedicated EE projects (i.e. Guangdong EPP,etc.)		100%	Entire investment is used to improve demand side energy efficiency
Reduction of non-revenue water (NRW)		15%	Baseline is the typical NRW losses of 35% (65% efficiency) with reduced losses of about 25% (75% efficiency) after the project. The factor would be (75 – 65)/ 65 = 0.154 or a rounded number of 15%. Use actual numbers if available
Railways		20%	Percentage represents the average proportion of the present value of energy savings attributable to ADB loans. Road transport is considered the baseline.
Assistance to ESCOs, and manufacturers of energy efficient appliances and industrial equipments		100%	Entire investment is used to make energy efficient equipment avaialble in the market
C. Supply Side Energy Efficiency			
C-1 New Power Plant			
Single Cycle Combustion Turbines	Nat. Gas	35%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Fuel Oil	15%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
Combined Cycle Combustion Turbines	Nat. Gas	60%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Diesel	45%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Fuel Oil	45%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
Conventional Steam Turbines	Nat. Gas	40%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Diesel	20%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Fuel Oil	20%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Coal	0%	DEFAULT BASELINE POWER PLANT
Cogeneration	Nat. Gas	75%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Diesel	65%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Fuel Oil	65%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
	Coal	60%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
IGCC	Coal	20%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
Supercritical	Coal	20%	See Tables 2 (Power Gen Tech 1 worksheet) for spreadsheet calculations
C-2 Power Plant Upgrading			
Single Cycle Combustion Turbines		15%	See Tables 3 (Power Plant Upgrades work sheet) for spreadsheet calculations
Combined Cycle Combustion Turbines		10%	See Tables 3 (Power Plant Upgrades work sheet) for spreadsheet calculations
Conventional Steam Turbines		15%	See Tables 3 (Power Plant Upgrades work sheet) for spreadsheet calculations
Cogeneration		6%	See Tables 3 (Power Plant Upgrades work sheet) for spreadsheet calculations
IGCC		10%	See Tables 3 (Power Plant Upgrades work sheet) for spreadsheet calculations
Supercritical		10%	See Tables 3 (Power Plant Upgrades work sheet) for spreadsheet calculations
C-3. Transmission & Distribution (T & D)			
HVDC & Superconductors		6%	Baseline is 750 kv AC transmission system with losses taken at about 8%/1000 km (92% efficient). HVDC losses at about 800 kv is about 2.5%/1000 or about 3% (97% efficient) considering the relatively small voltage difference. The factor would be (97 - 92)/92 = 0.054 or 5.4%. Use 6%. Use actual numbers if available.
T & D Retrofits and Upgrades		7%	The factor is based on 5% reduction in losses. (Efficiency improvement = $((E_{after} – E_{before})/E_{before})$. The factor could be higher depending on improvement in efficiency. Assume a typical baseline losses of 25% (baseline efficiency = 75%) and a 20% losses after upgrading (efficiency = 80%). The factor would be (80 – 75)/75 = 0.0667 or 6.67%, use 7%. Use actual numbers if available
D. Cleaner Fuel (Natural Gas)			
Dedicated Pipelines and storage facilities for gas-fired plants		30%-75%	Values vary according to the type of power plants (assuming gas is to be used for power generation)
NOTE: For power plants using gas see Section C-1 above			

AC = alternating current, CF = cleaner fuel, EE = energy efficiency, EPP = efficiency power plant, ESCOs = energy service companies, HVDC = high voltage direct current, IGCC = Integrated Gasification Combined Cycle, RE = renewable energy.

Note: These percentages will be used only for clean energy projects in the pipeline with insufficient information. Validation of percentages will be done for each project as soon as relevant information becomes available.

b. Determining the Clean Energy Funds-ADB Clean Energy Investments Leverage Ratio

18. Using same project examples described in para. 15 and para. 17, Table A3.4 presents sample projects receiving clean energy funds' support and the corresponding estimation of their clean energy components that input into the calculation of clean energy funds-ADB leverage

ratio. Given these examples, total ADB loans amounted to $686.24 million of which $513 million is the estimated amount of clean energy investment components. Of the total $513 million, $458.28 million is the clean energy component attributed to clean energy funds financing.[38] The private and non-private sector investments are $698.8 million and $533.6 million, respectively.

Table 4: Translating Clean Energy Allocations into ADB CE Investments (Inputs to Calculating Clean Energy Funds-ADB Leverage Ratio)

(In $ millions)

Project name	Modality	ADB loan/TA amount	CE component of ADB loan / investment	CE component of ADB loan/ investment supported by clean energy funds	CE component of Private sector investment supported by clean energy funds[a]	CE component of Non-private sector investment supported by clean energy funds[a]	Clean energy funds allocation	Determining the CE component loan / investment	Latest approved project document (as of 31 December 2013)
BHU: Green Power Development Project - Sustainable Solar Technology Application for Rural Electrification	GCI	80.00	80.00	25.28	n/a	n/a	1.00	As described in project document	RRP
THA: Solar Power Project	GCI	70.00	70.00	70.00	-	-	2.00	100% based on ADB's estimation framework	RRP
INO: Sarulla Geothermal Power Generation Project	CF	333.00	333.00	333.00	698.80	533.60	20.00	100% based on ADB's estimation framework	RRP
INO: Institutional Capacity Building of Indonesia Eximbank	TALL	200.00	30.00	30.00	n/a	n/a	1.10	As described in project document	RRP
PRC: Utilization of Foreign Capital to Promote Energy Conservation and Energy Efficient Power Generation Scheduling	TA	2.00	n/a	n/a	n/a	n/a	1.00	n/a	TA Report
REG: Promoting Energy Efficiency in the Pacific	TA	1.20	n/a	n/a	n/a	n/a	1.20	n/a	TA Report
REG: Transport and Climate Change, the missing link: how should transport address its emissions and energy use	DC	0.04	n/a	n/a	n/a	n/a	0.04	n/a	Application paper
Total		**686.24**	**513.00**	**458.28**	**698.80**	**533.60**	**26.34**		

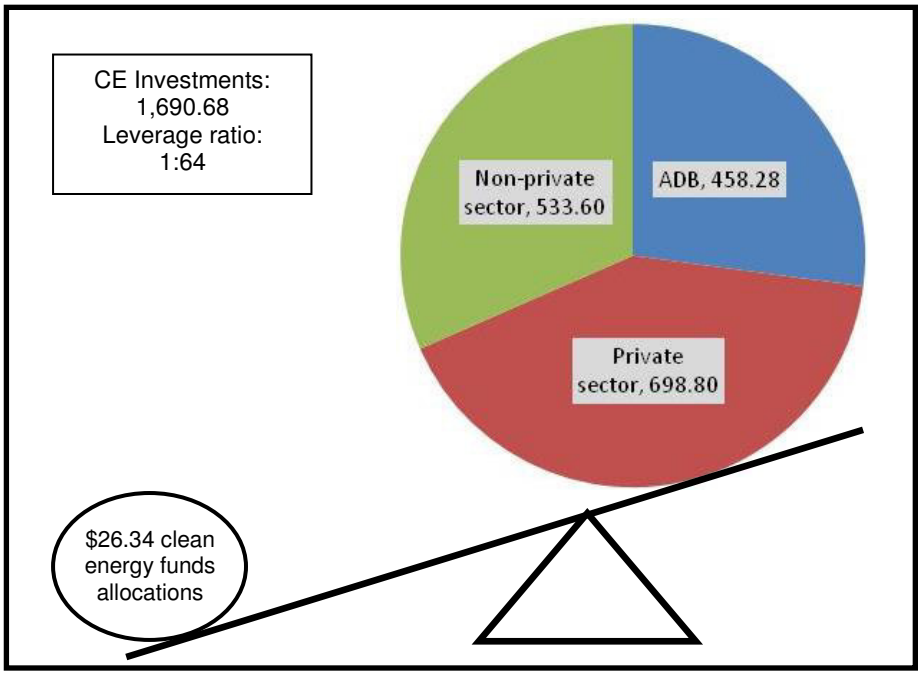
ADB = Asian Development Bank, BHU = Bhutan, CE = clean energy, CF = concessional financing, DC = direct charge, GCI = grant component of loan, INO = Indonesia, PRC = People's Republic of China, REG = regional, RRP = Report and Recommendation of the President, TA = technical assistance, TALL = technical assistance linked to loan, THA = Thailand.

[a] Performance indicator effective in 2014.

19. Clean energy funds leverage ratio is equivalent to the total volume of allocations in proportion to the total volume of clean energy components in financing attributed to clean energy funds. The total volume of allocations considers all concessional financing, GCI, TALL, TA, and Direct Charges (DC) projects. In this sample case, $26.34 million translates to $1,690.68 million clean energy investments. Thus, the clean energy funds leverage ratio computed is about 1:64, or $1 of clean energy funds resources translates to about $64 of clean energy investments, broken down as $17 of ADB clean energy investments and $47 other investments. (Figure A3.3)

[38] Specifically, this covers facility's allocations to concessional financing, GCIs, TALLs, including project preparatory technical assistance of loan projects.

Figure A3.3: Clean Energy Funds Leveraging Clean Energy Investments (In $ millions)



B. Deployment of new technologies with strong demonstration effect facilitated

20. The key word for this output is "facilitated". Following the same principle of attribution described in paras. 15-16, concessional financing, GCIs and TALLs incorporated in projects that actually deploy technologies, as well as TAs and DCs that intervene to enable the deployment of clean energy technologies are counted.

a. New clean energy/CCS technologies deployed in DMCs

21. Clean Energy Financing Partnership Facility's and Climate Change Fund's Implementation Guidelines emphasize the manageability of technology risks taken with usage of funds. Thus, it will not be used to support technologies that are still in the research and development stage. Instead, it will focus on technology deployment, which may include demonstration of new technologies. Toward this end, clean energy funds is guided by the following categories for stages in technology development/adoption:[39]

(i) **Research and Development.** Technology needs further research and development to overcome technical barriers.
(ii) **Demonstration.** Projects establish the technical viability on a commercial-scale, albeit at a higher cost.
(iii) **Deployment.** Technical operations are successful but the technology has to be used widely; entities must absorb the new technology to lower risk perceptions and identify collateral costs, if any.
(iv) **Competitive/Commercial.** Based on extensive deployment and economies of scale in manufacturing, technology becomes cost competitive in some or all markets.

[39] Based on Organisation for Economic Co-Operation and Development (OECD)/International Energy Agency (IEA). 2006. *Energy Technology Perspectives*. Paris.

22. Per the DMF, clean energy funds aim to facilitate the deployment of new clean energy/CCS technologies, targeting:

(i) *55 new clean energy/CCS technologies deployed in DMCs by 2020*. This indicator measures the number of new clean energy/CCS technologies deployed/demonstrated in DMCs as facilitated by all projects in the portfolio, guided by the information presented in paras. 23 and 24. The clean energy/CCS technology will be counted so long as financing support will contribute to an actual deployment/demonstration or creation/enhancement of the enabling environment through activities such as policy/regulatory dialogues, awareness raising, knowledge product production and dissemination, capacity building, etc.

23. The Clean Energy Working Group agreed that commercially viable projects may vary between countries. For instance, geothermal technologies may be commercially viable in the Philippines, but not in Indonesia. Projects supporting technologies categorized in the competitive stages are carefully considered based on the specific country and the particular technology involved, as well as the added value of the initiative in mainstreaming clean energy technologies in Asia and the Pacific. For example, the compact fluorescent lighting (CFL) is a technology considered to be in the commercial/competitive stage. However, in Sri Lanka, where it is being promoted as part of the Sri Lanka: Demand Side Management for Municipal Street Lighting Project, the use of CFLs is not widespread. The CFLs are being incorporated into a pilot energy efficient street lighting initiative at the municipal-level to be scaled-up nationally. The project Thailand: Mainstreaming Energy Efficiency Measures for Thai Municipalities is another case-in-point. Thailand is the leading country for energy conservation in the region, showcasing particularly Bangkok. However, very little is being done outside the capital. Clean energy funds' financing of municipal-level energy efficiency projects will result in models that can be replicated in other municipalities throughout the region. Box A3.1 further describes clean energy funds' involvement in these projects.

Box A3.1: Examples of Projects Supported by Clean Energy Funds Deploying Clean Energy Technologies

Sri Lanka: Demand Side Management for Municipal Street Lighting

Sri Lanka's generation capacity is severely deficient and projected to continue lagging behind demand requirements over the near and midterm time horizon. CEFPF/CCF-CE's resources are used to set up a system for utility-based energy service company or ESCO units, to manage contracts for the implementation of demand side municipal lighting. This innovative public-private partnership approach will allow energy efficiency savings to be used for future efficiency programs to help capital constrained consumers and municipal governments achieve savings, efficiency, and carbon dioxide reductions. The investment component includes the installation of automatic control panels with metering, time-of-day switches and electronic timers to help manage related costs, and compact fluorescent lamps and sodium lights to replace incandescent and mercury lights.

Thailand: Mainstreaming Energy Efficiency Measures for Thai Municipalities

CEFPF resources are used to fully fund this project designed to improve Thailand's energy security and decrease the rate of greenhouse gas emissions by promoting energy efficiency initiatives in Thai municipalities. The energy service companies in Thailand primarily market their services to private clients in the commercial and industrial sector such that there are few energy efficiency initiatives that promote energy conservation at the municipal level. CEFPF resources will be used to help strengthen the capacity of Thailand's Provincial Electricity Authority and Thai municipalities to identify, design, finance, and implement pilot energy efficiency projects, and to plan for the replication of energy efficiency projects nationwide based on their implementation. The pilot projects include retrofitting old buildings and upgrading municipal street lighting using energy efficiency technologies.

24. Clean energy funds support projects categorized in the competitive/commercial stages because, although commercialization has happened in some parts of the globe, adoption of the particular technology in the specific DMC is weak due to barriers present (for more information on barriers to new technologies, please see next section). In cases involving these competitive/commercial technologies, clean energy funds is actually supporting the demonstration or deployment rather than the widespread commercial application of these technologies in the DMCs where they are being implemented.

25. Table A3.5 identifies sample technologies supported by clean energy funds in the different technology development/adoption stages. These categories will be updated at meaningful, regular intervals to reflect the latest technology developments globally.

Table A3.5: Sample Technologies Supported by Clean Energy Funds in Various Stages of Technology/Adoption

Technology Development/Adoption Stage[a]	Technology
Research and Development	
Demonstration	Carbon capture and storage
Deployment	Biofuel, smart grid, solar photovoltaic, solar thermal, white light emitting diodes, wind power, integrated gasification combined cycle
Competitive/commercial	Biogas, biomass, building retrofits, compact fluorescent lighting, improved cook stoves, light emitting diodes, micro/mini hydropower, natural gas, variable frequency drive, waste-to-energy (e.g. biomethanation)

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2008. Energy Technologies Perspectives. Paris.

b. CCS Demonstration Projects in Identified Priority DMCs Commenced

26. Clean energy funds support the deployment of the CCS technology through the Carbon Capture and Storage Fund (CCSF), a technology-specific fund established under the Clean Energy Financing Partnership Facility (CEFPF). In particular, CCSF envisages helping DMCs in considering CCS for reducing CO_2 emissions, through successful demonstration projects. CCSF supports projects that contribute to acceleration of, or removal of barriers/risks to CCS technology development. CCSF supports grant component of investments (GCI), technical assistance linked to loans (TALL), technical assistance (TA), and direct charges (DC) that engage in capacity development, supporting geological investigations and environmental studies related to potential carbon dioxide storage sites, and undertaking community awareness and support programs.

27. Per the DMF, clean energy funds will support CCS development, targeting:

(i) *2 CCS demonstration projects in the identified priority countries commenced by 2020*. This indicator accounts the number of demonstration projects on CCS that are commencing in priority countries, as prescribed in the CCSF Implementation Guidelines.[40]

[40]The priority DMCs are: People's Republic of China, India, Indonesia, and Viet Nam.

C. New approaches/methodologies to promote clean energy/CCS introduced

28. Clean energy funds serve as mechanisms in exploring and introducing innovative solutions to promote and deploy clean energy/CCS technologies. Clean energy funds support the development of key methodologies/approaches to help with the deployment of and/or the lowering of barriers to clean energy/CCS technologies. For instance, the Sri Lanka: Demand Side Management for Municipal Street Lighting Project (Box A3.1) is setting-up a system for utility-based energy service company (ESCO) units to manage contracts for the implementation of demand side municipal lighting. The project works on an innovative public-private partnership approach that will allow energy efficiency savings to be used for future efficiency program to achieve targeted CO_2 emission reduction.[41]

29. Per the DMF, clean energy funds is targeting:

(i) *15 new approaches/methodologies to promote clean energy/CCS introduced in participating DMCs by 2020*. This indicator measures the new approaches/methodologies introduced/developed associated with the deployment/demonstration of and/or lowering of barriers to clean energy/CCS technologies development as facilitated by the projects in the portfolio, following the principle of attribution described in paras. 15-16.

D. Benefits from access to energy delivered

30. Aligned with the 2009 Energy Policy which identifies maximizing access to energy for all as one of its three pillars for ADB's overall support to the energy sector, clean energy funds will contribute to increasing access by the rural and urban poor to modern forms of energy. As defined in the Guidelines for Estimating ADB Investments in Access to Energy Projects, access to energy addresses the energy, environment and poverty nexus by linking households to modern energy sources, technologies and finance. Specifically, it involves any or a combination of the following:

(i) Provision of electricity and motive power[42] to households,
(ii) Improvement in the supply and delivery of energy services to households,
(iii) Provision of modern fuels and/or efficient devices for cooking and/or heating to households, and
(iv) Provision of finance to households to access energy

31. ADB projects are categorized based on the Guidelines for Gender Mainstreaming Categories of ADB projects.[43] Clean energy funds will capture all efforts to address gender benefits, covering gender categories: (a) Gender Equity (GEN), (b) Effective Gender Mainstreaming (EGM), and (c) some gender elements (SGE), in projects which at the minimum, provide some gender elements. Per the gender mainstreaming guidelines, each gender category is defined as follow: a project is assigned "some gender elements" if it meets either the following:

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[41] The project allocation received authorization from CCSC in 2008. Reference is being made to serve as example. As a new indicator added in the updated clean energy funds DMF, new approaches/methodologies are accounted from projects receiving CCSC-authorization beginning January 2011 onwards.

[42] Motive power is defined here as "the effective outcome transforming different forms of energy sources (e.g. wind, hydro, fossil fuels, etc.) to kinetic energy (to cause motion).

[43] For more details, please visit: http://www.adb.org/themes/gender/gender-mainstreaming-categories .

(i) Gender Equity (GEN). Gender equity theme covers projects that directly address gender equality and/or women's empowerment by narrowing gender disparities through access to social services, and/or economic and financial resources and opportunities, and/or basic rural and urban infrastructure; and/or enhancing voices and rights.And, the outcome statement of the project's DMF explicitly mentions gender equality and women's empowerment and/or, the outcome performance indicators include gender indicators

(ii) Effective Gender Mainstreaming (EGM). Effective gender mainstreaming covers projects with outputs designed to directly improve women's access to social services, and/or economic and financial resources and opportunities, and/or basic rural and urban infrastructure, and/or enhancing voices and rights, which contribute to gender equality and women's empowerment

(iii) Some Gender Elements (SGE). A project is assigned "some gender elements" if it meets either of the following:

- By its nature it is likely to directly improve women's access to social services; and/or economic and financial resources and opportunities, and/or basic rural and urban infrastructure, and/or enhance their voices and rights (for example education, health, rural development, microfinance, water supply and sanitation, food security, and emergency food and rehabilitation assistance), but that included little, if any gender analysis and few or no specific design features; and did not meet the EGM criteria
- It is unlikely to directly improve women's access to social, economic or financial resources or opportunities, but significant efforts were made during project preparation to identify potential positive and negative impacts on women. Some gender features are included to enhance benefits to women (for example targets for employment of women in project construction work, provision of equal pay for equal work, information campaigns on HIV/AIDS risk, gender training of executing/implementing agencies, and adherence to core labor standards, especially child labor); and where resettlement is involved includes attention to women in the mitigation/resettlement plans (such as compensation payments to both men and women, joint-ownership of replacement land/housing, restoration of livelihood initiatives for women, and so forth).

32. Projects with defined energy access components receiving support from clean energy funds are accounted. Per the DMF, clean energy funds is targeting:

(i) *Cumulative total of 700,000 households provided with access to energy in participating DMCs by 2020(contributing to the ADB-led Energy for All Partnership target of 100 million people by 2015)*. This indicator measures the number of households provided with access to modern energy sources, technologies and finance, including any or combination of (i) to (iv) in para. 30, accounted from all projects in the portfolio. This target isfurther broken down as follow:

- 350,000 households with electricity connection,
- 175,000 households with modern fuels and/or efficient devices for cooking, and
- 175,000 households with modern fuels and/or efficient devices for heating.

(ii) *30% of access to energy projects with gender mainstreaming by 2020*. This indicator measures the ratio of projects with gender equity theme and effective gender mainstreaming, to total number of projects with access to energy component, expressed as a percentage and accounted for all access to energy projects in the portfolio.

(iii) *80% of access to energy projects with gender concerns by 2020*. This indicator measures the ratio of projects with gender benefits (i.e. covering gender categories: (i) gender equity theme, (ii) effective gender mainstreaming, and (iii) some gender elements, at the minimum) to total number of projects with access to energy components, expressed as a percentage and accounted for all access to energy projects in the portfolio.[44]

E. Health and productivity benefits provided

33. Aligning with one of the critical strategic agenda identified in Strategy 2020 which is inclusive economic growth, clean energy funds support projects which will provide co-benefits to reduced CO_2 emissions. Per the DMF, clean energy funds will aim at:

(i) *40% of projects supported highlights co-benefits on health and/or productivity by 2020*. This indicator measures the ratio of projects providing health and/or productivity benefits derived from clean energy interventions, to the total number of projects, expressed as a percentage and accounted for all projects in the portfolio.[45] These benefits may not be easily identified in all supported projects, but where they can be, they will be highlighted. For instance, access to energy projects and renewable energy projects which offer increased local control of energy production to stabilize prices, help improve local air quality and boost local economies.

34. Clean energy funds will seek to support projects that boost local economies through livelihood development or job creation. In this regard, the number of individuals employed during construction and/or operation as well as the average ratio of women to total employees, expressed as a percentage, will be accounted for all projects in the portfolio.

F. Barriers to clean energy/CCS investments lowered

35. Barriers to new clean energy technologies are policy, capacity, institutional, financial, economic, and even sociopolitical obstacles that place clean energy technologies at a disadvantage against conventional energy technologies, inhibiting adoption and widespread use. Besides the higher capital cost of clean energy technologies commonly acknowledged, some of the key barriers include:

(i) Lack of enabling policies and regulations;
(ii) Inadequate skills and training to manufacture, install, maintain, and/or service new clean energy technologies;
(iii) Lack of public awareness and information dissemination on clean energy options and benefits;
(iv) Disposition to established energy systems (e.g., technological lock-in; centralized power plant operation);
(v) Inadequate financing options (e.g., limited access to affordable financing); and
(vi) Failure to internalize externalities (e.g., pollution cost of conventional energy; energy security benefits of clean energy).

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[44] For projects not categorized, gender concerns/benefits addressed will be determined, as mentioned, in project documents,

[45] All ADB projects are expected to contribute to economic growth of DMCs. The output and indicator were modified to clarify the target of increasing productivity in terms of improved education, income, livelihood and social services.

36. Clean energy funds particularly consider (i) to (v) of para. 35 in the projects they support and summarize these in the DMF, targeting:

(i) *20 national/local policies enabling clean energy/CCS development in participating DMCs developed by 2020*. This indicator which in some cases may consider the internalization of externalities, measures the number of national or local policies developed supporting the enhancement of enabling environment for clean energy/CCS promotion, accounted for all projects in the portfolio.
(ii) *25 financing models suitable for bundling small clean energy/CCS investments applied in participating DMCs by 2020*. This indicator measures the number of financing models applied suitable for bundling small clean energy/CCS investments, accounted for all projects in the portfolio.
(iii) *100% of projects supported produce and/or disseminate knowledge products or contribute in building capacity to promote clean energy/CCS development in participating DMCs by 2020*. This indicator measures the number of projects producing and disseminating knowledge products such as feasibility study reports, training manuals, etc., and providing activities that help in building the capacity of relevant institutions, effectively targeting policy and decision makers, such as trainings, workshops, discussions.

37. Following the principle of attribution in paras. 15-16, projects that intervene to break down the barriers identified here and enable the deployment of clean energy technologies will be accounted. Clean energy funds management realizes getting everything into legislation may be difficult and many things have to be done before a formal policy is arrived at. Any of the forms of policies, be it formal (e.g. acts such as Energy Efficiency Act or Renewable Energy Act and implementing regulations) or policies that are not necessarily enshrined in a formal legislation, will be accounted. ADB will ensure not to count business as usual but will be flexible and claim benefits of projects that had broken the barriers and resulted to specific changes through establishment of a new model, creation of a new process, etc.

38. An example of a financing model accounted is under the Thailand: Solar Power Project where clean energy funds were used for contingency financing to contribute in demonstrating the capacity of large-scale solar projects. Contingency funds were used to cover risks that are directly related to total project capital expenditure (high for solar projects) and entail very high costs resulting in incremental risks and constitute a barrier to project financing and implementation.

39. Clean energy funds seeks to support the enhancement of knowledge and capacity of DMCs for clean energy development and will also monitor and account from all projects in the portfolio the following: (a) number of projects that disseminate knowledge products, practices and information in a gender sensitive manner (i.e. participation of women), (b) number of knowledge products produced and/or disseminated, (c) number of individuals trained, including the ratio of women, expressed as a percentage, and (d) number of trainings/conferences/workshops held.

V. ACTIVITIES

40. Activities are the group of tasks carried out using project inputs to produce the desired outputs. The clean energy funds are operationally guided by the activity inputs identified in the

DMF. Per the DMF, clean energy funds will carry out the following activities and milestones from 2008-2020, towards achieving its established impacts, outcomes and outputs:

(i) Pool grants from multilateral and bilateral sources;
(ii) Explore and develop innovative investment programs and financing mechanisms;
(iii) Finance proven investments in smaller clean energy projects;
(iv) Finance investments that increase the percentage of people with access to CE in rural and urban areas;
(v) Finance technology transfer costs of pre-commercial (i.e. proven and ready for deployment) CE technology catalyzing mainstream adoption;
(vi) Finance technical and capacity building programs for CE in DMCs; and
(vii) Coordinate CE/CCS knowledge provision and exchange.

41. Within these DMF-prescribed activities, clean energy funds set yearly targets captured in the Annual Work Program (AWP). Based on the latest status of its portfolio, clean energy funds also set annual selection and prioritization criteria for allocations to supplement its Implementations Guidelines with the aim of maintaining a balanced portfolio during the year, and achieving its overall Investment:TA ratio of 70:30.[46]

42. All of these activities described in clean energy funds' DMF and AWP comprise the clean energy funds' activity inputs to produce the facility's desired outputs. Annually, separate reports are prepared on the operational activities of CEFPF and CCF-CE, measured against the activity targets set in its DMF and current AWP.

VI. INFORMATION SOURCES FOR MONITORING

A. Sources for Impacts

43. Presently refers to the following data sources in monitoring the clean energy funds' impact indicators:

(i) Energy Statistics in Asia and the Pacific (1990 – 2009)[47]
(ii) Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment.[48]

44. As illustrated in Tables A3.1 and A3.2, smaller countries often do not have similar, standardized data readily available. In this regard, the necessary information will be derived at through other data sources, including:

(i) Ministry of Energy and Power (or equivalent) in DMCs
(ii) Other data sources still to be explored

B. Sources for Monitoring Outcome and Outputs

[46] In computing CEFPF/CCF-CE's Investment:TA ratio, "Investment" comprises concessional financing, GCIs and TALLs taken together, while "TA" comprises TAs and DCs taken together.

[47] Asia-Pacific Economic Cooperation and the Asian Development Bank.Mandaluyong, Philippines.

[48] C. Elvidge, et.al. 2011.Who's in the Dark: Satellite Based Estimates of Electrification Rates. In X. Yang, ed. *Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment.* West Sussex, UK: John Wiley & Sons, Ltd.

45. Table A3.4 identifies the latest project document available for the sample projects. The clean energy funds secretariat monitors the performance indicators for the outcome and outputs by tracking the documentation of projects receiving clean energy funds allocation as it progresses through ADB's project processing and implementation cycle. Specifically, the clean energy funds secretariat reviews the following:

(i) Approved concept clearance paper, for investment and TA allocations authorized by the Climate Change Steering Committee;
(ii) Applications/proposal paper for DC allocations approved by the Facility Manager;
(iii) Report and recommendation of the President or TA report, for projects receiving clean energy funds allocations, approved by ADB (i.e., Board or President) for implementation;
(iv) Project performance report or TA performance report for ADB-approved projects receiving clean energy funds allocations, in advance stages of implementation;
(v) Project/TA/DC completion report; and
(vi) Progress updates as provided by implementing project teams

C. Sources for Monitoring Activities (Inputs)

46. Clean energy funds recount its accomplishments during its yearly operations against the DMF and AWP, as applicable. It examines its annual portfolio profile described in terms of contributions toward the facility's overall targeted results, volume and distribution of allocations, and Investment:TA ratio. Table A3.6 presents the detailed annual schedule for the clean energy funds.

Table A3.6: Clean Energy Funds Annual Schedule

Activity	Jan				Feb				Mar				Apr				May				Jun			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Application Process		CEWG Review	Revise & Endorse	Batch Jan 31 CCSC Circulation	Secretariat Review GOJ Submission		CEWG Review	Revise & Endorse	CCSC Circulation	GOJ Submission		Batch Mar 31	Secretariat Review		CEWG Review	Revise & Endorse	CCSC Circulation	GOJ Submission		Batch May 31	Secretariat Review		CEWG Review	Revise & Endorse
Financial Monitoring	Logbook update	Portfolio update		Fund status	Logbook update	Portfolio update						Fund status	Logbook update	Portfolio update	Disbursement Data Gathering	Coordination with project teams (disbursement)			Disbursement Analysis	Fund status	Logbook update	Portfolio update		Fund status
Results Monitoring	Results update		Project monitoring and document review		Results update			Blurb devt	Coordination with ODs (closing DC)		Project monitoring and document review		Results update		Blurb devt	Coordination with ODs (closing DC)			Project monitoring and document review		Results update		
Reporting	At-a-Glance		PROMODA			At-a-Glance	Unaudited Financials	PROMODA						At-a-Glance		PROMODA						At-a-Glance		PROMODA
	CEFPF/CCF Report Writing		Circulation, Revisions, Approvals			CEFPF AR															CEFPF Report Writing (SPR)			
Knowledge Management and Planning							KM								KM								KM	
		Spring cleaning					Spring cleaning		Annual Consultation Meeting						Spring cleaning					Pipeline Update		Spring cleaning		
	Annual Progamming/Prioritization																							

Activity	Jul				Aug				Sep				Oct				Nov				Dec			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Application Process	CCSC Circulation	GOJ Submission		Batch Jul 31	Secretariat Review		CEWG Review	Revise & Endorse	CCSC Circulation	GOJ Submission		Batch Sep 30	Secretariat Review		CEWG Review	Revise & Endorse	CCSC Circulation	GOJ Submission		Batch Nov 30	Secretariat Review			
Financial Monitoring	Logbook update	Portfolio update	Disbursement Data Gathering (ALL)	Fund status	Logbook update	Portfolio update						Fund status	Logbook update	Portfolio update	Disbursement Data Gathering	Coordination with project teams (disbursement)			Disbursement Analysis	Fund status	Logbook update	Portfolio update		Fund status
			Coordination with ODs (disbursement)																					
Results Monitoring	Coordination with ODs (closing DC)		Project monitoring and document review		Results update			Blurb devt	Coordination with ODs (closing DC)		Project monitoring and document review		Results update			Blurb devt			Project monitoring and document review		Results update	Project monitoring and document review		
																			Coordination with ODs (Project Progress)					
Reporting	At-a-Glance		PROMODA			At-a-Glance	Unaudited Financials	PROMODA						At-a-Glance		PROMODA						At-a-Glance		PROMODA
	CEFPF Report Writing (SPR)		Circulation, Revisions, Approvals			CEFPF SPR															CEFPF/CCF Report Writing			
Knowledge Management and Planning							KM								KM								KM	
		Spring cleaning					Spring cleaning								Spring cleaning					Pipeline Request		Spring cleaning		

AR = annual report, CCF = Climate Change Fund, CEFPF = Clean Energy Financing Partnership Facility, CEWG = Clean Energy Working Group, CCSC = Climate Change Steering Committee, DC = direct charge, GOJ = Government of Japan, KM = knowledge management, OD = operations department, PROMODA = project monitoring database, SPR = semiannual progress report.

Table A4.1: Expected Emission Reductions, Energy Savings and Installed Renewable Energy Capacity from Contributing CEFPF-Supported Projects, as of 31 December 2017

Project	Modality	Allocation (In $ '000)	Sector	Demand reduction (MW)	CO_2 emission reduction (tCO_2/yr)	Energy savings (MWh-equivalent)	Installed capacity using RE (MW)	RE power generation (MWh)	<Optional> Other emissions avoided (tons/yr)
CLEAN ENERGY FINANCING PARTNERSHIP FACILITY									
2008									
Projects approved by ADB for implementation									
BAN: Capacity Development for Infrastructure Development Co. Ltd. (TA component of loan, BAN: Public-Private Infrastructure Development Facility (PPIDF))	GCI	2,000	Energy	-	27,600.00	-			-
BHU: Bhutan Green Power Development Project - Sustainable Solar Technology Application for Rural Electrification	GCI	1,000	Energy	-	190,000.00	-			-
PRC: Capacity Building for Implementation of Efficiency Power Plant (formerly Guangdong Energy Efficiency Improvement Investment Program, for $100 million)	TALL	800	Energy	107.00	415,560.00	532,767.00			TSP: 1,785, SO2: 4,795, NOX: 1,066
PHI: Energy Efficiency Project (Grant Component of Loan with same project name)	GCI	1,500	Energy	300.00	300,000.00	534,000.00			-
SRI: Clean Energy and Access Improvement (TA Grant component: Demand Side Management (DSM) for Municipal Street Lighting)	TALL	800	Energy	2.20	66,000.00	10,200.00			-
GCI (2008)		4,500		300.00	517,600.00	534,000.00			
TALL (2008)		1,600		109.20	481,560.00	542,967.00			
Subtotal		**6,100**		**409.20**	**999,160.00**	**1,076,967.00**			
2009									
Projects approved by ADB for implementation									
PRC: Integrated Renewable Biomass Energy Development Sector Project	GCI	3,000	Energy	-	770,000.00	-			-
PRC: Municipal Waste to Energy Project	TALL	653	Energy	-	350,000.00	-			-
INO: Pilot Project for Efficient Lighting (Loan project - INO: Java-Bali Electricity Distribution Performance Improvement Project)	GCI	1,000	Energy	0.30	20,000.00	24,336.82			-
NEP: Compact Fluorescent Lighting and Solar-Powered Street Lighting (Loan project -NEP: Energy Access and Efficiency Improvement)	GCI	4,200	Energy	10.20	15,000.00	23,750.00			-
GCI (2009)		8,200		10.50	805,000.00	48,086.82			
TALL (2009)		653		-	350,000.00	-			
Subtotal		**8,853**		**10.50**	**1,155,000.00**	**48,086.82**			

ADB = Asian Development Bank, BAN = Bangladesh, BHU = Bhutan, PRC = China, People's Republic of, CEFPF = Clean Energy Financing Partnership Facility, CO_2 = carbon dioxide, GCI = grant component of investments, INO = Indonesia, MW = megawatt, MWh = megawatt-hour, NEP = Nepal, NOx = nitrogen dioxide, PHI = Philippines, RE = renewable energy, SO_2 = sulphur dioxide, SRI = Sri Lanka, TA = technical assistance, TALL = technical assistance linked to loan, TSP = total suspended particulate.
Note: Estimates include adjustments on projects following project realignments/withdrawal, new information received, and approval by ADB.
Yellow highlights indicate cofinancing.
Source: ADB Estimates

Table A4.1 continued

Project	Modality	Allocation (In $ '000)	Sector	Demand reduction (MW)	CO_2 emission reduction (tCO_2/yr)	Energy savings (MWh-equivalent)	Installed capacity using RE (MW)	RE power generation (MWh)	<Optional> Other emissions avoided (tons/yr)
2010									
Projects approved by ADB for implementation									
BAN: Energy Efficiency Improvement (Original application title: Solar Powered Street Lights and Energy Efficient Water) (Project: BAN: City Region Development Project)	TALL	1,500	Multisector	-	141,240.00	213,000.00			-
PRC: Development of Energy Manager Program for Energy Conservation in Shandong (Original title - PRC: Capacity Building Technical Assistance for PRC Energy Efficiency and Emissions Reduction in Shandong Province; Retitled - PRC: Shandong Energy Manager System) (Linked to Project - PRC: Shandong Energy Efficiency and Emission Reduction Project)	TALL	1,000	Energy	-	822,297.00	1,285,000.00			SO2: 986
PRC: Municipal Natural Gas Infrastructure Development Project (Phase 2)	TALL	592	Energy	-	300,000.00	-			SO2: 4,000
IND: Capacity Building for Commercial Bank Lending for Solar Energy	TALL	750	Energy	-	-	-			-
INO: Institutional Capacity Building of Indonesia Eximbank (Original title: Indonesia Eximbank Capacity Building)	TALL	1,100	Multisector	-	57,447.00	112,743.00			-
SRI: Implementation of Energy Efficiency Policy Initiatives (TA component of Loan, SRI: Sustainable Power Sector Support Project)	TALL	1,850	Energy	-	353,787.00	480,000.00			-
THA: Solar Power Project	GCI	2,000	Energy	-	50,000.00	-			-
GCI (2010)		2,000		-	50,000.00	-			
TALL (2010)		6,792		-	1,674,771.00	2,090,743.00			
Subtotal		**8,792**		**-**	**1,724,771.00**	**2,090,743.00**			
2011									
Projects approved by ADB for implementation									
INO: West Kalimantan Power Grid Strengthening Project	GCI	2,000	Energy	-	1,400.00	-	-		-
VIE: Energy Efficiency for Ho Chi Minh City Water Supply Project (Original application title: VIE: Ho Chi Minh City Water Supply PFR 1 MFF Viet Nam Water Sector Investment Program) (Loan Project: VIE: Water Sector Investment Program - Tranche 1)	GCI	2,000	Water	-	7,500.00	10,000.00	-		-
GCI (2011)		4,000		-	8,900.00	10,000.00	-		
TALL (2011)		-		-	-	-	-		
TA (2011)		-		-	-	-	-		
Subtotal		**4,000**		**-**	**8,900.00**	**10,000.00**	**-**		

ADB = Asian Development Bank, BAN = Bangladesh, PRC = China, People's Republic of, CO_2 = carbon dioxide, GCI = grant component of investments, IND = India, INO = Indonesia, MFF = multitrache financing facility, MW = megawatt, MWh = megawatt-hour, PFR = periodic financing request, RE = renewable energy, SO_2 = sulphur dioxide, SRI = Sri Lanka, TA = technical assistance, TALL = technical assistance linked to loan, tCO_2 = ton of carbon dioxide, THA = Thailand, VIE = Viet Nam.
Note: Estimates include adjustments on projects following project realignments/withdrawal, new information received, and approval by ADB.
Yellow highlights indicate cofinancing.
Source: ADB Estimates

Table A4.1 continued

Project	Modality	Allocation (In $ '000)	Sector	Demand reduction (MW)	CO_2 emission reduction (tCO_2/yr)	Energy savings (MWh-equivalent)	Installed capacity using RE (MW)	RE power generation (MWh)	<Optional> Other emissions avoided (tons/yr)
2012									
Projects approved by ADB for implementation									
BAN: Supporting Brick Sector Development Program	TALL	750	Multisector	-	980,000.00	2,833,149.78	-		-
SRI: Solar Rooftop Pilot under SRI: Clean Energy and Network Efficiency Improvement Project	GCI	1,500	Energy	-	1,286.00	-	1.00		-
TON: Outer Island Energy Efficiency Project	TA	400	Energy	-	2,025.00	2,575.20	0.03		-
TON: Outer Island Renewable Energy Development Project	TA	225	Energy	-	1,700.00	-	1.25		-
GCI (2012)		1,500		-	1,286.00	-	1.00		
TALL (2012)		750		-	980,000.00	2,833,149.78	-		
TA (2012)		625		-	3,725.00	2,575.20	1.28		
Subtotal		**2,875**		**-**	**985,011.00**	**2,835,724.98**	**2.28**		
2013									
Projects approved by ADB for implementation									
AZE: Renewable Energy Development (Biomass Cogeneration) Project	TA	1,000	Energy	-	24,000.00	-	16.00	-	-
PRC: Energy Efficiency Multi-Project Financing Program	TALL	500	Energy	-	225,000.00	245,000.00	-	-	-
IND: Concentrated Solar Power Project	TA	1,000	Energy	-	366,420.00	-	100.00	-	-
INO: Sarulla Geothermal Power Generation Project	CF	20,000	Energy	-	1,300,000.00	-	320.00	2,529,000.00	-
NEP: South Asia Tourism Infrastructure Development Project - Additional financing (Original title: NEP: Lumbini Clean Public Transport Project (under the South Asia Tourism Infrastructure Development Project))	GCI	3,000	Multisector	-	156.00	840.00	0.35	-	-
SAM: Renewable Energy Development and Power Sector Rehabilitation Project	TALL	1,000	Energy	-	8,904.00	-	0.81	3,790.00	-
UZB: Samarkand Solar Power Project	TA	750	Energy	-	88,000.00	-	100.00	159,000.00	-
VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project - Additional Cofinancing (Original title: VIE: Supplementary Financing for Output Based Aid for Rural Electrification under the ongoing project "Loan 2517: VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector")	GCI	3,000	Energy	-	60,000.00	-	-	-	-
CF (2013)		20,000		-	1,300,000.00	-	320.00	2,529,000.00	-
GCI (2013)		6,000		-	60,156.00	840.00	0.35	-	-
TALL (2013)		1,500		-	233,904.00	245,000.00	0.81	3,790.00	-
TA (2013)		2,750		-	478,420.00	-	216.00	159,000.00	-
Subtotal		**30,250**		**-**	**2,072,480.00**	**245,840.00**	**537.16**	**2,691,790.00**	**-**

ADB = Asian Development Bank, AZE = Azerbaijan, BAN = Bangladesh, CF = concessional financing, PRC = China, People's Republic of, CO_2 = carbon dioxide, GCI = grant component of investments, IND = India, INO = Indonesia, MW = megawatt, MWh = megawatt-hour, NEP = Nepal, RE = renewable energy, SAM = Samoa, SRI = Sri Lanka, TA = technical assistance, TALL = technical assistance linked to loan, tCO_2 = ton of carbon dioxide, TON = Tonga, UZB = Uzbekistan, VIE = Viet Nam.
Note: Estimates include adjustments on projects following project realignments/withdrawal, new information received, and approval by ADB.
Yellow highlights indicate cofinancing.
Source: ADB Estimates

Table A4.1 continued

Project	Modality	Allocation (In $ '000)	Sector	Demand reduction (MW)	CO_2 emission reduction (tCO_2/yr)	Energy savings (MWh-equivalent)	Installed capacity using RE (MW)	RE power generation (MWh)	<Optional> Other emissions avoided (tons/yr)
2014									
Projects approved by ADB for implementation									
GEO: Adjaristsqali Hydropower Project	CF	15,000	Energy	-	200,000.00	-	185.00	450,000.00	-
INO: Institutional Capacity Building of Indonesia Eximbank - Additional Financing	TALL	225	Multisector	-	<57,447>	<112,743>	-	-	-
MYA: Renewable Energy for Nationwide Telecommunications Project	TALL	1,000	Multisector	-	10,000.00	-	4.50	5,400.00	-
CF (2014)		15,000		-	200,000.00	-	185.00	450,000.00	-
GCI (2014)									
TALL (2014)		1,225		-	10,000.00	-	4.50	5,400.00	-
TA (2014)									
Subtotal		**16,225**		**-**	**210,000.00**	**-**	**189.50**	**455,400.00**	**-**
2015									
Projects approved by ADB for implementation									
CAM: Supplementary Financing for Electricity Access to Low Income Households (under Loan CAM: Medium Voltage Sub-Transmission Expansion Sector Project)	GCI	1,000	Energy	-	25,600	-	-	-	-
IND: Demand -Side Energy Efficiency Invest Project	TALL	1,000	Energy	-	371,000	382,474	-	-	-
TAJ: Strengthening Private Sector Participation in Technical and Vocational Education Training(TVET)	GCI	2,000	Multisector	-	1,050	-	0.26	1,737	-
SAM: Solar Power IPP	TALL	225	Energy	-	-	-	-	-	-
Projects awaiting ADB Board approval									
SAM: Solar Power IPP	CF	1,000	Energy	-	4,500	-	4.40	5,700	-
CF (2015)		1,000		-	4,500	-	4	5,700	-
GCI (2015)		3,000		-	26,650	-	0	1,737	-
TALL (2015)		1,225		-	371,000	382,474	-	-	-
TA (2015)									
Subtotal		**5,225**		**-**	**402,150**	**382,474**	**4.66**	**7,437**	**-**
2016									
Projects approved by ADB for implementation									
SRI: Wind Power Generation Project	TA	2,000	Energy	-	748,862	-	375.00	1,084,050	-
REG: Access to Electricity with New Off-Grid Solar Technology in Central Asia (Original application title: REG: Increase Electricity Access Using Off-Grid Solar Power and New Technology)	TA	2,000	Energy	-	200	749	-	-	-
SRI: Supporting Electricity Supply Reliability Improvement Project-Renewable Energy Micro-grid	GCI	1,800	Energy	-	327	-	0.30	408	-

ADB = Asian Development Bank, CAM = Cambodia, CF = concessional financing, CO_2 = carbon dioxide, GCI = grant component of investments, GEO = Georgia, IND = India, INO = Indonesia, MW = megawatt, MWh = megawatt-hour, MYA = Myanmar, RE = renewable energy, SAM = Samoa, SRI = Sri Lanka, TA = technical assistance, TAJ = Tajikistan, TALL = technical assistance linked to loan, tCO_2 = ton of carbon dioxide,.

Note: Estimates include adjustments on projects following project realignments/withdrawal, new information received, and approval by ADB.
Yellow highlights indicate cofinancing.

Source: ADB Estimates

Table A4.1 continued

Project	Modality	Allocation (In $ '000)	Sector	Demand reduction (MW)	CO_2 emission reduction (tCO_2/yr)	Energy savings (MWh-equivalent/yr)	Installed capacity using RE (MW)	RE power generation (MWh/yr)	<Optional> Other emissions avoided (tons/yr)
2016									
Projects approved by ADB for implementation									
NEP: Power Transmission and Distribution Efficiency Enhancement Project (Original application title: NEP: Electricity Distribution Efficiency Improvement Project)	TA	1,500	Energy	-	50,000	-	-	-	-
REG: Leapfrogging of Clean Technology in CAREC Countries through Market Transformation (Original application title: REG: Enabling CAREC Countries for Technology Leapfrogging)	TA	2,000	Energy	-	-	-	-	-	-
INO: Banten and West Nusa Tenggara Wind Power Development	TA	500	Energy	-	230,000	-	150.00	300,000	-
SOL: Higher Education in the Pacific Investment program - Tranche 2	GCI	1,500	Education	-	600	-	0.65	-	-
TAJ: CAREC Corridor 2, 5 and 6 (Dushanbe-Kurgonteppa) Road Project	GCI	2,000	Transport	-	-	78	-	38	-
UZB: Sustainable Hydropower Project	TALL	2,000	Energy	-	121,000	205,000	84.00	534,000	-
UZB: Second Solar Power Project	TALL	1,000	Energy	-	105,000	-	100.00	177,000	-
CAM: Solar Power Project	CF	3,250	Energy	-	6,000	-	10.00	9,000	-
REG: Pacific Renewable Energy Investment Facility (original application title REG: Pacific Renewable Energy and Energy Efficiency Investment Facility Pacific Region)	TALL	3,000	Energy	-	37,000	-	-	-	-
Projects awaiting ADB Board approval									
INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	GCI	16,000	Energy	-	10,000	-	-	-	-
UZB: Second Solar Power Project	GCI	2,000	Energy	-	-	-	0.10	-	-
CF (2016)		3,250		-	6,000	-	10	9,000	-
GCI (2016)		23,300		-	10,927	78	1	446	-
TALL (2016)		6,000		-	263,000	205,000	184	711,000	-
TA (2016)		8,000		-	1,029,062	749	525	1,384,050	-
Subtotal		**40,550**		**-**	**1,308,989**	**205,827**	**720.05**	**2,104,496**	**-**

ADB = Asian Development Bank, CAM = Cambodia, CAREC = Central Asia Regional Economic Cooperation, CF = concessional financing, CO_2 = carbon dioxide, GCI = grant component of investments, INO = Indonesia, MW = megawatt, MWh = megawatt-hour, NEP = Nepal, RE = renewable energy, REG = Regional, SOL = Solomon Islands, TA = technical assistance, TAJ = Tajikistan, TALL = technical assistance linked to loan, tCO_2 = ton of carbon dioxide, UZB = Uzbekistan

Notes: Estimates include adjustments on projects following project realignments/withdrawal, new information received, and approval by ADB.
Yellow highlights indicate cofinancing.

Source: ADB Estimates

Table A4.1 continued

Project	Modality	Allocation (In $ '000)	Sector	Demand reduction (MW)	CO_2 emission reduction (tCO_2/yr)	Energy savings (MWh-equivalent/yr)	Installed capacity using RE (MW)	RE power generation (MWh/yr)	<Optional> Other emissions avoided (tons/yr)
2017									
Projects approved by ADB for implementation									
REG: ASEAN Distributed Power Project	CF	20,000	Energy	-	25,793	-	40.00	36,848	-
SRI: Rooftop Solar Power Generation Project (Application title SRI: Solar Rooftop Power Generation Project)	TALL	1,000	Energy	-	55,600	-	50.00	72,300	-
Projects awaiting ADB Board approval									
BAN: Railway Rolling Stock Operations Improvement Project	TALL	500	Transport	-	1,483	5,553	-	-	-
BAN: Additional Financing to Loan 2769 for Solar Irrigation Component	GCI	3,000	Energy	-	13,624	-	18.30	-	-
BAN: Preparing Renewable Energy Project	TALL	1,500	Energy	-	-	-	-	-	-
REG: Additional Financing Project Development and Investment Facilitation	TA	1,000	Energy	-	400,000	-	-	-	-
REG: The University of the South Pacific: Campus Smart Grid Project	GCI	1,800	Education	-	5,000	-	5.50	6,183	-
IND; Tamil Nadu Urban Flagship Investment Program	GCI	2,000	Urban	-	3,400	-	2.00	3,500	-
CF (2017)		20,000		-	25,793	-	40	36,848	-
GCI (2017)		6,800		-	22,024	-	26	9,683	-
TALL (2017)		3,000		-	57,083	5,553	50	72,300	-
TA (2017)		1,000		-	400,000	-	-	-	-
Subtotal		**30,800**		**-**	**504,900**	**5,553**	**116**	**118,831**	**-**
Cumulative Total									
CF		**59,250**		**-**	**1,536,293**	**-**	**559**	**3,030,548**	**-**
GCI		**59,300**	**-**	**311**	**1,519,943**	**593,005**	**28**	**11,867**	**-**
TALL		**22,745**	**-**	**109**	**4,478,765**	**6,417,630**	**239**	**792,490**	**-**
TA		**12,375**	**-**	**-**	**1,911,207**	**3,324**	**742**	**1,543,050**	**-**
GRAND TOTAL		**153,670**		**419.70**	**9,446,208.06**	**7,013,958.76**	**1,569.45**	**5,377,954.58**	**-**

ADB = Asian Development Bank, BAN = Bangladesh, CF = concessional financing, CO_2 = carbon dioxide, GCI = grant component of investments, IND = India, MW = megawatt, MWh = megawatt-hour, RE = renewable energy, REG = Regional, SRI = Sri Lanka, TA = technical assistance, TALL = technical assistance linked to loan, tCO_2 = ton of carbon dioxide
Notes: Estimates include adjustments on projects following project realignments/withdrawal, new information received, and approval by ADB.
Yellow highlights indicate cofinancing.
Source: ADB Estimates

Table A5.1: Technology Deployment/Adoption Stage of CEFPF-Supported Projects, As of 31 December 2016

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2008		
1	BAN: Capacity Development for Infrastructure Development Co. Ltd. (TA component of loan, BAN: Public-Private Infrastructure Development Facility (PPIDF))	Solar photovoltaic (PV) home systems (CCF: biomass, biogas and wind energy)	Deployment	-
2	BHU: Bhutan Green Power Development Project - Sustainable Solar Technology Application for Rural Electrification	Solar photovoltaic systems (White light emitting diodes(WLED), capacitors as energy storage)	Deployment	-
3	PRC: Carbon Dioxide Capture and Storage (CCS) Demonstration - Strategic Analysis and Capacity Strengthening	Carbon Capture and Storage	Demonstration	-
4	PRC: Capacity Building for Implementation of Efficiency Power Plant (formerly Guangdong Energy Efficiency Improvement Investment Program, for $100 million)	Various energy-efficient technologies applicable to the industrial and commercial sectors (motor and motor-drive systems, transformers and reactive power compnsators, lighting, heating, ventilation, and air conditioning, air compressors and pumping systems, recovery of waste energy from industry, industrial boilers and industrial cogeneration, others)	Competitive/commercial	Need to develop efficiency power plant (EPP) model with energy service company (ESCO) financing component; Inadequate EE awareness and lack of capacity for project development, monitoring and evaluation
5	PRC: Zhangbei Wind Power Project	Wind Power Generation Technology	Deployment	-
6	IND: Initial ADB Loan Due Diligence Preparatory Work for Solar Thermal Power Plant Projection in Rajasthan	Solar thermal power system	Deployment	-
7	PHI: Energy Efficiency Project (Grant Component of Loan with same project name)	Energy-efficient lighting: (CFL)	Competitive/Commercial	Lack of capacity/awareness on energy efficiency ideas and concepts
8	PHI: Pasuquin East Wind Farm Development (Energy Logics Philippines Inc.-Wind Farm Development)	wind power	Deployment	-
9	REG: Asia Clean Energy Forum 2008	None	n/a	-
10	REG: Promoting Access to Renewable Energy in the Pacific	mini-hydropower, alternative fuels, solar power	Commercial (mini hydropower), Deployment (solar, alternative fuels)	Inadequate availability of innovative financial arrangements for renewable energy projects; general lack of capacity and awareness about renewable energy (RE) concepts and their applications among households, government and private sector

BAN = Bangladesh, BHU = Bhutan, CFL = compact fluorescent lighting, PRC = China, People's Republic of, IND = India, PHI = Philippines, REG = regional, TA = technical assistance.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2008		
11	REG: Promoting Energy Efficiency in the Pacific	EE improvements in the industrial, commercial, residential and public sectors	Competitive/Commercial	Inadequate policies influencing the development of energy efficiency improvements in the industrial, commercial, residential and public sectors; insufficient EE capacity, awareness and educational strategy to develop sustainable Pacific EE system
12	REG: Recruitment of Clean Energy Expert	None	n/a	-
13	REG: Transport and climate change, the missing link, how should transport address its emissions and energy use	Energy efficient technologies and practices applicable to transport system	Competitive/Commercial	Inadequate data and information on transport issues related to climate change provided in a specific, simple, concrete and easily understandable manner
14	SRI: Building the Capacity of Sustainable Energy Authority (SEA)	None	n/a	-
15	SRI: Clean Energy and Access Improvement (TA Grant component: Demand Side Management (DSM) for Municipal Street Lighting)	Energy-efficient lighting (compact fluorescent lamps/sodium lamps; feeders and feeder meters; and time-of-day control and electronic timers)	Competitive/commercial	Need to demonstrate the viability of financing EE projects and promote demand side management for municipalities, using utility-based ESCOs (utility-based ESCO model)
16	THA: Mainstreaming Energy Efficiency Measures for Thai Municipalities	building retrofits (lighting and airconditioning systems); upgrading of streetlighting (energy efficient lighting and installation of timers and voltage regulators)	Competitive/Commercial	Need to demonstrate the feasibility of municipal EE measures, introduce financing arrangements, and build capacity of energy authority to increase confidence among stakeholders, in preparation for widespread replications and scaling up
17	VIE: Preparation of Renewable Energy for Remote Island and Mountain Communes	off-grid micro hydropower, wind diesel-solar hybrid power systems	Competitive/commercial;	Need to demonstrate the financial viability and formulate institutional models for implementing off-grid power systems
		2009		
1	PRC: Integrated Renewable Biomass Energy Development Sector Project	Waste treatment and renewable biogas production (Anaerobic digestion technology); medium- and large-sized biogas plants	Competitive/commercial	Lack of technical standard for the CE technology, and need for an established performance monitoring mechanism
2	PRC: Municipal Waste to Energy Project	Waste-to-energy (grate incineration technology, advanced flue gas emission control)	Competitive/commerical	Gaps in clean energy technology knowledge and misconceptions about technology risks, higher initial capital expenditure, high due diligence costs, and availability of long term loan for the project.
3	PRC: Qinghai Pasture Conservation Using Solar Photovoltaic (PV)-Driven Irrigation	Solar Photovoltaic (PV)-driven Irrigation pasture	Deployment	-

CE = clean energy, PRC = China, People's Republic of, EE = energy efficiency, ESCO = energy service company, REG = regional, SRI = Sri Lanka, TA = Technical Assistance, THA = Thailand, VIE = Viet Nam

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2009		
4	PRC: Workshop in PRC-ADB Cooperation in Clean Energy Project Financing	None	n/a	-
5	INO: Pilot Project for Efficient Lighting (Loan project - INO: Java-Bali Electricity Distribution Performance Improvement Project)	Energy efficient lighting (compact fluorescent lamps, light-emitting diodes)	Competitive/commercial	Need to demonstrate the viability of a well-established energy effiicency initiative such as the use of CFLs and LEDs
6	MON: CDM Baseline Study for Thermo Technical Rehabilitation of Pre-Cast Panel Buildings in Ulaanbaatar	Building insulation retrofits	Competitive/commercial	Need to determine/establish the suitable CDM baseline
7	MON: Ulaanbaatar Clean Air	Cleaner/energy efficient heating systems	Competitive/commercial	Lack of knowledge and capacity develop, promote and implement energy efficient heating systems.
8	NEP: Compact Fluorescent Lighting and Solar-Powered Street Lighting (Loan project -NEP: Energy Access and Efficiency Improvement)	Energy-efficient lighting (compact fluorescent lighting, solar/solar wind streetlighting)	Competitive/commercial (CFLs); Deployment (solar)	Need to demonstrate the feasibility of and promote the EE/RE applications through use of compact fluorescent lamps and installation of solar and solar-wind streetlights, for demand side energy management
9	NEP: Compact Fluorescent Lighting and Solar-Powered Street-Lighting (Direct Charge)	energy efficient lighting (CFLs) and solar power street-lighting	Competitive/commercial (CFL); Deployment (solar power)	Need for increased awareness and developed financing model for the energy efficient lighting program.
10	REG: 4th Asia Clean Energy Forum 2009	None	n/a	-
11	REG: Clean Energy Expo China Conference 2009	None	n/a	-
12	REG: South Asia Regional Climate Change Conference	None	n/a	-
13	REG: Carbon Forum Asia 2009	None	n/a	-
14	REG: Empowering the Poor Through Increasing Access to Energy	natural gas, micro-hydropower, biogas, small wind, solar, liquefied petroleum gas	Deployment (solar, wind), Competitive/commercial (micro-hydro, natural gas, biogas, liquefied petroleum gas)	Inadequate capacity on development, implementation and monitoring on energy access projects to promote off-grid renewable energy solutions
15	REG: Capacity Building for CDM and Establishment of DNAs (Component of RETA 7394: Strengthening the Capacity of Pacific DMCs to Respond to Climate Change [Phase 1])	None	n/a	-
16	REG: Support for Upscaling Renewable Energy Technologies in the Pacific (Component of RETA 7394: Strengthening the Capacity of Pacific DMCs to Respond to Climate Change [Phase 1])	Wind power, hydropower (small and micro, run of the river), grid-connected solar power	Competitive/commercial (hydropower), Deployment (wind, solar)	Need to demonstrate feasibility renewable energy options. Inadequate financing options for renewable energy projects.
17	REG: Carbon Dioxide Capture and Storage (CCS) Demonstration in Developing Countries - Analysis of Key Issues and Barriers	Carbon Capture and Storage	Demonstration	-

CDM = Clean Development Mechanism, CFL = compact fluorescent lighting, PRC = China, People's Republic of, DMC = developing member country, DNA = designated national authority, EE = energy efficiency, INO = Indonesia, LED = light emitting diode, MON = Mongolia, NEP = Nepal, RE = renewable energy, REG = regional, RETA = regional technical assistance

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2010		
1	BAN: Energy Efficiency Improvement (Original application title: Solar Powered Street Lights and Energy Efficient Water) (Project: BAN: City Region Development Project)	Solar-powered street lighting, energy efficient water system pumps technology (Variable Frequency Drive)	Deployment (solar)/Competive (Variable Frequency Drive)	Need to demonstrate the economic, financial, social and environmental benefits of best clean energy technologies for streetlighting and water pumps; inadequate capacity and awareness
2	PRC: Development of Energy Manager Program for Energy Conservation in Shandong (Original title - PRC: Capacity Building Technical Assistance for PRC Energy Efficiency and Emissions Reduction in Shandong Province; Retitled - PRC: Shandong Energy Manager System) (Linked to Project - PRC: Shandong Energy Efficiency and Emission Reduction Project)	biogas, solar thermal, zero coal copper ore smelting, waste heat recovery	Commercial/competitive (biogas, waste heat recovery), deployment (solar thermal, zero coal copper ore smelting)	Inadequate capacity to promote, monitor, verify and report energy efficiency improvement in a structured manner. Lack of qualified energy conservation specialists.
3	PRC: Developing Smart Grid for Efficient Utilization of Renewable Energy in the PRC (formerly 'PRC: "Green Silk Way" Developing a High Efficiency Transmission Network to Scale Up Wind Power Development in Western PRC')	Smart grid	Deployment	-
4	PRC: Innovative Financing Mechanisms for Energy Efficiency and Emission Reduction in Small and Medium-sized Enterprises	Various energy efficiency technologies available for small and medium-sized enterprises (SMEs)	Commercial/competitive	Need for appropriate policies and organizational set-up for the promotion of energy efficiency among SMEs, lack of accessible financing support for SMEs to adopt more advanced, energy-efficient technologies
5	PRC: Investment Summit for Hainan's Clean Energy Development	None	n/a	-
6	PRC: Municipal Natural Gas Infrastructure Development Project (Phase 2)	Natural gas conversion	Commercial/competitive	Need for an established model integrating energy saving solution and enhance capacity on combining fuel convesion and energy efficiency improvement measures; lack of awarness of end-users on energy efficiency solutions
7	PRC: Renewable Energy Development in Qinghai	Grid connected solar photovoltaic	Deployment	-
8	IND: Capacity Building for Commercial Bank Lending for Solar Energy	Solar power (crystalline, thin film, concentrated solar power)	Deployment	-
9	INO: Institutional Capacity Building of Indonesia Eximbank (Original title: Indonesia Eximbank Capacity Building)	Energy efficiency technologies in the manufacturing sector	Commercial/competitive	Producers' access to finance; services to finance EE are not available denying enterprises access to integrated energy audits and complementary term financing; need to demonstrate the viability of EE finance to domestic commercial banks

BAN = Bangladesh, PRC = China, People's Republic of, EE = energy efficiency, IND = India, INO = Indonesia.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2010		
10	PHI: Preparing Three Wind Farm Projects in Luzon	Wind power	Deployment	-
11	PHI: Rural Community-Based Renewable Energy Development in Mindanao (Original title: PHI: Renewable Energy Development and Poverty Alleviation in Mindanao)	Micro-hydropower, solar PV, small wind	Deployment (solar PV, small wind), Commercial (micro-hydropower)	Liimited knowledge, capacity and available financing on RE systems allowing integration of access to energy and productive use of RE for livelihod/income generation.
12	REG: 5th Asia Clean Energy Forum 2010	None	n/a	-
13	REG: Carbon Forum Asia 2010	None	n/a	-
14	REG: Clean Energy Expo Asia 2010	None	n/a	-
15	REG: Climate Friendly Agribusiness Value Chains in the Greater Mekong Subregion [renamed from REG: Climate-Resilient and Green Infrastructure Development in the GMS Economic Corridors (Original application title: REG: Climate-Friendly Bioenergy in the Greater mekong Subregion - Cambodia, Lao PDR, and Viet Nam)]	biomass, biofuels, improved cook stoves	Deployment (biofuel), Competitive (biomass, improved cook stoves)	Need to establish feasibility and proper design for the promotion of biomass-based energy and climate-friendly agriculture technology.
16	REG: Determining the Potential for Carbon Capture and Storage in Southeast Asia	Carbon Capture and Storage	Demonstration	-
17	REG: Demonstration of an Assisted Broker Model for Transfer of Low Carbon Technologies to Asia and Pacific (under Cluster CDTA REG: Establishing a Pilot Center to Facilitate Climate Technology Investments in Asia and the Pacific)	Low carbon technologies (e.g. solar photovoltaic, electric motors, battery storage)	Deployment (solar photovoltaic); Competitive/commercial (electric motors, battery technologies)	Need to demonstrate the feasibility of a marketplace model for transfer of low carbon technologies and enable the accelerated transfer to manufacturers in DMCs of intellectual property and know-how on low carbon technologies.
18	REG: Knowledge Platform Development for the Asia Solar Energy Initiative	Solar power (solar PV, concentrated solar power, grid connected distributed solar PV, off-grid solar power generation, stable grid development)	Deployment	-
19	REG: Needs Assessment and Development of the Solar Energy Program	Solar photovoltaic and solar thermal	Deployment	-
20	REG: Montreal 2010: 21st World Energy Congress	None	n/a	-

CDTA = capacity building technical assistance, GMS = Greater Mekong Subregion, PHI = Philippines, PV = photovoltaic, RE = renewable energy, REG = regional.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2010		
21	REG: Promoting Energy Efficiency in the Pacific (Phase II) - PNG Component	Energy-efficient lighting (CFL, LED), building retrofits	Competitive/commercial (CFL, LED, building retrofits)	Insufficient knowledge/awareness on EE potential; lack of confidence among stakeholders in EE technologies; inadequate institutional capacity and technical expertise to plan, manage and maintain EE programs; lack of clear EE policy, legislation and regulatory framework
22	REG: Promoting Renewable Energy, Clean Fuels, and Energy Efficiency in the Greater Mekong Subregion (GMS)	biomass, biofuels, solar, wind, micro/mini-hyrdopower, natural gas	Deployment (biofuel, solar, wind), Competitive/commercial (biomass, mini/micro hydropower, natural gas)	Need to enhance capacity through development of a business model for each GMS country for the promotion and development of renewable energy, clean fuel and EE technologies; inadequate RE and EE awareness
23	REG: Quantum Leap in Wind Power in Asia (Direct Charge)	Wind power	Deployment	-
24	REG: Quantum Leap in Wind Power in Asia and the Pacific	Wind power	Deployment	-
25	REG: Strengthening Planning Capacity for Low Carbon Growth in Developing Asia (subproject under RETA: Enabling Climate Change Responses in Asia and the Pacific)	None	n/a	-
26	REG: Promotion of Investment in Climate Technology Products through Venture Capital Funds (formerly REG: Establishment of a Climate Technology Advisory Facility for Venture Capital/REG: Technology Support Center under the Asia Climate Change and Clean Energy Venture Capital Initiative (AC3EVC)) (under Cluster CDTA REG: Establishing a Pilot Center to Facilitate Climate Technology Investments in Asia and the Pacific)	Emerging climate change mitigation and adaptation technologies across various sectors	Deployment	-
27	SRI: Implementation of Energy Efficiency Policy Initiatives (TA component of Loan, SRI: Sustainable Power Sector Support Project)	Energy-efficient lighting (compact fluorescent lighting, light emitting diodes)	Competitive/commerical	Inadequate local expertise and infrastructure necessary for the effective implementation of energy efficiency initiatives and programs; need to establish technical guidelines and policies for future energy efficient lighting promotions and initiatives.
28	THA: Solar Power Project	Solar photovoltaic (thin film)	Deployment	-

CDTA = capacity building technical assistance, CFL = compact fluorescent lighting, EE = energy efficiency, GMS = Greater Mekong Subregion, LED = light emitting diode, PNG = Papua New Guinea, RE = renewable energy, REG = regional, RETA = regional technical assistance, SRI = Sri Lanka, TA = technical assistance, THA = Thailand.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
			2011	
1	CAM: Designing Output-Based Aid Scheme for Rural Electrification in Cambodia	Low carbon alternative, demand-side management, improved cook stoves	Commercial/competitive	Need to develop a system to facilitate access to energy for the poor households and promote demand side management.
2	PRC: Study on Carbon Capture and Storage on Natural Gas-Based Power Plants	Carbon Capture and Storage (natural gas-based power plants)	Demonstration	-
3	INO: West Kalimantan Power Grid Strengthening Project	Solar-powered WLED, energy efficient lamp (CFL) and transmission and distribution	Deployment (solar); Competitive/commercial (CFL, T&D)	Need for suitable financing mechanism on provision of access to clean energy to rural areas for replication/scaling-up.
4	REG: 6th Asia Clean Energy Forum 2011	None	n/a	-
5	REG: Carbon Capture Storage Financing Roundtable	Carbon Capture and Storage	Demonstration	-
6	REG: Carbon Forum Asia 2011	None	n/a	-
7	REG: Clean Energy Expo Asia 2011	None	n/a	-
8	REG: Determining the Potential for Carbon Capture and Storage in Southeast Asia - Supplementary Financing	Carbon Capture and Storage	Demonstration	-
9	REG: Enhancing Knowledge on Climate Technology and Financing Mechanisms (formerly REG: Financing Climate Technology Deployment in the Asia-Pacific)	Low carbon and climate resilient technologies (various)	Deployment	-
10	REG: International Carbon Capture and Storage Conference	Carbon Capture and Storage	Demonstration	-
11	REG: Mainstreaming the Asia Solar Energy Initiative	Solar energy	Deployment	-
12	REG: Regional Economics of Climate Change in Central and West Asia	Various technologies in the transport/energy sector	Competitive/commercial	Lack of data on emission reduction opportunities and full cost of climate change mitigation measures; and information on gaps, synergies and opportunities in the public and private sectors
13	REG: Solar Energy Training	Solar energy	Deployment	-
14	REG: Wind Energy Futures in Asia - Regional	Wind power	Deployment	-
15	VIE: Energy Efficiency for Ho Chi Minh City Water Supply Project (Original application title: VIE: Ho Chi Minh City Water Supply PFR 1 MFF Viet Nam Water Sector Investment Program) (Loan Project: VIE: Water Sector Investment Program - Tranche 1)	Energy efficient water system pumps technology (Variable Frequency Drive), energy efficient air conditioning system	Competitive/commercial	Insufficient knowledge/awareness on energy efficiency in water purmping systems consuming grid electricity

CAM = Cambodia, PRC = China, People's Republic of, CFL = compact fluorescent lighting, INO = Indonesia, MFF = multitranche financing facility, PFR = periodic financing request, REG = regional, T&D= transmission and distribution, VIE = Viet Nam, WLED = white light emitting diode.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2012		
1	BAN: Supporting Brick Sector Development Program	Energy efficient brick kiln technologies (e.g. vertical shaft brick kiln, hybrid hoffman kilns, tunnel kilns)	Competitive/commercial	Lack of brick sector policy/regulation and poor labor standards, leading to a large number of small businesses entering brick sector profitting from back, outomoded technologies
2	PRC: Road Map for CCS Demonstration and Deployment (Original application title: PRC: Oxy-fuel Combustion Carbon Capture for Power Plants and Carbon Capture and Storage Demonstration and Deployment Roadmap)	Carbon Capture and Storage (Oxy-fuel Combustion)	Demonstration	-
3	IND: Preparation of the Utility Scale Concentrated Solar Power Program	Concentrated solar power	Deployment	-
4	INO: Scaling up Renewable Energy Access in Eastern Indonesia	Mini-grid and off-grid renewable energy applications (e.g. small wind, solar, micro-hydro and biomass)	Commercial (micro-hydro, biomass)/Deployment (small wind, solar)	Inadequate institutional capacity to design and manage rural energy access programs using renewable energy resources
5	NEP: Sustainable Rural Ecology for Green Growth	Pyrolysis	Competitive/commercial	Need to demonstrate a technically, economically, and environmentally sound climate responsive farmimg system generating renewable rural energy
6	REG: 7th Asia Clean Energy Forum 2012	None	n/a	-
7	REG: Carbon Capture and Storage in Developing Asia	Carbon Capture and Storage	Demonstration	-
8	REG: Carbon Forum Asia 2012	None	n/a	-
9	REG: Clean Energy Expo Asia 2012	None	n/a	-
10	REG: Clean Energy Technology Knowledge Sharing 2012	Smart grid and wind power	Deployment	-
11	REG: Determining the Potential for Carbon Capture and Storage in Southeast Asia - Supplementary Financing	Carbon Capture and Storage	Demonstration	-
12	REG: Fourth Meeting of the Asia Solar Energy Forum	Solar energy	Deployment	-

BAN = Bangladesh, CCS = carbon capture and storage, PRC = China, People's Republic of, IND = India, INO = Indonesia, NEP = Nepal, REG = regional.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2012		
13	REG: Mainstreaming the Asia Solar Energy Initiative II	Solar energy	Deployment	-
14	SRI: Solar Rooftop Pilot under SRI: Clean Energy and Network Efficiency Improvement Project	Solar PV	Deployment	-
15	TON: Outer Island Energy Efficiency Project	Transmission and distribution (T&D) retrofits/upgrade, solar street lighting	Commercial (T&D)/Deployment (solar)	To demonstrate combination of deployment of renewable energy generation and loss reduction of power distribtuion assets as appropriate to optimize the existing energy mix
16	TON: Outer Island Renewable Energy Development Project	Solar energy	Deployment	-
17	VIE: Partnership for Market Readiness	None	n/a	-
		2013		
1	AZE: Renewable Energy Development (Biomass Cogeneration) Project	Biomass	Commercial/competitive	Need to demonstrate the viability of renewable energy investments such as biomass power generation; inadequate skills/capacity to conduct preparatory activities
2	PRC: Energy Efficiency Multi-Project Financing Program	Building retrofits, energy efficiency products in new buildings	Competitive/commercial	Knowledge gap and misperceptions on actual technology risks or low management awareness on EE
3	IND: Concentrated Solar Power Project	Concentrated solar power	Deployment	-
4	INO: Sarulla Geothermal Power Generation Project	Geothermal	Competitive/commercial	Need to demonstrate the viability of a large-scale independent power producer geothermal project
5	INO: Planning a Pilot Carbon Capture and Storage Activity	Carbon Capture and Storage	Demonstration	-
6	NEP: South Asia Tourism Infrastructure Development Project - Additional financing (Original title: NEP: Lumbini Clean Public Transport Project (under the South Asia Tourism Infrastructure Development Project))	Electric vehicles, solar power	Commercial (electric vehicles)/Deployment (solar)	Need to demonstrate energy efficien model for sustainable public transport service provision
7	PAK: Determining the Potential of Carbon Capture and Storage	Carbon capture and storage	Demonstration	-

AZE = Azerbaijan, CCUS = carbon capture utilization and storage, PRC = China, People's Republic of, EE = energy efficiency, IND = India, INO = Indonesia, NEP = Nepal, PAK = Pakistan, REG = regional, SRI = Sri Lanka, TON = Tonga, VIE = Viet Nam.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2013		
8	REG: Asia Energy Efficiency Accelerator	Energy efficiency technologies (refurbishing public buildings and municipal lighting, retrofitting high energy intensity industries, upgrading metering systems)	Competitive/commercial	Lack of capacity, awareness and orientation towards demand-side energy efficiency projects. Lack of awareness and incentive structures for financiers.
9	REG: 8th Asia Clean Energy Forum 2013	None	n/a	-
10	REG: Carbon Forum Asia 2013	None	n/a	-
11	REG: Daegu 2013: 22nd World Energy Congress	None	n/a	-
12	REG: Empowering the Poor through Increasing Access to Energy (Supplementary Funding for Output Based Aid)	natural gas, micro-hydropower, biogas, small wind, solar, liquefied petroleum gas	Deployment (solar, wind), Competitive/commercial (micro-hydro, natural gas, biogas, liquefied petroleum gas)	Inadequate capacity on development, implementation and monitoring of financially viable energy access projects to promote off-grid renewable energy solutions; to demonstrate and develop financing mechanisms on access to clean energy
13	REG: International Hydropower Association World Congress on Advancing Sustainable Hydropower 2013	Hydropower	Competitive/commercial	Insufficient knowledge and experience relating to sustainability and appropriate implementation and monitoring of hydropower projects
14	REG: Pacific Energy Summit 2013	None	n/a	-
15	REG: Sustainable Energy Training Program	Wind, solar, transmission and distribution, smart grids, energy efficiency technologies	Commercial (energy efficiency, T&D)/Deployment (smart grid, solar, wind)	-
16	REG: Tianjin Integrated Gasification Combined Cycle Power Plant - Additional Financing (Original title: REG: Appraising Pre-combustion Carbon Capture, Utilization and Storage Pilot Project and Sharing Knowledge and Lessons Learned)	Carbon capture and storage	Demonstration	-
17	SAM: Renewable Energy Development and Power Sector Rehabilitation Project	Small hydropower	Competitive/commercial	Need to demonstrate sustainable operation of small hydropower technology and build local capacity and knowledge to catalyze investments on small hydropower given unexploited potential

REG = regional, SAM = Samoa, T&D = transmission and distribution.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2013		
18	UZB: Samarkand Solar Power Project	Solar photovoltaic (crystalline)	Deployment	-
19	VIE: Preparation of Market Readiness Proposal - Phase 2 of the Partnership for Market Readiness Project in Viet Nam	None	n/a	-
20	VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project - Additional Cofinancing (Original title: VIE: Supplementary Financing for Output Based Aid for Rural Electrification under the ongoing project "Loan 2517: VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector")	Transmission and distribution (T&D); CFL	Competitive/commercial	To support service connection costs and demonstrate mechanism that leads to shift to clean energy use and improve community livelihood
		2014		
1	AFG: Renewable Energy Development	Renewable energy technologies (wind/solar/diesel hybrid)	Deployment	To facilitate demonstrable projects (to the feasibility level); Insufficient capacity for development of renewable energy projects; To stregthen institutions for scaling up of activities and future renewable energy investments
2	INO: Institutional Capacity Building of Indonesia Eximbank - Additional Financing	Energy efficiency technologies in the manufacturing sector	Commercial/competitive	Producers' access to finance; services to finance EE are not available denying enterprises access to integrated energy audits and complementary term financing; need to demonstrate the viability of EE finance to domestic commercial banks
3	GEO: Adjaristsqali Hydropower Project	Hydropower	Competitive/commercial	To demonstrate a new private sector business model to export electricity to neighboring countries and transform regional cooperation on energy; need for concessional financing to achieve financial sustainability
4	MYA: Renewable Energy for Nationwide Telecommunications Project	Renewable energy technologies (wind, solar)	Deployment	-
6	REG: 9th Asia Clean Energy Forum	None	n/a	-
7	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia	Carbon capture and storage	Demonstration	-
8	REG: Sustainable Energy Training Program 2014	Energy efficiency technologies, solar	Commercial (energy efficiency)/Deployment (solar)	-

AFG = Afghanistan, CFL = compact fluorescent lighting, EE = energy efficiency, GEO = Georgia, INO = Indonesia, MYA = Myanmar, REG = regional, T&D = transmission and distribution, UZB = Uzbekistan, VIE = Viet Nam.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2014		
9	REG: US-Asia Pacific Energy Dialogue	None	n/a	-
10	IND: Capacity Building of the Indian Renewable Energy Development Agency	None	n/a	Improvement on social safeguards and suitability to international standards; Meeting international standards eases the borrowers access to finance
11	REG:External Evaluation of Clean Energy Financing Partnership Facility (Carbon capture and Storage Fund Component)	None	n/a	
12	REG:External Evaluation of Clean Energy Financing Partnership Facility (Clean Energy Fund Component)	None	n/a	
		2015		
1	REG: 10th Asia Clean Energy Forum	None	n/a	-
2	CAM: Supplementary Financing for Electricity Access to Low Income Households	Transmission and distribution (T&D); CFL,LED,Low carbon alternative,	Commercial/competitive	To support service connection costs and demonstrate mechanism that leads to shift to clean energy use and improve community livelihood,also promote demand side management.
3	REG: Promoting Sustainable Energy for All in Asia and the Pacific	Energy efficency and conservation	Commercial/competitive	Insufficient capacity for development of sustainable energy projects; Facilitate capacity develop and secure finacing for sustainble energy investments.
4	IND: Demand -Side Energy Efficiency Invest Project	energy efficient lighting (LED) lights and energy efficient agricultural pumps	Commercial/competitive	Need to demonstrate the viability of financing EE projects and promote demand side management for municipalities, using utility-based ESCOs (utility-based ESCO model)
5	TAJ: Strengthening Private Sector Participation in Technical and Vocational Education Training(TVET)	Energy efficiency	Competitive/commercial	A lack of practical skills for technology and system design, installation and maintenance. The support will directly facilitates the improvement of domestic clean energy skills
6	REG: International Hydropower Association World Congress on Advancing Sustainable Hydropower 2015	Hydropower	Competitive/commercial	Insufficient knowledge and experience relating to sustainability and appropriate implementation and monitoring of hydropower projects

CAM = Cambodia, CFL = compact fluorescent lighting, EE = energy efficiency, ESCO = energy service company, IND = India, LED = light emitting diode, REG = regional, SAM = Samoa, TAJ = Tajikistan, T&D = transmission and distribution.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
			2015	
7	REG: Pacific Energy Summit 2015	None	n/a	-
8	IND: Preparing the India solar Park Development and Transmission Sector Park	Solar energy	Deployment	Need to provide a model on how solar parks are developed in India
9	SAM: Solar Power IPP	Solar PV	Deployment	Need to support the expenses of the due diligence to be able to qualify for long term financing
10	SAM: Solar Power IPP	Solar PV	Deployment	Access to long term credit in the Pacific region is very limited, particularly for projects with high upfront capital costs such as renewable energy projects.
11	INO: Preparing the Eastern Indonesia Sustainable Energy Access Sector Project	Solar photovoltaic (PV) - gas hybrid	Deployment	Need to enhance energy access across islands and coastal communities with lower electrification rates
			2016	
1	SRI: Wind Power Generation Project	wind power	Deployment	Need to introduce wind park concept in Sri Lanka, increase clean energy generation, and build capacity of executing agency in forecasting, controlling and managing intermittent wind power generation.
2	REG: Access to Electricity with New Off-Grid Solar Technology in Central Asia (original application title: REG: Increase Electricity Access Using Off-Grid Solar Power and New Technology)	Solar kit	Deployment	to promote clean energy investment and improve enrgy security in off-grid areas and reduce use of diesel.
3	REG: Supporting the Asia solar energy Forum to Scale Up Solar energy Development in Asia and the Pacific (under TA REG: Empowering the Poor Through Increasing Access to Energy)	Solar	Deployment	to support the capacity building of DMCs in scaling up solar energy development in their respective countries.
4	REG: 11th Asia Clean Energy Forum 2016	None	n/a	to enhance knowledge, experiences and best practices on clean energy technology transfer and deployment in Asia Pacific
5	SRI: Supporting Electricity Supply Reliability Improvement Project-Renewable Energy Micro-grid	Renewable energy-based microgrid (Solar), AC-DC hybrid microgrid	Deployment	to explore innovative options for reliability improvement in the districtution network through implementing the renewable energy micrgrid pilot
6	NEP: Power Transmission and Distribution Efficiency Enhancement Project (Original application title: NEP: Electricity Distribution Efficiency Improvement Project)	Energy Efficiency technology	Competitive/commercial	to demonstrate the potential for energy efficiency achievements in the distribution systems which can be replicated in other cities of Nepal

DMC = developing member country, IND = India, INO = Indonesia, IPP = Independent Power Producer, NEP = Nepal, REG = regional, SAM = Samoa, SRI = Sri Lanka, TA = technical assistance

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
			2016	
7	REG: Leapfrogging of Clean Technology in CAREC Countries through Market Transformation (Original application title: REG: Enabling CAREC Countries for Technology Leapfrogging)	Electric vehicles, efficient lighting	Commercial (electic vehicle and efficient lighting)	to demonstrate the market potential for new technologies, build necessary capacitities, and train policy makers to create enabling environment for private investments in selected CAREC countries
8	INO: Banten and West Nusa Tenggara Wind Power Development	Wind Power	Deployment	Need to offset the high costs of development in Indonesia's nascent wind energy sector and to assist in overcoming early mover risks associated with these projects
9	RMI: Majuro Power Network Strengthening	None	n/a	Have an assessment of investment requirements to increase renewable energy genration in the country.
10	REG: CCS Way Forward in Asia (Deep dive workshop)	CCS	Demonstration	Provide a venue to facilitate awareness raising, information sharing and dialogue on CCS among DMCs and international stakeholders from outside the region.
11	INO: Preparation of the Gundih Pilot Carbon Capture and Storage	Carbon capture and storage	Demonstration	Need to support the preparation of project documents for the CCS project
12	REG: CAREC ESCC Investment Forum	None	n/a	neet to create foreign investors' awareness of opportunities in the energy sector, especially clean energy and energy efficiency technologies.
13	SRI: Consultancy Services for Technical Design and Specifications for Installation of +100/-50 Mvar Compensator at Biyagama Grid Substation	0	Commercial/competitive	Need to improve system reliability, enabling further development of the intermittent RE sources and increase CE investments
14	SOL: Higher Education in the Pacific Investment program - Tranche 2	Solar photovoltaic system	Deployment	To demonstrate value of clean energy through a regional university
15	TAJ: CAREC Corridor 2, 5 and 6 (Dushanbe-Kurgonteppa) Road Project	Solar PV-based micro-grid, light emitting diode	deployment	To provide reliable power and backup electricity to the tunnels and clean energy based road lighting in Tajikistan
16	REG: Improving Institutional Capacity on Preparing Energy Efficiency Investments (original application title: REG: Mainstreaming Energy Efficiency in Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka)	None	n/a	To assist five DMCs in South Asia in enhancing government capacity to design and develop energy efficient projects
17	REG: Deep Dive Workshop on "Paving Clean and Low Carbon Transport and Energy Systems Using Hydrogen and Fuel Cells"	Low carbon technology in the transport sector	Commercial/competitive	To provide a venue for discussion on developing future fuel cell demonstration projects and promote low carbon transport and enegy systems using new and emerging technologies

CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, DMC = developing member country, INO = Indonesia, REG = regional, RMI = Republic of Marshall Islands, SRI = Sri Lanka, SOL = Solomon Islands, TAJ = Tajikistan

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
		2016		
18	INO: Minimum Energy Performance Standards (MEPS) Development for Appliances in Indonesia	none	n/a	To support development of the Minimum Energy Performance Standards (MEPS)
19	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	CCS	Demonstration	To complete the project due diligence and accelareate project readiness of Indonesia's CCS activity
20	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	CCS	Demonstration	To pilot a CCS in the natural gas processing sector in Indonesia.
21	PRC: Strengthening Capacity in the Implementation of the Green Financing Platform for the Greater Beijing–Tianjin–Hebei Region (original application title: PRC: Green Financing Platform for Accelerating Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region)	None	n/a	To support a dedicated green financing platform (GFP) to leverage financing and scale up investments in green and pollution-reduction projects under a financial intermediation loan
22	UZB: Sustainable Hydropower Project	Hydropower	Competitive/commercial	To mainstream hydropower, enhance the share of clean energy and resilience against climate change impact
23	UZB: Second Solar Power Project	Solar photovoltaic (crystalline)	Deployment	To support the development of the solar power project in Uzbekistan
24	UZB: Second Solar Power Project	Solar photovoltaic system	Deployment	To pilot sustainable business models, energy-efficient technologies and rooftop PV systems for at least 16 rural health clinics
25	KAZ: Introducing the Auction Mechanism for Renewable Energy Projects	None	n/a	To improve the investment climate for renewable energy increase penetration of renewable in the largely coal-based Kazakhstan generation mix
26	CAM: Solar Power Project	Solar PV	Deployment	Need to accommodate the higher, first mover costs associated with the construction and operation of a solar power project in Cambodia
27	KAZ: Fostering the Development of Renewable Energy Generation in Kazakhstan	None	n/a	To support the development of renewable energy generation plants
28	REG: Pacific Renewable Energy Investment Facility (original application title REG: Pacific Renewable Energy and Energy Efficiency Investment Facility Pacific Region)	Various energy efficient and renewable energy techonologies (including battery storage)	Competitive/commercial	To support an investment facility which will finance renewable energy in the Pacific

CAM = Cambodia, CCS = carbon capture and storage, GFP = green financing platform, INO = Indonesia, KAZ = Kazakhstan, MEPS = minimum energy performance standards, PV = photovoltaic, UZB = Uzbekistan

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
			2017	
1	REG: 12th Asia Clean Energy Forum	none	n/a	
2	Promoting and Scaling up of Large-scale Carbon Capture and Storage Demonstration in the People's Republic of China (Original Application title: PRC: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project)	CCS	Demonstration	To improve the enabling environment that enhances the commerciality of large scale CCS projects
3	REG: Promoting Private Sector Investment in CE in Central Asia	none	n/a	
4	REG: Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities (Original application title REG:Knowledge-based Low-Carbon Cities Development in CAREC)	clean energy technology (solar, BRT, LED, landfill-gas utilization for power, geothermal-based heating and cooling, power storage)	Deployment (solar and LED); Competitive (BRT, waste to energy, geothermal-based heating and cooling, and energy storage)	To support the achievement of the NDCs for KAZ, MON and PRC
5	INO: Scaling up Energy Efficiency	none	n/a	
6	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia - Additional Financing	CCS	Demonstration	To ensure long term institutionalized support to CCS development by building technical capacity and creating necessary regulatory environment for implementing CCS projects
7	REG: ASEAN Distributed Power Project	Smart Grid	deployment	to expand and diversity the renewable energy portfolio in some of the more challenging markets in the region.
8	PRC: Developing Cost-Effective Policies and Investments to Achieve Climate and Air Quality Goals in the Beijing-Tianjin-Hebei Region - Additional Financing	none	n/a	
9	PRC: Transaction Technical Assistance Facility for Preparing Air Quality Improvement Program in the Greater Beijing-Tianjin-Hebei Region	low carbon emission technologies	commercial	To improve air quality and facilitate low carbon development
12	SRI: Rooftop Solar Power Generation Project (Application title SRI: Solar Rooftop Power Generation Project)	Solar photovoltaic system	deployment	To establish project technical guidelines and standards to boost clean power generation in Sri Lanka thorugh connecting solar rooftop PV installations to the network.
13	BAN: Railway Rolling Stock Operations Improvement Project	Energy efficient technologies and practices applicable to transport system	Competitive/commercial	To provide adequate training in the operation and maintenance of energy efficiency measures for locomotives

BAN = Bangladesh, BRT = bus rapid transit, PRC = China, People's Republic of, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, INO = Indonesia, KAZ = Kazakhstan, LED = light emitting diode, MON = Mongolia, NDC = nationally determined contribution, REG = regional, SRI = Sri Lanka.

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A5.1 continued.

No.	Project Name	Predominant Technology	Technology Development/Adoption Stage[a]	Barriers Lowered
14	REG: Regional Cooperation on Renewable Energy Integration to the Grid	power dispatching operation tools, such as RE forecasting tools and SCADA/EMS	Competitive/commercial	Need to promote the increased use of clean energy by providing a more favorable grid environment for RE generators utilizing a regional cooperation mechanism.
15	INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	Geothermal	Competitive/commercial	Need to conduct initial screening of potential sites for future geothermal power development
16	BAN: Additional Financing to Loan 2769 for Solar Irrigation Component	Solar (PV - irrigation)	Deployment	OBA is needed to make the solar irrigation component financially viable, scaling up solar-powered irrigation solutions for poor farmers in Bangladesh.
17	BAN: Preparing Renewable Energy Project	none	n/a	Need to conduct technical, economic, financial, environmental and social safeguards due diligence
18	REG: Additional Financing Project Development and Investment Facilitation	none	n/a	Need to promote renewable energy, energy efficiency and energy access thru development of road maps, investment prospectuses, projects identification and development, investment facilitation and information sharing in selected DMCs
19	REG: The University of the South Pacific: Campus Smart Grid Project	Solar PV, Smart Grid, Energy Storage and electric vehicle	Deployment (Solar PV and Smart Grid) and Competitive(E storage and electric vehicle)	Need to improve energy security and eneryg management
20	IND; Tamil Nadu Urban Flagship Investment Program	Solar PV	Deployment	to promote clean energy in the urban sector, specifically the sanitation sector
21	REG: Olam International Limited: Inclusive, Sustainable, and Connected Coffee Value Chain - Timor-Leste, Indonesia, Viet Nam, and Papua New Guinea	none	n/a	n/a

BAN= Bangladesh, DMC =developing member country, IND = India, INO = Indonesia, OBA = output-based aid, PV = photovoltaic, RE = renewable energy, REG = regional,

[a] Based on Organisation of Economic Co-operation and Development (OECD)/International Energy Agency (IEA). 2006. Energy Technology Perspectives. Paris.

Table A6.1: Contribution of CFs, GCIs and TALLs toward Achieving CEFPF Outputs, as of 31 December 2017

				Outputs Performance Targets and Indicators by 2020												
No.	Project Name	Country	Allocation (In $'000)	$4 billion in ADB's clean energy investments leveraged ($000)	$1.2 billion in private sector investments leveraged ($000)	$1.2 billion in non-private sector investments leveraged ($000)	55 new CE/CCS technologies deployed by DMCs	2 CCS demonstration projects commenced	15 new approaches/ methodologies to promote CE/CCS introduced	700,000 HHs provided with access to energy	350,000 HHs connected to electricity	175,000 HHs connected to modern fuels and/or efficient devices for cooking	175,000 HHs connected to modern fuels and/or efficient devices for heating	30% of access to energy projects with gender mainstreaming	80% of access to energy projects with gender concerns
CONCESSIONAL FINANCING/GRANT COMPONENT OF INVESTMENT/TECHNICAL ASSISTANCE LINKED TO LOAN/TECHNICAL ASSISTANCE/DIRECT CHARGES															
2008-2015			138,033	2,082,996	841,800	949,100	-	-	-	171,897	161,897	10,000	-	-	-
2016			46,701	1,331,625	3,753	502,000	11	1	4	1,116	1,116	-	-	20%	20%
2017			43,800	520,650	59,800	218,442	12	-	7	8,000	8,000	-	-	0%	100%
Total Cumulative Amount			**228,534**	**3,935,271**	**905,353**	**1,669,542**	**45**	**1**	**15**	**181,013**	**171,013**	**10,000**	**-**	**11%**	**74%**
2008-2015			136	36	2	2	86	-	12	12	6	1	-	1	11
2016			26	10	2	2	13	1	4	5	5	-	-	1	1
2017			18	5	2	4	16	-	6	6	6	5	-	-	2
Total Projects Contributing to Outputs			**174**	**51**	**6**	**8**	**110**	**1**	**22**	**23**	**17**	**6**	**-**	**2**	**14**
Concessional Financing		**Total**	**59,250**	**633,300**	**845,423**	**862,100**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
		2013-2015	36,000	327,000	841,800	817,100	-	-	-	-	-	-	-	-	-
		2016	3,250	6,300	3,623	-	-	-	-	-	-	-	-	-	-
		2017	20,000	300,000	-	45,000	-	-	-	-	-	-	-	-	-
		Total	**5**	**5**	**4**	**4**	**5**	**-**	**4**	**1**	**1**	**-**	**-**	**-**	**-**
		2013-2015	3	3	3	3	3	-	3	-	-	-	-	-	-
		2016	1	1	1	-	1	-	1	1	1	-	-	-	-
		2017	1	1	-	1	1	-	-	-	-	-	-	-	-
2016															
1	CAM: Solar Power Project	CAM	3,250	6,300	3,623	-	Solar PV		first renewable IPP in the country	TBD	TBD			-	-
2017															
1	REG: ASEAN Distributed Power Project	REG	20,000	300,000	-	45,000	Smart Grid		distributed solar business model	n/a	n/a			-	-
Grant Component of Investments		**Total**	**59,300**	**564,880**	**-**	**37,442**	**-**	**1**	**-**	**95,113**	**85,113**	**10,000**	**-**	**-**	**1**
		2008-2015	29,200	436,780	-	12,000	-	-	-	86,497	76,497	10,000	-	-	-
		2016	23,300	108,100	-	2,000	-	1	-	616	616	-	-	-	-
		2017	6,800	20,000	-	23,442	-	-	-	8,000	8,000	-	-	-	1
		Total	**22**	**16**	**-**	**3**	**20**	**1**	**8**	**9**	**8**	**2**	**-**	**2**	**5**
		2008-2015	14	13	-	-	12	-	4	4	3	1	-	1	3
		2016	5	2	-	1	5	1	1	3	3	-	-	1	1
		2017	3	1	-	2	3	-	3	2	2	1	-	-	1
2016															
1	SRI: Supporting Electricity Supply Reliability Improvement Project-Renewable Energy Micro-grid	SRI	1,800	8,100		2,000	Renewable energy-based microgrid (Solar), AC-DC hybrid microgrid		-	n/a	n/a	n/a		-	-
2	SOL: Higher Education in the Pacific Investment program - Tranche 2	SOL	1,500	-	-	-	Solar photovoltaic system		demonstration site to promote replication in Universities (education sector)	TBD	TBD	-		At least 10% of all females are enrolled in degree programs by 2020 with the campus utilizing clean energy sources for 75% of their power needs	-
3	TAJ: CAREC Corridor 2, 5 and 6 (Dushanbe-Kurgonteppa) Road Project	TAJ	2,000	-	-	-	Solar PV-based micro-grid, light emitting diode		-	600	600	-		-	-

ADB = Asian Development Bank, CAM = Cambodia, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, CEFPF = Clean Energy Financing Partnership Facility, DMC = developing member countries, HH = household, REG = regional, SOL = Solomon Islands, SRI = Sri Lanka, TAJ = Tajikistan, TBD = To be determined, .

Source: ADB estimates.

Table A6.1 continued

			Outputs Performance Targets and Indicators by 2020											
No.	Project Name	Country	40% of projects supported provide co-benefits	Number of individuals employed	Number of women employed	20 national and local policies enabling CE development in DMCs	25 financing models suitable for bundling small CE investment projects used in DMCs	100% of projects supported produce knowledge products or contribute in building capacity to promote CE/CCS	Number of knowledge products produced/ disseminated	Number of projects in which knowledge products, practices or information are disseminated in gender sensitive manner	Number of invidiuals trained	Number of women trained	Number of trainings/ conferences/ workshops held
CONCESSIONAL FINANCING/GRANT COMPONENT OF INVESTMENT/TECHNICAL ASSISTANCE LINKED TO LOAN/TECHNICAL ASSISTANCE/DIRECT CHARGES													
2008-2015			-	7,349	267	-	-	-	5	-	5,177	2,037	71
2016			-	-	-	4	4	-	9	-	675	37	56
2017			-	-	-	3	2	-	9	-	608	44	34
Total Cumulative Amount			**-**	**7,349**	**267**	**14**	**18**	**100%**	**23**	**-**	**6,460**	**2,118**	**161**
2008-2015			18	4	2	12	24	135	2	2	7	6	15
2016			5	1	1	4	4	26	17	-	19	13	19
2017			6	1	1	3	2	13	9	-	11	6	11
Total Projects Contributing to Outputs			**29**	**6**	**4**	**19**	**28**	**170**	**28**	**2**	**37**	**25**	**45**
Concessional Financing	**Total**		**-**	**2,349**	**267**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	2013-2015		-	2,349	267	-	-	-	-	-	-	-	-
	2016												
	2017		-	-	-	-	-	-	-	-	-	-	-
	Total		**5**	**5**	**3**	**-**	**5**	**3**	**-**	**-**	**-**	**-**	**-**
	2013-2015		3	3	1		3	2	-	-	-	-	-
	2016		1	1	1	-	1	1	-	-	-	-	-
	2017		1	1	1	-	1	-	-	-	-	-	-
2016													
1	CAM: Solar Power Project	CAM	provide employment	TBD	TBD	-	Blended finance with concessional funds	project report			-	-	-
2017													
1	REG: ASEAN Distributed Power Project	REG	employment	TBD	TBD	-	Blended finance with concessional funds	-	-		-	-	-
Grant Component of Investments	**Total**		**-**	**-**	**-**	**-**	**-**	**-**	**2**	**-**	**5,210**	**2,033**	**30**
	2008-2015		-	-	-	-	-	-	-	-	5,000	2,000	5
	2016		-	-	-	-	-	-	1	-	110	13	24
	2017		-	-	-	-	-	-	1	-	100	20	1
	Total		**10**	**-**	**-**	**1**	**6**	**21**	**5**	**-**	**5**	**4**	**6**
	2008-2015		5	-	-	-	5	14	-	-	1	1	2
	2016		3	-	-	1	-	5	4	-	3	2	3
	2017		2	-	-	-	1	2	1	-	1	1	1
2016													
1	SRI: Supporting Electricity Supply Reliability Improvement Project-Renewable Energy Micro-grid	SRI		-	-	-	-	- training of implementing agency engineering staff in design and implementation of micro-grids; feasibility study and detailed design of microgrid	1		10	3	1
2	SOL: Higher Education in the Pacific Investment program - Tranche 2	SOL	improved productivity with increased number of enrollment in degree programs	-	-	-	-	final report and university solar installation used as demonstration site	1		-	-	-
3	TAJ: CAREC Corridor 2, 5 and 6 (Dushanbe-Kurgonteppa) Road Project	TAJ	improved productivity with access to energy	-	-	-	-	Workshop on utilizing CE for energy access; Workshop for local talents in designing and implementing CE solutions; and training on monitoring system	-		TBD	-	3

CAM = Cambodia, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, CEFPF = Clean Energy Financing Partnership Facility, DMC = developing member countries, REG = regional, SOL = Solomon Islands, SRI = Sri Lanka, TAJ = Tajikistan.

Source: ADB estimates.

Table A6.1 continued

				Outputs Performance Targets and Indicators by 2020												
No.	Project Name	Country	Allocation (In $'000)	$4 billion in ADB's clean energy investments leveraged ($000)	$1.2 billion in private sector investments leveraged ($000)	$1.2 billion in non-private sector investments leveraged ($000)	55 new CE/CCS technologies deployed by DMCs	2 CCS demonstration projects commenced	15 new approaches/ methodologies to promote CE/CCS introduced	700,000 HHs provided with access to energy	350,000 HHs connected to electricity	175,000 HHs connected to modern fuels and/or efficient devices for cooking	175,000 HHs connected to modern fuels and/or efficient devices for heating	30% of access to energy projects with gender mainstreaming	80% of access to energy projects with gender concerns
							2016								
4	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	INO	16,000	-	-	-	CCS	CCS	-	n/a	n/a	n/a		-	-
5	UZB: Second Solar Power Project	UZB	2,000	100,000	-	-	Solar photovoltaic system		-	16	16	-		-	10% of training participants (100) are women
							2017								
1	BAN: Additional Financing to Loan 2769 for Solar Irrigation Component	BAN	3,000	20,000	-	22,442	Solar (PV - irrigation)		Output-based aid	8,000	8,000	-		-	1
2	REG: The University of the South Pacific: Campus Smart Grid Project	REG	1,800	-	-	1,000	Solar PV, Smart Grid, Energy Storage and electric vehicle		demonstration site to promote replication; and technical and vocational education and training (TVET)	TBD	TBD	TBD		-	Some Gender Elements
3	IND; Tamil Nadu Urban Flagship Investment Program	IND	2,000	-	-	-	Solar PV		demonstration value	n/a	n/a	n/a		-	0
Technical Assistance Linked to Loan		**Total**	**25,495**	**2,080,776**	**59,800**	**770,000**	**0**	**0**	**0**	**10,000**	**10,000**	**0**	**0**	**0**	**0**
		2008-2015	14,495	965,776	-	120,000	-	-	-	10,000	10,000	-	-	-	-
		2016	7,000	915,000	-	500,000	-	-	-	-	-	-	-	-	-
		2017	4,000	200,000	59,800	150,000	-	-	-	-	-	-	-	-	-
		Total	**24**	**19**	**2**	**2**	**20**	**-**	**2.00**	**6.00**	**5.00**	**4.00**	**-**	**-**	**3.00**
		2008-2015	17	15	-	-	15	-	1	2	1	-	-	-	2
		2016	4	3	-	1	2	-	1	-	-	-	-	-	-
		2017	4	2	2	1	4	-	-	4	4	4	-	-	1
							2016								
1	PRC: Strengthening Capacity in the Implementation of the Green Financing Platform for the Greater Beijing–Tianjin–Hebei Region (original application title: PRC: Green Financing Platform for Accelerating Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region)	PRC	1,000	500,000	-	<1500000>			0	n/a	n/a	n/a		-	0
2	UZB: Sustainable Hydropower Project	UZB	2,000	215,000	-	-	Hydropower		-	n/a	n/a	n/a		-	-
3	UZB: Second Solar Power Project	UZB	1,000	-	-	-			-	n/a	n/a	n/a		-	-
4	REG: Pacific Renewable Energy Investment Facility (original application title REG: Pacific Renewable Energy and Energy Efficiency Investment Facility Pacific Region)	REG	3,000	200,000	-	500,000	Various energy efficient and renewable energy techonologies (including battery storage)		development of an investment facility to finance Re projects	n/a	n/a	n/a		-	-

BAN = Bangladesh, PRC = China, People's Republic of, CCS = carbon capture and storage, CE = clean energy, DMC = developing member country, IND = India, INO = Indonesia, PV = photovoltaic, REG = regional, TVET = technical and vocational education training, UZB = Uzbekistan.

Source: ADB estimates.

Table A6.1 continued

		Outputs Performance Targets and Indicators by 2020											
No.	Project Name	40% of projects supported provide co-benefits	Number of individuals employed	Number of women employed	20 national and local policies enabling CE development in DMCs	25 financing models suitable for bundling small CE investment projects used in DMCs	100% of projects supported produce knowledge products or contribute in building capacity to promote CE/CCS	Number of knowledge products produced/ disseminated	Number of projects in which knowledge products, practices or information are disseminated in gender sensitive manner	Number of invidiuals trained	Number of women trained	Number of trainings/ conferences/ workshops held
						2016						
4	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	-	-	-	proposed CCS regulatory framework	-	proposed CCS regulatory framework published	1		-	-	-
5	UZB: Second Solar Power Project	52 rural health clinics have reliable and uniterrupted power supply	-	-	-	-	design and feasibility study	1		100	10	20
						2017						
1	BAN: Additional Financing to Loan 2769 for Solar Irrigation Component	increased agricultural productivity	-	-	-	Output-based aid	On the job training and awareness campaign	-		-	-	-
2	REG: The University of the South Pacific: Campus Smart Grid Project	increased productivity through education	-	-	-	-	capacity building training on smart grids and renewables	1		100	20	1
3	IND; Tamil Nadu Urban Flagship Investment Program	0	-	-	-	-	0	-		-	-	-
Technical Assistance Linked to Loan		**0**	**5,000**	**0**	**0**	**0**	**0**	**9**	**0**	**575**	**71**	**39**
		-	5,000	-	-	-	-	4	-	126	37	20
		-	-	-	-	-	-	2	-	250	10	9
		-	-	-	-	-	-	3	-	199	24	10
		3.00	**1.00**	**1.00**	**4.00**	**7**	**23**	**6**	**1**	**8**	**7**	**9**
		3	1	1	2	6	17	1	1	2	2	2
		-	-	-	1	2	4	2	-	3	3	3
		-	-	-	1	-	3	3	-	3	2	4
						2016						
1	PRC: Strengthening Capacity in the Implementation of the Green Financing Platform for the Greater Beijing–Tianjin–Hebei Region (original application title: PRC: Green Financing Platform for Accelerating Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region)	0	-	-	0	green financing platform	online knowledge platform	1		150	TBD	5
2	UZB: Sustainable Hydropower Project	-	-	-	-	-	roadmap for mini/micro hydropower	-		-	-	-
3	UZB: Second Solar Power Project	-	-	-	-	-	due diligence (technical, economic and financial, governance, safeguards, and poverty and social)	1		100	10	4
4	REG: Pacific Renewable Energy Investment Facility (original application title REG: Pacific Renewable Energy and Energy Efficiency Investment Facility Pacific Region)	-	-	-	support for energy sector reform includes review and revision of regulatory and policy frameworks	Regional Investment Facility for RE projects	due diligence (financial mangement, procurement, anticorruption and project mangement) and feasibility studies	-		TBD	TBD	TBD

ADB = Asian Development Bank, BAN = Bangladesh, CCS = carbon capture and storage, CE = clean energy, CF = concessional financing, CFL = compact fluorescent lighting, PRC = China, People's Republic of, DMC = developing member country, GCI = grant component of investment, HH = Households, IND = India, REG = regional, TALL = technical assistance linked to a loan, UZB = Uzbekistan.
Source: ADB estimates.

Table A6.1 continued

				Outputs Performance Targets and Indicators by 2020											
No.	Project Name	Country	Allocation (In $'000)	$4 billion in ADB's clean energy investments leveraged ($000)	$1.2 billion in private sector investments leveraged ($000)	$1.2 billion in non-private sector investments leveraged ($000)	55 new CE/CCS technologies deployed by DMCs	2 CCS demonstration projects commenced	15 new approaches/ methodologies to promote CE/CCS introduced	700,000 HHs provided with access to energy	350,000 HHs connected to electricity	175,000 HHs connected to modern fuels and/or efficient devices for cooking	175,000 HHs connected to modern fuels and/or efficient devices for heating	30% of access to energy projects with gender mainstreaming	80% of access to energy projects with gender concerns
2017															
1	INO: Scaling up Energy Efficiency	INO	1,000	-	50,000	-	none		-	n/a	n/a	n/a		-	-
2	SRI: Rooftop Solar Power Generation Project (Application title SRI: Solar Rooftop Power Generation Project)	SRI	1,000	50,000	9,800	-	Solar photovoltaic system		-	n/a	n/a	n/a		-	30% of trainees will be women
3	BAN: Railway Rolling Stock Operations Improvement Project	BAN	500	-	-	-	Energy efficient technologies and practices applicable to transport system		-	n/a	n/a	n/a		-	-
4	BAN: Preparing Renewable Energy Project	BAN	1,500	150,000	-	150,000	none		-	n/a	n/a	n/a		-	-
TOTAL FOR CF, GCIs AND TALLs															
2008-2015			79,695	1,729,556	841,800	949,100	-	-	-	96,497	86,497	-	-	-	-
2016			33,550	1,029,400	3,623	502,000	-	1	-	616	616	-	-	-	-
2017			30,800	520,000	59,800	218,442	-	-	-	8,000	8,000	-	-	-	1
Total Amounts			**144,045**	**3,278,956**	**905,223**	**1,669,542**	**-**	**1**	**-**	**105,113**	**95,113**	**-**	**-**	**-**	**1**
2008-2015			34	31	2	2	30	-	8	6	4	1	-	1	5
2016			10	6	1	2	8	1	3	4	4	-	-	1	1
2017			8	4	2	4	8	-	3	6	6	5	-	-	2
Total Projects Contributing to Outputs			**51**	**41**	**5**	**8**	**46**	**1**	**14**	**16**	**14**	**6**	**-**	**2**	**8**

BAN = Bangladesh, CCS = carbon capture and storage, CE = clean energy, CF = concessional financing, DMC = developing member country, GCI = grant component of investment, HH = Households, INO = Indonesia, SRI = Sri Lanka, TALL = technical assistance linked to a loan.
Source: ADB estimates.

Table A6.1 continued

		Outputs Performance Targets and Indicators by 2020											
No.	Project Name	40% of projects supported provide co-benefits	Number of individuals employed	Number of women employed	20 national and local policies enabling CE development in DMCs	25 financing models suitable for bundling small CE investment projects used in DMCs	100% of projects supported produce knowledge products or contribute in building capacity to promote CE/CCS	Number of knowledge products produced/ disseminated	Number of projects in which knowledge products, practices or information are disseminated in gender sensitive manner	Number of invidiuals trained	Number of women trained	Number of trainings/ conferences/ workshops held
2017												
1	INO: Scaling up Energy Efficiency	-	-	-	ESCO regulation	-	staff training, MEMER website on national labeling program and 3 demo projects	1		19	TBD	4
2	SRI: Rooftop Solar Power Generation Project (Application title SRI: Solar Rooftop Power Generation Project)	-	-	-	-	-	training and increased awareness across stakeholders	-		80	24	1
3	BAN: Railway Rolling Stock Operations Improvement Project	-	-	-	-	-	training program and report	1		100	-	4
4	BAN: Preparing Renewable Energy Project	-	-	-	-	-	0	1		-	-	1
TOTAL FOR CF, GCIs AND TALLs												
2008-2015		-	7,349	267	-	-	-	4	-	5,126	2,037	25
2016		-	-	-	-	-	-	3	-	360	23	33
2017		-	-	-	-	-	-	4	-	299	44	11
Total Amounts		**-**	**7,349**	**267**	**-**	**-**	**-**	**11**	**-**	**5,785**	**2,104**	**69**
2008-2015		11	4	2	2	14	33	1	1	3	3	4
2016		4	1	1	2	3	10	6	-	6	5	6
2017		3	1	1	1	2	5	4	-	4	3	5
Total Projects Contributing to Outputs		**18**	**6**	**4**	**5**	**19**	**48**	**11**	**1**	**13**	**11**	**15**

BAN = Bangladesh, CCS = carbon capture and storage, CE = clean energy, CF = concessional financing, CFL = compact fluorescent lighting, DMC = developing member country, GCI = grant component of investment, HH = Households, INO = Indonesia, TALL = technical assistance linked to a loan, SRI = Sri Lanka.
Source: ADB estimates.

Table A6.2: Contribution of TAs and DCs toward Achieving CEFPF Outputs, as of 31 December 2017

				Outputs Performance Targets and Indicators by 2020												
No.	Project Name	Country	Allocation (In $'000)	$4 billion in ADB's clean energy investments leveraged ($000)	$1.2 billion in private sector investments leveraged ($000)	$1.2 billion in non-private sector investments leveraged ($000)	55 new CE/CCS technologies deployed by DMCs	2 CCS demonstration projects commenced	15 new approaches/ methodologies to promote CE/CCS introduced	700,000 HHs provided with access to energy	350,000 HHs connected to electricity	175,000 HHs connected to modern fuels and/or efficient devices for cooking	175,000 HHs connected to modern fuels and/or efficient devices for heating	30% of access to energy projects with gender mainstreaming	80% of access to energy projects with gender concerns
Stand Alone Technical Assistance		**Total**	**79,170**	**656,090**	**130**	**-**	**-**	**-**	**-**	**900**	**900**	**-**	**-**	**-**	**-**
		2008-2015	53,980	353,440	-	-	-	-	-	400	400	-	-	-	-
		2016	12,415	302,000	130	-	-	-	-	500	500	-	-	-	-
		2017	12,775	650	-	-	-	-	-	-	-	-	-	-	-
		Total	**64**	**9**	**1**	**-**	**50**	**-**	**7**	**6**	**2**	**-**	**-**	**-**	**5**
		2008-2015	50	5	-	-	43	-	3	5	1	-	-	-	5
		2016	10	3	1	-	3	-	1	1	1	-	-	-	-
		2017	8	1	-	-	8	-	3	-	-	-	-	-	-
							2016								
1	SRI: Wind Power Generation Project	SRI	2,000	200,000	-	-	wind power		Development of wind park	n/a	n/a	n/a	n/a		-
2	REG: Access to Electricity with New Off-Grid Solar Technology in Central Asia (original application title: REG: Increase Electricity Access Using Off-Grid Solar Power and New Technology)	REG	2,000	-	-	-	Solar kit		-	500	500	-	-		-
3	REG: Supporting the Asia solar energy Forum to Scale Up Solar energy Development in Asia and the Pacific (under TA REG: Empowering the Poor Through Increasing Access to Energy)	REG	225	-	-	-			-	n/a	n/a	n/a	n/a		-
5	NEP: Power Transmission and Distribution Efficiency Enhancement Project (Original application title: NEP: Electricity Distribution Efficiency Improvement Project)	NEP	1,500	100,000	-	-			-	n/a	n/a	n/a	n/a		-
6	REG: Leapfrogging of Clean Technology in CAREC Countries through Market Transformation (Original application title: REG: Enabling CAREC Countries for Technology Leapfrogging)	REG	2,000	-	-	-	Electric vehicles, efficient lighting		-	n/a	n/a	n/a	n/a		-
7	INO: Banten and South Sulawesi Wind Power Development (application title: INO: Banten and West Nusa Tenggara Wind Power Development)	INO	500	-	130	-			-	n/a	n/a	n/a	n/a		-
8	RMI: Majuro Power Network Strengthening	RMI	690	2,000	-	-			-	n/a	n/a	n/a	n/a		-
9	REG: Improving Institutional Capacity on Preparing Energy Efficiency Investments (original application title: REG: Mainstreaming Energy Efficiency in Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka)	REG	2,000	-	-	-			-	n/a	n/a	n/a	n/a		-

ADB = Asian Development Bank, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, CEFPF = Clean Energy Financing Partnership Facility, HH = household, INO = Indonesia, NEP = Nepal, REG = regional, RMI = Republic of Marshall Islands, SRI = Sri Lanka.

Source: ADB estimates.

Table A6.2 continued

No.	Project Name	Outputs Performance Targets and Indicators by 2020										
		40% of projects supported provide co-benefits	Number of individuals employed	Number of women employed	20 national and local policies enabling CE development in DMCs	25 financing models suitable for bundling small CE investment projects used in DMCs	100% of projects supported produce knowledge products or contribute in building capacity to promote CE/CCS	Number of knowledge products produced/ disseminated	Number of projects in which knowledge products, practices or information are disseminated in gender sensitive manner	Number of invidiuals trained	Number of women trained	Number of trainings/ conferences/ workshops held
Stand Alone Technical Assistance		-	-	-	-	-	-	9	-	434	14	76
		-	-	-	-	-	-	1	-	-	-	39
		-	-	-	-	-	-	5	-	180	14	15
		-	-	-	-	-	-	3	-	254	-	22
		10	-	-	13	8	62	12	1	14	11	19
		6	-	-	10	9	50	1	1	-	-	4
		1	-	-	1	-	10	8	-	8	8	10
		3	-	-	2	-	6	3	-	6	3	5
2016												
1	SRI: Wind Power Generation Project	-			-		capacity building of executing agency to forecast, control and manage intermittent renewable energy in the power system			10	3	1
2	REG: Access to Electricity with New Off-Grid Solar Technology in Central Asia (original application title: REG: Increase Electricity Access Using Off-Grid Solar Power and New Technology)	improve productivity of rural households and contribute to livelihood in the region			-		training materials developed	1		30	-	1
3	REG: Supporting the Asia solar energy Forum to Scale Up Solar energy Development in Asia and the Pacific (under TA REG: Empowering the Poor Through Increasing Access to Energy)	-			-		Asia Solar Energy Forum			-	-	1
5	NEP: Power Transmission and Distribution Efficiency Enhancement Project (Original application title: NEP: Electricity Distribution Efficiency Improvement Project)	-			-		prepared loan, including social and environmental analysis, technical, economic and financial due diligence and capacity building support to the Nepal Electricity Authority staff on using advance and smart distribution technologies, improving operational and financial performance of the distribution centers, and medium- to long-term distribution planning documents	1		TBD	TBD	1
6	REG: Leapfrogging of Clean Technology in CAREC Countries through Market Transformation (Original application title: REG: Enabling CAREC Countries for Technology Leapfrogging)	-			-		training on new technology and capacity building	1		TBD	TBD	5
7	INO: Banten and South Sulawesi Wind Power Development (application title: INO: Banten and West Nusa Tenggara Wind Power Development)	-			-		grid integration studies, environmental and social baseline and red-flag assessments	1		-	-	-
8	RMI: Majuro Power Network Strengthening	-			-		report and workshops and/or seminars on use of analytical tools and project technical, financial and economica analysis and investment project prioritization	1		16	4	2
9	REG: Improving Institutional Capacity on Preparing Energy Efficiency Investments (original application title: REG: Mainstreaming Energy Efficiency in Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka)	-			development of action plan/roadmap (including policy dialogue and capacity building)		5 building and 5 industrial energy audits; database of best practices for South Asia; policy dialogue, capacity building and action plan/roadmap development	-		100	-	2

CCS = carbon capture and storage, CE = clean energy, CEFPF = Clean Energy Financing Partnership Facility, HH = household, INO = Indonesia, NEP = Nepal, REG = regional, RMI = Republic of Marshall Islands, SRI = Sri Lanka.

Source: ADB estimates.

Table A6.2 continued

No.	Project Name	Country	Allocation (In $'000)	Outputs Performance Targets and Indicators by 2020: $4 billion in ADB's clean energy investments leveraged ($000)	$1.2 billion in private sector investments leveraged ($000)	$1.2 billion in non-private sector investments leveraged ($000)	55 new CE/CCS technologies deployed by DMCs	2 CCS demonstration projects commenced	15 new approaches/ methodologies to promote CE/CCS introduced	700,000 HHs provided with access to energy	350,000 HHs connected to electricity	175,000 HHs connected to modern fuels and/or efficient devices for cooking	175,000 HHs connected to modern fuels and/or efficient devices for heating	30% of access to energy projects with gender mainstreaming	80% of access to energy projects with gender concerns
Stand Alone Technical Assistance		**Total**	**79,170**	**656,090**	**130**	**-**	**-**	**-**	**-**	**900**	**900**	**-**	**-**	**-**	**-**
		2008-2015	53,980	353,440	-	-	-	-	-	400	400	-	-	-	-
		2016	12,415	302,000	130	-	-	-	-	500	500	-	-	-	-
		2017	12,775	650	-	-	-	-	-	-	-	-	-	-	-
		Total	**64**	**9**	**1**	**-**	**50**	**-**	**7**	**6**	**2**	**-**	**-**	**-**	**5**
		2008-2015	50	5	-	-	43	-	3	5	1	-	-	-	5
		2016	10	3	1	-	3	-	1	1	1	-	-	-	-
		2017	8	1	-	-	8	-	3	-	-	-	-	-	-
							2016								
10	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	INO	500	-	-	-			-	n/a	n/a	n/a	n/a		-
11	KAZ: Fostering the Development of Renewable Energy Generation in Kazakhstan	KAZ	1,000	-	-	-			-	n/a	n/a	n/a	n/a		-
							2017								
1	PRC: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project	PRC	5,500	-	-	-	CCS		-	n/a	n/a	n/a	n/a		-
2	REG: Promoting Private Sector Investment in CE in Central Asia	REG	2,000	-	-	-	none		-	n/a	n/a	n/a	n/a		-
3	REG: Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities (Original application title REG:Knowledge-based Low-Carbon Cities Development in CAREC)	REG	800	-	-	-	clean energy technology (solar, BRT, LED, landfill-gas utilization for power, geothermal-based heating and cooling, power storage)		-	n/a	n/a	n/a	n/a		-
4	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia - Additional Financing	REG	1,500	-	-	-	CCS		-	n/a	n/a	n/a	n/a		-
5	PRC: Developing Cost-Effective Policies and Investments to Achieve Climate and Air Quality Goals in the Beijing-Tianjin-Hebei Region - Additional Financing	PRC	75	-	-	-	none		-	n/a	n/a	n/a	n/a		-
6	PRC: Transaction Technical Assistance Facility for Preparing Air Quality Improvement Program in the Greater Beijing-Tianjin-Hebei Region	PRC	400	650	-	-	low carbon emission technologies		Carbon emission inventory and action planning	n/a	n/a	n/a	n/a		-
7	REG: Regional Cooperation on Renewable Energy Integration to the Grid	REG	1,500	-	-	-	power dispatching operation tools, such as RE forecasting tools and SCADA/EMS		Regional Cooperation Mechanism	n/a	n/a	n/a	n/a		-
8	REG: Additional Financing Project Development and Investment Facilitation	REG	1,000	-	-	-	none		business development and access to finance	n/a	n/a	n/a	n/a		-

ADB = Asian Development Bank, BRT = bus rapid transit, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, DMC = developing member country, HH = households, INO = Indonesia, KAZ = Kazakhstan, LED = light emitting diode, REG = regional.

Source: ADB estimates.

Table A6.2 continued

No.	Project Name	Outputs Performance Targets and Indicators by 2020											
		40% of projects supported provide co-benefits	Number of individuals employed	Number of women employed	20 national and local policies enabling CE development in DMCs	25 financing models suitable for bundling small CE investment projects used in DMCs	100% of projects supported produce knowledge products or contribute in building capacity to promote CE/CCS	Number of knowledge products produced/ disseminated	Number of projects in which knowledge products, practices or information are disseminated in gender sensitive manner	Number of invidiuals trained	Number of women trained	Number of trainings/ conferences/ workshops held
Stand Alone Technical Assistance		-	-	-	-	-	-	9	-	434	14	76
		-	-	-	-	-	-	1	-	-	-	39
		-	-	-	-	-	-	5	-	180	14	15
		-	-	-	-	-	-	3	-	254	-	22
		10	-	-	13	8	62	12	1	14	11	19
		6	-	-	10	9	50	1	1	-	-	4
		1	-	-	1	-	10	8	-	8	8	10
		3	-	-	2	-	6	3	-	6	3	5
		2016										
10	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	-			-		final technical assessments, safeguards due diligence	1		-	-	-
11	KAZ: Fostering the Development of Renewable Energy Generation in Kazakhstan	-			-		train the system operations and planning staff of state-owned electricity transmission and dispatch joint stock company in modern transmission system planning tools	-		24	7	2
		2017										
1	PRC: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project	-			-	-	2 publication and 5 trainings for CCUS Center and policy makers	1		TBD	TBD	1
2	REG: Promoting Private Sector Investment in CE in Central Asia	-			-	-	capacity building on policy and regulation on new clean technology	-		150	-	6
3	REG: Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities (Original application title REG:Knowledge-based Low-Carbon Cities Development in CAREC)	health benefits			green procurement policy	-	develop city-level roadmaps for low carbon economic growth; publication of sourcebook on best practices and measures driving low-carbon economic development at city level; and capacity building on low carbon economic development	1		60	TBD	3
4	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia - Additional Financing	0			-	-	workshops, training, seminars and conferences	0		TBD	TBD	-
5	PRC: Developing Cost-Effective Policies and Investments to Achieve Climate and Air Quality Goals in the Beijing-Tianjin-Hebei Region - Additional Financing	health benefits			policy recommendations for more sustainable energy policy making	-	-	-		-	-	-
6	PRC: Transaction Technical Assistance Facility for Preparing Air Quality Improvement Program in the Greater Beijing-Tianjin-Hebei Region	health benefits			-	-	-	-		-	-	-
7	REG: Regional Cooperation on Renewable Energy Integration to the Grid	-			-	-	training program and report	1		14	-	7
8	REG: Additional Financing Project Development and Investment Facilitation	-			-	-	workshops for finance institutions, credit guarantee institutions and insurance agencies organized	0		30	-	5

CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CCUS = carbon capture utilization and storage, CE = clean energy, PRC = China, People's Republic of, DMC = developing member country, HH = households, INO = Indonesia, KAZ = Kazakhstan, REG = regional.

Source: ADB estimates.

Table A6.2 continued

No.	Project Name	Country	Allocation (In $'000)	Outputs Performance Targets and Indicators by 2020: $4 billion in ADB's clean energy investments leveraged ($000)	$1.2 billion in private sector investments leveraged ($000)	$1.2 billion in non-private sector investments leveraged ($000)	55 new CE/CCS technologies deployed by DMCs	2 CCS demonstration projects commenced	15 new approaches/ methodologies to promote CE/CCS introduced	700,000 HHs provided with access to energy	350,000 HHs connected to electricity	175,000 HHs connected to modern fuels and/or efficient devices for cooking	175,000 HHs connected to modern fuels and/or efficient devices for heating	30% of access to energy projects with gender mainstreaming	80% of access to energy projects with gender concerns
Direct Charges		**Total**	**5,319**	**225**	**-**	**-**	**-**	**-**	**-**	**75,000**	**75,000**	**-**	**-**	**-**	**-**
		2008-2015	4,358	-	-	-	-	-	-	75,000	75,000	-	-	-	-
		2016	736	225	-	-	-	-	-	-	-	-	-	-	-
		2017	225	-	-	-	-	-	-	-	-	-	-	-	-
		Total	**62**	**1**	**-**	**-**	**15**	**-**	**1**	**1**	**1**	**-**	**-**	**-**	**1**
		2008-2015	52	-	-	-	13	-	1	1	1	-	-	-	1
		2016	8	1	-	-	2	-	-	-	-	-	-	-	-
		2017	2	-	-	-	-	-	-	-	-	-	-	-	-
							2016								
1	REG: 11th Asia Clean Energy Forum 2016	REG	150												
2	REG: CCS Way Forward in Asia (Deep dive workshop)	REG	75												
3	INO: Preparation of the Gundih Pilot Carbon Capture and Storage	INO	75				Carbon capture and storage								
4	REG: CAREC ESCC Investment Forum	REG	150	225											
5	SRI: Consultancy Services for Technical Design and Specifications for Installation of +100/-50 Mvar Compensator at Biyagama Grid Substation	SRI	75	-											
6	REG: Deep Dive Workshop on "Paving Clean and Low Carbon Transport and Energy Systems Using Hydrogen and Fuel Cells"	REG	85	-			Low carbon technology in the transport sector								
7	INO: Minimum Energy Performance Standards (MEPS) Development for Appliances in Indonesia	INO	51	-											
8	KAZ: Introducing the Auction Mechanism for Renewable Energy Projects	KAZ	75	-											
							2017								
1	REG: 12th Asia Clean Energy Forum	REG	150	-											
2	INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	INO	75	-											
							TOTAL FOR TAs AND DCs								
	2008-2015		58,338	353,440	-	-	-	-	-	75,400	75,400	-	-	-	-
	2016		13,151	302,225	130	-	-	-	-	500	500	-	-	-	-
	2017		13,000	650	-	-	-	-	-	-	-	-	-	-	-
	Total Amounts		**84,489**	**656,315**	**130**	**-**	**-**	**-**	**-**	**75,900**	**75,900**	**-**	**-**	**-**	**-**
	2008-2015		102	5	-	-	56	-	4	6	2	-	-	-	6
	2016		18	4	1	-	5	-	1	1	1	-	-	-	-
	2017		10	1	-	-	8	-	3	-	-	-	-	-	-
	Total Projects Contributing to Outputs		**126**	**10**	**1**	**-**	**65**	**-**	**8**	**7**	**3**	**-**	**-**	**-**	**6**

ADB = Asian Development Bank, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, DC = direct charge, DMC = developing member country, HH = households, INO = Indonesia, KAZ = Kazakhstan, REG = regional, SRI = Sri Lanka, TA = technical assistance.

Source: ADB estimates.

Table A6.2 continued

No.	Project Name	40% of projects supported provide co-benefits	Number of individuals employed	Number of women employed	20 national and local policies enabling CE development in DMCs	25 financing models suitable for bundling small CE investment projects used in DMCs	100% of projects supported produce knowledge products or contribute in building capacity to promote CE/CCS	Number of knowledge products produced/ disseminated	Number of projects in which knowledge products, practices or information are disseminated in gender sensitive manner	Number of invidiuals trained	Number of women trained	Number of trainings/ conferences/ workshops held
		Outputs Performance Targets and Indicators by 2020										
Direct Charges		**-**	**-**	**-**	**-**	**-**	**-**	**3**	**-**	**241**	**-**	**16**
		-	-	-	-	-	-	-	-	51	-	7
		-	-	-	-	-	-	1	-	135	-	8
		-	-	-	-	-	-	2	-	55	-	1
		1	**-**	**-**	**1**	**2**	**62**	**5**	**-**	**10**	**3**	**11**
		1	-	-	-	1	52	-	-	4	3	7
		-	-	-	1	1	8	3	-	5	-	3
		-	-	-	-	-	2	2	-	1	-	1
						2016						
1	REG: 11th Asia Clean Energy Forum 2016				-		forum and pre-forum events, forum documents	-		-	-	1
2	REG: CCS Way Forward in Asia (Deep dive workshop)				-		CCS deep dive workshop	-		30	-	1
3	INO: Preparation of the Gundih Pilot Carbon Capture and Storage				-		EIA or IEE, safeguards assessments and final report	1		-	-	
4	REG: CAREC ESCC Investment Forum				-		investment forum	-		30	-	1
5	SRI: Consultancy Services for Technical Design and Specifications for Installation of +100/-50 Mvar Compensator at Biyagama Grid Substation				-		final report and staff training focused on design and application of Static Var Compensator (SVC)	1		20	-	2
6	REG: Deep Dive Workshop on "Paving Clean and Low Carbon Transport and Energy Systems Using Hydrogen and Fuel Cells"				-		deep dive workshop	-		25	-	1
7	INO: Minimum Energy Performance Standards (MEPS) Development for Appliances in Indonesia				development of standards for energy efficiency of appliances		minimum energy performance standards developed for appliances	-		-	-	-
8	KAZ: Introducing the Auction Mechanism for Renewable Energy Projects				-	RE projects auctions	consultant report on comprehensive analysis and recommendations for introducing RE projects auction; and at least 2 workshops from public and private sector	1		30	-	2
						2017						
1	REG: 12th Asia Clean Energy Forum				-	-	forum and pre-forum events, forum documents	1		55	-	1
2	INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia				-	-	rapid environmental and social assessment report	1		-	-	-
						TOTAL FOR TAs AND DCs						
2008-2015		-	-	-	-	-	-	1	-	51	-	46
2016		-	-	-	-	-	-	6	-	315	14	23
2017		-	-	-	-	-	-	5	-	309	-	23
Total Amounts		**-**	**-**	**-**	**-**	**-**	**-**	**12**	**-**	**675**	**14**	**92**
2008-2015		7	-	-	10	10	102	1	1	4	3	11
2016		1	-	-	2	1	18	11	-	13	8	13
2017		3	-	-	2	-	8	5	-	7	3	6
Total Projects Contributing to Outputs		**11**	**-**	**-**	**14**	**11**	**124**	**17**	**1**	**24**	**14**	**30**

CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, DC = direct charge, DMC = developing member country, EIA = environmental impact assessment, HH = households, IEE = initial environmental examination, INO = Indonesia, KAZ = Kazakhstan, RE = renewable energy, REG = regional, SRI = Sri Lanka, SVC = static var compensator, TA = technical assistance.

Source: ADB estimates.

Table A7: CEFPF Activities against Target Outputs, as of 31 December 2017

Indicator	Target (By 2020)	1 January - 31 December 2017						Cumulative (As of 31 December 2017)[a]					
		CF	GCI	TALL	TA	DC	Total	CF	GCI	TALL	TA	DC	Total
Allocations ($'000)		20,000	6,800	4,000	12,775	225	43,800	59,250	59,300	25,495	79,170	5,319	228,534
No. of projects receiving allocation		1	3	4	8	2	18	5	22	25	64	62	174
CE Investments in DMCs Increased													
ADB's clean energy investments in DMCs leveraged ($'000)	**$ 4 billion[b]**	**300,000**	**20,000**	**200,000**	**650**	**-**	**520,650**	**633,300**	**564,880**	**2,080,776**	**656,090**	**225**	**3,935,271**
ADB CE investments leveraged per US$ of CEFPF financing ($)		*12*						*17*					
Private sector clean energy investments leveraged ($000)[c]	**$ 1.2 billion**	**-**	**-**	**59,800**	**-**	**-**	**59,800**	**845,423**	**-**	**59,800**	**130**	**-**	**905,353**
Non-private sector clean energy investments leveraged ($000)[c]	**$ 1.2 billion**	**45,000**	**23,442**	**150,000**	**-**	**-**	**218,442**	**862,100**	**37,442**	**770,000**	**-**	**-**	**1,669,542**
Other CE investments leveraged per US$ of CEFPF financing ($)		*6*						*11*					
Deployment of New Technologies with Strong Demonstration Effect Facilitated													
New clean energy/CCS technologies	**55**	**1**	**5**	**2**	**8**	**1**	**12**	**7**	**20**	**20**	**35**	**17**	**45**
No. of contributing projects on technology deployment		*1*	*3*	*2*	*5*	*1*	*12*	*5*	*18*	*18*	*48*	*16*	*105*
% of contributing projects on technology deployment		*100%*	*100%*	*50%*	*63%*	*50%*	*67%*	*100%*	*82%*	*72%*	*75%*	*26%*	*60%*
No. of CCS demonstration projects in identified priority countries commencing[d]	**2**								**1**				*1*
New Approaches/Methodologies to Promote CE/CCS Introduced													
New approaches/methodologies to promote clean energy/CCS introduced[d]	**15 approaches**	**1**	**3**	**0**	**3**	**0**	**7**	**4**	**4**	**3**	**6**	**1**	**15**
No. of contributing projects on new approach		*1*	*3*	*0*	*3*	*0*	*7*	*5*	*8*	*2*	*7*	*1*	*23*
% of contributing projects on new approach		0%	100%	0%	38%	0%	39%	*100%*	*53%*	*13%*	*17%*	*2%*	*20%*
Benefits from Access to Energy Delivered													
No. of projects with access to energy		*0*	*2*	*0*	*0*	*0*	*2*	*1*	*9*	*2*	*6*	*1*	*19*
% of projects with access to energy component		*0%*	*67%*	*0%*	*0%*	*0%*	*11%*	*20%*	*60%*	*13%*	*14%*	*2%*	*16%*
No. of HHs provided with access to energy in participating DMCs[d]	**700,000**	**-**	**8,000**	**-**	**-**	**-**	**8,000**	**-**	**95,113**	**10,000**	**900**	**75,000**	**181,013**
HHs connected to electricity[d]	350,000	**-**	8,000	-	-	-	8,000	-	85,113	10,000	900	75,000	171,013
HHs connected to moderm fuels and/or efficient devices for cooking[d]	175,000	**-**	-	-	-	-	-	-	10,000	-	-	-	10,000
HHs connected to modern fuels and/or efficient devices for heating[d]	175,000	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
% of access to energy projects with gender mainstreaming[c]	**30%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**22%**	**0%**	**0%**	**0%**	**11%**
No. of contributing access to energy projects projects on gender mainstreaming		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**-**	**-**	**-**	**2**
% of access to energy projects with gender concerns[d]	**80%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**67%**	**100%**	**83%**	**100%**	**74%**
No. of contributing access to energy projects on gender concerns		**-**	**2**	**-**	**-**	**-**	**2**	*0*	*6*	*2*	*5*	*1*	*14*

ADB = Asian Development Bank, CCS = carbon capture and storage, CE = clean energy, CEFPF = Clean Energy Financing Partnership Facility, CF = concessional financing, DC = direct charge, DMC = developing member country, GCI = grant component of investment, HH = household, TA = technical assistance, TALL = technical assistance linked to loan.

[a]Includes adjustments made following approval or withdrawal of projects.

[b]This is the cumulative total target of the clean energy funds by 2020, supporting the $2 billion annual target of ADB.

[c]Performance indicator effective in 2014.The estimates include an allocation in 2013, the Indonesia: Sarulla Geothermal Power Generation Project when monitoring on indicators was initiated.

[d]Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards.

Source: ADB estimates.

Table A7 continued

Indicator	Target (By 2020)	1 January - 31 December 2017						Cumulative (As of 31 December 2017)[a]					
		CF	GCI	TALL	TA	DC	Total	CF	GCI	TALL	TA	DC	Total
Health and Productivity Benefits Provided													
% of projects supported highlighting cobenefits on health and productivity[b]	**40%**	**100%**	**67%**	**0%**	**38%**	**0%**	**33%**	**100%**	**67%**	**19%**	**24%**	**2%**	**25%**
No. of contributing projects on cobenefits		*1*	*2*	*-*	*3*	*-*	*6*	*5*	*10*	*3*	*10*	*1*	*29*
No. of individuals employed[c]		TBD	-	-	-	-	-	2,349	-	5,000	-	-	7,349
No. of women employed[c]		**TBD**	-	-	-	-	-	267	-	-	-	-	267
% of women employed[c]		TBD	0%	0%	0%	0%	0%	11%	0%	0%	0%	0%	4%
No. of contributing projects on employment		*1*	-	-	-	-	*1*	*5*	-	*1*	-	-	*6*
Barriers to CE/CCS Investments Lowered													
National or local policies enabling CE/CCS development in participating DMCs developed[d]	**20**	**0**	**0**	**1**	**2**	**0**	**3**	**0**	**1**	**3**	**10**	**1**	**14**
No. of contributing projects on policy development		*0*	*0*	*1*	*2*	*0*	*3*	*0*	*1*	*4*	*13*	*1*	*19*
Financing models suitable for bundling small CE/CCS investment applied in participating DMCs[d]	**25**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**4**	**7**	**7**	**2**	**18**
No. of contributing projects on financing models		*1*	*1*	*0*	*0*	*0*	*2*	*5*	*6*	*8*	*8*	*2*	*28*
% of projects producing/disseminating knowledge products or contributing to capacity building	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
No. of contributing projects on knowledge products and/or capacity building		*1*	*3*	*4*	*8*	*2*	*18*	*5*	*22*	*25*	*64*	*62*	*174*
No. of projects that disseminate knowledge products, practices and information in a gender sensitive manner[c]		-	-	-	-	-	-	-	-	1	1	-	2
No. of knowledge products produced and/or disseminated[c]		-	1	3	3	2	9	-	5	9	10	5	29
No. of individuals trained[c]		-	100	199	254	55	608	-	5210	575	434	241	6460
No. of women trained[c]		-	20	24	-	-	44	-	2033	71	14	0	2118
% of women trained[c]		0%	20%	0%	0%	0%	7%	0%	39%	12%	0%	0%	33%
No. of trainings/conferences/workshops held[c]		-	1	10	22	1	34	-	30	39	76	16	161

CCS = carbon capture and storage, CE = clean energy, CF = concessional financing, DMC = developing member country, GCI = grant component of investment, DC = direct charge, TA = technical assistance, TALL = technical assistance linked to loan.

[a]Includes adjustments made following approval or withdrawal of projects.

[b]Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards.

[c]Performance indicator effective in 2014.The estimates include an allocation in 2013, the Indonesia: Sarulla Geothermal Power Generation Project when monitoring on indicators was initiated.

[d]Total may not add-up due to coverage of policies or financing models by various projects.

Note: As of 31 December 2015, there are 3 project allocations to adaptation projects under CFPS. These are not accounted in this table.

Source: ADB estimates.

Completed Clean Energy Financing Partnership Facility Direct Charge Project in 2017

REG: 10th Asia Clean Energy Forum

This direct charge cofinanced the 10th Asia Clean Energy Forum with an allocation of $150,000. The forum is Asia's premier clean energy event, bringing together hundreds of policymakers, practitioners, donors, financiers, and other experts from dozens of countries in the region and throughout the world. ADB was the main organizer, with three co-organizers, i.e., the United States Agency for International Development (USAID), the World Energy Council (WEC), and the Korea Energy Management Corporation (KEMCO). The Forum was held on 15-19 June 2015 at ADB Headquarters in Manila and was attended by a total of 1,500 people from 64 countries and more than 200 expert speakers presenting a wide range of issues. The Forum structure includes (i) pre-forum events for the Asia Solar Energy Forum and the Energy for All Investor Forum; (ii) 10 deep dive workshops which provided participants with an opportunity to gain in-depth knowledge of specific topics of interest; (iii) special events like the Asia Solar Energy Forum hosted by ADB, the Annual Investor Forum hosted by ADB's Energy for All tem, and the World Energy Leaders' Summit hosted by the World Energy Council; (iv) four plenaries for ACEF 2015; and (v) six thematic tracks as the core of the main forum. The six thematic tracks were (i) energy efficiency, (ii) renewable energy, (iii) energy access, (iv) policy and regulation, (v) finance and (vi) technology. CEFPF supported the participation of 60 government representatives from 35 ADB DMCs. These participants are officials from the following government bodies which include: (i) Ministry of Finance or its equivalent, (ii) Ministry of Energy or its equivalent, and (iii) Executing and Implementing Agencies for clean energy projects under design or implementation. Full overview of the program can be accessed at this URL: https://d2oc0ihd6a5bt.cloudfront.net/wp-content/uploads/sites/837/2017/01/ACEF-2015-Program.pdf. The forum continues to serve as the platform for connecting policy, technology and finance communities to help develop a low-carbon economy in Asia and the Pacific region.

REG: 11th Asia Clean Energy Forum 2016

This direct charge cofinanced the 11th Asia Clean Energy Forum with an allocation of $150,000. The forum is Asia's premier clean energy event, bringing together hundreds of policymakers, practitioners, donors, financiers, and other experts from dozens of countries in the region and throughout the world. ADB was the main organizer, with three co-sponsors, i.e., the United States Agency for International Development (USAID), the Korea Energy Agency (KEA), and the world Resources Institute (WRI). The Forum was held on 6-10 June 2016 at ADB Headquarters in Manila and was attended by 1,460 participants and 250 expert speakers from 63 countries. The Forum structure includes (i) 19 pre-forum events which includes the deep dive workshops and technical seminars; (ii) special events like the Policy Dialogue on Skills for Clean Energy Transition hosted by ADB and the International Labor Organization (ILO), a side event focused on smart grids for renewable energy, and a roundtable discussion about the regulatory frameworks governing the energy sectors for eight counties in Southeast Asia; (iii) four plenaries for ACEF 2016 including a plenary on Nationally Determined Contributions (NDCs) in Asia Pacific; and (iv) four thematic tracks sessions, featuring moderated 90-minute panels of four to five speakers. For this forum, the Policy and Regulation, Finance and Technology tracks were presented as cross-cutting issues across the four tracks which were (i) Innovations In Energy Efficiency, (ii) Innovations In Renewable Energy, (iii) Increasing Energy Access, and (iv) Charting the Future of Clean

Energy in Asia. CEFPF supported the participation of 47 government representatives from 29 ADB DMCs. These participants are officials from the following government bodies which include: (i) Ministry of Finance or its equivalent, (ii) Ministry of Energy or its equivalent, and (iii) Executing and Implementing Agencies for clean energy projects under design or implementation. Full overview of the program can be accessed at this URL: https://d2oc0ihd6a5bt.cloudfront.net/wp-content/uploads/sites/837/2017/01/ACEF-2016-Program.pdf. The forum continues to serve as the platform for connecting policy, technology and finance communities to help develop a low-carbon economy in Asia and the Pacific region.

REG: CAREC ESCC Investment Forum

With an allocation of $150,000, this direct charge supported the Central Asia Regional Economic Cooperation (CAREC) Energy Sector Coordinating Committee Investment Forum (EIF) as well its pre-forum meeting. The EIF is an open event open to all sectors globally to promote investment in the region through discussions on new technologies available in the region and how to best utilize them. The pre-forum meeting was held on 18 July 2016 in Pakistan and attended by 22 delegates from CAREC countries to discuss the plans for the EIF, its agenda and invited speakers, the country presentations and the priority projects. The EIF was held on 24 October 2016 in Pakistan and attended by 174 participants from the CAEC member country governments, private sector and international organizations. The CEFPF sponsored around 50 delegates and speakers as well covered the meeting venue rental and banquet services for the EIF and other administrative and support costs. The objective of the EIF is to make key stakeholders in the energy sector aware about global energy trends and recent innovations in clean technologies, and create a market for it by bringing together regulators, project sponsors, the private sector, financing institutions, and technology providers. At the EIF, governments were given an opportunity to discuss the ease of doing business with their countries, appealing to project investors and financial institutions. The private sector had a direct line of contact to the government representatives to be able to foster a relationship. The EIF was able to increase the access to regional and global markets and value chains, especially for clean technologies. The Forum also identified some barriers to investment during the discussions: (i) unstable regulation framework and cost-unreflective tariff settings providing limited incentives for private sector participation; (ii) weak incentives for schemes IPPs/PPPs (taxation, licensing, etc); and (iii) state ownership (monopoly) of energy assets lacking competitive environment. Key takeaway from the discussions show that investment will depend heavily on CAREC countries' commitment to create a stable and competitive framework that sufficiently reward private investment in a timely manner. The presentation materials and photos of the EIF can be accessed in the CAREC Program website: http://www.carecprogram.org/index.php?page=energy-investment-forum-oct-2016.

KAZ: Introducing the Auction Mechanism for Renewable Energy Projects

The Facility also supported the introduction of the auction mechanism for implementing renewable energy projects in Kazakhstan, not only for transparency but also to attract leading investors and contractors, and promote efficient technologies while minimizing end-user tariff increases. Through CEFPF support, one international and one national RE policy expert were engaged and performed the following activities: (i) analyzed international experience and best practices in RE auctions, including problems and challenges of the

auction mechanism and the rationale for transitioning from the fixed tariff system; (ii) analyzed stakeholders' roles, identified policy and institutional gaps, and recommend measures to address them, and (iii) developed the framework and guidelines as well as needed capacity building for introducing the auction mechanism, including though PPP arrangements. The experts delivered high quality reports and presentations and conducted two highly successful and well-participated knowledge sharing workshops and stakeholder consultations. The project outputs were accepted and adopted, and plans are underway to conduct the first auction by mid-2018. The auction platform is being set-up and the Ministry of Energy has appointed the market operator KOREM as the auction organizer. The government plans to introduce amendments to legislation later this year while, at the donor coordination meeting held before the July 2017 CAREC ESCC meeting held during the Astana Expo, ADB, USAID, NREL and IRENA, committed to assist in increasing RE penetration in Kazakhstan.

REG: External Evaluation of Clean Energy Financing Partnership Facility (Carbon Capture and Storage Fund Component and Clean Energy Fund Component)

An evaluation of the Clean Energy Financing Partnership Facility (CEFPF) was undertaken to provide an opportunity for ADB and the financing partners to learn how to better manage the trust fund in order to effectively achieve its intended goals. The evaluation was designed to assess the overall relevance, effectiveness, efficiency value addition, and sustainability of the CEFPF. A consulting firm was engaged to conduct the data gathering and report drafting undertaken between April and August 2015. The draft report was disseminated to financing partners in December 2015 and the final version of the report incorporating financing partners' comments was submitted in February 2016. The recommendations of the external report were discuss among ADB and the financing partners during the CEFPF session of the Annual Consultation Meeting in March 2016. The recommendations of the report were considered by the management and necessary actions were taken to address issues facing the Facility. These actions include having the additional staff to strengthen the fund team; spearheading the evaluation of energy projects; and coordinating with energy representatives of the ADB operations departments to increase the uptake of clean energy technologies, and encouraging innovation in technology and financing.

Table A9.1: Status of Grant

Statement 1

ASIAN DEVELOPMENT BANK
ADMINISTRATOR FOR
CLEAN ENERGY FUND
CHANNEL FINANCING AGREEMENT

STATUS OF GRANT
As of 31 December 2017
(Expressed in US Dollars)

TOTAL CONTRIBUTION COMMITTED			107,266,045.39
Gain (loss) arising from change in value of currency			(6,057,651.87)
Amount received:			
Government of Australia (AUD13,584,000)	13,333,980.70		
Government of Norway (NOK280,000,000)	40,970,759.80		
Government of Spain (USD9,500,000)	9,500,000.00		
Government of Sweden (SEK175,000,000)	24,241,608.51		
Government of Sweden (USD 42.56)	42.56	d/	
Government of DECC (GBP6,000,000)	7,753,600.00		
	95,799,991.57		
Receivable from DECC (GBP4,000,000)	5,408,401.95	b/	
NET CONTRIBUTION AVAILABLE			101,208,393.52
Interest income - cash in bank	83,015.69		
Interest income - investments	1,263,644.49		
Gain (loss) on foreign exchange transactions	783.69		1,347,443.87
TOTAL AMOUNT AVAILABLE			102,555,837.39
Amounts utilized for:			
Project expenditures (Statement 2)			
Grant component of investment (GCI)	(8,913,979.70)		
Technical assistance linked to loan (TALL)	(5,821,241.66)		
Technical assistance (TA)	(18,399,713.35)		
Direct charges	(3,479,399.87)		
ADB service fees	(1,467,939.51)	c/	
Audit fees	(160,619.00)		
Financial expenses	(9,619.92)		(38,252,513.01)
UNUTILIZED BALANCE			64,303,324.38 a/
Outstanding commitments - GCI, TALL and TA	(29,849,763.70)		
Reserve for ADB service fees	(1,427,040.90)	c/	
Undisbursed direct charges	(403,576.22)		(31,680,380.82)
UNCOMMITTED BALANCE			32,622,943.56
Projects approved but not yet effective:			
9370-PA: Scaling Up Energy Efficiency (TALL)	(1,000,000.00)		
Reserve for ADB service fees	(50,000.00)	c/	(1,050,000.00)
UNCOMMITTED BALANCE AVAILABLE FOR NEW COMMITMENTS			31,572,943.56

As applicable, non-US dollar currencies are expressed in thousands. Undrawn contributions in local currency are translated at the applicable exchange rate as of reporting date.

a/ Represented by:

Cash in bank	4,343,982.31
Investment	53,897,234.17
Accrued interest	20,750.44
Undrawn contribution	5,408,401.95
Advances under TA Grants	678,863.41
Interfund receivable	4,864.01
Interfund payable	(50,771.91)
	64,303,324.38

b/ Undrawn contribution represents the amount of promissory notes from DECC.

c/ Represents 5% and 2% of TA and Grant project expenditures/outstanding commitments/approved not yet effective. For Grants under Contributions committed starting 6 November 2009, ADB service fees will be 5% for grants up to, $5 million or 2% with a minimum of $250,000 (whichever is greater) for grants above $5 million.

d/ Unutilized funds transferred from Funds 57 and 70.

ASIAN DEVELOPMENT BANK
Statement of TA/Grant Expenditures and Direct Charges
Clean Energy Fund
As of 31 December 2017

(Expressed in US Dollars)

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	Transactions 01/01-31/12/17	Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
APPROVED and EFFECTIVE PROJECTS											
Grant Component of Investment (GCI):											
Cambodia											
Medium-Voltage Sub-Transmission Expansion Sector - Additional Financing	G0468	09-Dec-15	1,000,000.00		-	-	-	1,000,000.00	30/06/2018		
China, People's Republic of											
Integrated Renewable Biomass Energy Development Project	G0202	16-Apr-10	3,000,000.00		683,900.10	134,523.63	818,423.73	2,181,576.27	31/12/2018		
Indonesia											
Java-Bali Electricity Distribution Preformance Improvement Project	G0198	22-Mar-10	1,000,000.00		965,587.78	-	965,587.78			34,412.22	25-Nov-16
West Kalimantan Power Grid Strengthening Project	G0354	27-Aug-13	2,000,000.00		1,664,797.63	-	1,664,797.63			335,202.37	18-Dec-17
Nepal											
Energy Access and Efficiency Improvement Project	G0183	27-Nov-09	4,200,000.00		3,710,347.03	-	3,710,347.03			489,652.97	09-Nov-16
Regional											
Higher Education in the Pacific Investment Program -Project 2(Addl Fin)	G0505	21-Oct-16	1,500,000.00		-	109,291.84	109,291.84	1,390,708.16	30/06/2020		
Sri Lanka											
Clean Energy and Network Efficiency Improvement Project	G0303	18-Sep-12	1,500,000.00		443,691.39	246,348.99	690,040.38	809,959.62	30/06/2019		
Supporting Electricity Supply Reliability Improvement Proj-Ren Energy	G0486	26-Jul-16	1,800,000.00			-	-	1,800,000.00	31/03/2022		
Thailand											
NSP: Solar Power Project	G0201	16-Apr-10	2,000,000.00		-	-	-			2,000,000.00	03-Dec-13
Viet Nam											
Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector - Additional Financing	G0384	09-Apr-14	3,000,000.00		-	-	-	3,000,000.00	31/12/2017		
Tajikistan											
Strengthening Technical and Vocational Education and Training	G0453	09-Nov-15	2,000,000.00		15,151.79	940,339.52	955,491.31	1,044,508.69	30/09/2021		
Carec Corridors 2, 5 & 6 (Dushanbe-Kurgonteppa) Road Project	G0510	31-Oct-16	2,000,000.00		-	-	-	2,000,000.00	30/09/2021		
Sub Total			**25,000,000.00**		**7,483,475.72**	**1,430,503.98**	**8,913,979.70**	**13,226,752.74**		**2,859,267.56**	

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	 Transactions 01/01-31/12/17	 Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	 Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Technical Assistance Linked to Loan (TALL):											
Bangladesh											
Supporting Brick Sector Development Program	8197/CD	22-Oct-12	750,000.00		431,812.27	277,769.88	709,582.15	40,417.85	30-Jun-18		
China, People's Republic of											
Guangdong Energy Efficiency and Environment Improvement Investment Program	G0109	4-Jun-08	800,000.00		799,216.73	-	799,216.73			783.27	27-Apr-15
Railway Sector Energy Efficiency Strategy - **WITHDRAWN/CANCELLED**	7171/AO	18-Nov-08	800,000.00		-	-	-			800,000.00	25-Jul-11
NSP: Municipal Waste to Energy Project	7294/CD	4-Jun-09	653,000.00		381,234.00	95,916.00	477,150.00	175,850.00	31-Mar-18		
Municipal Natural Gas Infrastructure Development Project	7636/CD	9-Nov-10	592,000.00		145,670.00	266,439.00	412,109.00	179,891.00	31-Dec-16		
Development of Energy Manager Program for Energy Conservation in Shandong	7817/CD	31-May-11	1,000,000.00		977,575.53	-	977,575.53			22,424.47	30-Apr-14
Energy Efficiency Multi-project Financing Program	8431/CD	16-Oct-13	500,000.00		279,936.09	109,597.50	389,533.59	110,466.41	31-Mar-17		
Strengthening Capacity in Implementation of Green Financing Platform	9251/CD	29-Nov-16	1,000,000.00		-	122,651.63	122,651.63	877,348.37	30-Nov-19		
India											
Demand-Side Energy Efficiency Investment	9081/PP	23-Feb-16	1,000,000.00		112,015.76	63,659.13	175,674.89	824,325.11	22-Feb-21		
Lao People's Democratic Republic											
Hydropower Impacts and Best Practices : A Communications Project - **WITHDRAWN/CANCELLED**	8058/CD	8-Feb-12	180,000.00		-	-	-			180,000.00	19-Jul-13
Regional											
Pacific Renewable Energy Investment Facility	9242/PP	24-Nov-16	3,000,000.00		-	-	-	3,000,000.00	30-Nov-26		
Samoa											
Renewable Energy Development and Power Sector Rehabilitation	G0371	15-Nov-13	1,000,000.00		769,496.41	85,543.00	855,039.41	144,960.59	30/06/2019		
Sri Lanka											
Demand-Side Management for Municipal Street Lighting	7267/CD	14-Apr-09	800,000.00		749,265.73	-	749,265.73			50,734.27	20-Dec-12
Uzbekistan											
Second Solar Power Project	9262/PP	05-Dec-16	1,000,000.00		-	153,443.00	153,443.00	846,557.00	31-Jul-18		
Sub Total			**13,075,000.00**		**4,646,222.52**	**1,175,019.14**	**5,821,241.66**	**6,199,816.33**		**1,053,942.01**	

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	 Transactions 01/01-31/12/17	 Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	 Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Technical Assistance (TA):											
Afghanistan											
Renewable Energy Development	8808/CD	12-Dec-14	1,000,000.00		371,895.49	610,909.78	982,805.27	17,194.73	31-Dec-17		
Azerbaijan											
Renewable Energy Development Biomass Cogeneration Project	8364/PP	8-May-13	1,000,000.00		292,834.69	538,114.38	830,949.07			169,050.93	31-May-17
China, People's Republic of											
Innovating Financing Mechanisms for Energy Efficiency and Emissions Reduction in SMEs	7564/PA	21-Jul-10	300,000.00		300,000.00	-	300,000.00			-	26-Mar-13
Renewable Energy Development in Qinghai	7643/CD	10-Nov-10	200,000.00		200,000.00	-	200,000.00			-	27-Dec-12
Developing Smart Grid Technology for Efficient Utilization of Renewable Energy	7721/CD	08-Dec-10	900,000.00		810,249.98	-	810,249.98			89,750.02	27-Jan-14
Cost Effective Policies and Investment in the Beijing-Tianjin-Hebei Region	9034/PA	14-Dec-15	75,000.00		-	-	-	75,000.00	11-Mar-18		
Preparing Air Quality Improvement Program 2017 2019 in the Greater Beijing-Tianjin-Hebei Region	9309/PP	10-Apr-17	400,000.00		-	-	-	400,000.00	30-Dec-20		
India											
Concentrated Solar Power Project	8455/PP	24-Sep-13	1,000,000.00		687,952.09	141.57	688,093.66			311,906.34	31-Jan-17
Indonesia											
Scaling Up Renewable Energy Access in Eastern Indonesia	8287/CD	12-Dec-12	1,000,000.00		1,000,000.00	-	1,000,000.00			-	27-Jun-16
Kazakhstan											
Fostering the Development of Renewable Energy	9301/CD	06-Mar-17	1,000,000.00		-	599,100.00	599,100.00	400,900.00	28-Feb-18		
Marshall Islands											
Majuro Power Network Strengthening	9225/CD	09-Nov-16	690,000.00		-	166,148.33	166,148.33	523,851.67	30-Nov-18		
Nepal											
Power Transmission & Distribution Efficiency Enhancement Project	9144/PP	22-Jul-16	1,500,000.00		31,929.44	103,844.91	135,774.35	1,364,225.65	31-Dec-19		
Philippines											
NSP: SSTA for Pasuquin East Wind Farm Development Project	7097/PP	11-Jun-08	200,000.00		200,000.00	-	200,000.00			-	23-Sep-10
Sri Lanka											
Building the Capacity of the Sustainable Energy Authority	7011/AO	12-Dec-07	600,000.00		534,623.82	-	534,623.82			65,376.18	16-Sep-11
Wind Power Generation Project	9085/PP	18-Mar-16	2,000,000.00		353973.61	566,153.10	920,126.71	1,079,873.29	30-Jun-18		

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	 Transactions 01/01-31/12/17	 Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	 Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Technical Assistance (TA):											
Thailand											
Mainstreaming Energy Efficiency Measures in Thai Municipalities	7194/AO	08-Dec-08	1,000,000.00		738,818.02	-	738,818.02			261,181.98	22-Jun-12
Tonga											
Outer Island Renewable Energy Project	7940/PP	02-Dec-11	225,000.00		224,998.97	-	224,998.97			1.03	12-Jul-13
Outer Island Energy Efficiency Project	8296/PP	17-Dec-12	400,000.00		390,000.00	-	390,000.00			10,000.00	11-Feb-14
Uzbekistan											
Samarkand Solar Power Project	8372/PP	29-May-13	750,000.00		747,071.37	-	747,071.37			2,928.63	31-Dec-16
Regional											
Promoting Energy Efficiency in the Pacific	6485/REG	12-Sep-08	1,200,000.00		1,160,282.89	-	1,160,282.89			39,717.11	31-Aug-11
Promoting Access to Renewable Energy in the Pacific	7329/CD	11-Aug-09	3,000,000.00		2,655,986.14	-	2,655,986.14			344,013.86	09-Dec-15
Empowering the Poor through Increasing Access to Energy	7512/PP	09-Apr-10	1,225,000.00		887,000.13	248,123.96	1,135,124.09			89,875.91	31-Jul-17
Promoting Renewable Energy, Clean Fuels, and Energy Efficiency in the Greater Mekong Subregion	7679/CD	18-Nov-10	200,000.00		42,988.73	-	42,988.73			157,011.27	31-Mar-15
Sustainable Energy Training Program	8446/CD	12-Sep-13	225,000.00		201,155.32	-	201,155.32			23,844.68	23-Dec-14
Asia Energy Efficiency Accelerator	8483/CD	10-Oct-13	2,000,000.00		1,574,578.01	289,396.42	1,863,974.43			136,025.57	28-Feb-17
Sustainable Energy Training Program 2014	8644/CD	08-May-14	225,000.00		133,591.49	-	133,591.49			91,408.51	31-Oct-15
Promoting Sustainable Energy for All in Asia and the Pacific	8953/CD	10-Sep-15	1,500,000.00		37,956.04	715,183.99	753,140.03	746,859.97	31-Dec-20		
Access to Electricity w/ New Off-Grid Solar Tech in Central Asia	9168/CD	14-Sep-16	2,000,000.00		63,439.41	390,120.35	453,559.76	1,546,440.24	31-Oct-18		
Improving Institutional Capacity on Preparing Energy Efficiency Investment	9266/CD	06-Dec-16	2,000,000.00		-	231,174.74	231,174.74	1,768,825.26	30-Nov-19		
Leapfrogging of Clean Tech in Carec Countries Thru Market Transformation	9299/CD	13-Feb-17	2,000,000.00		-	299,976.18	299,976.18	1,700,023.82	31-Dec-18		
Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities	9308/CD	06-Apr-17	800,000.00		-	-	-	800,000.00	31-Dec-19		
Sub Total			**30,615,000.00**		**13,641,325.64**	**4,758,387.71**	**18,399,713.35**	**10,423,194.63**		**1,792,092.02**	
Total TAs and Grants			**68,690,000.00**		**25,771,023.88**	**7,363,910.83**	**33,134,934.71**	**29,849,763.70**		**5,705,301.59**	
Direct Charge (DC)											
Asia Clean Energy Forum 2008	CEFPDC 00001	02-Apr-08	50,000.00		8,792.31	-	8,792.31			41,207.69	22-Jul-08
Transport and Climate Change "The Missing Link: How Should Transport Address Its Emissions and Energy Use"	CEFPDC 00002	25-Aug-08	70,000.00		70,000.00	-	70,000.00			0.00	26-Oct-10
Preparation of Renewable Energy for Remote Island and Mountain Communes	CEFPDC 00003	29-May-08	75,000.00		58,231.20	-	58,231.20			16,768.80	22-Jul-08

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	 Transactions 01/01-31/12/17	 Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	 Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Direct Charge (DC)											
Initial ADB Loan Due Diligence Preparatory Work for Solar Thermal Power Plant Project in Rajasthan	CEFPDC 00004	05-Jun-08	75,000.00		19,654.28	-	19,654.28			55,345.72	26-Oct-10
Recruitment of Clean Energy Expert (National Consultant in Lao)	CEFPDC 00005	25-Aug-08	180,000.00		179,780.52	-	179,780.52			219.48	15-Jun-12
PRC: Zhangbei Wind Power Project	CEFPDC 00006	25-Aug-08	40,000.00		40,000.00	-	40,000.00			0.00	26-Oct-10
Qinghai Pasture Conservation Using Solar Photovoltaic (PV)-Driven Irrigation	CEFPDC 00010	19-Jan-09	75,000.00		59,980.20	-	59,980.20			15,019.80	31-Aug-10
NEP: Compact Fluorescent Lighting and Solar-Powered Street-Lighting in Clean Energy Project Financing	CEFPDC 00011	09-Feb-09	75,000.00		64,276.25	-	64,276.25			10,723.75	28-May-13
4th Asia Clean Energy Forum 2009	CEFPDC 00012	16-Mar-09	100,000.00		54,583.62	-	54,583.62			45,416.38	12-Aug-09
Workshop on PRC-ADB Cooperation in Clean Energy Project Financing	CEFPDC 00013	31-Mar-09	27,000.00		21,663.96	-	21,663.96			5,336.04	26-Oct-10
Clean Energy Expo China Conference 2009	CEFPDC 00014	30-Jun-09	60,000.00		23,251.18	-	23,251.18			36,748.82	19-Aug-09
South Asia Regional Climate Change Conference	CEFPDC 00015	29-Jul-09	50,000.00		50,000.00	-	50,000.00			0.00	26-Oct-10
CDN Baseline Study for Rehabilitation of Pre-Cast Panel Buildings in Ulaanbaatar	CEFPDC 00016	10-Sep-09	75,000.00		71,721.30	-	71,721.30			3,278.70	27-May-14
Carbon Forum Asia 2009 (Financial Support for up to 60 representatives from DMC)	CEFPDC 00017	15-Sep-09	150,000.00		111,299.90	-	111,299.90			38,700.10	31-Aug-11
Investment Summit for Hainan's Clean Energy Development	CEFPDC 00018	03-Mar-10	75,000.00		53,486.01	-	53,486.01			21,513.99	08-Sep-11
Montreal 2010: 21st World Energy Congress	CEFPDC 00019	04-Mar-10	35,000.00		4,332.43	-	4,332.43			30,667.57	3-Mar-12
5th Asia Clean Energy Forum 2010	CEFPDC 00020	06-Apr-10	150,000.00		118,173.68	-	118,173.68			31,826.32	21-Dec-11
Quantum Leap in Wind Power in Asia	CEFPDC 00021	03-May-10	100,000.00		77,730.17	-	77,730.17			22,269.83	14-May-12
Clean Energy Expo Asia 2010	CEFPDC 00022	07-Sep-10	93,000.00		39,714.54	-	39,714.54			53,285.46	21-Dec-11
Carbon Forum Asia 2010	CEFPDC 00023	21-Sep-10	150,000.00		97,655.59	-	97,655.59			52,344.41	26-Sep-11

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	 Transactions 01/01-31/12/17	 Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	 Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Direct Charge (DC)											
6th Asia Clean Energy Forum 2011	CEFPDC 00026	14-Mar-11	100,000.00		87,527.01	-	87,527.01			12,472.99	30-Sep-13
Wind Energy Futures in Asia - Regional Consultation and Report	CEFPDC 00028	30-May-11	150,000.00		37,393.57	-	37,393.57			112,606.43	07-Jan-13
Mainstreaming the Asia Solar Energy Initiative	CEFPDC 00030	21-Jul-11	43,200.00		42,813.02	-	42,813.02			386.98	03-Apr-13
Carbon Forum Asia 2011	CEFPDC 00031	22-Jul-11	50,000.00		49,937.64	-	49,937.64			62.36	28-Jun-12
Clean Energy Expo Asia 2011	CEFPDC 00032	11-Aug-11	50,000.00		26,611.10	-	26,611.10			23,388.90	25-Sep-12
Designing Output-based Aid Scheme for Rural Electrification in Cambodia	CEFPDC 00033	17-Nov-11	60,000.00		40,521.42	-	40,521.42			19,478.58	28-Feb-13
Solar Energy Training	CEFPDC 00034	09-Dec-11	100,000.00		98,159.62	-	98,159.62			1,840.38	23-Jan-13
Partnership for Market Readiness (PMR) Project in Vietnam	CEFPDC00035	16-Jan-12	60,000.00		25,571.98	-	25,571.98			34,428.02	28-Jun-13
Sustainable Rural Ecology for Green Grow th	CEFPDC00036	02-Mar-12	50,000.00		21,637.51	-	21,637.51			28,362.49	03-Sep-13
Fourth Meeting of the Asia Solar Energy Forum (ASEF)	CEFPDC00037	23-Mar-12	50,000.00		12,452.38	-	12,452.38			37,547.62	30-Sep-14
7th Asia Clean Energy Forum 2012	CEFPDC00038	24-Apr-12	150,000.00		146,500.76	-	146,500.76			3,499.24	12-May-14
Mainstreaming the Asia Solar Energy Initiative (ASEI) II	CEFPDC00039	30-May-12	30,000.00		27,306.40	-	27,306.40			2,693.60	29-Sep-14
Clean Energy Expo Asia 2012	CEFPDC00040	31-Jul-12	50,000.00		24,101.35	-	24,101.35			25,898.65	13-Oct-14
Carbon Forum Asia 2012	CEFPDC00041	21-Aug-12	50,000.00		36,049.60	-	36,049.60			13,950.40	15-Jan-14
Preparation of Utility Scale Concentrated Solar Pow er Program	CEFPDC00042	03-Sep-12	75,000.00		55,630.75	-	55,630.75	19,369.25			
Clean Energy Technology Know ledge Sharing 2012	CEFPDC00043	19-Sep-12	100,000.00		55,231.14	-	55,231.14			44,768.86	29-Sep-14
Pacific Energy Summit 2013	CEFPDC00045	11-Jan-13	150,000.00		129,083.35	-	129,083.35			20,916.65	14-May-14
8th Asia Clean Energy Forum 2013	CEFPDC00046	03-Apr-13	150,000.00		139,712.13	-	139,712.13			10,287.87	05-Nov-15
International Hydropow er Association (IHA) World Congress on Advancing Sustainable Hydropow er 2013	CEFPDC00047	08-May-13	35,000.00		22,416.91	-	22,416.91			12,583.09	30-Sep-14

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	 Transactions 01/01-31/12/17	 Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	 Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Direct Charge (DC)											
Daegu 2013: 22nd World Energy Congress	CEFPDC00048	08-May-13	150,000.00		23,464.95	-	23,464.95	126,535.05			
Preparation of the Market Readiness Proposal - Phase 2 of the Partnership for Market Readiness (PMR) Project in Viet Nam	CEFPDC00049	16-Jul-13	75,000.00		71,784.86	-	71,784.86			3,215.14	23-Sep-16
Carbon Forum Asia 2013	CEFPDC00050	09-Aug-13	50,000.00		47,537.92	-	47,537.92			2,462.08	12-Mar-14
9th Asia Clean Energy Forum	CEFPDC00052	28-Mar-14	150,000.00		145,724.25	-	145,724.25			4,275.75	14-Jul-15
US-Asia Pacific Energy Dialogue	CEFPDC00053	11-Apr-14	130,000.00		112,280.30	-	112,280.30			17,719.70	20-Aug-15
Reg: External Evaluation for Clean Energy Financing Partnership Facility (CEFPF) - CEF Fund Component	CEFPDC00054	13-Dec-14	100,000.00		74,560.11	-	74,560.11			25,439.89	08-Sep-17
10th Asia Clean Energy Forum	CEFPDC00056	01-Apr-15	150,000.00		145,272.56	-	145,272.56			4,727.44	28-Aug-17
Reg: International Hydropower Association World Congress on Advancing Sustainable Hydropower 2015	CEFPDC00057	16-Apr-15	36,000.00		1,281.47	-	1,281.47			34,718.53	28-Sep-15
Pacific Energy Summit 2015	CEFPDC00058	28-Apr-15	75,000.00		67,253.28	-	67,253.28	7,746.72			
11th Asia Clean Energy Forum	CEFPDC00060	01-Mar-16	150,000.00		124,664.23	1,041.83	125,706.06			24,293.94	13-Jul-17
CAREC ESCC Investment Forum	CEFPDC00064	14-Jun-16	150,000.00		49,310.50	52,288.18	101,598.68			48,401.32	27-Sep-17
SRI: Consultancy Services for Technical Design and Specifications for Installation of +100/-50 Mvar Static Var Compensator at Biyagama Grid Substation	CEFPDC00065	22-Jul-16	74,900.00		-	47,927.16	47,927.16	26,972.84			
Deep Drive Workshop on "Paving Clean and Low Carbon Transport and Energy System Using Hydrogen and Fuel Cells" at the ADB Transport Forum 2016 and relevant knowledge products on Hydgrogen and fuel cells	CEFPDC00066	24-Aug-16	85,000.00		42,665.01	19,998.00	62,663.01	22,336.99			
Minimum Energy Performance Standards (MEPS) Development for Appliances in Indonesia	CEFPDC00067	25-Aug-16	51,250.00		5,437.50	44,966.70	50,404.20	845.80			

TA/Grant Title Approved Application	TA/Grant/ Application No./Type [4/]	Date of Approval	TA/Grant/ Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/2016	 Transactions 01/01-31/12/17	 Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs Unutilized Commitment (Savings)	 Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Direct Charge (DC)											
Introducing the Auction Mechanism for Renewable Energy Project	CEFPDC00068	07-Oct-16	75,000.00		-	73,725.85	73,725.85			1,274.15	18-Sep-17
REG: 12th Asia Clean Energy Forum	CEFPDC00069	30-Jan-17	150,000.00		-	25,230.43	25,230.43	124,769.57			
Rapid Safeguard Assessment of Potential Sities for Geothermal Power Generation in Indonesia	CEFPDC00071	17-Aug-17	75,000.00		-	-	-	75,000.00			
Total Direct Charges			**4,935,350.00**		**3,214,221.72**	**265,178.15**	**3,479,399.87**	**403,576.22**		**1,052,373.91**	
TOTAL APPROVED and EFFECTIVE PROJECTS			**73,625,350.00**	**95,799,991.57**	**28,985,245.60**	**7,629,088.98**	**36,614,334.58**	**30,253,339.92**		**6,757,675.50**	
Add:											
Approved But Not Yet Effective Projects											
Technical Assistance Linked to Loan (TALL):											
Indonesia											
Scaling Up Energy Efficiency	9370/PA	14-Sep-17	1,000,000.00								
Sub Total			**1,000,000.00**								
TOTAL APPROVED BUT NOT YET EFFECTIVE PROJECTS			**1,000,000.00**								
GRAND TOTAL			**74,625,350.00**								

Contributions received:

Government of Australia	AUD	13,584,000	$ 13,333,980.70
Government of Norway	NOK	280,000,000	40,970,759.80
Government of Spain	USD	9,500,000	9,500,000.00
Government of Sweden	SEK	175,000,000	24,241,608.51
Government of Sweden [5/]	USD	42.56	42.56
Government of UKNI	GBP	4,000,000	7,753,600.00
			$ 95,799,991.57 [3/]

[1/] US$ equivalent of TA Grant and Direct Charges at time of TA approval.

[2/] Actual disbursements.

[3/] Represents actual US$ equivalent of contributions received.

[4/] TA Types: PP = Project Preparatory; AO = Advisory; CD = Capacity Development; PA = Policy and Advisory; REG = Regional

[5/] Unutilized fund transferred from Funds 57 and 70.

Statement 1

ASIAN DEVELOPMENT BANK
ADMINISTRATOR FOR
ASIAN CLEAN ENERGY FUND (ACEF)
GOVERNMENT OF JAPAN
CHANNEL FINANCING AGREEMENT

STATUS OF GRANT
As of 31 December 2017
(Expressed in US Dollars)

TOTAL CONTRIBUTION COMMITTED (JPY5,472,500,000)		55,702,503.17
Gain (loss) arising from change in value of currency		1,389,186.53
NET CONTRIBUTION AVAILABLE		57,091,689.70
Interest income - cash in bank	26,674.57	
Interest income - investments	1,516,361.56	
Gain (loss) on foreign exchange transactions	47,842.46	1,590,878.59
TOTAL AMOUNT AVAILABLE		58,682,568.29
Amounts utilized for:		
Project expenditures (Statement 2)		
Grant component of investment (GCI)	(4,067,210.86)	
Technical assistance linked to a loan (TALL)	(3,931,990.97)	
Technical assistance (TA)	(18,785,013.35)	
ADB service fees	(1,220,517.97) [b/]	
Audit fee	(153,923.00)	
Financial expenses	(7,556.89)	(28,166,213.04)
UNUTILIZED BALANCE		30,516,355.25 [a/]
Outstanding commitments-GCI, TALL and TA	(13,076,860.61)	
Reserve for ADB service fees	(593,843.03) [b/]	(13,670,703.64)
UNCOMMITTED BALANCE		16,845,651.61

[a/] Represented by:

Cash	2,625,580.36
Investments	27,694,743.22
Accrued interest	11,424.08
Interfund receivable	9,719.47
Advances	200,000.00
Interfund payable	(25,111.88)
	30,516,355.25

[b/] Represents 5% and 2% of TA and Grant project expenditures/outstanding commitments/approved not yet effective. For Grants under Contributions committed starting 6 November 2009, admin cost will be 5% for grants up to $5 million, or 2% with a minimum of $250,000 (whichever is greater) for grants above $5 million.

ASIAN DEVELOPMENT BANK
Statement of TA/Grant Expenditures - Government of Japan
Asian Clean Energy Fund
As of 31 December 2017

(Expressed in US Dollars)

TA/Grant Title	TA/Grant No./Type [4/]	Date of Approval	TA/Grant Amount [1/]	Amount Received	Project Expenditures [2/] Cumulative up to 31/12/16	Transactions 01/01-31/12/17	Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants Unutilized Commitment (Savings)	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
APPROVED and EFFECTIVE PROJECTS											
Grant Component of Investment (GCI):											
Bangladesh											
Public-Private Infrastructure Development Facility	0254	17-May-11	2,000,000.00		2,000,000.00	-	2,000,000.00			-	21-Jul-14
Bhutan											
Green Power Development Project	0141	26-Dec-08	1,000,000.00		917,346.72	-	917,346.72			82,653.28	02-Apr-14
Nepal											
South Asia Tourism Infrastructure Development Project	0383	28-Mar-14	3,000,000.00		88,270.54	22,511.96	110,782.50	2,889,217.50	15-Jun-19		
Philippines											
Philippine Energy Efficiency Project	0142	29-Jan-09	1,500,000.00		1,039,081.64	-	1,039,081.64			460,918.36	11-Oct-13
Viet Nam											
Energy Efficiency for Ho Chi Minh City Water Supply	0365	17-Oct-13	2,000,000.00		-	-	-	2,000,000.00	30-Jun-18		
Sub Total			**9,500,000.00**		**4,044,698.90**	**22,511.96**	**4,067,210.86**	**4,889,217.50**		**543,571.64**	
Technical Assistance Linked to Loan (TALL):											
Bangladesh											
Energy Efficiency Improvement	7642/CD	10-Nov-10	1,500,000.00		973,757.44	-	973,757.44			526,242.56	17-Mar-14
India											
Capacity Building for Commercial Bank Lending for Solar Energy	7802/CD	8-Apr-11	750,000.00		36,138.41	-	36,138.41			713,861.59	30-Jun-14
Capacity Building of the Indian Renewable Energy Development Agency Ltd.	8937/CD	6-Aug-15	750,000.00		68,830.58	129,716.40	198,546.98	551,453.02	31-Dec-19		
Indonesia											
Institutional Capacity Building of Indonesia Eximbank	7793/CD	25-Mar-11	1,100,000.00		1,095,264.50	-	1,095,264.50			4,735.50	31-Jul-15
Sri Lanka											
Implementation of Energy Efficiency Policy Initiative	7778/CD	27-Jan-11	1,850,000.00		1,490,923.82	-	1,490,923.82			359,076.18	26-Jan-15
Implementation Support to the Rooftop Solar Power Generation Project	9389/CD	26-Sep-17	1,000,000.00		-	-	-	1,000,000.00	31-Oct-19		
Uzbekistan											
Sustainable Hydropower Project	9236/PP	22-Nov-16	2,000,000.00		-	137,359.82	137,359.82	1,862,640.18	28-Apr-18		
Sub Total			**8,950,000.00**		**3,664,914.75**	**267,076.22**	**3,931,990.97**	**3,414,093.20**		**1,603,915.83**	

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TA/Grant Title	TA/Grant No./Type [4/]	Date of Approval	TA/Grant Amount [1/]	Amount Received	Project Expenditures [2/] Cumulative up to 31/12/16	Transactions 01/01-31/12/17	Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants Unutilized Commitment (Savings)	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Technical Assistance (TA):											
India											
Preparing the Solar Park Development and Transmission Sector Project	8979/PP	23-Oct-15	1,000,000.00		242,068.77	361,894.99	603,963.76	396,036.24	31-May-18		
Indonesia											
Eastern Indonesia Sustainable Energy Access Sector Project	9082/PP	2-Mar-16	1,400,000.00		92,148.49	662,017.46	754,165.95	645,834.05	30-Apr-18		
Mongolia											
Ulaanbaatar Clean Air	7462/PA	14-Dec-09	500,000.00		488,673.51	-	488,673.51			11,326.49	18-Oct-12
Philippines											
Three Wind Farm Projects in Luzon	7569/PP	30-Jul-10	630,000.00		387,920.43	-	387,920.43			242,079.57	20-Dec-16
Rural Community-Based Renewable Energy Development in Mindanao	7781/PA	16-Feb-11	2,000,000.00		1,437,459.61	-	1,437,459.61			562,540.39	23-Dec-15
Thailand											
Lamthakong Wind Farm Development Project - **WITHDRAWN/CANCELLED**	7444/PP	8-Dec-09	160,000.00		-	-				160,000.00	21-Dec-10
Chaiyapun Wind Farm Development Project - **WITHDRAWN/CANCELLED**	7445/PP	8-Dec-09	160,000.00		-	-				160,000.00	21-Dec-10
Regional											
Strengthening the Capacity of Pacific DMC to Respond to Climate Change	7394/CD	23-Nov-09	1,500,000.00		1,385,097.16	-	1,385,097.16			114,902.84	14-Mar-14
Needs Assessment and Development of the Solar Energy Program	7510/CD	17-Mar-10	1,000,000.00		765,571.66	-	765,571.66			234,428.34	31-Dec-12
Empowering the Poor through Increasing Access to Energy	7512/PP	9-Apr-10	2,000,000.00		1,753,482.98	(71,740.09)	1,681,742.89			318,257.11	31-Jul-17
Knowledge Platform Development for the Asia Solar Energy Initiative	7613/REG	1-Oct-10	2,000,000.00		1,326,987.07	-	1,326,987.07			673,012.93	31-May-15
Enabling Climate Change Responses in Asia and the Pacific	7645/RD	15-Nov-10	700,000.00		692,869.46	-	692,869.46			7,130.54	11-Oct-16
Promoting Renewable Energy, Clean Fuels, and Energy Efficiency in the Greater Mekong Subregion	7679/CD	18-Nov-10	800,000.00		730,740.17	-	730,740.17			69,259.83	31-Mar-15
Promoting Energy Efficiency in the Pacific, Phase II	7798/CD	31-Mar-11	1,500,000.00		906,347.60	-	906,347.60			593,652.40	23-Oct-15
Enhancing Knowledge on Climate Technology and Financing Mechanism	7842/CD	1-Aug-11	1,500,000.00		1,463,496.29	-	1,463,496.29			36,503.71	22-Dec-15
Quantum Leap wind Power Development In Asia And the Pacific	7990/CD	9-Dec-11	2,000,000.00		1,117,639.25	274,018.16	1,391,657.41			608,342.59	27-Dec-17
Promotion of Investment in Climate Techonology Products Through Venture Cap	8018/PA	20-Dec-11	1,500,000.00		587,561.92	41,056.65	628,618.57	871,381.43	31-Dec-18		

TA/Grant Title	TA/Grant No./Type [4/]	Date of Approval	TA/Grant Amount [1/]	Amount Received	Project Expenditures [2/] Cumulative up to 31/12/16	Transactions 01/01-31/12/17	Cumulative up to 31/12/17	Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants Unutilized Commitment (Savings)	Completed TAs/Grants Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Technical Assistance (TA):											
Regional											
Demonstration of an Assisted Brkr Model fr Transfer Low -Carbon Tech	8105/CD	15-Jun-12	2,000,000.00		1,431,761.08	351,606.62	1,783,367.70	216,632.30	31-Dec-18		
Economics of Climate Change in Central	8119/RD	18-Jul-12	2,000,000.00		1,753,715.13	128,457.70	1,882,172.83	117,827.17	30-Jun-17		
Climate-Friendly Agribusiness Value Chains Sector	8897/PP	12-May-15	1,500,000.00		236,127.86	238,033.42	474,161.28	1,025,838.72	31-Dec-17		
Regional Cooperation on Renew able Energy Integration to the Grid	9365/REG	7-Sep-17	1,500,000.00		-	-	-	1,500,000.00	30-Jun-19		
Sub Total			**27,350,000.00**		**16,799,668.44**	**1,985,344.91**	**18,785,013.35**	**4,773,549.91**		**3,791,436.74**	
TOTAL APPROVED and EFFECTIVE PROJECTS			**45,800,000.00**	**57,091,689.70** [3/]	**24,509,282.09**	**2,274,933.09**	**26,784,215.18**	**13,076,860.61**		**5,938,924.21**	
GRAND TOTAL			**45,800,000.00**								

Contributions received:

Government of Japan	JPY2,320,000,000	$ 23,050,173.41
Government of Japan	JPY1,107,400,000	11,078,086.85
Government of Japan	JPY1,297,800,000	13,995,470.72
Government of Japan	JPY 747,300,000	8,967,958.72
	JPY 5,472,500,000	$ 57,091,689.70 [3/]

[1/] US$ equivalent of TA/Grant at time of approval.

[2/] Actual disbursements.

[3/] Represents actual US$ equivalent of contributions received.

[4/] TA Types: PP = Project Preparatory; PA = Policy and Advisory; CD = Capacity Development; RD = Research and Development

Statement 1

ASIAN DEVELOPMENT BANK
ADMINISTRATOR FOR
CARBON CAPTURE AND STORAGE FUND
CLEAN ENERGY FINANCING PARTNERSHIP FACILITY
CHANNEL FINANCING AGREEMENT

STATUS OF GRANT
As of 31 December 2017
(Expressed in US Dollars)

TOTAL CONTRIBUTION COMMITTED		68,354,845.40
Gain (loss) arising from change in value of currency		(187,325.92)
Amount received:		
Amount received from Global CCS Institute (AUD 21,500,000)	17,322,509.72	
Amount received from DECC - Promissory Note (GBP 15,000,000)	23,803,000.00	
	41,125,509.72	
Receivable from DECC - Promissory Note (GBP 20,000,000)	27,042,009.76 [c/]	
NET CONTRIBUTION AVAILABLE		68,167,519.48
Interest income - cash in bank	15,381.98	
Interest income - investments	780,231.22	
Gain (loss) on foreign exchange transactions	642.28	796,255.48
TOTAL AMOUNT AVAILABLE		68,963,774.96
Amounts utilized for:		
Project expenditures (Statement 2)		
Technical assistance (TA)	(7,411,296.67)	
Direct charges	(208,732.67)	
ADB service fees	(370,564.87) [b/]	
Audit fees	(93,592.00)	
Financial expenses	(5,524.00)	(8,089,710.21)
UNUTILIZED BALANCE		60,874,064.75 [a/]
Outstanding commitments	(3,497,909.61)	
Reserve for ADB service fees	(174,895.48) [b/]	
Undisbursed direct charges	(97,124.92)	(3,769,930.01)
UNCOMMITTED BALANCE		57,104,134.74

[a/] Represented by:

Cash in bank	2,987,888.13
Investments	30,851,020.56
Accrued interest	12,726.05
Undrawn contribution	27,042,009.76
Advances	3,923.30
Interfund payable	(23,563.05)
	60,874,064.75

[b/] Represents 5% of the project expenditures/outstanding commitments.

[c/] Undrawn contributions in local currency are translated at the applicable exchange rate as of reporting date. This represents the balance of promissory note received from DECC (GBP 20,000,000).

Statement 2

ASIAN DEVELOPMENT BANK

Statement of TA Expenditures and Direct Charges - Carbon Capture and Storage Fund

As of 31 December 2017

(Expressed in US Dollars)

TA/DC Title	TA/ DC No./ Type [4/]	Date of Approval	TA Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/16	Transactions 01/01-31/12/17	Cumulative up to 31/12/17	Outstanding Commitments	Expected TA Completion Date	Completed TAs/DCs Unutilized Commitment (Savings)	Completed TAs/DCs Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
APPROVED and EFFECTIVE PROJECTS											
Technical Assistance (TA):											
Indonesia											
SSTA-Planning a Pilot Carbon Capture and Storage Activity	8407/CD	18-Jul-13	225,000.00		203,219.46	-	203,219.46			21,780.54	17-Mar-16
Pilot Carbon Capture and Storage Activity in the Natural Gas Process	9189/PP	29-Sep-16	500,000.00		-	25,958.06	25,958.06	474,041.94	30-Sep-18		
Pakistan											
Determining the Potential for Carbon Capture and Storage	8648/CD	14-May-14	1,000,000.00		141,029.62	158,849.24	299,878.86	700,121.14	31-Mar-18		
PRC											
Carbon Dioxide Capture and Storage (CCS) Demonstration-Strategic Analysis and Capacity Strengthening	7286/CD	22-May-09	1,000,000.00		1,000,000.00	-	1,000,000.00			0.00	18-Oct-12
Study on Carbon Capture & Storage in Natural Gas Based Power Plants	8001/CD	12-Dec-11	1,800,000.00		1,430,913.44	-	1,430,913.44			369,086.56	15-Sep-15
Road Map for Carbon Capture and Storage Demonstration and Deployment	8133/PA	10-Aug-12	2,200,000.00		1,572,209.95	-	1,572,209.95			627,790.05	03-Sep-15
Regional											
Carbon Dioxide Capture and Storage (CCS) Demonstration in Developing Countries-Analysis of Key Issues and Barriers	7278/PA	07-May-09	350,000.00		290,609.20	-	290,609.20			59,390.80	28-Feb-13
Determining the Potential for Carbon Capture and Storage (CCS) in Southeast Asia	7575/CD	11-Aug-10	1,350,000.00		1,303,943.34	-	1,303,943.34			46,056.66	28-Feb-14
Tianjin Integrated Gasification Combined Cycle Power Plant	8499/PP	31-Oct-13	800,000.00		308,310.89	-	308,310.89			491,689.11	31-Oct-16
Promoting Carbon Capture and Storage in PRC and Indonesia	8714/RD	29-Aug-14	3,300,000.00		401,835.66	574,417.81	976,253.47	2,323,746.53	31-Aug-19		
Sub Total			**12,525,000.00**		**6,652,071.56**	**759,225.11**	**7,411,296.67**	**3,497,909.61**		**1,615,793.72**	
Direct Charge (DC):											
Reg: Carbon Capture Storage Financing Roundtable	CCSFDC 00027	08-Mar-11	50,000.00		26,185.25	-	26,185.25			23,814.75	30-Jun-14
Reg: International Carbon Capture Storage Conference	CCSFDC 00029	15-Jul-11	80,500.00		74,918.28	-	74,918.28			5,581.72	06-Mar-13

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TA/DC Title	TA/ DC No./ Type [4/]	Date of Approval	TA Direct Charge Amount [1/]	Amount Received	Project Expenditures/Direct Charges [2/] Cumulative up to 31/12/16	Transactions 01/01-31/12/17	Cumulative up to 31/12/17	Outstanding Commitments	Expected TA Completion Date	Completed TAs/DCs Unutilized Commitment (Savings)	Completed TAs/DCs Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
Direct Charge (DC):											
Reg: Carbon Capture and Storage in Developing Asia	CCSFDC 00044	09-Oct-12	68,500.00		49,113.42	-	49,113.42			19,386.58	26-Nov-13
Reg: External Evaluation for Clean Energy Financing Partnership Facility (CEFPF) - CCSF Fund Component	CCSFDC 00055	13-Dec-14	35,000.00		5,640.64	-	5,640.64			29,359.36	29-Aug-17
Reg: CCS Way Forward in Asia	CCSFDC 00062	03-May-16	75,000.00		26,932.62	(925.93)	26,006.69	48,993.31			
INO: Preparation of the Gundih Pilot Carbon Capture and Storage	CCSFDC 00063	10-May-16	75,000.00		26,168.39	700.00	26,868.39	48,131.61			
Sub Total			**384,000.00**		**208,958.60**	**(225.93)**	**208,732.67**	**97,124.92**		**78,142.41**	
TOTAL APPROVED AND EFFECTIVE PROJECTS			**12,909,000.00**	**41,125,509.72** [3/]	**6,861,030.16**	**758,999.18**	**7,620,029.34**	**3,595,034.53**		**1,693,936.13**	

Contributions received:

Global CCS Institute	AUD 21,500,000.00	17,322,509.72
Department of Energy and Climate Change (DECC)	GBP 15,000,000.00	23,803,000.00
		41,125,509.72

[1/] US$ equivalent of TA/DC at the time of TA approval.

[2/] Actual disbursements.

[3/] Represents the actual US$ equivalent of contributions received.

[4/] TA/DC Types: CD = Capacity Development; PA = Policy and Advisory; RD = Research and Development
CCSFDC=Carbon Capture Storage Fund Direct Charges

Statement 1

ASIAN DEVELOPMENT BANK
ADMINISTRATOR FOR
CANADIAN CLIMATE FUND FOR THE PRIVATE SECTOR IN ASIA
GOVERNMENT OF CANADA

STATUS OF FUND
As of 31 December 2017
(Expressed in US dollars)

		Concessional Financing	Grant	Total
TOTAL CONTRIBUTION COMMITTED (CAD82,392,968.00)		73,435,817.10 [a/]	7,238,781.94 [a/]	80,674,599.04
Gain arising from change in value of currency		755,497.57	74,471.60	829,969.17
NET CONTRIBUTION RECEIVED		74,191,314.67	7,313,253.54	81,504,568.21
Interest income - cash in bank		11,874.02	7,409.85	19,283.87
Interest income - investments		859,144.80	110,026.66	969,171.46
Gain (loss) on foreign exchange transactions			0.01	0.01
Interest / service charge on loans		4,430,057.87	-	4,430,057.87
Other income from loans				
Amortized front-end fees on loans		46,064.32	-	46,064.32
Amortized loan origination costs		(6,140.16)	-	(6,140.16)
TOTAL AMOUNT AVAILABLE		79,532,315.52	7,430,690.06	86,963,005.58
Amounts utilized for:				
Loan outstanding				
Loans	(39,250,000.00)			
Deferred front-end fees on loans	178,935.68			
Deferred loan origination costs	(23,859.84)	(39,094,924.16)	-	(39,094,924.16)
Direct loan origination costs		30,000.00	-	30,000.00
Technical assistance linked to loan (TALL)		-	(215,005.11)	(215,005.11)
Technical assistance (TA)		-	(703,935.28)	(703,935.28)
ADB service fees		(1,962,500.00) [c/]	(45,947.03) [c/]	(2,008,447.03)
Audit fee		(11,404.12)	(1,127.88)	(12,532.00)
Financial expenses		(299.41)	(101.98)	(401.39)
UNUTILIZED BALANCE		38,493,187.83 [b/]	6,464,572.78 [b/]	44,957,760.61
Outstanding commitments:				
Loans - non sovereign		(20,000,000.00)	-	(20,000,000.00)
TA and TALL		-	(2,336,559.61)	(2,336,559.61)
Reserve for ADB service fees		(1,000,000.00) [c/]	(116,827.98) [c/]	(1,116,827.98)
UNCOMMITTED BALANCE		17,493,187.83	4,011,185.19	21,504,373.02
Approved projects but not yet effective:				
8921 / CD - Renewable Energy for the Nationwide Telecommunications Project (TALL)		-	(1,000,000.00)	(1,000,000.00)
Reserve for ADB service fees		-	(50,000.00) [c/]	(50,000.00)
BALANCE AVAILABLE FOR FURTHER COMMITMENTS		17,493,187.83	2,961,185.19	20,454,373.02

[a/] Contributions committed in local currency of Concessional Financing and Grant is CAD 75,000,000 and CAD 7,392,968, respectively
Contributions committed under Concessional Financing includes Special Reserve for the Fund amounting to $500,000

[b/] Represented by:

Cash in bank	990,083.86	214,963.66	1,205,047.52
Investments	37,192,069.15	6,257,286.23	43,449,355.38
Accrued interest - time deposit	15,027.86	2,528.33	17,556.19
Accrued Interest/ service charge	296,006.96	-	296,006.96
Interfund payable	-	(10,205.44)	(10,205.44)
	38,493,187.83	6,464,572.78	44,957,760.61

[c/] Represents 5% of project expenditures / outstanding commitment / projects and loan approved but not yet effective.

Statement 2

ASIAN DEVELOPMENT BANK
Statement of TA / Loan / Grant Expenditures -Canadian Climate Fund for the Private Sector in Asia
As of 31 December 2017

(Expressed in US Dollars)

TA / Loan / Grant Title	TA / Grant [6/] Loan No.	Date of Approval/ Suplementary	TA / Grant Loan Amount [1/] (A)	Amount Received (B)	Project Expenditures [2/] Cumulative up to 31/12/16 (C)	Transactions 1/01-31/12/17 (D)	Cumulative up to 31/12/17 (E) = (C) + (D)	Outstanding Commitments (F) = (A) - (E)	Expected TA / Grant Completion Date (G)	Completed TA / Grant Unutilized Commitment Savings (H) = (A) - E)	Completed TA / Grant Financial Completion Date (I)
APPROVED and EFFECTIVE PROJECTS											
Concessional Financing (CF)											
Indonesia											
Sarulla Geothermal Power Development Project	8278	05-Dec-13	20,000,000.00		20,000,000.00	-	20,000,000.00	-			
Georgia											
Adjaristsqali Hydropower Project	8281	19-May-14	15,000,000.00		14,074,204.00	925,796.00	15,000,000.00	-			
Cambodia											
Cambodia Solar Power Project	8317	07-Dec-16	3,250,000.00		-	3,250,000.00	3,250,000.00	-			
Regional											
ASEAN Distributed Power Project	8326	17-May-17	20,000,000.00		-	-	-	20,000,000.00			
Samoa											
Solar Power Development Project	8329	04-Aug-17	1,000,000.00		-	1,000,000.00	1,000,000.00	-			
			59,250,000.00		34,074,204.00	5,175,796.00	39,250,000.00	20,000,000.00			
Technical Assistance Linked to Loan (TALL)											
Indonesia											
Institutional Capacity Building of Indonesia Eximbank	7793/CD	17-Jul-14	225,000.00		130,500.00	-	130,500.00			94,500.00	31-Jul-15
Samoa											
Development of Solar Power Ipp	8999/PP	25-Nov-15	225,000.00		32,006.00	52,499.11	84,505.11	140,494.89	31-May-18		
			450,000.00		162,506.00	52,499.11	215,005.11	140,494.89		94,500.00	
Technical Assistance (TA)											
Bhutan											
Climate Resilient Hazelnut Value Chain	9092/CD	11-Apr-16	1,300,000.00		-	160,996.00	160,996.00	1,139,004.00	15-Oct-19		
Indonesia											
Banten and West Nusa Tenggara Wind Power Development Project	9104/PP	08-Apr-16	500,000.00		-	227,050.00	227,050.00	272,950.00	31-May-18		
Regional											
Climate Friendly Agribusiness Value Chains	8897/REG	12-May-15	1,000,000.00		157,200.33	158,688.95	315,889.28	684,110.72	31-Dec-17		
OLAM Intl LTD: Inclusive, Sustainable & Conncted Coffe Value Chain-S1	9473/REG	18-Dec-17	100,000.00		-	-	-	100,000.00	20-Sep-20		
			2,900,000.00		157,200.33	546,734.95	703,935.28	2,196,064.72		-	
TOTAL APPROVED and EFFECTIVE PROJECTS			**62,600,000.00**		**34,393,910.33**	**5,775,030.06**	**40,168,940.39**	**22,336,559.61**		**94,500.00**	

TA / Loan / Grant Title	TA / Grant [6/] Loan No.	Date of Approval/ Suplementary	TA / Grant Loan Amount [1/]	Amount Received	Project Expenditures [2/] Cumulative up to 31/12/16	Transactions 1/01-31/12/17	Cumulative up to 31/12/17	Outstanding Commitments	Expected TA / Grant Completion Date	Completed TA / Grant Unutilized Commitment Savings	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - E)	(I)
Add:											
Approved Projects and Loan But Not Yet Effective:											
Technical Assistance Linked to Loan (TALL)											
Myanmar											
Renewable Energy for the Nationwide Telecommunications Projects	8921/CD	30-Jun-15	1,000,000.00								
Concessional Financing (CF)											
GRAND TOTAL			**63,600,000.00**								

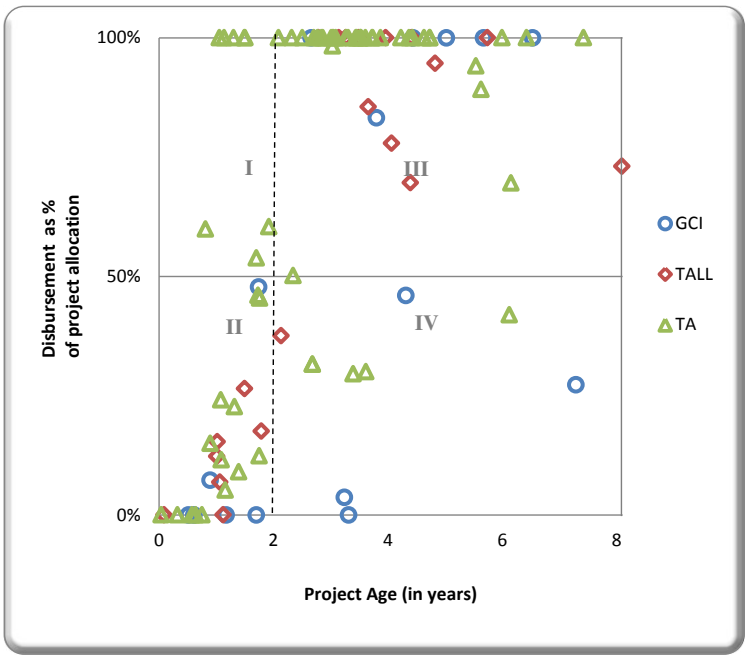
US$ 74,191,314.67 [3/]
CAD 75,000,000.00

US$ 7,313,253.54 [3/ 5/]
CAD 7,392,968.00

[1/] US$ equivalent of TA / Grant / Loan at the time of approval.
[2/] Actual disbursements.
[3/] Represents actual US$ equivalent of contributions received.
[4/] Contribution received for concessional financing.
[5/] Contribution received for grant.
[6/] TA Type: CD = Capacity and Development ; REG = Regional; PP = Project Preparatory

CEFPF Disbursement Analysis

Figure A10: Disbursement Ratios of GCIs, TALLs, & TAs as of 31 December 2017



GCI = grant component of investment, TA = technical assistance, TALL = technical assistance linked to loan.

Note: Disbursement ratio is computed as total disbursements over approved allocations less project savings; project ageing is based on effective date.

Source: Asian Development Bank estimates.

Figure 10 presents the disbursement ratios of GCI, TALL, and TA projects supported by CEFPF.

- **Quadrants I and II** cover projects that are 2 years or less. Relatively, these projects have just gotten off the ground and may require time to award contracts and for consultants/relevant personnel to gain familiarity with ADB or DMC processes. As such, these projects are not expected to make significant disbursements immediately and are not a cause for concern.
- **Quadrant III** pertains to projects that are more than 2 years and have made significant disbursements. These are well progressing projects that could be nearing their completion. They do not present a concern for the facility.
- **Quadrant IV** involves 10 projects (out of 100) that are more than 2 years but have not made significant disbursements. These projects are a cause for concern to the facility. In this regard, the CEFPF Management requested information from relevant project teams regarding the slow disbursements of projects. Among the causes cited include: a) implementation delays, b) delay in procurement, c) incomplete or late submission of payment claims, and d) project change in scope in view of new information available or due to change in field conditions.

To address the factors encountered by Quadrant IV projects, project teams are coordinating with ADB departments and respective executing agencies (EAs) to expedite awarding of service contracts and consultant recruitment. Approximately $11.3 million out of the $18.0 million project

allocation in *Quadrant IV* have been awarded in contracts, or 62.4% [49] of total allocation in said quadrant. EAs are likewise encouraged to commit to results by agreeing to time-bound implementation plans. Through regular process of administration and supervision, project teams also inform and remind EAs of liquidation and payment procedures. Finally, project teams make necessary adjustments as projects move along to make sure that they reach completion.

The CEFPF Secretariat is in constant coordination with respective ADB operations department for project updates. It will continue regular project monitoring and disbursement reviews to help improve disbursements, taking note of slow moving projects and discussing possible courses of action with project teams. Further, the CEFPF Secretariat will continue providing disbursement reports and memoranda to all ADB user departments encouraging them to expedite project disbursements.

[49] Contracts awarded ratio is computed as total contracts awarded over approved allocations.

Table A11.1: CEFPF Portfolio Profile – Resource Utilization, as of 31 December 2017 (Inclusive of fees)

No.	Project Name	Sector	Operations Dept.	Country	Amounts in $'000 ADB Loan Portfolio	CEFPF Allocation	Use of CEFPF Funds					CEFPF Fund Source			
							CF	GCI	TALL	TA	DC	CEF	ACEF	CCSF	CFPS
GRAND TOTAL					**7,112,593**	**242,065**	**62,213**	**61,824**	**26,746**	**85,964**	**5,319**	**83,111**	**55,749**	**36,110**	**67,095**
					7,112,593	**100%**	**62%**			**38%**		**34%**	**23%**	**15%**	**28%**
I. Allocations to projects approved by ADB for implementation															
2008-2015 TOTAL (133 projects)					4,081,273	146,667	37,800	30,219	15,196	59,094	4,358	50,810	42,834	11,285	41,738
2016 TOTAL (26 projects)					1,981,100	48,999	3,413	24,465	7,350	13,036	736	25,487	2,100	17,475	3,938
1	ASEAN Distributed Power Project	Energy	PSOD	REG	250,000	21,000	21,000								21,000
2	Scaling Up Energy Efficiency	Energy	SERD	INO		1,050			1,050			1,050			
3	Solar Rooftop Power Generation Project	Energy	SARD	SRI	50,000	1,050			1,050				1,050		
4	Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities (formerly Knowledge-based Low Carbon Cities Development in CAREC)	Energy	EARD	REG		840				840		840			
5	Transaction Technical Assistance Facility for Preparing Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region	Energy	EARD	PRC		420				420		420			
6	Developing Cost-Effective Policies and Investment to Achieve Climate and Air Quality Goals in Beijing-Tianjin-Hebei Region Additional Financing for Sponsorship of World Energy Council on Energy Sustainability and Subsovereign Level	Energy	EARD	PRC		79				79		79			
7	Promoting and Scaling Up Carbon Capture and Storage Demonstration (previous title: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project)	Energy	EARD	PRC		5,775				5,775				5,775	
8 *	Promoting Carbon Capture and Storage in PRC and INO - Additional Financing for TA 8714	Energy	SDCC	REG		1,575				1,575				1,575	
9	Regional Cooperation on Renewable Energy Integration to the Grid	Energy	CWRD	REG		1,575				1,575			1,575		
10	Olam International Limited: Inclusive, Sustainable, and Connected Coffee Value Chain	Agri & Nat	PSOD	REG		420				420					420
11	12th Asia Clean Energy Forum	Energy	SDCC	REG		150					150	150			
12	Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	Energy	SERD	INO		75					75	75			
Subtotal					**6,362,373**	**229,675**	**62,213**	**54,684**	**24,646**	**82,814**	**5,319**	**78,911**	**47,559**	**36,110**	**67,095**
					6,362,373	**95%**	**62%**			**38%**		**34%**	**21%**	**16%**	**29%**

ACEF = Asian Clean Energy Fund, ADB = Asian Development Bank, Agri & Nat = Agriculture and Natural Resources, CAREC = Central Asia Regional Economic Cooperation, CCS = Carbon Capture and Storage, CCSF = Carbon Capture and Storage Fund, CEF = Clean Energy Fund, CEFPF = Clean Energy Financing Partnership Facility, CF = concessional financing, CFPS = Canadian Climate Fund for the Private Sector in Asia, PRC = China, People's Republic of, CWRD = Central and West Asia Department, DC = direct charge, EARD = East Asia Department, GCI = grant component of investment, INO = Indonesia, PSOD = Private Sector Operations Department, REG = regional, SARD = South Asia Department, SDCC = Sustainable Development and Climate Change Department, SERD = Southeast Asia Department, SRI = Sri Lanka, TA = technical assistance, TALL = technical assistance linked to loan.

Note: *Promoting Carbon Capture and Storage in PRC and INO is an additional financing to an existing project of the same name, hence counted as just one project in the cumulative total.

Source: Asian Development Bank estimates.

Table A11.1 continued

No.	Project Name	Sector	Operations Dept.	Country	Amounts in $'000									
					ADB Loan Portfolio	CEFPF Allocation	Use of CEFPF Funds					CEFPF Fund Source			
							CF	GCI	TALL	TA	DC	CEF	ACEF	CCSF	CFPS
II. Allocations to projects awaiting approval by ADB for implementation															
13	Additional Financing to Loan 2769 for Solar Irrigation Component (OBA)	Energy	SARD	BAN	42,220	3,150		3,150				3,150			
14	Railway Rolling Stock Operations Improvement Project	Transport	SARD	BAN	320,000	525			525				525		
15	Project Development and Investment Facilitation	Energy	SDCC	REG		1,050				1,050		1,050			
Subtotal					**362,220**	**4,725**	**-**	**3,150**	**525**	**1,050**	**-**	**4,200**	**525**	**-**	**-**
					362,220	**2%**	**78%**			**22%**		**89%**	**11%**	**0%**	**0%**
III. Allocations to projects for consideration by financing partner															
16	The University of the South Pacific: Campus Smart Grid Project	Energy	PARD	REG	18,000	1,890		1,890					1,890		
17	Tamil Nadu Urban Flagship Program	Multisector	SARD	IND	220,000	2,100		2,100					2,100		
18	Preparing Renewable Energy Project	Energy	SARD	BAN	150,000	1,575			1,575				1,575		
19	Promoting Private Sector Investment in Clean Energy in Central Asia	Energy	CWRD	REG		2,100				2,100			2,100		
Subtotal					**388,000**	**7,665**	**-**	**3,990**	**1,575**	**2,100**	**-**	**-**	**7,665**	**-**	**-**
					388,000	**3%**	**73%**			**27%**		**0%**	**100%**	**0%**	**0%**
2017 TOTAL (19 projects)					**1,050,220**	**46,399**	**21,000**	**7,140**	**4,200**	**13,834**	**225**	**6,814**	**10,815**	**7,350**	**21,420**
GRAND TOTAL					**7,112,593**	**242,065**	**62,213**	**61,824**	**26,746**	**85,964**	**5,319**	**83,111**	**55,749**	**36,110**	**67,095**
					7,112,593	**100%**	**62%**			**38%**		**34%**	**23%**	**15%**	**28%**

ACEF = Asian Clean Energy Fund, ADB = Asian Development Bank, BAN = Bangladesh, CCSF = Carbon Capture and Storage Fund, CEF = Clean Energy Fund, CEFPF = Clean Energy Financing Partnership Facility, CF = concessional financing, CFPS = Canadian Climate Fund for the Private Sector in Asia, CWRD = Central and West Asia Department, DC = direct charge, GCI = grant component of investment, GOJ = Government of Japan, IND = India, OBA = Output-based Aid, PARD = Pacific Department, PSOD = Private Sector Operations Department, REG = regional, SARD = South Asia Department, SDCC = Sustainable Development and Climate Change Department, TA = technical assistance, TALL = technical assistance linked to loan.

Source: Asian Development Bank estimates.

Table A11.2: CEFPF Portfolio Profile – Regional Distribution of Projects, as of 31 December 2017 (Inclusive of fees)

No.	Project Name	Sector	Operations Dept	Country	Amounts in $'000								
					ADB Portfolio Loan	CEFPF Allocation	Use of CEFPF Funds					Sovereign	Non-Sovereign
							CF	GCI	TALL	TA	DC		
GRAND TOTAL					**7,112,593**	**242,065**	**62,213**	**61,824**	**26,746**	**85,964**	**5,319**	**167,699**	**74,366**
					7,112,593	**100%**	**62%**			**38%**		**69%**	**31%**
Central And West Asia					**637,200**	**40,388**	**15,750**	**6,300**	**3,150**	**14,963**	**225**	**24,638**	**15,750**
						17%	**62%**			**38%**		**61%**	**39%**
2008-2015 Total (8 projects)					245,000	23,888	15,750	2,100	-	6,038	-	8,138	15,750
2016 Total (8 projects)					392,200	12,825	-	4,200	3,150	5,250	225	12,825	-
2017 Total (2 projects)					-	3,675	-	-	-	3,675	-	3,675	-
1	Promoting Private Sector Investment in Clean Energy in Central Asia	Energy	CWRD	REG		2,100				2,100		2,100	
2	Regional Cooperation on Renewable Energy Integration to the Grid	Energy	CWRD	REG		1,575				1,575		1,575	
East Asia					**1,231,963**	**21,987**	**-**	**3,060**	**4,748**	**13,886**	**292**	**20,154**	**1,832**
						9%		**36%**		**64%**		**92%**	**8%**
2008-2015 Total (19 projects)					731,963	14,663	-	3,060	3,698	7,613	292	12,831	1,832
2016 Total (1 project)					500,000	1,050	-	-	1,050	-	-	1,050	-
2017 Total (3 projects)					-	6,274	-	-	-	6,274	-	6,274	-
3	Promoting and Scaling Up Carbon Capture and Storage Demonstration (previous title: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project)	Energy	EARD	PRC		5,775				5,775		5,775	
4	Transaction Technical Assistance Facility for Preparing Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region	Energy	EARD	PRC		420				420		420	
5	Developing Cost-Effective Policies and Investment to Achieve Climate and Air Quality Goals in Beijing-Tianjin-Hebei Region Additional Financing for Sponsorship of World Energy Council on Energy Sustainability and Subsovereign Level	Energy	EARD	PRC		79				79		79	
Pacific					**806,610**	**17,892**	**1,050**	**3,465**	**4,436**	**8,941**	**-**	**16,606**	**1,286**
						7%		**50%**		**50%**		**93%**	**7%**
2008-2015 Total (9 projects)					23,210	10,553	1,050	-	1,286	8,216	-	9,266	1,286
2016 Total (3 projects)					765,400	5,450	-	1,575	3,150	725	-	5,450	-
2017 Total (1 project)					18,000	1,890	-	1,890	-	-	-	1,890	-
6	The University of the South Pacific: Campus Smart Grid Project	Energy	PARD	REG	18,000	1,890		1,890				1,890	
South Asia					**2,930,720**	**40,349**	**-**	**19,209**	**10,920**	**9,870**	**350**	**38,196**	**2,153**
						17%		**75%**		**25%**		**95%**	**5%**
2008-2015 Total (20 projects)					1,828,500	24,209	-	12,069	7,770	4,095	275	22,057	2,153
2016 Total (5 projects)					320,000	7,740	-	1,890	-	5,775	75	7,740	-
2017 Total (5 projects)					782,220	8,400	-	5,250	3,150	-	-	8,400	-
7	Additional Financing to Loan 2769 for Solar Irrigation Component (OBA)	Energy	SARD	BAN	42,220	3,150		3,150				3,150	
8	Tamil Nadu Urban Flagship Program	Multisector	SARD	IND	220,000	2,100		2,100				2,100	
9	Solar Rooftop Power Generation Project	Energy	SARD	SRI	50,000	1,050			1,050			1,050	
10	Railway Rolling Stock Operations Improvement Project	Transport	SARD	BAN	320,000	525			525			525	
11	Preparing Renewable Energy Project	Energy	SARD	BAN	150,000	1,575			1,575			1,575	

ADB = Asian Development Bank, BAN = Bangladesh, CCS = Carbon Capture and Storage, CEFPF = Clean Energy Financing Partnership Facility, CF = concessional financing, PRC = China, People's Republic of, CWRD = Central and West Asia Department, DC = direct charge, EARD = East Asia Department, GCI = grant component of investment, IND = India, OBA = Output-based Aid, PARD = Pacific Department, REG = regional, SARD = South Asia Department, SRI = Sri Lanka, TA = technical assistance, TALL = technical assistance linked to loan.

Source: Asian Development Bank estimates.

Table A11.2 continued

No.	Project Name	Sector	Operations Dept	Country	Amounts in $'000								
					ADB Portfolio Loan	CEFPF Allocation	Use of CEFPF Funds					Sovereign	Non-Sovereign
							CF	GCI	TALL	TA	DC		
South East Asia					**1,506,100**	**91,035**	**45,413**	**29,790**	**3,491**	**11,870**	**471**	**39,685**	**51,350**
						38%	**86%**			**14%**		**44%**	**56%**
2008-2015 (24 projects)					1,252,600	47,522	21,000	12,990	2,441	10,820	270	21,109	26,413
2016 Total (5 projects)					3,500	21,389	3,413	16,800	-	1,050	126	17,451	3,938
2017 Total (3 projects)					250,000	22,125	21,000	-	1,050	-	75	1,125	21,000
12	ASEAN Distributed Power Project	Energy	PSOD	REG	250,000	21,000	21,000						21,000
13	Scaling Up Energy Efficiency	Energy	SERD	INO		1,050			1,050			1,050	
14	Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	Energy	SERD	INO		75					75	75	
Regional					**-**	**30,415**	**-**	**-**	**-**	**26,434**	**3,981**	**28,420**	**1,995**
						13%	**0%**			**100%**		**93%**	**7%**
2008-2015 (53 projects)					-	25,834	-	-	-	22,313	3,521	24,259	1,575
2016 Total (4 projects)					-	546	-	-	-	236	310	546	-
2017 Total (5 projects)					-	4,035	-	-	-	3,885	150	3,615	420
15	Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities (formerly Knowledge-based Low Carbon Cities Development in CAREC)	Energy	EARD	REG		840				840		840	
16 *	Promoting Carbon Capture and Storage in PRC and INO - Additional Financing for TA 8714	Energy	SDCC	REG		1,575				1,575		1,575	
17	Project Development and Investment Facilitation	Energy	SDCC	REG		1,050				1,050		1,050	
18	Olam International Limited: Inclusive, Sustainable, and Connected Coffee Value Chain	Agri & Nat	PSOD	REG		420				420			420
19	12th Asia Clean Energy Forum	Energy	SDCC	REG		150					150	150	
GRAND TOTAL					**7,112,593**	**242,065**	**62,213**	**61,824**	**26,746**	**85,964**	**5,319**	**167,699**	**74,366**
					7,112,593	**100%**	**62%**			**38%**		**69%**	**31%**

ADB = Asian Development Bank, Agri & Nat = Agriculture and Natural Resources, CAREC = Central Asia Regional Economic Cooperation, CEFPF = Clean Energy Financing Partnership Facility, CF = concessional financing, DC = direct charge, EARD = East Asia Department, GCI = grant component of investment, INO = Indonesia, PSOD = Private Sector Operations Department, REG = regional, SDCC = Sustainable Development and Climate Change Department, SERD = Southeast Asia Department, TA = technical assistance, TALL = technical assistance linked to loan.

Note: *Promoting Carbon Capture and Storage in PRC and INO is an additional financing to an existing project of the same name, hence counted as just one project in the cumulative total.

Source: Asian Development Bank estimates.

Table A12: CEFPF Allocation by Country & Allocation Share as of 31 December 2017 (In $'000, inclusive of fees)

COUNTRY	CODE	CEF	ACEF	CCSF	CFPS	TOTAL
Afghanistan	AFG	1,050	-	-	-	1,050
Azerbaijan	AZE	1,050	-	-	-	1,050
Bangladesh	BAN	3,938	5,715	-	-	9,653
Bhutan	BHU	-	1,020	-	1,365	2,385
Cambodia	CAM	1,110	-	-	3,413	4,523
Georgia	GEO	-	-	-	15,750	15,750
China, People's Republic of	PRC	9,994	-	11,025	-	21,019
India	IND	2,250	4,725	-	-	6,975
Indonesia	INO	5,346	2,625	17,636	21,761	47,369
Kazakhstan	KAZ	1,125	-	-	-	1,125
Mongolia	MON	75	525	-	-	600
Myanmar	MYA	-	-	-	1,050	1,050
Nepal	NEP	5,984	3,150	-	-	9,134
Pakistan	PAK	-	-	1,050	-	1,050
Philippines	PHI	210	4,292	-	-	4,502
Republic of Marshall Islands	RMI	725	-	-	-	725
Samoa	SAM	1,050	-	-	1,286	2,336
Solomon Islands	SOL	1,575	-	-	-	1,575
Sri Lanka	SRI	7,110	2,993	-	-	10,102
Tajikstan	TAJ	4,200	-	-	-	4,200
Thailand	THA	3,150	-	-	-	3,150
Tonga	TON	656	-	-	-	656
Uzbekistan	UZB	3,938	2,100	-	-	6,038
Vietnam	VIE	3,360	2,040	-	-	5,400
Regional	REG	25,216	26,565	6,399	22,470	80,650
TOTAL		**83,111**	**55,749**	**36,110**	**67,095**	**242,065**

ACEF = Asian Clean Energy Fund, CCSF = Carbon Capture and Storage Fund, CEF = Clean Energy Fund, CFPS = Canadian Climate Fund for the Private Sector in Asia, CEFPF = Clean Energy Financing Partnership Facility.

Source: Asian Development Bank estimates.