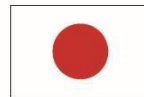


# CEFPF

CLEAN ENERGY FINANCING PARTNERSHIP FACILITY

## 2018 ANNUAL REPORT



From  
the People of Japan



NORWEGIAN MINISTRY  
OF FOREIGN AFFAIRS



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE ECONOMÍA  
Y HACIENDA



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CCS  
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Department for  
Business, Energy  
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Government  
of Canada

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du Canada

## 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
CF	–	Concessional Financing
CFPS	–	Canadian Climate Fund for the Private Sector in Asia
CO <sub>2</sub>	–	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
MWh	–	Megawatt-hour
TWh-eq	–	terawatt-hour equivalent
tCO <sub>2</sub>	–	tons of carbon dioxide

## NOTE

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

In preparing any country program or strategy, financing any project, or by making any designation of, or reference to, a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

## GOVERNANCE OF THE CLEAN ENERGY FINANCING PARTNERSHIP FACILITY

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## 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).<sup>1</sup> 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 1 January to 31 December 2018, measured against the design and monitoring framework (DMF), are provided in this 2018 Annual Report.<sup>2</sup> 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 2018, the Facility financed investment projects and technical assistance to leverage financing in clean energy infrastructures and conduct capacity building. Since the Facility was established, it has allocated \$258.4 million to support 187 projects<sup>3</sup> covering 37 DMCs and leveraging about \$6.7 billion of clean energy investment. The Facility is expected to contribute about 10.3 terawatt-hour equivalent (TWh-eq) per year of energy savings, 1,567.8 megawatt (MW) installed renewable energy capacity, 5.3 TWh per year of renewable energy generation and 23.5 million tons of carbon dioxide (tCO<sub>2</sub>) emission reduction per year (Figure 1).

3. **Deployment of Renewable Energy Technologies.** In 2018, the Facility supported the deployment of technologies that would increase the use of renewable energy in the DMCs. The Facility will introduce floating solar photovoltaic (PV) technology in Viet Nam, Afghanistan, Azerbaijan and the Kyrgyz Republic through the projects *Viet Nam: Floating Solar Project* and *Regional: Floating Solar Energy Development Project*. The Facility also supported technologies that enable the integration of renewable energy to the grid, such as energy storage system and energy management system, in the project *Viet Nam: Battery Energy Storage System and Renewable Energy Forecasting*. In line with the Facility's objective of mainstreaming renewable technologies in cross sectoral projects, the Facility supported the preparation for the biogas plant intended to fuel the bus fleet of the project *Pakistan: Karachi Bus Rapid Transit (BRT) System*. In addition, CEFPF provided support to introduce energy data management system in the project *Regional Cooperation on Increasing Cross Border Trading within Central Asian Power System* to foster clean energy trading and regional cooperation among Tajikistan, Uzbekistan, Kazakhstan, and the Kyrgyz Republic.

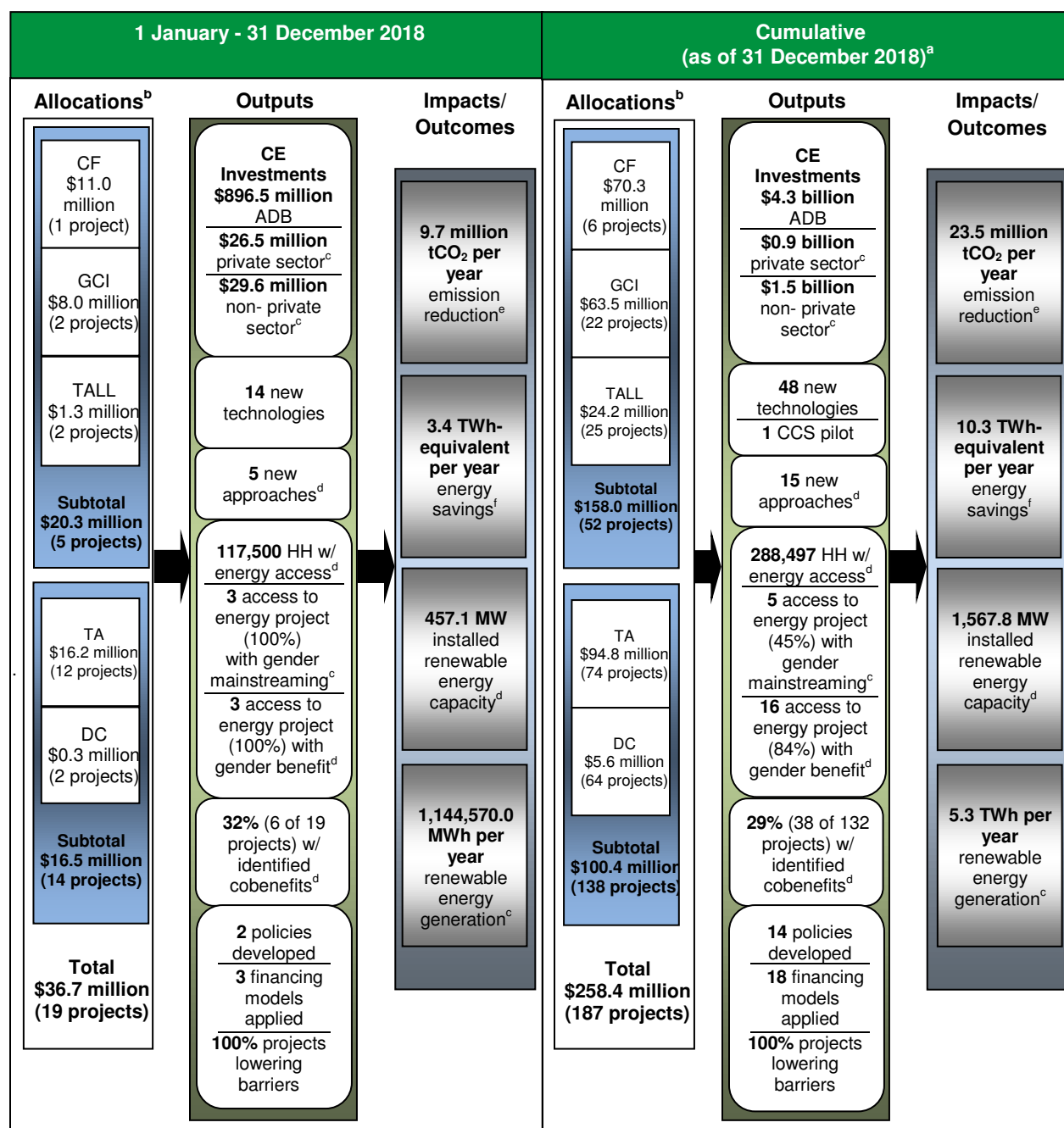
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<sup>1</sup> The Clean Energy Fund is supported by the governments of Australia, Norway, Spain, Sweden and the United Kingdom; the single donor Asian Clean Energy Fund is supported by the Government of Japan; the Carbon Capture and Storage Fund is 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.

<sup>2</sup> 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 2018" 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.

<sup>3</sup> Excludes three adaptation projects that were provided allocation under the Canadian Climate Fund for the Private Sector in Asia. These adaptation projects are non-energy sector projects and do not contribute to the clean energy targets.

Figure 1: CEFPF Activities toward Outputs, Outcomes and Impacts



CE= clean energy, CEFPF = Clean Energy Financing Partnership Facility, CF = Concessional Financing, 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<sub>2</sub> = ton of carbon dioxide.

<sup>a</sup> Includes adjustments made following approval or withdrawal of projects.

<sup>b</sup> 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.

<sup>c</sup> Performance indicator effective in 2014.

<sup>d</sup> Performance indicator effective in 2011.

<sup>e</sup> Covers all clean energy investments attributed to CEFPF financing, including emission reductions from renewable energy projects.

<sup>f</sup> Covers only energy efficiency investments attributed to CEFPF financing.

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

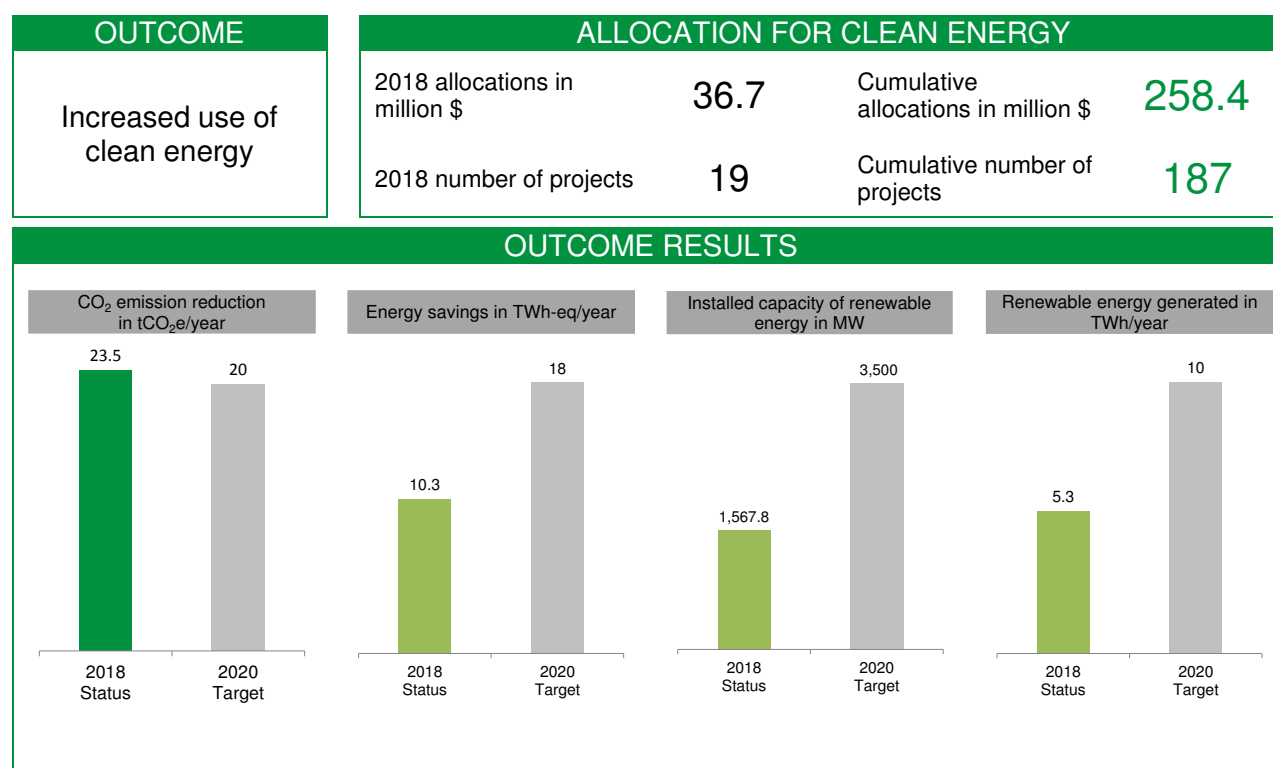
Source: ADB estimates.

4. **Contributions Received from Financing Partners.** CEFPF continues to cultivate healthy partnership and communications with financing partners for fund mobilization. The Government of the United Kingdom remitted \$5.6 million in March 2018 representing the last tranche of its commitment to the CEF while the Government of Norway remitted \$2.4 million in December 2018 as new contribution to the fund<sup>4</sup>.

## RESULTS FRAMEWORK

5. CEFPF supported projects which contribute to improved access to energy, enhanced security, and decrease the rate of climate change in DMCs which are the target impacts of the Facility. The following sections present the results and achievements in 2018 for the CEFPF target outcome and the outputs set in the DMF. ADB tracks the projects' contributions and reports on progress by monitoring the implementation of all financed projects in its portfolio. The graphs compare the cumulative performance of the result indicators as of 2018 against the cumulative target of the results indicators by 2020. The guidelines on Monitoring and Reporting of Results of the Clean Energy Funds<sup>5</sup> and the details of the projects' contributions to the targets in 2018 and overall are provided in Appendices 3, 4 and 5, respectively.

### Progress towards Target Outcome



<sup>4</sup> Norway committed NOK 20.0 million (about \$2.4 million) to the CEF per instrument of contribution dated 30 November 2018.

<sup>5</sup> The 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.

Outcome indicator	Increment in 2018	Cumulative <sup>a</sup>	Target by 2020	Progress
1. CO <sub>2</sub> emission reduction (million tCO <sub>2</sub> e/year)	9.7	23.5	20	●
2. Energy savings (TWh-eq/year)	3.4	10.3	18	●
3. Installed renewable energy capacity (MW) <sup>b</sup>	457.1	1,567.8	3,500	●
4. Renewable energy generation (TWh/year) <sup>c</sup>	1.1	5.3	10	●

- Achieved
- Progressing

CO<sub>2</sub> = carbon dioxide, DMC = developing member country, MW = megawatt, TWh = terawatt-hour, TWh-eq = terawatt-hour equivalent, tCO<sub>2</sub> = ton of carbon dioxide.

<sup>a</sup> Achievement including previous years' progress. Adjustments were also made following approval or withdrawal of projects.

<sup>b</sup> Performance indicator effective beginning 2011.

<sup>c</sup> Performance indicator effective beginning 2014.

Source: ADB estimates

6. As of 2018, the Facility has allocated \$258.4 million to 187 projects<sup>6</sup> to promote the use of clean energy (CE) in the DMCs. The target outcome of increasing the use of clean energy is measured by the CO<sub>2</sub> emission reduced, energy saved, installed capacity of renewable energy, and renewable energy generated from the implementation of projects supported by the Facility. In 2018, a total of 19 projects were added to the Facility portfolio. One of the year's key achievements is meeting the Facility's target for CO<sub>2</sub> emission reduction. With an estimated 9.7 million tons of CO<sub>2</sub>e/year emission reduction expected from the newly supported projects, 2018 has the largest contribution to this target since the Facility's establishment.

7. Of note is the project *PRC: Air Quality Improvement in Greater Beijing-Tianjin-Hebei Region - Shandong Clean Heating and Cooling Project*. Shandong Province is one of the most important regional economies in the PRC but its economy depends heavily on coal, especially the heavy industry and winter heating. To reduce coal consumption and improve air quality, the Facility will support the introduction of energy efficiency measures and renewable energy technologies for heat production by the project. The project intends to generate 133,000 MWh of electricity from biomass sources and an estimated 210 MW of heating capacity from geothermal sources. The energy efficiency measures under the project will have an estimated fuel savings of 39,698.7 terajoules per year and electricity savings of 54,064.0 MWh per year. Combining renewable energy technologies and energy efficiency measures for heating, the project will have an estimated 3.99 million tons CO<sub>2</sub> emission reduction per year.

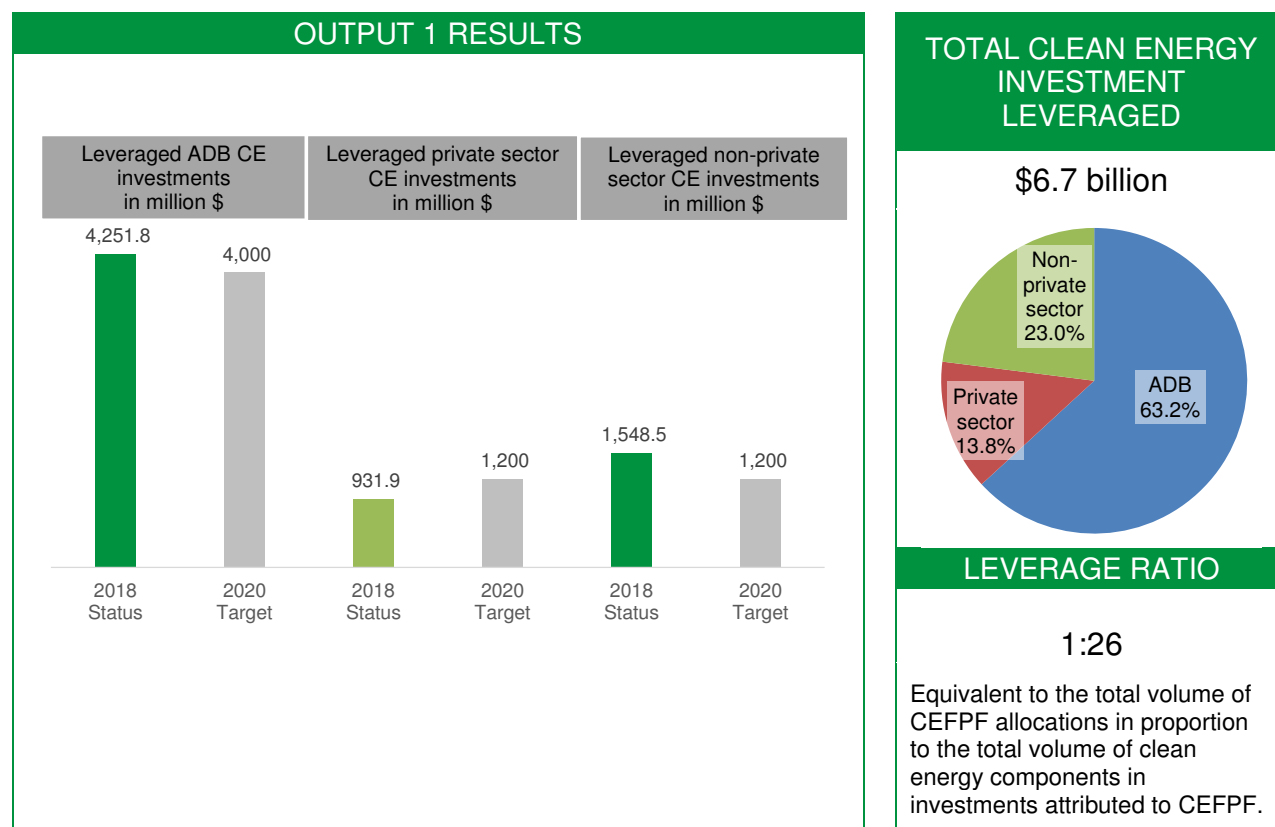
<sup>6</sup> Excludes three adaptation projects that were provided allocation under the Canadian Climate Fund for the Private Sector in Asia.



## Progress towards Target Outputs

### OUTPUT 1: CLEAN ENERGY INVESTMENTS IN DMCS INCREASED

CEFPF will directly contribute to increasing clean energy investments in ADB's DMCs. The indicators measure the amount of clean energy cofinancing leveraged by CEFPF from ADB, the private and the non-private sectors, coming from investment or investment-related projects.



Output indicator	Increment in 2018	Cumulative <sup>a</sup>	Target by 2020	Progress
1. ADB clean energy investment leveraged in million \$	896.5	4,251.8	4,000	●
2. Private sector clean energy investment leveraged in million \$ <sup>b</sup>	26.5	931.9	1,200	●
3. Non-private sector clean energy investment leveraged in million \$ <sup>b</sup>	29.6	1,548.5	1,200	●

● Achieved

● Progressing

<sup>a</sup> Achievement including previous years' progress. Adjustments were also made following approval or withdrawal of projects.

<sup>b</sup> Performance indicator effective in 2014. 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.

Source: ADB estimates.

8. The Facility aims to leverage clean energy (CE) investments from ADB, the private sector and non-private sector<sup>7</sup>. CEFPPF has always carefully reviewed project proposals for their alignment to the CE targets but in the past few years, there was also a conscious effort to prioritize supporting projects which are innovative, government-supported and linked to investment projects. As a result, the Facility met the target volume for leveraged CE investment from the non-private sector in 2017. And in 2018, the Facility also met the target volume for leveraged CE investment from ADB. Only the target volume from the private sector remains to be achieved and with current efforts to engage the private sector to participate in future development projects in the DMCs, the Facility is expected achieve it by 2020.

9. In 2018, CEFPPF's total project allocation of \$36.7 million<sup>8</sup> is expected to leverage about \$1.0 billion of clean energy investments. As of 2018, the leverage ratio is 1:26, meaning that every \$1 of CEFPPF financing translates to \$26 dollars of clean energy investments from ADB, the private and non-private sectors.

10. The Facility's support has been essential for investment projects to proceed. One such project is the *Pakistan: Karachi Bus Rapid Transit Project* which will help develop a sustainable transportation system in Karachi, Pakistan by delivering the 29-kilometer Red Line Bus Rapid Transit (BRT) corridor and associated facilities, directly benefiting 1.5 million people. The project will be cofinanced by ADB, the Asian Infrastructure Investment Bank and the Green Climate Fund (GCF). To provide biogas to the BRT, a biogas plant would be implemented under the BRT project through an innovative build-operate-transfer structure involving the private sector. The project has been approved to receive highly-concessionary cofinancing from the Green Climate Fund (GCF), including \$10.8 million in grant and \$37.2 million in a concessional loan. The GCF financing specifically provides \$10.2 million for the capital component of the biogas plant. Financing from CEFPPF will support the project preparatory activities for the biogas plant, thus the CEFPPF financing is necessary to realize the GCF investment and support the ADB project.

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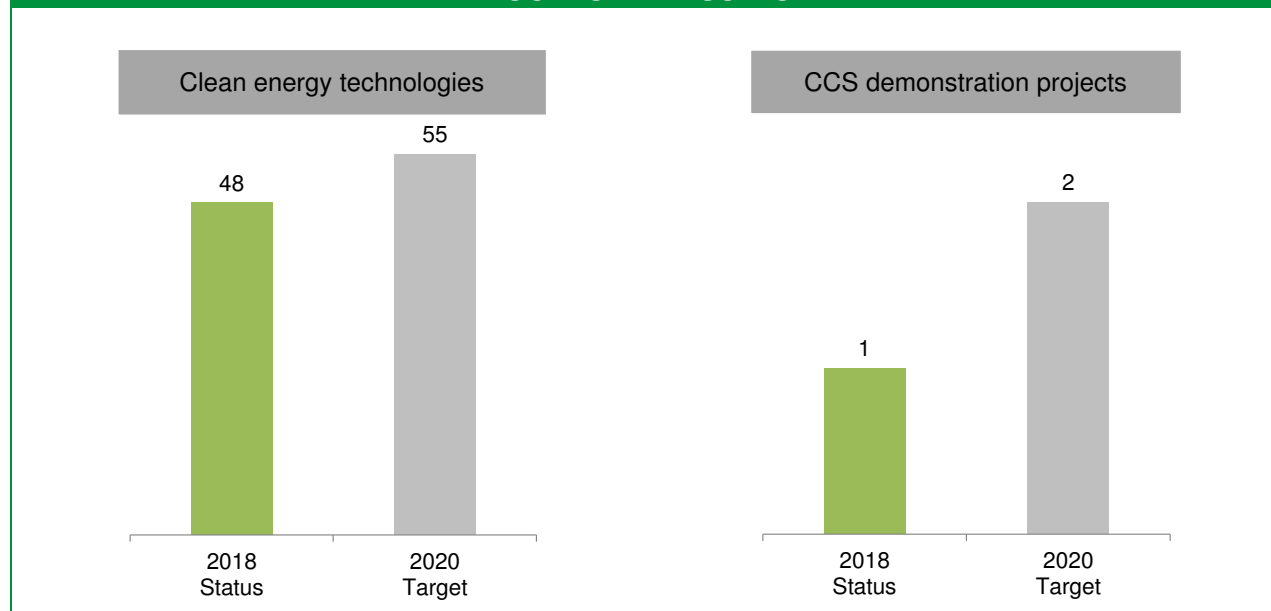
<sup>7</sup> Private sector investments refer to volume of financing mobilized, including equity, loans and guarantees) from private enterprises or financial institutions such as banks, private companies, private pensions funds, and insurance companies; excluding resources from multilateral/regional 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.

<sup>8</sup> Amount excludes fees.

## OUTPUT 2: DEPLOYMENT OF NEW TECHNOLOGIES WITH STRONG DEMONSTRATION EFFECT FACILITATED

CEFPF will facilitate the deployment of new clean energy technologies in the DMCs. The indicator measures the number of new clean energy technologies deployed or demonstrated.

### OUTPUT 2 RESULTS



Output indicator	Deployed in 2018	Cumulative <sup>a</sup>	Target by 2020	Progress
1. Clean energy technologies deployed	14	48	55	●
2. Carbon capture and storage (CCS) demonstration projects in identified priority countries commenced <sup>b</sup>	0	1	2	●

● Progressing

CCS = carbon capture and storage, CE = clean energy, DMC = developing member country.

<sup>a</sup> Achievement including previous years' progress. Adjustments were also made following approval or withdrawal of projects.

<sup>b</sup> Performance indicator effective in 2011.

11. To improve energy security in the DMCs and help them transition to low-carbon use, the Facility aims to deploy new clean energy technologies and to pilot two CCS demonstration projects by 2020. In 2018, supported projects will facilitate the deployment of the following technologies in the DMCs: solar PV (land-based), floating solar PV, biogas, biomass, battery energy storage system, energy management system, energy data management system, geothermal, hydropower, waste to energy, waste heat recovery, clean cooling system, wind power, and carbon capture and storage. To date, the Facility has facilitated the deployment of 48 clean energy technologies in the DMCs. The list of projects and the deployed clean energy technologies are in Appendix 6.

12. 2018 saw the introduction of the floating solar PV system, renewable energy-based heating and clean cooling system. Floating solar PV is a new technology that would be deployed as a demonstration project in Afghanistan, Azerbaijan and the Kyrgyz Republic by the *Regional: Floating Solar Energy Development Project* and as private sector project in Viet Nam by the *Viet Nam Floating Solar Project*. Aside from the Shandong Clean Heating and Cooling

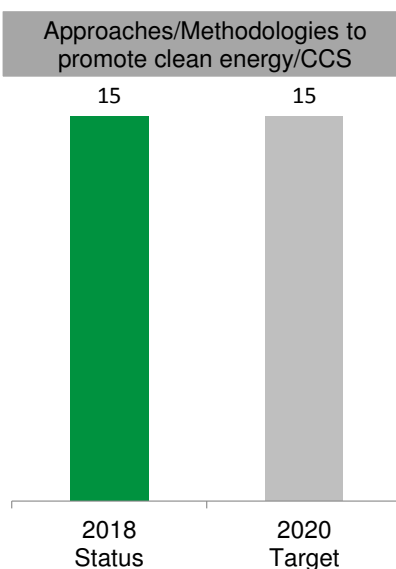
Project mentioned in paragraph 7, the technical assistance (TA) for the *PRC: Advanced Renewable Energy Technology Demonstration Project* will also be developing renewable energy-based distributed heating solutions specifically for a high altitude region in the PRC. Current space heating in Barkam, the project site, relies on electric heaters, biomass and coal-fired stoves which are energy inefficient, costly and poses safety and health hazards. The Facility supported the TA as it will increase the readiness for investments in renewable energy-based distributed heating in PRC by: (i) conduct of a pre-feasibility study on renewable energy-based climate-resilient distributed heating, and (ii) disseminating knowledge of renewable energy-based climate-resilient distributed heating system.

13. The Facility supported technology solutions such as energy management system and battery energy storage systems (BESS) of the project *Viet Nam: Battery Energy Storage System and Renewable Energy Forecasting* to stabilize power supply and aid in integrating renewable energy to the grid. Facility also supported the installation of an energy data management system to modernize the Coordinating Dispatch Center (CDC) Energy through the project *Regional Cooperation on Increasing Cross Border Energy Trading within Central Asian Power System*. The modernization of the CDC will increase cross-border clean energy trade among Tajikistan, Uzbekistan, Kazakhstan, and the Kyrgyz Republic. Toward piloting the CCS, the Facility provided additional financing to the project *Indonesia: Pilot Carbon Capture and Storage Activity in the Natural Gas Processing Sector* to expand the ongoing feasibility studies for the Gundih pilot and include another potential pilot project.

### OUTPUT 3: NEW APPROACHES TO PROMOTE CLEAN ENERGY/CCS INTRODUCED

CEFPF will support the development of methodologies/approaches to promote and deploy clean energy technologies. The indicator measures the new approaches/methodologies developed or introduced to deploy clean energy technologies or to reduce the barriers in deploying of clean energy technologies.

#### OUTPUT 3 RESULTS



Output indicator	Approaches in 2018	Achieved as of 2018 <sup>a</sup>	Target by 2020	Progress
Approaches/methodologies to promote clean energy/CCS introduced	5	15	15	●

● Achieved

<sup>a</sup> Adjustments were made following approval or withdrawal of projects.

14. The Facility aims to introduce new approaches/methodologies to promote clean energy in the DMCs. The target of 15 new approaches/methodologies was achieved in 2017. While no new approach has been added to the Facility's portfolio in 2018, five approaches introduced by earlier projects will be used for the first time in new target countries by 8 supported projects in 2018. The following approaches will be used to promote clean energy in the DMC: establishing demonstration sites or pilots, financing by output-based aid, financing through blended financing, promotion of clean energy through regional cooperation, and by supporting independent power producers. To date, the Facility has supported 31 projects which introduced 15 new approaches/methodologies to promote clean energy in the DMCs. While the number of approaches is counted individually at the Facility level, the projects can replicate the approach in different target DMCs so the number of projects and the number of approaches will not add up.

15. The output-based aid (OBA)<sup>9</sup> approach has been supported through CEFPP allocation for projects in Bangladesh, Cambodia, and Vietnam<sup>10</sup>. In 2018, projects with OBA approaches were supported for use in Nepal and Indonesia to promote renewable energy and provide access to energy. The Facility will finance the installation of solar photovoltaic (PV) systems to 130 schools which will be reconstructed under the *Nepal: Disaster Resilience – Public Schools Infrastructure and Communities*. The solar PV systems would ensure that the reconstructed schools will have sufficient and reliable power supply. The Facility will support the project *INO: Enhancing Access to Electricity through Community Scale Renewable Systems* within a larger results-based lending project to deliver access to energy benefits to Eastern Indonesia. Eastern Indonesia lags behind the rest of the country in development outcomes and access to services, especially electricity. The CEFPP support will rehabilitate idle community-scale solar PV systems and establish sustainable operations and maintenance arrangements

<sup>9</sup> Output-Based aid (OBA) is the use of explicit, output or performance-based subsidies to complement or replace user fees. It involves the contracting out of basic service provision to a third party with subsidy payment tied to the delivery of previously specified outputs or services meeting certain pre-specified performance standards.

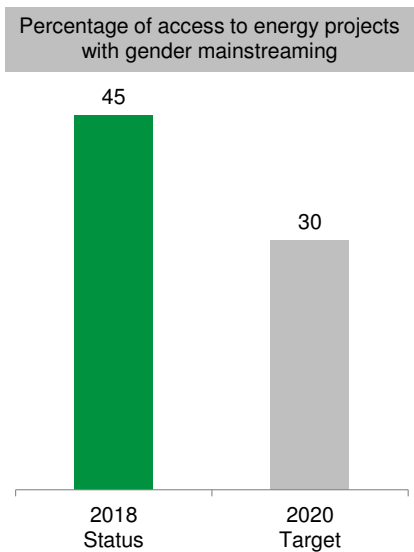
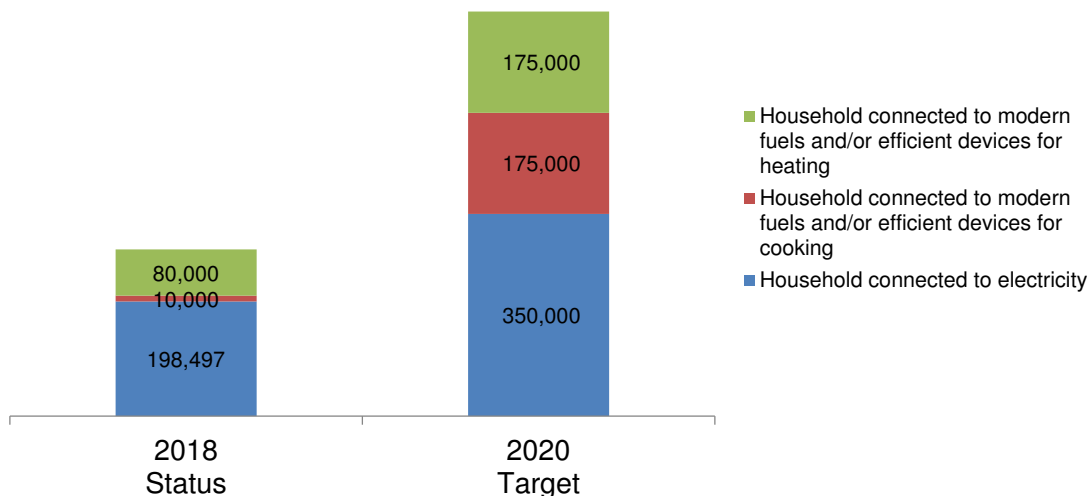
<sup>10</sup> CEFPP supported the following OBA projects: (i) the Bangladesh: Additional Financing to Loan 2769 for Solar Irrigation Component in 2017, (ii) the Cambodia: Supplementary Financing for Electricity Access to Low Income Households under the loan Cambodia: Medium Voltage Sub-Transmission Expansion Sector Project in 2015, and (iii) the Viet Nam: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project in 2013.

### OUTPUT 4: BENEFITS FROM ACCESS TO ENERGY DELIVERED

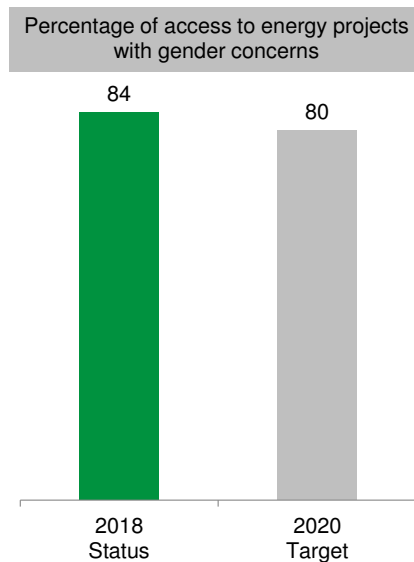
CEFPF will contribute to increasing access by the rural and urban poor to modern forms of energy. Access to energy involves any or a combination of the following:

- (i) Provision of electricity to households,
- (ii) Improvement in the supply and delivery of energy services to households,
- (iii) Provisions of modern fuels and/or efficient devices for cooking and/or heating to households, and
- (iv) Provision of finance to households to access energy.

### OUTPUT 4 RESULTS



These projects' outcome and/or output performance indicators include gender indicators which will 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 empowerment.



These include projects with outcome and/or output performance indicators including gender indicators, and projects which are by nature likely to 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 empowerment.

Output indicator	Connected in 2018	Cumulative <sup>a</sup>	Target by 2020	Progress
1. Households provided with access to energy <sup>b</sup>	117,500	288,497	700,000	●
1.1 Households connected to electricity <sup>b</sup>	37,500	198,497	350,000	●
1.2 Households connected to modern fuels and/or efficient devices for cooking <sup>b</sup>	0	10,000	175,000	●
1.3 Households connected to modern fuels and/or efficient devices for heating <sup>b</sup>	80,000	80,000	175,000	●
Output indicator	% in 2018	Cumulative <sup>a</sup>	Target by 2020	Progress
2. Percentage of access to energy projects with gender mainstreaming <sup>c</sup>	100%	45%	30%	●
3. Percentage of access to energy projects with gender concerns <sup>d</sup>	100%	84%	80%	●

- Achieved
- Progressing
- Requires improvement

<sup>a</sup> Achievement including previous years' progress. Adjustments were also made following approval or withdrawal of projects.

<sup>b</sup> Performance indicator effective in 2011.

<sup>c</sup> Performance indicator effective in 2014. The cumulative percentage accounts for projects from 2014 onwards. Projects with Gender Mainstreaming include those categorized as Gender Equity and Effective Gender Mainstreaming based on ADB's Guidelines for Gender Mainstreaming Categories of ADB projects. These include projects with outcome and/or output performance indicators including gender indicators, and projects which are by nature likely to 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 empowerment.

<sup>d</sup> Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards. Projects with gender concerns include those categorized as Gender Equity, Effective Gender Mainstreaming and Some Gender Benefits based on ADB's Guidelines for Gender Mainstreaming Categories of ADB projects. These projects' outcome and/or output performance indicators include gender indicators or they are by nature likely to 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 empowerment.

16. CEFPPF aims to contribute to increasing access to energy in the DMCs. To date, the Facility has supported 34 access to energy projects. However, the target indicators for this output were only set in 2011 so the cumulative number of beneficiary households accounted for is only from projects supported from 2011 onwards. In 2018, CEFPPF supported three projects which will deliver access to energy benefits. Of note is the project *PRC: Air Quality Improvement in Greater Beijing-Tianjin-Hebei Region - Shandong Clean Heating and Cooling Project* which will deliver improved heating solutions to 80,000 households in a rural area in the PRC. This is the first time that CEFPPF support will facilitate heating solutions for households and CEFPPF would continue to support the development and implementation of similar projects in other DMCs.

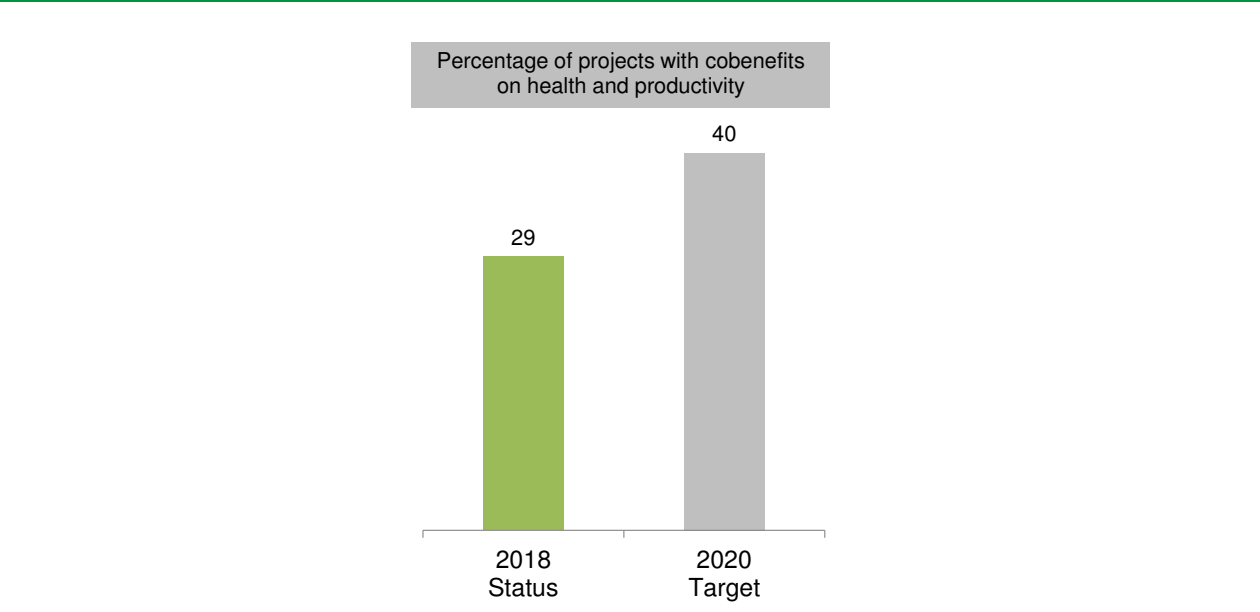
17. The Facility also supports access to energy projects that will address gender equality and/or women empowerment in their project designs. To date, the Facility has supported 16 access to energy projects which will contribute to gender equality and women empowerment. One of the projects supported in 2018, the *INO: Enhancing Access to Electricity through Community Scale Renewable Systems*, will deliver both access to energy benefits and gender benefits. The CEFPPF support will rehabilitate idle community-scale solar PV systems which will supply at least 4,020 MWh of clean energy to 17,500 households in remote areas in Eastern Indonesia. Additionally, the project will also provide community training for the basic maintenance of the solar PV systems, focusing on engaging the women from the communities.

18. There have been challenges that the Facility faced in trying to achieve the output target for access to energy. While ADB aims to increase access to energy for poor households, investment projects remain aligned with the country priorities and most DMCs prioritize increasing their electrification rate through additional energy generation facilities, thus, providing connections especially in remote and off-grid areas remains as the next step. Further, connecting remote households is expensive given the need to extend the grid significantly to less populated areas which would not be able to compensate the cost. While there is an increase in the number of households benefiting from access to energy in 2018, much remains to be achieved. CEFPF will increase its effort to develop projects which will provide households with access to energy.

**OUTPUT 5: HEALTH AND PRODUCTIVITY BENEFITS PROVIDED**

CEFPF supports projects which will provide health and productivity benefits from clean energy interventions. The indicator measures the ratio of these projects against the total number of projects, expressed as a percentage.

**OUTPUT 5 RESULTS**



Output indicator	% in 2018	Cumulative <sup>a</sup>	Target by 2020	Progress
Percentage of projects supporting cobenefits on health and productivity	32	29	40	●

● Progressing

19. The Facility aims to provide health and productivity benefits from clean energy interventions. In 2018, the Facility supported the project *PRC: Xiangtan Low Carbon Transformation Sector Development Program* which aims to transform Xiangtan from a carbon-intensive and heavily polluting city into a low-carbon, climate resilient and liveable one. The project focuses on low-carbon development which will decrease CO<sub>2</sub> emissions, improve air quality and provide health benefits to the community. The Facility also supports projects that boosted local economies through job creation, accounting the number of individuals employed as well as the proportion of women employed. In 2018, the Facility supported efforts to increase



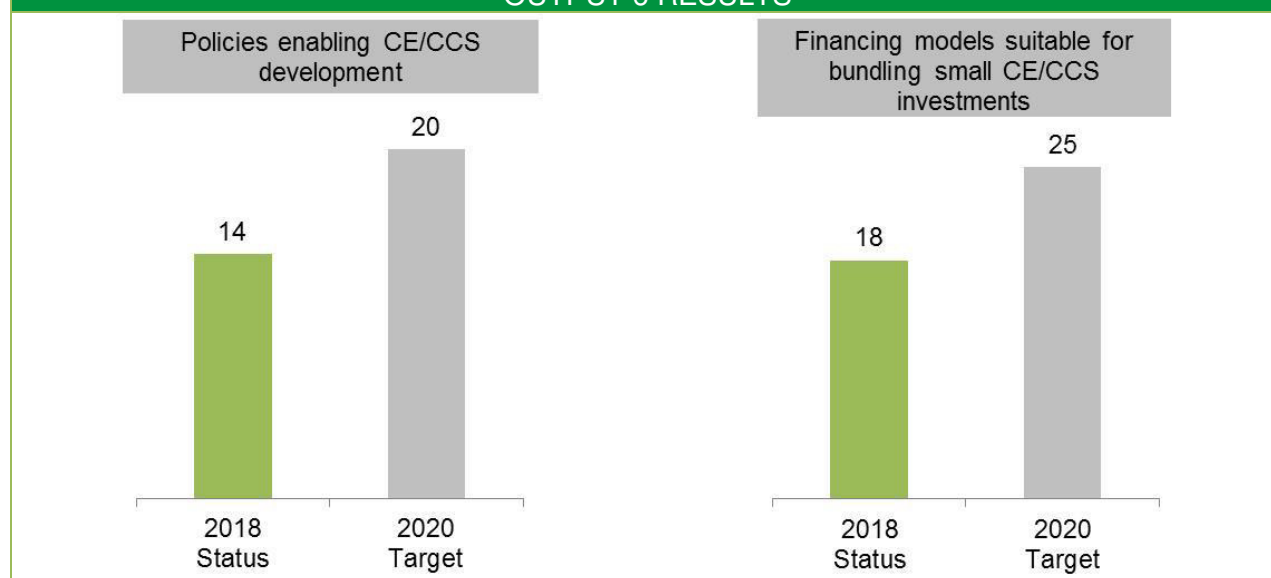
cross-border clean energy trade among Kazakhstan, Tajikistan, Uzbekistan and the Kyrgyz Republic through the project *Regional Cooperation on Increasing Cross Border Energy Trading within Central Asian Power System*. The project will also target increasing the number of women employed in Coordinating Dispatch Center Energiya by 10%. To date, seven projects employed a total of 3,832 people, 345 of which are women.

### OUTPUT 6: BARRIERS TO CLEAN ENERGY/CCS INVESTMENTS LOWERED

CEFPF supports projects that intervene to reduce the barriers to the deployment of clean energy technologies. The indicators measure:

- (i) the number of national or local policies developed to enhance the enabling environment for clean energy promotion;
- (ii) the number of financing models applied suitable for bundling small clean energy investments; and
- (iii) the number of projects which produced knowledge products and conduct capacity building activities.

### OUTPUT 6 RESULTS



Output indicator	Contribution in 2018	Cumulative <sup>a</sup>	Target by 2020	Progress
1. National or local policies enabling CE/CCS development	2	14	20	●
2. Financing models suitable for bundling small CE/CCS investment applied	3	18	25	●
3. Percentage of projects knowledge products or contributing to capacity building	100%	100%	100%	●

● Achieved

● Progressing

<sup>a</sup> Adjustments were also made following approval or withdrawal of projects.

Source: ADB estimates.

20. The Facility aims to support the enhancement of enabling environment by reducing the financing, policy and knowledge/capacity barriers to clean energy/ccs technology development. A key intervention to ensure that clean energy is considered and implemented in the developing countries is to have certain policy reforms developed and enacted. One such policy that would

be instrumental in transforming a carbon-intensive and heavily polluted city into a low carbon one is the Green Procurement Policy (GPP) which would be introduced in China by the project *Xiangtan Low Carbon Transformation Sector Development Program*. The GPP institutionalizes the process of public authorities in procuring goods, services and works that will lower GHG emissions and will also reduce other environmental impacts. GPP has been a proven policy measure to lower carbon emissions in the public sector.

21. In 2018, the Facility also supported the project *Regional: Deploying Solar Energy at Scale* which will provide capacity building support and policy advice to International Solar Alliance (ISA) for scaling up solar energy investments in South Asia. The solar potential in South Asia is still largely undeveloped and to develop solar energy the region, the project will identify utility-scale solar power and other solar end-use investments which are scalable and replicable. The project will also develop at least 3 financing instruments and funding mechanisms, and 3 knowledge products with the ISA.

22. CEFPP supports activities which help in building the capacity of institutions, targeting policy and decision makers, such as trainings, workshops and conferences. To date, the Facility has supported 216 trainings, workshops and conferences and supported the participation of 7,403 individuals, 2,119 of which are women. In 2018, the Facility supported two fora: the *Regional: 2018 Asia Clean Energy Forum* and the *Regional: Asia Pacific Forum on Low Carbon Technology 2018*. The *2018 Asia Clean Energy Forum* was held on 4-8 June 2018 at the ADB Headquarters in the Philippines. ADB co-organized the event with the United States Agency for International Development (USAID) and the Korea Energy Agency (KEA). Deep dive workshops included Asia Clean Energy Forum community-led events such as the Asia Solar Energy Forum and the Sustainable Energy for All Investor Forum. The main forum featured 16 sessions covering 4 thematic tracks: (i) Innovations in Energy Efficiency, (ii) Innovations in Renewable Energy, (iii) Increasing Energy Access, and (iv) Navigating the Future. The *Regional: Asia Pacific Forum on Low Carbon Technology 2018* meanwhile was held on 24-26 October 2018 in Changsa, Hunan, PRC. This forum aims to support and promote substantive cooperation in low-carbon city development and high-technology investment. ADB co-organized the forum with the Government of Hunan which targeted the participation of policy-makers, experts and business managers in the Asia and Pacific Region. The forum had a series of plenary discussions focused on policies, measures, success stories, and practical experiences in low carbon technology deployment and investments, which will facilitate knowledge sharing among participants, networking of key stakeholders and gaining useful insights as to the challenges needed to be addressed to scale up low carbon technology in Asia.

## Progress of Supported Projects

23. To date, CEFPF is supporting a total of 187 projects.<sup>11</sup> Of these, 179 projects have been approved for implementation by ADB while the other eight projects have received Climate Change Steering Committee (CCSC) authorization, and are awaiting ADB approval. To date, there were 122 projects, i.e. nine GCI, 11 TALL, 43 TA, and 61 direct charges (DC), which have completed their proposed activities.<sup>12</sup>

24. **Completed Projects in 2018.**<sup>13</sup> In 2018, two GCIs, two TALLS, five TAs and 9 DCs completed their activities and were financially closed. One of the closed GCI is for the Output Based Aid (OBA) for rural electrification in Viet Nam under the project *VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector*. The Grant proceeds were used to subsidize the one-off electricity service connection including in-house wiring costs and rehabilitation costs of 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 the initial target of 48,333 beneficiary households also increased the amount of CO<sub>2</sub> emission avoided to an estimated 72,500 tons of CO<sub>2</sub> equivalent per year.

25. The TA for *AFG: Renewable Energy Development* was also implemented successfully and was closed in 2018. The TA was supported by CEFPF to increase access to renewable energy in Afghanistan by increasing readiness in Afghanistan for renewable energy development investment, both public and private. Over the course of the TA implementation, five workshops, a symposium and stakeholder meetings were held. The TA's outcome was achieved with the approval and implementation of the renewable energy road map, the enhanced capacity of the Ministry of Energy and Water, the utility Da Afghanistan Breshna Sherkat, the National Procurement Agency and other government counterparts, and the development of projects ready for implementation. The TA's main output, the renewable energy roadmap, identified possible initiatives to reach about 5,000 MW of renewable energy generation capacity by 2032, which is in line with the Afghanistan Renewable Energy Policy targets. It is worth noting that increasing energy access in fragile and conflict affected situations is challenging and in the implementation of this TA, the project team had to use varied innovative approaches to address site-specific needs.

26. Direct charges closed in 2018 include support provided to international fora promoting clean energy in the region, and for technical support to prepare clean energy interventions in the DMCs. The Facility supported the *Asia Clean Energy Forum 2017* held on June 2017 which brought together 1,440 policymakers, practitioners, donors, financiers, and other experts from around the world for a week of discussions, workshops, and networking. With the forum theme "The Future is Here: Achieving Universal Access and Climate Targets", the main forum featured 20 sessions across 4 thematic tracks: (i) innovations in energy efficiency, (ii) innovations in renewable energy, (iii) increasing energy access, and (iv) charting the future of clean energy in Asia. Aside from the main forum, 21 deep dive workshops were facilitated to foster targeted and in-depth discussions on climate energy issues in the region which includes incubation of clean

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<sup>11</sup> Excludes allocations to three projects on adaptation under the Canadian Climate Fund for the Private Sector in Asia.

<sup>12</sup> 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).

<sup>13</sup> This subsection reports on projects completed in 2018 with available completion reports.

energy companies, renewable energy grid integration, energy sector climate resilience in Asia, waste to energy technologies, and the future of hydropower among others. Another direct charge closed in 2018 is the *Indonesia: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia*. The CEFPP support was necessary to conduct a rapid safeguard assessment which captured critical information on the potential geothermal sites and identify the safeguard-related project development risks. The assessment report will be used as reference for future project preparation activities. Details of all direct charges closed in 2018 are in Appendix 8.

27. **Ongoing Activities and Outputs.**<sup>14</sup> CEFPP projects are generally progressing well and on-track in achieving their target outputs, outcome and impacts. Some projects experience delays during implementation and the project teams work on resolving any issue through discussions internally within ADB or externally with the governments, without significantly affecting the planned impact, outcomes and outputs. Project changes are also made to be responsive to the needs of the DMCs. Below are the reported progress from a few supported projects.

28. In 2016, the Facility supported the TA for *Kazakhstan: Fostering the Development of Renewable Energy* to increase the capacity of the government in developing renewable energy generation plants and increase renewable energy in the generation mix. While the TA has been progressing, the completion date has been extended until end of 2018 due to (i) delay of provision of data from Kazakhstan Electricity Grid Operating Company (KEGOC); (ii) more power flow and other types of analyses needed than initially thought; and (iii) more trainings required than initially planned. While a final report has been drafted, the project team anticipates more revisions before it will be finalized.

29. Another project which was extended to include an additional activity in its project scope is the *Sri Lanka: Wind Power Generation Project*. The Facility supported the preparatory activities for the investment project to expand access to electricity and develop clean energy in Sri Lanka, and support the country's goal of increasing the share of renewable energy generation from 10% to 20% of the total generated power by 2020. In terms of target outcomes and outputs, the TA implementation is on track and has completed the following: (i) the Ceylon Electricity Board's (CEB) 100MW Mannar Wind Power Project feasibility study and due diligence (i.e. wind farm energy project estimates, grid interconnection study, transportation study, economic analysis, financial analysis and financial management assessment, and energy resource sector assessment); (ii) environmental impact assessment (i.e. wind farm noise assessment including background noise measurements, wind farm shadow flicker assessment, wind farm visual impact assessment, (iii) action plan to further develop wind power in the Mannar region, (iv) model agreement developed for purchase and sale of electric energy and capacity; and (v) capacity building activities within CEB on wind power development (windpro training, public-private partnership wind projects and procurement, interdependent power producer's wind projects, power-purchasing agreements, financial analysis and modelling for wind Projects). In 2018, a minor change in implementation arrangements was approved to engage additional experts to conduct additional survey studies necessary to complete the environmental assessment.

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<sup>14</sup> This subsection reports on the progress of the ongoing projects based on information received from project teams in Q4 2018 via email correspondence. This subsection does not provide an exhaustive discussion on all projects in the CEFPP portfolio but rather inform on the general experiences and progress of the projects.

## FINANCIAL STATUS

30. 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 2018.

### Financing Partner Contributions and Status of Grant

31. The CEF received a couple of contributions during the year. The Government of the United Kingdom remitted about \$5.6 million in March 2018 representing the last tranche of its commitment to the CEF while the Government of Norway remitted around \$2.4 million in December as new contribution to the fund<sup>15</sup>. Overall, the CEF received about \$7.9 million in replenishment for 2018.<sup>16</sup>

32. To date, a total of \$280.6 million has been remitted to ADB for CEFPF (Table 1).

**Table 1: Summary of Actual Remittances, As of 31 December 2018 (\$ millions)**

Financing Partners	2007-2017	2018	TOTAL
<b>Clean Energy Fund (CEF)</b>	<b>95.8</b>	<b>7.9</b>	<b>103.7</b>
Australia	13.3	-	13.3
Norway <sup>a</sup>	41.0	2.4	43.3
Spain	9.5	-	9.5
Sweden	24.2	-	24.2
United Kingdom <sup>b</sup>	7.8	5.6	13.3
<b>Asian Clean Energy Fund (ACEF)</b>	<b>57.1</b>	-	<b>57.1</b>
Japan	57.1	-	57.1
<b>Carbon Capture and Storage Fund (CCSF)</b>	<b>41.1</b>	<b>(2.8)</b>	<b>38.3</b>
Global CCS Institute	17.3	(2.8) <sup>c</sup>	14.5
United Kingdom	23.8	-	23.8
<b>Canadian Climate Fund for the Private Sector in Asia (CFPS)</b>	<b>81.5</b>	-	<b>81.5</b>
Canada	81.5	-	81.5
<b>Total</b>	<b>275.5</b>	<b>5.1</b>	<b>280.6</b>

<sup>a</sup> Includes new contribution remitted in December 2018 (\$2.4 million).

<sup>b</sup> Includes the last tranche of its commitment remitted in March 2018 (\$5.6 million).

<sup>c</sup> Global Carbon Capture and Storage Institute exited the CCSF in January 2018. Of the \$3.2 million refund provided to the financing partner, \$2.8 million was taken from contributions while the rest came from interest/investment income.

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

Source: ADB estimates.

33. CEFPF's funds status detailing the actual contributions and allocations is presented in Table 2 while the unaudited status of grant as of 31 December 2018, as prepared by the Controller's Department, can be found in Appendix 9.<sup>17</sup>

<sup>15</sup> Norway committed NOK 20.0 million (about \$2.4 million) to the CEF per instrument of contribution dated 30 November 2018.

<sup>16</sup> 2018 contributions to the CEF amount to \$5,551,600.00 from the UK and \$2,350,136.26 from Norway for a total of \$7,901,736.26.

<sup>17</sup> The funds status in Table 2 is at facility level reporting which accounts all of CEFPF project allocations 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. 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 2 on Actual Contributions vs. Allocations and the Status of Grant reports in Appendix 9.

**Table 2: CEFPF Actual Contributions vs. Allocations, As of 31 December 2018 (\$ 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
	2007-2017	2018	2008-2017	2018	2009-2017	2018	2013-2017	2018	
<b>Contributions, Beginning Balance (A)</b>		19.8		12.5		7.4		18.6	
<b>Remittances (B)</b>									
Australia	13.3	-	-	-	-	-	-	-	13.3
Canada <sup>a</sup>	-	-	-	-	-	-	81.5	(3.6)	77.9
Global CCS Institute <sup>b</sup>	-	-	-	-	17.3	(2.8)	-	-	14.5
Japan	-	-	57.1	-	-	-	-	-	57.1
Norway	41.0	2.4	-	-	-	-	-	-	43.3
Spain	9.5	-	-	-	-	-	-	-	9.5
Sweden	24.2	-	-	-	-	-	-	-	24.2
United Kingdom	7.8	5.6	-	-	23.8	-	-	-	37.1
<b>Subtotal - CONTRIBUTIONS (C=A+B)</b>	<b>95.8</b>	<b>27.7</b>	<b>57.1</b>	<b>12.5</b>	<b>41.1</b>	<b>4.6</b>	<b>81.5</b>	<b>15.0</b>	<b>277.0</b>
Interest/Investment Income (D)	1.3	1.0	1.6	0.5	0.8	0.2	1.0	(0.1)	6.4
<b>Total Available Resources (E=C+D)</b>	<b>97.1</b>	<b>28.7</b>	<b>58.7</b>	<b>13.1</b>	<b>41.9</b>	<b>4.9</b>	<b>82.5</b>	<b>14.9</b>	<b>283.4</b>
<b>Concessional Financing Reflows (F)</b>									
Interest / service charge on loans	-	-	-	-	-	-	4.4	1.4	5.8
Other income from loans	-	-	-	-	-	-	0.0	0.0	0.1
Principal collected	-	-	-	-	-	-	-	0.7	0.7
<b>Total Fund Resources (G=E+F)</b>	<b>97.1</b>	<b>28.7</b>	<b>58.7</b>	<b>13.1</b>	<b>41.9</b>	<b>4.9</b>	<b>87.0</b>	<b>17.0</b>	<b>290.0</b>
<b>Funds Utilization<sup>c</sup> (H)</b>									
Grant Allocations	(76.1)	(15.4)	(57.5)	(3.0)	(33.0)	(3.8)	(6.0)	(0.2)	(195.0)
Non-Grant Allocations	-	-	-	-	-	-	(134.9)	(11.0)	(145.9)
Project Fees	(3.5)	(0.8)	(2.9)	(0.2)	(1.7)	(0.2)	(7.0)	(0.6)	(16.8)
Direct Charges	(4.9)	(0.3)	-	-	(0.4)	-	-	-	(5.6)
<b>Other Activities Affecting Balance (I)</b>									
Audit Fees/Bank Charges <sup>d</sup>	(0.3)	(0.0)	(0.3)	(0.1)	(0.1)	(0.0)	(1.0)	(0.0)	(1.8)
Project Adjustments/Withdrawals <sup>e</sup>	1.4	2.1	8.0	-	(1.0)	-	76.9	1.0	88.4
Project Fees Adjustments	0.1	0.1	0.6	-	(0.1)	-	3.8	0.1	4.6
Project Savings	6.0	2.7	5.9	0.2	1.8	0.7	0.1	-	17.4
Deferred loan fees/ origination costs	-	-	-	-	-	-	0.2	(0.0)	0.1
Direct loan origination costs	-	-	-	-	-	-	0.0	-	0.0
Special Reserve	-	-	-	-	-	-	(0.5)	-	(0.5)
<b>Ending Balance (J=G+H+I)</b>	<b>19.8</b>	<b>17.0</b>	<b>12.5</b>	<b>10.1</b>	<b>7.4</b>	<b>1.6</b>	<b>18.6</b>	<b>6.2</b>	<b>35.0</b>
<b>Less: Projects Under Consideration<sup>f</sup> (K)</b>									
Project Cost	-	-	-	(3.0)	-	-	-	-	(3.0)
Applicable Fees	-	-	-	(0.2)	-	-	-	-	(0.2)
<b>Current year returns on concessional financing<sup>g</sup></b>									
	-	-	-	-	-	-	(2.8)	-	(2.8)
<b>Available Balance (L=J+K)</b>		<b>17.0</b>		<b>7.0</b>		<b>1.6</b>		<b>3.5</b>	<b>29.1</b>

<sup>a</sup> Of the \$4.5 million repayment to the financing partner representing returns on concessional financing resources, \$3.6 million was taken from contributions while the rest came from interest/investment income.

<sup>b</sup> Global Carbon Capture and Storage Institute exited CCSF in January 2018. Of the \$3.2 million refund provided to the financing partner, \$2.8 million was taken from contributions while the rest came from interest/investment income.

<sup>c</sup> Projects allocated with funding by the Climate Change Steering Committee.

<sup>d</sup> Includes estimates for audit fees.

<sup>e</sup> 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(\$20.0M); 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); 2018 CEF - Project Withdrawal - PRC: Developing Cost-Effective Policies and Investment to Achieve Climate and Air Quality Goals in Beijing-Tianjin-Hebei Region (\$75K); UZB: Second Solar Power Project (\$2.0M); 2018 CFPS - MYA: Renewable Energy for Nationwide Telecommunications Project (\$1.0M).

<sup>f</sup> Project under consideration by the Government of Japan for funding under ACEF consists of one project in the amount of \$3.0 million (\$3.2 million, inclusive of fees). The proposal has been submitted to OCO for review.

<sup>g</sup> Includes principal and interest charges on loans collected during the current year for repayment the following year pursuant to the CFPS Contribution Arrangement.

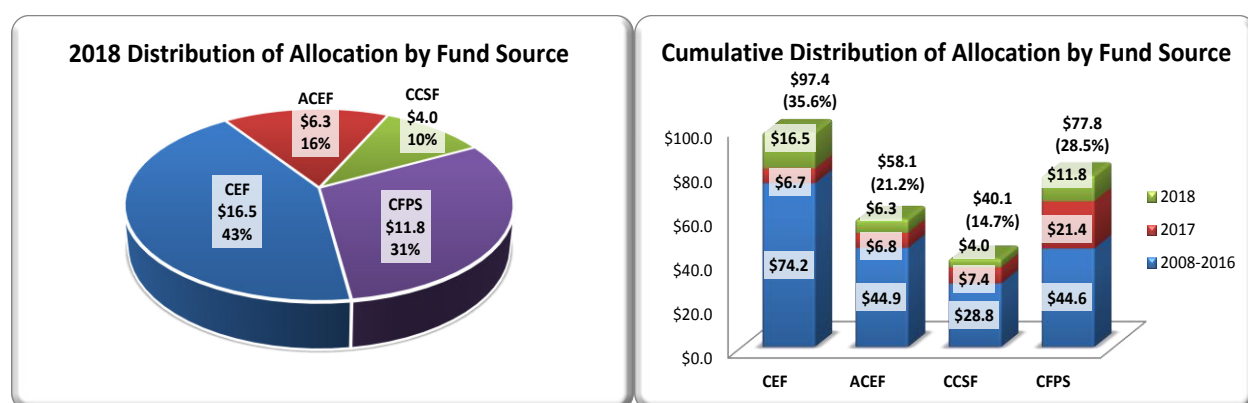
Note: Totals may not add-up due to rounding-off.

## Resource Utilization

34. CEFPF received requests for funding support amounting to about \$39.7 million for various projects during the year.<sup>18</sup> 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.

35. In 2018, CEFPF allocated \$36.7 million to 19 projects, with \$1.8 million in corresponding project fees. Inclusive of fees, the Facility allocated \$16.5 million to 13 projects under CEF, \$6.3 million to 3 projects under ACEF<sup>19</sup>, \$4.0 million to 2 projects under CCSF, and \$11.8 million to 2 projects under CFPS.<sup>20</sup> Figure 2 presents the distribution of allocation by fund source.

**Figure 2: 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.

36. To date, CEFPF has allocated \$273.4 million (inclusive of fees) to 190 projects.<sup>21</sup> Of the total, \$130.0 million went to projects that promote renewable energy, \$75.1 million to multiscope projects, \$40.1 million to CCS, \$24.7 million to energy efficiency, and \$0.7 million to carbon market development.<sup>22</sup> Further, \$61.9 million of these project allocations have components that contribute to access to energy. Figure 3 shows the distribution of allocation by clean energy project type and access to energy.

<sup>18</sup> Two sovereign projects requesting a total of \$2.0 million are subject to fulfillment of CEWG recommendations while another project was requested to scale down its funding request by \$1.0 million.

<sup>19</sup> Includes one project amounting to \$3.0 million (\$3.2 million, inclusive of fees) that is for consideration by the Government of Japan for funding under ACEF. The project proposal has been submitted to OCO for review.

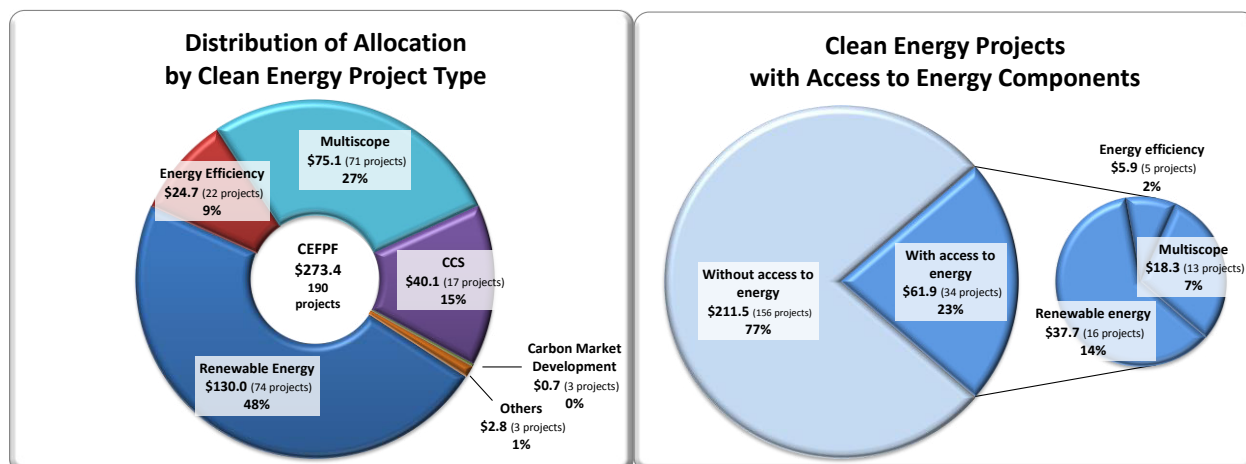
<sup>20</sup> The project 'REG: Integrated High Impact Innovation in Sustainable Energy Technology' is co-financed by the CEF and CCSF. The project is accounted under each fund but counted as one project under the CEFPF portfolio.

<sup>21</sup> Includes three projects on adaptation under the Canadian Climate Fund for the Private Sector in Asia.

<sup>22</sup> *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 3: Distribution of Allocations by CE Project Type and Access to Energy**  
(\$ 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. Of the \$61.9 million allocated to access to energy projects, \$32.9 million was provided to projects beginning 2011 when the targets for access to energy indicators were included in the DMF.

Source: ADB estimates.

37. **Disbursement.** Of CEFPF's \$273.4 million allocations to date, ADB has approved a total of \$231.9 million (\$242.7 million, inclusive of fees) with \$161.6 million coming from grant and \$70.3 million from non-grant resources.<sup>23</sup> 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.

38. Of the resources approved by ADB, \$88.6 million or 61.1% of grant resources and \$39.3 million or 55.9% of non-grant resources have been disbursed.<sup>24</sup> Overall facility disbursements amount to \$127.8 million or 59.4%, which is lower than the 2017 yearend rate of 60.9%, primarily due to a concessional financing project (loan) in the amount of \$11.0 million and a number of technical assistance amounting to \$8.0 million were approved in the last quarter of 2018. As these projects have just gotten off the ground, they are still in the process of securing counterpart agreement, procuring equipment/services, or awarding contracts, hence no significant disbursement has been made.

39. 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

<sup>23</sup> Total approved amount excludes withdrawn/cancelled projects.

<sup>24</sup> Disbursement rate is computed as total disbursements over approved allocations less project savings. Amounts exclude project fees.



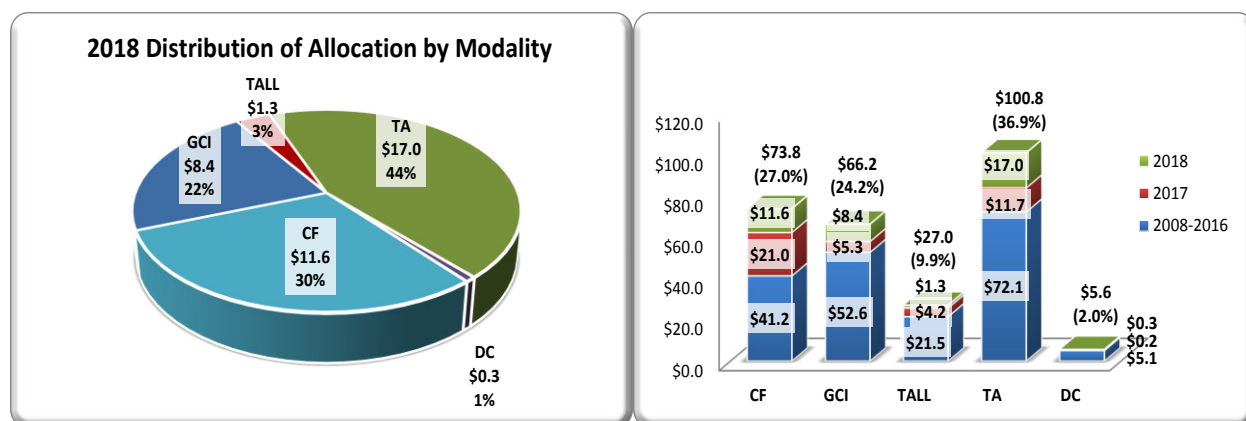
loan) that would have to be completed before the installation of clean energy equipment or implementation of the specific component supported by the facility.

40. CEFPP is mindful of its 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 CEFPP 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 CEFPP 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.

## Resource Allocation Structure

41. Per Implementation Guidelines, CEFPP 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.<sup>25</sup> This year ended with an INV: TA ratio of 55:45. In 2018, a significant amount of resources were allocated to TAs for pilot testing high level technologies, initiating policy reforms, conducting feasibility studies, and building capacities. Such activities are intended to reduce barriers and provide the needed enabling environment for CE investments in the DMCs. It is envisioned that these activities will contribute towards assisting DMCs to transition to low carbon economies. Overall, the cumulative ratio which covers all projects receiving CEFPP allocations since the start of the Facility's operations is at 61:39. Figure 4 presents the distribution of allocation by modality.

**Figure 4: Distribution of Allocations by Modality**  
(\$ millions, inclusive of project fees)



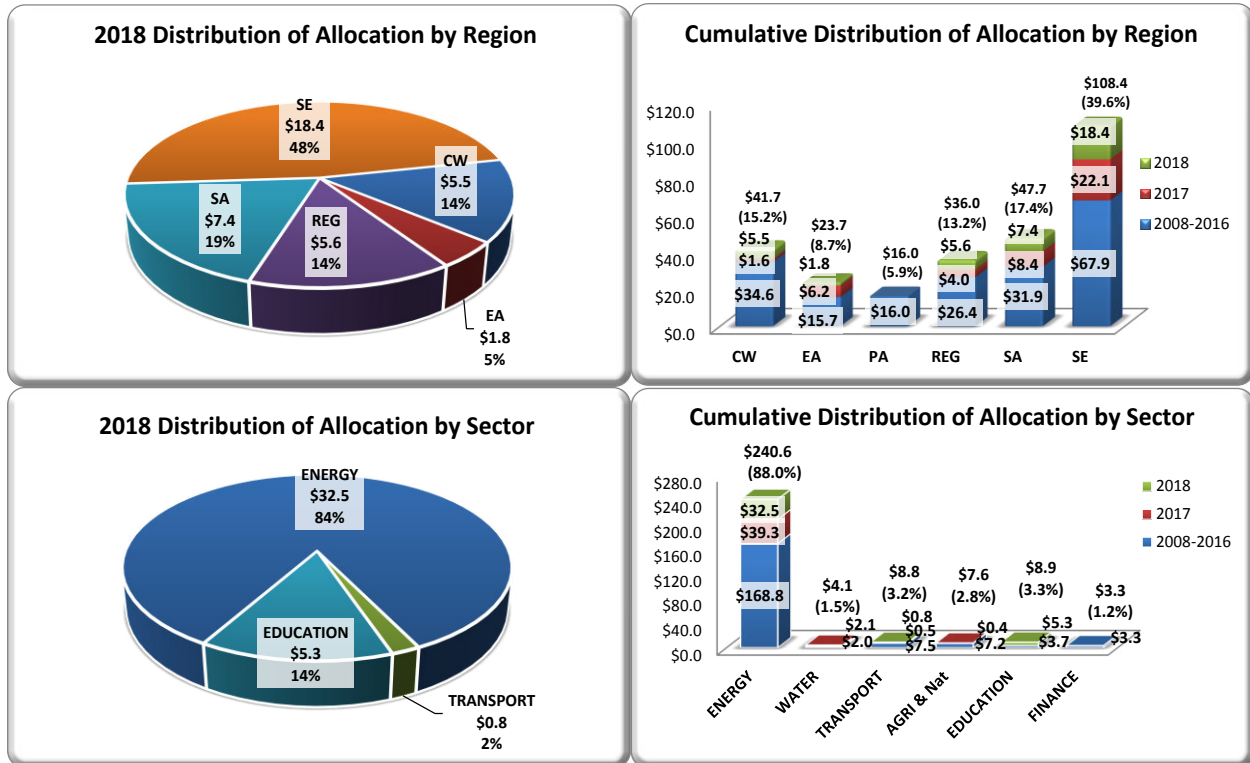
CF = concessional financing, DC = direct charge, GCI = grant component of investment, TA = technical assistance, TALL = technical assistance linked to loan.

Source: ADB estimates.

<sup>25</sup> 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.

42. In 2018, Southeast Asia received majority of the allocations (48%), followed by South Asia (19%), Regional projects (14%), Central and West Asia (14%), and East Asia (5%). Figure 5 provides the summary of distribution of allocations by region and sector, while Appendix 11 contains the details and Appendix 12 shows the cumulative allocation by DMC.

**Figure 5: 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.

## MANAGEMENT OF THE FACILITY

### Steering Committee and Working Group Membership

43. The CCSC and CEWG continued effective participation in the management of the Facility in 2018. 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.

### Steering Committee and Working Group Meetings

44. In 2018, the CEWG convened four times to discuss policy and procedural recommendations regarding CEFPP 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.

45. Of note is the extension of the availability period for the concessional financing resources under the CFPS which was extended until 31 March 2019 with the condition that eligible projects seeking financing should have been approved in concept at ADB's first-stage Investment Committee not later than 30 June 2018.

### Approval of Procedural Matters

46. For the year 2018, 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 CEFPP;
- (v) Facilitate approval and implementation, including disbursements, of projects supported by CEFPP.
- (vi) Monitor and maintain accurate facility level results reporting; and
- (vii) Request for pipeline of priority projects from operations departments for 2018.

## Audit Compliance, Issues and Actions

47. The audited financial statement for the CEF, CFPS, CCSF for the year ending 31 December 2017 was circulated to the financing partners as scheduled in August 2018, with CEFPP's 2018 Semiannual Progress Report.

## Dissemination Activities

48. In 2018, as underscored during the annual consultation meeting with the financing partners, acknowledgment of support by the financing partner to various projects will be further emphasized and projects teams seeking funding support will be encouraged to highlight the specific support received during project implementation as well as publications, workshops and knowledge products. The approach to information dissemination concerning CEFPP was sustained highlighting that selection process of the facility requires projects to have strong government support, projects are innovative and that it paved the way for further clean energy investments in the DMCs. Internally, other 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.

49. The project teams are encouraged to promote the visibility and local awareness of the CEFPP and the supported projects in recipient countries. Also, within ADB's Climate Change Program, CEFPP's overall performance and achievements, specifically the contributions on energy savings, renewable energy installed and CO<sub>2</sub> emissions reduction, were presented on various occasions by management and staff in workshops and conferences in and outside the region.

## RELATIONSHIP WITH FINANCING PARTNERS

50. The 2017 Annual Report, 2018 Annual Work Program, 2018 Semiannual Progress Report, and 2017 Audited Financial Statements were delivered to the financing partners on schedule. These reports were prepared in consideration of financing partners' suggestions and comments. In 30 April 2018, the 11th Annual Consultation Meeting (ACM) between the financing partners and ADB was held at ADB Headquarters in Manila, Philippines.

51. In 7 March 2018, the UK through the Business, Energy and Industrial Strategy has provided last tranche of remittance for their contribution to the multi-donor Clean Energy Fund in line with the MOU signed in December of 2015. UK is the financing partner for two trust funds under the Facility the CEF and the CCSF. In November 2018, Norway signed a new Instrument of Contribution and provided replenishment to the multi donor Clean Energy Fund. As of December 2018, before the end of the year, the memorandum of understanding between ADB and UK for CCSF implementation was extended for another 3 years.

52. During the ACM, dialogue between ADB and financing partners began with discussions on ADB's Clean Energy Program, CEFPP's annual report for 2017, strategic direction and annual work program for 2018. Other highlights of the ACM included discussions on the

performance in meeting targets, distribution of project allocations, internal marketing of the facility, and other matters such as better donor coordination on projects and DMC policy priorities; prioritizing innovative projects; leading innovations in clean energy with ADB as a knowledge hub; greater effort for gender mainstreaming in projects; and increased promotion of CEFPP and the impacts of its projects along with better visibility of financing partners.

## LESSONS LEARNED, EXPERIENCES GAINED, AND KEY CONSTRAINTS

53. **Suggested Review and Update of the Energy Policy.** On 5 January 2018, in a letter from a financing partner, CEFPP have received guidance encouraging the review and update of the current Energy Policy. It was noted that much has happened in the past 8 years since the policy was approved i.e. the Sustainable Development Goals, the Paris Agreement with the new climate change commitments by all DMCs. There are also considerations of technological breakthroughs and falling cost of renewables vis-a-vis the awareness of the increased cost of fossil fuels and the effects of the greenhouse gas emissions which is deemed more costly. The points raised were taken into consideration by the SDCC/SDSC-ENE. The review of the Energy Policy was initiated in 2018.

54. **Anticorruption Clause Guidelines.** The specific clause on anticorruption has been revised in the Implementation guidelines of the CEF which was subsequently circulated to the ADB regional departments in the first semester of 2018. The CEF implementation guidelines also form part of the CFPS and CCSF implementation guidelines and are likewise updated.

***Anticorruption.** The CEFPP and activities funded thereunder will be subject to ADB's Anticorruption Policy (1998, as amended from time to time), and Integrity Principles and Guidelines (2015, as amended from time to time). ADB's Anticorruption Policy requires ADB staff to adhere to the highest standards of ethical conduct and ensure the integrity of ADB operations within their respective area of responsibility. ADB's Anticorruption Policy also requires the consultants, recipients, beneficiaries, bidders, suppliers, and contractors executing the CEFPP and activities thereunder to observe the highest standards of ethics and personal integrity during the procurement and execution of contracts financed by or related to CEFPP. Violations of ADB's Anticorruption Policy will be investigated by ADB in accordance with its Integrity Principles and Guidelines. In accordance with ADB's Integrity Principles and Guidelines, any party found in breach of ADB's Anticorruption Policy may be subject to sanctions, and any legal entity or individual debarred or temporarily suspended will be ineligible to participate in activities financed by or related to CEFPP.*

55. **Specific Criteria for Selection of Project Applications.** Project proposals were reviewed against the eligibility criteria of the implementation guidelines. In addition, CEFPP prioritized the following: (i) projects showing strong government support as evidenced by government counterpart financing, policy reforms or extending non-monetary counterpart, such that CEFPP resources would only be used to cover the viability gap; (ii) deployment of innovative clean energy technologies or use of innovative approaches in promoting clean energy, and (iii) projects which are linked to or would lead to clean energy investments. The fund management team will continue coordinate with the operations departments as it seeks to

support for more clean energy projects towards the attainment of its target impact, outcome, and outputs. Specific area that needs focus is the Access to Energy indicator incorporated into the project design and proposals. The priorities set in the Annual Work Program will be the guiding themes within the energy sector operations that will be continually encouraged and supported by the Facility.

56. **Streamlining of the Application Batch Review.** The batch application review was reduced to four batches instead of six batches. The fund management team deemed that having less batch review cycle would translate to a more robust screening for the reviewing team and the CEWG to be more selective of the projects to be endorsed. The timing would also compel the project teams to put forward more innovative project designs aligned with clean energy and climate change criteria. The longer period to prepare for the next review cycle would provide more time for the project teams from the operations departments to develop the project documents. It is deemed given fewer review cycles will foster a more ideally competitive project selection process for the remaining resources of CEFPF intended for clean energy projects.

57. **Knowledge Partnership.** The SDCC management and Facility recognize the importance of producing quality knowledge products and building knowledge partnerships to provide solutions for the DMC clients. In recent years, the CEFPF has continually supported the Asian Clean Energy Forum which is recognized as one of the Asia Pacific region's key forums. The Asia Clean Energy Forum provides a sensible venue for information exchange by focusing on targeted and in-depth discussions about clean energy issues. The Facility also supported projects that will facilitate the deployment of renewables and promote partnerships.

## EXTERNAL FACTORS RELEVANT TO THE FACILITY

58. **Intergovernmental Panel on Climate Change (IPCC) Report.** According to a comprehensive assessment by the IPCC, the impacts and cost of a 1.5 degrees Celsius of Global warming will be far greater than expected. The IPCC report<sup>26</sup> examined more than 6,000 studies revealed that conditions will be far worse at 2 degrees Celsius. In recent years, record breaking storms, forest fires, droughts, coral bleaching, heat waves and floods manifested around the world with just 1 degree Celsius of global warming. The IPCC also reported that 1.5 degrees Celsius could be reached in as little as 11 years—and almost certainly within 20 years without major cuts in CO<sub>2</sub> emissions. Even if such cuts were to begin immediately it would only delay, not prevent, 1.5 degrees Celsius of global warming.<sup>27</sup> The Summary for Policymakers notes that the world has already experienced around 1 degree above pre-industrial levels and currently, the world is on track for around 3 degrees of warming by 2100, assuming countries deliver on their promised NDCs and continue to deliver significant emissions reductions beyond 2030. It found that all scenarios "would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems". "These systems transitions are unprecedented in terms of scale, but not necessarily in terms of

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<sup>26</sup> Intergovernmental Panel on Climate Change. 2018. Global warming of 1.5°C: Summary for Policy Makers. [https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15\\_SPM\\_High\\_Res.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15_SPM_High_Res.pdf) and <https://www.ipcc.ch/sr15/>

<sup>27</sup> National Geographic. Environment. <https://www.nationalgeographic.com/environment/2018/10/ipcc-report-climate-change-impacts-forests-emissions/>



speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options,"<sup>28</sup>.

59. In the context of the Facility, it is important for CEFPP as a Facility of ADB to take into consideration the results of the IPCC special report on the impacts of global warming of 1.5°C and related global greenhouse gas emission pathways. The CEFPP is aligned with overall ADB policies noting that the bank is one of the MDBs participating in the joint framework to combat climate change. Considering that the report of the IPCC was prepared to help the global community make informed decisions towards strengthening the global response to the threat of climate change, sustainable development and an effort to eradicate poverty.

**60. Multilateral Development Banks Announce Joint Framework to Combat Climate Change at CoP24.** In a joint declaration, the MDBs committed to working together in six key areas considered central to meeting the goals of the Paris Agreement, which aims to limit the increase in global temperatures to well below 2°C, pursuing efforts for 1.5°C. The MDB's joint declaration mentioned "acting on previous commitments made in CoP21 –including to support the Five Voluntary Principles for Mainstreaming Climate Action within Financial institutions"<sup>29</sup>. In addition, the recent Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C highlights the grave consequences that temperature rise above 1.5°C would entail, and clarifies that indeed all efforts should be made to avoid such a scenario. The declaration was issued at the start of the 24th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24) in Katowice, Poland. "The global development agenda is at a pivotal point," the joint declaration says. "There is international consensus on the urgent need to ensure that policy engagements and financial flows are consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."

**61. ADB Projects Secure Green Climate Fund (GCF) Funding.** 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.<sup>30</sup> The ADB in 2018 has recently secured \$190 million in total funding—comprising of \$85 million in grants and \$105 million in concessional loans from the GCF for its climate change project in Cambodia, Mongolia and Tajikistan. In Cambodia, GCF will provide \$30 million in grant and \$10 million in loan to complement ADB's loan of \$90 million to help develop climate-friendly agribusiness value chains. GCF funds will be used for enhancing the resilience and productivity of target crops, rehabilitating production and post-harvest infrastructure to climate resilient condition, and for reducing the carbon footprint along the value chains by promoting solar and bioenergy.<sup>31</sup> The Cambodia project is part of a regional scope

<sup>28</sup> Green Business. News. <https://www.businessgreen.com/bg/news/3064052/ipcc-limiting-warming-to-15c-requires-a-net-zero-global-economy-by-2050>

<sup>29</sup> The Five Voluntary Principles for Mainstreaming Climate Action within financial institutions include the following -a. commit to climate strategies; b. manage climate risk; c. promote climate smart objectives; d. improve climate performance; and e. account for your climate action. Climate Action in Financial Institutions.Principles for Mainstreaming Climate Action. <https://www.mainstreamingclimate.org/initiative/>

<sup>30</sup> Green Climate Fund: Proposed Participation by the Asian Development Bank through the Accreditation Master Agreement. July, 2017. ADB, Manila

<sup>31</sup> Asian Development Bank. News. <https://www.adb.org/news/adb-projects-cambodia-mongolia-tajikistan-secure-gcf-funding>

project on climate-friendly agribusiness value chains which CFPS under CEFPF has previously supported the technical feasibility including the social and environmental impacts of the project.

62. **ADB Strategy 2030.** ADB launched the Strategy 2030 to respond to the evolving needs of Asia and the Pacific. Under Strategy 2030, ADB will expand its vision to achieve a prosperous, inclusive, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. The CEFPF is aligned with Strategy 2030, specifically under the operational priority of tackling climate change and enhancing environmental sustainability. The Facility will continue to support projects that will reduce CO<sub>2</sub> emissions in DMCs through the increased use of clean energy, deployment of renewable energy technologies and towards enabling the DMCs to transition to low carbon economies. Towards addressing poverty and reducing inequalities in the region, CEFPF will contribute to increasing the access of the rural and urban poor to modern forms of energy which will pave the way to increased productivity and more livelihood opportunities.

63. **Nationally Determined Contributions (NDC) Advance Platform.** ADB has launched a new platform aimed at helping its DMCs in Asia and the Pacific mobilize funding to meet the DMCs goals under the Paris Agreement. The NDC Advance platform will help countries mobilize finance to implement NDCs regarding greenhouse gas emissions that each country has voluntarily committed to under the Paris Agreement. NDCs describe priority actions for countries to adapt to climate change. The announcement was made at CoP24 in Katowice, Poland. NDC Advance is funded through a \$4.55 million grant from ADB and will have three aims: providing technical assistance that helps countries better engage with potential sources of climate finance and to make use of innovative finance mechanisms; identifying and prioritizing climate projects; and supporting countries in tracking how projects deliver against their NDC goals.

64. **Climate Change Operational Framework 2017-2030.** The CCOF 2017 to 2030 is a framework to provide broad direction and guidance for enhancing resilience and strengthening climate actions in ADB's operations and business processes, including country partnership strategies, country operations business plans, sector and thematic strategies, DMC programs and projects, TA, and knowledge and capacity-building support. The CCOF 2017 - 2030 differs among the 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 CCOF 2017 to 2030 supports climate mitigation actions, primarily in the energy, transport, and urban sectors, the region's major sources of GHG emissions. The operational framework will guide 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.<sup>32</sup>

65. **Sustainable Development Goals (SDG).** There are two SDGs that directly influence the Facility: SDG Goal 13: "Take urgent action to combat climate change and its impacts" and SDG Goal 7: "Ensure access to affordable, reliable, sustainable and modern energy for all". According to the UN, climate change presents the single biggest threat to development, and its widespread, unprecedented impacts disproportionately burden the poorest and most vulnerable. As of 9 April 2018, 175 Parties had ratified the Paris Agreement and 168 Parties (167 countries plus the European Commission) had communicated their first nationally

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<sup>32</sup> Climate Change Operational Framework 2017-2030. ADB. Manila 2017.



determined contributions to the United Nations Framework Convention on Climate Change Secretariat. In addition, 10 developing countries had successfully completed and submitted the first iteration of their national adaptation plans for responding to climate change.<sup>33</sup> SDG 13 is aligned with CEFPP's target impact of decreasing the rate of climate change in the DMCs while SDG 7 is aligned with the CEFPP's target output of delivering benefits from access to energy.

66. Climate action and mitigation initiatives would definitely require financial support. The CEFPP with the expanded scope as a facility, continue to remain as a relevant financing platform to provide financing support to clean energy projects. Providing enabling environment for low carbon initiatives and clean energy investment is at the core of mitigation action against climate change. Developing member countries of ADB 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's options to choose clean energy vs business as usual would be a more efficient transition with global financing support. ADB priority projects in the pipeline can be supported with the new commitments and replenishment from financing partners made during the past year.

## **OVERVIEW OF 2019 ANNUAL WORK PROGRAM**

67. At the start of 2019, CEFPP has approximately \$29.1 million available for allocation to activities and projects requesting CEFPP support, of which \$1.6 million under CCSF will be used specifically for exploring CCS technology and \$3.5 million under CFPS will be used to finance clean energy activities in the private sector. The multi donor CEF which received replenishment in 2018 has a total balance of \$17.0 million while ACEF has \$7.0 million available. 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 CEFPP 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 CEFPP.

68. For 2019, CEFPP 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. CEFPP 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.

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<sup>33</sup> United Nations. Sustainable Development Goals Knowledge Platform. <https://sustainabledevelopment.un.org/sdg13>



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

### **CLEAN ENERGY FINANCING PARTNERSHIP FACILITY<sup>1</sup>**

#### **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.<sup>2</sup> 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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<sup>1</sup> 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.

<sup>2</sup> 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)**

<b>Party</b>	<b>Responsibilities</b>
<b>Financing Partners</b>	
Members: CEFPF contributors	<ul style="list-style-type: none"> <li>(i) Provide strategic direction to CEFPF</li> <li>(ii) Meet with the Asian Development Bank for annual consultation</li> <li>(iii) Review progress and administration and annual work program</li> </ul>
<b>Climate Change Steering Committee (CCSC)<sup>a</sup></b>	
<b>Chair: Director General, SDCC</b> <b>Secretariat: SDSC-ENE</b> Members: Directors general of operation departments, and Chief Economist	<ul style="list-style-type: none"> <li>(i) Provide strategic direction to CEFPF</li> <li>(ii) Director General, SDCC approves CEFPF policy and procedures</li> <li>(iii) Approves allocation of funds to applications for TAs, concessional financing and grant components of investments</li> </ul>
<b>Clean Energy Working Group (CEWG)</b>	
<b>Chair and Co-Chairs: Chair and Co-Chairs, ADB's Technical Advisor- Energy</b> <b>Secretariat: SDSC-ENE</b>  Members: Energy specialists nominated by the Directors general of operation departments as members	<ul style="list-style-type: none"> <li>(i) Review and endorse proposals for CEFPF support</li> <li>(ii) Recommend policy and procedures of CEFPF to CCSC</li> </ul>
<b>CEFPF Manager (SDSC)</b>	
<b>Manager: Chief Sector Officer, SDSC or Designate</b> Assistant: A team of staff and consultants	<ul style="list-style-type: none"> <li>(i) Serve as Secretariat and oversee CEFPF day-to-day operations</li> <li>(ii) Oversee review process for applications</li> <li>(iii) Review applications for compliance with Implementation Guidelines for use of funds</li> <li>(iv) Prepare annual work program and progress reports</li> <li>(v) Serve as focal point for CEFPF partners for technical matters</li> </ul>
<b>Office of Cofinancing Operations (OCO)</b>	
<b>Contact: Designated by Head, OCO</b>	<ul style="list-style-type: none"> <li>(i) Facilitate partner contributions to CEFPF</li> <li>(ii) Communicate on financial issues among the partners</li> <li>(iii) Lead negotiations with partners on financial and procedural agreements for CEFPF contributions and framework agreement</li> </ul>

CEFPF = Clean Energy Financing Partnership Facility, SDCC = Sustainable Development and Climate Change Department, SDSC = Sector Advisory Service Cluster, SDSC - ENE = Sector Advisory Service Cluster – Energy Group.

<sup>a</sup> 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<sup>3</sup>

### 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).<sup>4</sup> Proposals must be consistent with ADB's Energy Policy, as amended from time to time, and aligned with the joint Multilateral Development Bank (MDB)<sup>5</sup> 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;

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

<sup>4</sup> Clean Energy initiatives in ADB include initiatives in renewable energy (RE), energy efficiency (EE) and cleaner fuels (CF).

<sup>5</sup> 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).

- (iii) Specific Criteria and Scope for Adaptation. Responding to special threats facing Asia and the Pacific, the CCF will prioritize interventions that will (i) assess climate risks and adaptation options for at-risk investment projects (CRAs);<sup>6</sup> (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 CEFPPF/CCF application form and ADB standard concept paper template.<sup>7</sup> 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<sub>2</sub> 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.

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<sup>6</sup> 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.

<sup>7</sup> 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)**

<b>Party</b>	<b>Responsibilities</b>
<b>Financing Partners</b>	
Members: CCF contributors	<ul style="list-style-type: none"> <li>(i) Provide strategic direction to CCF</li> <li>(ii) Meet with the Asian Development Bank for annual consultation</li> <li>(iii) Review progress and administration and annual work program</li> </ul>
<b>Climate Change Steering Committee (CCSC)</b>	
<b>Chair: Director General, SDCC</b> <b>Secretariat: SDSC and SDES</b> Members: DGs of User Departments (UDs), Chief Economist	<ul style="list-style-type: none"> <li>(i) Provide strategic direction to CCF</li> <li>(ii) Director General, SDCC approves CCF policy and procedures</li> <li>(iii) Approves allocation of funds to applications for TAs and grant components of investments</li> </ul>
<b>Working Groups (CEWG and ALUWG)</b>	
<b>CEWG Chair: Chief (Energy Sector Group)</b> <b>Co-Chair: Co-Chair, –Energy Sector Group</b> <b>Secretariat: SDSC</b>  <b>ALUWG Chair: Director, SDCC</b> <b>Secretariat: SDCC</b>  Members: Representatives from the operation departments (and ERD for CEWG), as well as any additional technical specialists nominated by the Chair as members	<ul style="list-style-type: none"> <li>(i) Review and make recommendations on mitigation and adaptation related activities to be supported from CCF</li> <li>(ii) Recommend policy and procedures of CCF to CCSC</li> </ul>
<b>CCF Manager (SDCD)</b>	
<b>Manager/Coordinator:</b> <b>Overall: Director, SDCD or Designate</b> <b>Clean Energy/Mitigation: Chief Sector Officer, SDSC or Designate</b> <b>Adaptation and Land Use: Director, SDCD or Designate</b>  Assistant: A team of staff and consultants	<ul style="list-style-type: none"> <li>(i) Serve as Secretariat and oversee CCF day-to-day operations</li> <li>(ii) Oversee review process for applications</li> <li>(iii) Review applications for compliance with Implementation Guidelines for use of funds</li> <li>(iv) Prepare annual work program and progress reports</li> <li>(v) Serve as focal point for CCF partners for technical matters</li> </ul>
<b>Office of Cofinancing Operations (OCO)</b>	
<b>Contact: Designated by Head, OCO</b>	<ul style="list-style-type: none"> <li>(i) Facilitate partner contributions to CCF</li> <li>(ii) Communicate on financial issues among the partners</li> <li>(iii) Lead negotiations with partners on financial and procedural agreements for CCF contributions and framework agreement</li> </ul>

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.<sup>8</sup> Originally implemented in 2008, the DMF was initially updated in 2011, in accordance with the agreement with financing partners.<sup>9</sup> 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.<sup>10</sup>
- (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*.

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<sup>8</sup> 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.

<sup>9</sup> 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.

<sup>10</sup> 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.

### Clean Energy Funds Design and Monitoring Framework<sup>11</sup>

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

<sup>11</sup> 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.

<sup>12</sup> Impact targets are anticipated by the 10<sup>th</sup> year after the final fund allocation.

<sup>13</sup> Electrification rate is the ratio of population with electricity to the total population of a DMC expressed as a percentage

<sup>14</sup> Reduction in other greenhouse gas emissions and the realized avoided annual CO<sub>2</sub> 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)
	<p>capacity in participating DMCs of 3,500 MW by 2020</p> <p>Cumulative renewable energy generation in participating DMCs of 10 TWh per year by 2020 (footnote 10)</p>	<p>teams</p>	<p>A: Energy efficiency and renewable energy projects are submitted and approved</p> <p>A: Expected outputs of access to energy projects will contribute to RE capacity installed</p> <p>A: Profile of projects reviewed, allocated and approved for the coming years continues, following the pattern as experienced by CEFPP and CCF in previous years (i.e. substantial number of GCI/TALL projects submitted and approved), or improves</p> <p>A: Outcome performance of CEFPP and CCF in previous years provides a reliable trend and basis for the indicated values of targets/indicators</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments</p>
<b>Outputs</b>			
<p>1. Clean energy investments in DMCs increased</p>	<p>Cumulative \$ 4 billion in ADB's clean energy investments leveraged by 2020 (contributing to ADB's \$2 billion clean energy investments target every year)</p>	<p>(a) ADB PPIS database</p> <p>(b) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR,</p>	<p>A: Project approvals versus disbursements are counted as investments</p> <p>A: Support from financing partners continue and increase</p>

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

<sup>15</sup> 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.

<sup>16</sup> 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)
			<p>CEFPF and CCF in previous years provides a reliable basis for the indicated value of target/indicator</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments</p>
	2 CCS demonstration projects in identified priority countries commenced by 2020	<p>(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR</p> <p>(b) Progress updates and final/completion reports for DC</p>	<p>A: Support from financing partners on CCS technology continue and increase</p> <p>A: CCS projects are submitted and approved</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments</p>
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	<p>(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR</p> <p>(b) Progress updates and final/completion reports for DC</p>	<p>A: Support from financing partners continue and increase</p> <p>A: DMC governments develop enabling regulatory frameworks to promote new approaches/methodologies</p> <p>A: Projects are generating</p>

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
			<p>and systematically using lessons towards scaling-up and/or replication</p> <p>A: Output performance of CEFPP and CCF in previous years provides a reliable basis for the indicated value of target/indicator</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments</p>
<p>4. Benefits from access to energy delivered</p>	<p>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)</p> <ul style="list-style-type: none"> <li>• 350,000 households connected to electricity</li> <li>• 175,000 households connected to modern fuels and/or efficient devices for cooking</li> <li>• 175,000 households connected to</li> </ul>	<p>(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR</p> <p>(b) Progress updates and final/completion reports for DC</p>	<p>A: Support from financing partners continue and increase</p> <p>A: Per Energy for All Initiative, access to energy projects are submitted and approved</p> <p>A: At least 25% of supported projects annually comprise access to energy</p> <p>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)</p>

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

<sup>17</sup> Projects with Gender Mainstreaming include those classified under Gender Equity Theme and Effective Gender Mainstreaming.

<sup>18</sup> 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)
			<p>gender benefits, covering 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</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments</p>
5. Health and productivity	40% of projects supported highlights	(a) ADB project documents:	A: Support from financing partners continue and



Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
benefits provided <sup>19</sup>	co-benefits on health/productivity by 2020 <sup>20</sup>	concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR (b) Progress updates and final/completion reports for DC	<p>increase</p> <p>A: At least 25% of supported projects annually comprise access to energy</p> <p>A: 100% of access to energy projects supported will provide health/productivity co-benefits</p> <p>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.</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments</p>
6. Barriers to clean energy/CCS	20 national/local policies enabling clean energy/CCS	(a) ADB project documents: concept clearance	A: Support from financing partners continue and increase

<sup>19</sup> 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.

<sup>20</sup> 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)
investments lowered	development in participating DMCs developed by 2020	<p>paper, TAR, RRP, PPR, TPR, PCR, and TCR</p> <p>(b) Progress updates and final/completion reports for DC</p>	<p>A: Major barriers to adopting CE technologies are identified and prioritized</p> <p>A: The development of national/ local policies is coordinated with ADB</p> <p>A: Output performance of CEFPF and CCF in previous years provides a reliable basis for the indicated value of target/indicator</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary, and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low demand for sector investments</p>
	25 financing models suitable for bundling small clean energy/CCS investment applied in participating DMCs by 2020	<p>(a) ADB project documents: concept clearance paper, TAR, RRP, PPR, TPR, PCR, and TCR</p> <p>(b) Progress updates and final/completion reports for DC</p>	<p>A: Support from financing partners continue and increase</p> <p>A: Output performance of CEFPF and CCF in previous years provides a reliable basis for the indicated value of target/indicator</p> <p>A: Necessary updates on the DMF to be implemented every 3 years (if necessary and agreed between ADB and financing partners)</p> <p>R: Lack of fiscal support and change in DMC governments' priorities on clean energy resulting to low</p>

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions (A) and Risks (R)
			demand for sector investments
	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 <sup>21</sup>	(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: 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
<b>Activities and Milestones (For 2008-2020)</b>			<b>Inputs (For 2008-2020)</b>
<p>1.1 Pool grants from multilateral and bilateral sources</p> <ul style="list-style-type: none"> <li>• Promote CEFPF and CCF to the multilateral and bilateral donor community</li> <li>• Build and maintain network of financial partners</li> <li>• Secure \$700 million equivalent for CEFPF and CCF<sup>22</sup></li> <li>• Maintain relations with financing partners through annual consultation meetings, as well as submission of annual work programs, annual reports, semiannual progress reports</li> </ul> <p>1.2 Explore and develop innovative investment programs and financing mechanisms</p> <ul style="list-style-type: none"> <li>• Engage expert services to develop innovative investment programs and financing mechanisms</li> <li>• Develop new and innovative investment programs and</li> </ul>			<ul style="list-style-type: none"> <li>• \$250 million for CEFPF and CCF to facilitate investments</li> <li>• \$450 million for CEFPF and CCF to facilitate investments<sup>23</sup></li> <li>• 120 person-month of ADB professional staff</li> <li>• 528 person month of domestic consultants</li> <li>• 130 person-month of international consultants</li> <li>• Series of clean energy</li> </ul>

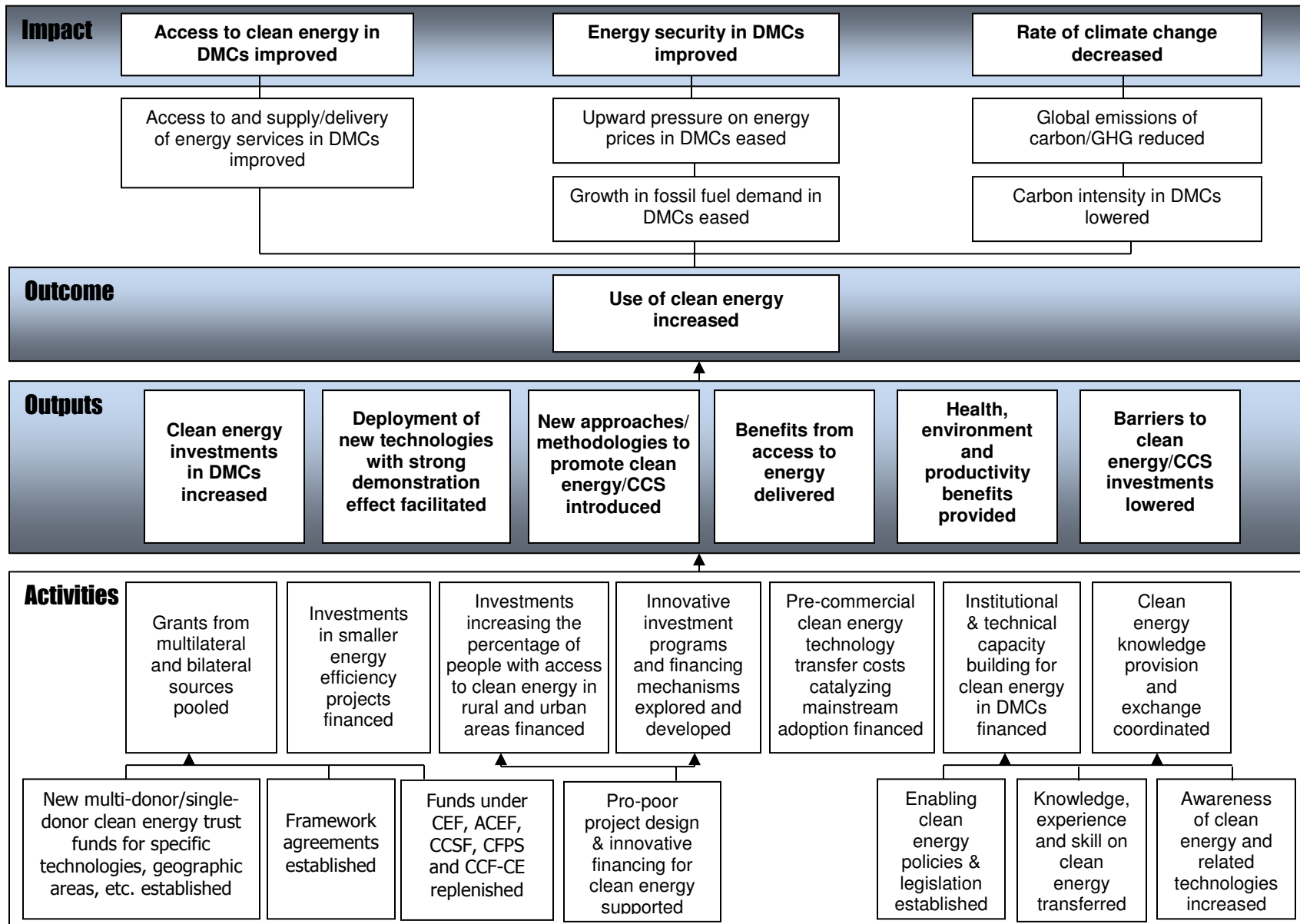
<sup>21</sup> The clean energy funds will monitor and report on the cumulative total of: (a) projects that disseminate knowledge products, practices and information in a gender sensitive manner, (b) knowledge products produced and/or disseminated, (c) individuals trained, including average percentage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

<sup>22</sup> Upon securing the \$250 million targeted, ADB will aim at raising an additional \$450 million by 2020 to further facilitate clean energy investments.

<sup>23</sup> 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.



## 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) <sup>a</sup>	Electrification Rates (%) <sup>b</sup>
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
	<b>Average</b>	<b>398</b>	<b>55</b>

nd = no data.

<sup>a</sup> Source: Asian Development Bank. 2013. Energy Statistics in Asia and the Pacific (1990-2009)

<sup>b</sup> 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)								Total	RE share (%)
		Thermal	Nuclear	Renewable Energy							
				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%
<b>AVERAGE</b>		<b>32%</b>									

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<sup>24</sup>

1. The Asian Development Bank's (ADB) clean energy funds<sup>25</sup> 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.<sup>26</sup> 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 funds 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.*<sup>27</sup> This impact indicator is measured by the ratio of power generation from renewable energy sources (as reported

<sup>24</sup> 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.

<sup>25</sup> 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.

<sup>26</sup> 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.

<sup>27</sup> 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<sub>2</sub>) 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<sup>28</sup> in DMCs, and is measured by four indicators:

- (i) *Cumulative carbon dioxide (CO<sub>2</sub>) emission reduction in participating DMCs of 20 million tons of carbon dioxide (tCO<sub>2</sub>) per year by 2020.* The avoided annual CO<sub>2</sub> emission of a project or component, measured in metric ton, accounted from investment or investment-related projects.<sup>29</sup>
- (ii) *Cumulative energy savings in participating DMCs of 18 terawatt-hours equivalent (TWh-eq.) by 2020.*<sup>30</sup> 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

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<sup>28</sup> Clean energy category in ADB includes renewable energy, energy efficiency and cleaner fuel.

<sup>29</sup> Reduction in other greenhouse gas emissions will be provided, as available.

<sup>30</sup> 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 10<sup>th</sup> 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.<sup>31</sup> 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.

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<sup>31</sup> 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) <sup>a</sup>	Electrification Rates (%) <sup>b</sup>
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
	<b>Average</b>	<b>398</b>	<b>55</b>

nd = no data.

<sup>a</sup> Source: Asian Development Bank. 2013. Energy Statistics in Asia and the Pacific (1990-2009).

<sup>b</sup> 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%
<b>AVERAGE</b>		<b>32%</b>									

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.<sup>32</sup> 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<sub>2</sub>, 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).<sup>33</sup> 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,<sup>34</sup> and (c) aligned with the strategic priorities as programmed annually.<sup>35</sup> 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

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<sup>32</sup>Realized avoided annual CO<sub>2</sub> emission reduction, electricity or energy savings, energy generated using renewable energy will be reported, as available.

<sup>33</sup> Installed renewable energy capacity and renewable energy power generation are additional indicators implemented effective 2011 and 2014, respectively.

<sup>34</sup> 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.

<sup>35</sup> 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.

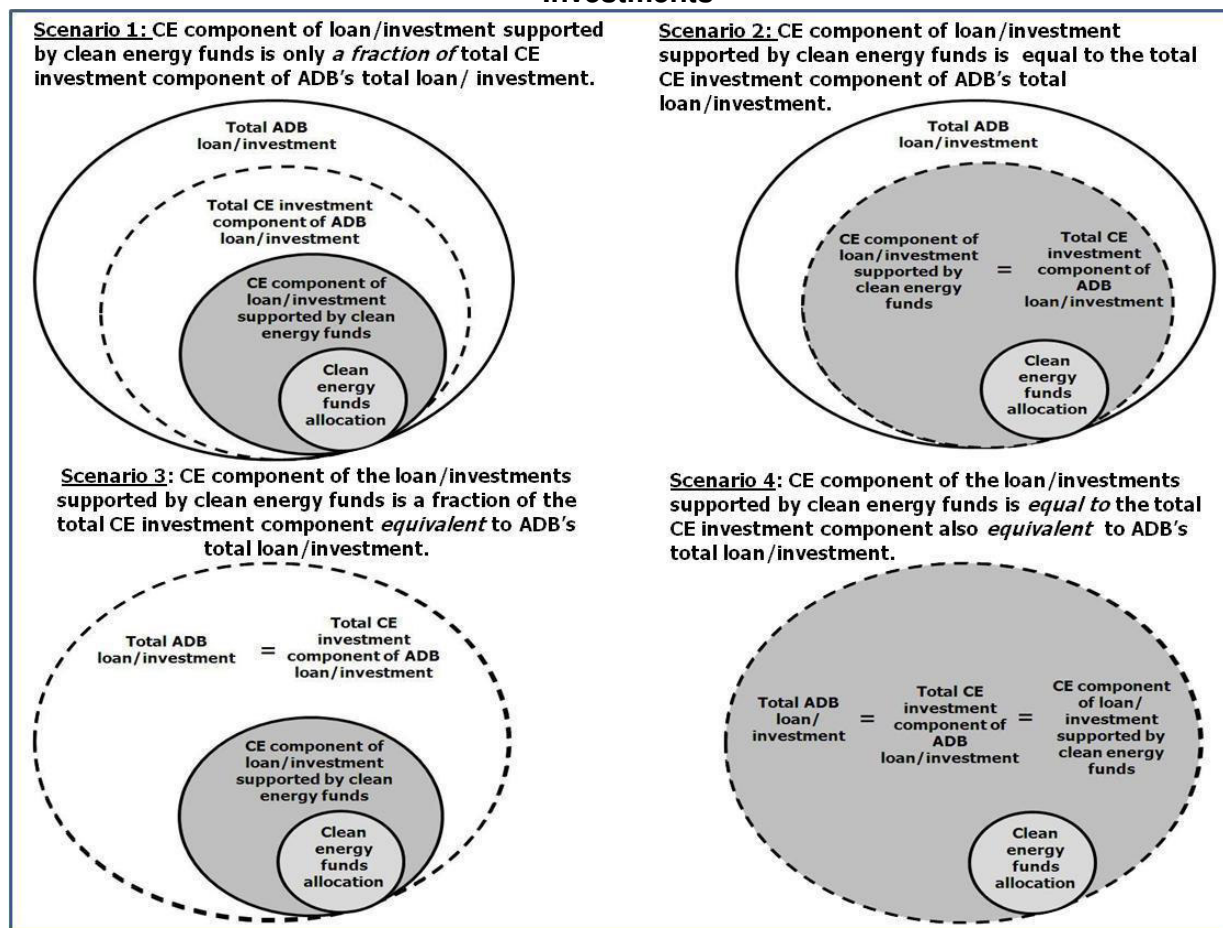
### A. Clean Energy Investments in DMCs increased

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

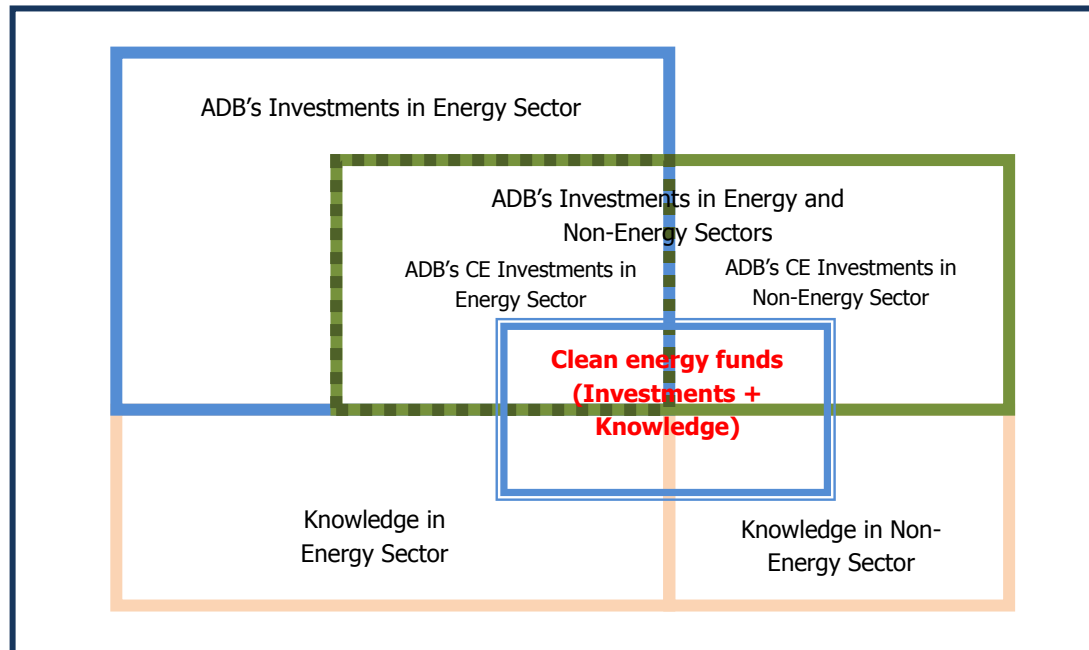
- (i) *Cumulative \$4 billion in ADB's clean energy investments leveraged by 2020 (contributing to ADB's \$2 billion clean energy investments target every year).* This indicator measures the amount of clean energy co-financing from ADB and ADB-administered funds, in US dollars, accounted from investment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



**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 \$1.2 billion non-private sector investments leveraged by 2020.*<sup>36</sup> 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 CEFPPF: \$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 CEFPPF allocation, identified by the project team leader as the rural electrification component which the Clean Energy Financing Partnership Facility is

<sup>36</sup> 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.<sup>37</sup> 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.

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<sup>37</sup>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
<b>A. Renewable Energy</b>			
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>B. Demand Side Energy Efficiency</b>			
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 available in the market
<b>C. Supply Side Energy Efficiency</b>			
<b>C-1 New Power Plant</b>			
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%	<b>DEFAULT BASELINE POWER PLANT</b>
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
<b>C-2 Power Plant Upgrading</b>			
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
<b>C-3. Transmission &amp; Distribution (T &amp; D)</b>			
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
<b>D. Cleaner Fuel (Natural Gas)</b>			
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.<sup>38</sup> 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)**

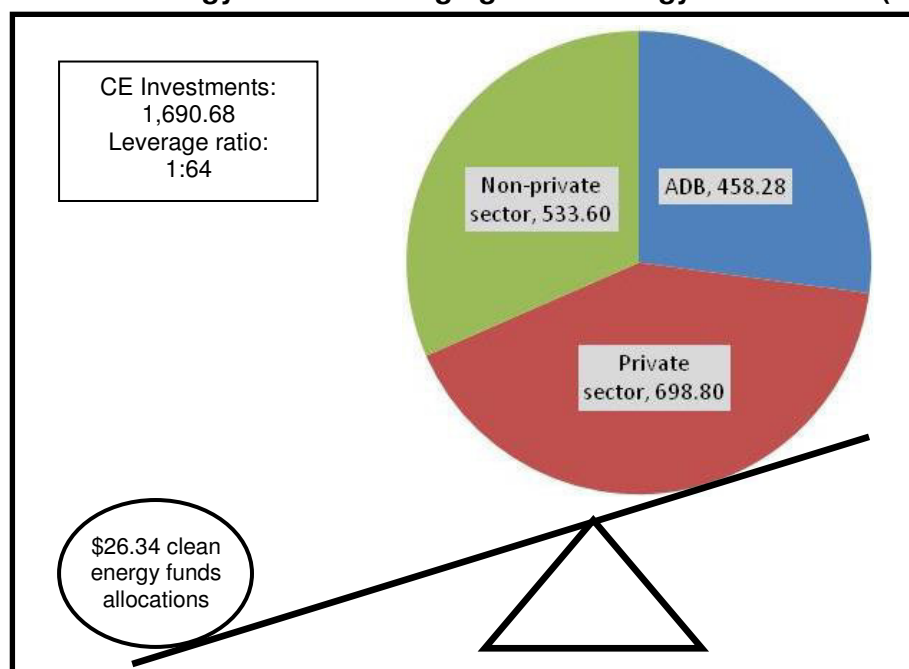
(In \$ millions)										
Project name	Modality	ADB loan/TA amount	CE component of ADB loan / investment	CE component of ADB loan/ investment supported by clean energy funds	CE component of Private sector investment supported by clean energy funds <sup>a</sup>	CE component of Non-private sector investment supported by clean energy funds <sup>a</sup>	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	
<b>Total</b>		<b>686.24</b>	<b>513.00</b>	<b>458.28</b>	<b>698.80</b>	<b>533.60</b>	<b>26.34</b>			

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.

<sup>a</sup> 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)

<sup>38</sup> 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:<sup>39</sup>

- (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.

<sup>39</sup>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. CEFPP/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**

CEFPP 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. CEFPP 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 <sup>a</sup>	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)

<sup>a</sup> 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<sub>2</sub> 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.<sup>40</sup>

<sup>40</sup>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<sub>2</sub> emission reduction.<sup>41</sup>

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<sup>42</sup> 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.<sup>43</sup> 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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<sup>41</sup> 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.

<sup>42</sup> 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).

<sup>43</sup> 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 is further 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.<sup>44</sup>

## **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<sub>2</sub> 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.<sup>45</sup> 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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<sup>44</sup> For projects not categorized, gender concerns/benefits addressed will be determined, as mentioned, in project documents,

<sup>45</sup> 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.<sup>46</sup>

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 CEFPP 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)<sup>47</sup>
- (ii) Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment.<sup>48</sup>

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**

<sup>46</sup> In computing CEFPP/CCF-CE's Investment:TA ratio, "Investment" comprises concessional financing, GCIs and TALLs taken together, while "TA" comprises TAs and DCs taken together.

<sup>47</sup> Asia-Pacific Economic Cooperation and the Asian Development Bank. Mandaluyong, Philippines.

<sup>48</sup> 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												
<b>Application Process</b>		CEWG Review	Revise & Endorse	Batch Jan 31 CCSC Circulation GOJ Submission	Secretariat Review				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	
<b>Financial Monitoring</b>	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					
<b>Results Monitoring</b>	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				Results update							
<b>Reporting</b>	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				KM											KM								CEFPF Report Writing (SPR)								
<b>Knowledge Management and Planning</b>		Spring cleaning								Spring cleaning			Annual Consultation Meeting								Spring cleaning							Pipeline Update		Spring cleaning						
	Annual Programming/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												
<b>Application Process</b>	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			
<b>Financial Monitoring</b>	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					
<b>Results Monitoring</b>	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					
<b>Reporting</b>	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				KM											KM								CEFPF/CCF Report Writing								
<b>Knowledge Management and Planning</b>		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: Contributions Toward Achieving Target Outcomes, as of 31 December 2018**

No.	Project	Modality	Allocation (In \$ '000)	Demand reduction (MW)	CO <sub>2</sub> emission reduction (tCO <sub>2</sub> e/yr)	Energy savings (MWh- equivalent/yr)	Installed capacity using RE (MW)	RE power generation (MWh/yr)
<b>CLEAN ENERGY FINANCING PARTNERSHIP FACILITY</b>								
<b>GRAND TOTAL</b>				<b>419.70</b>	<b>23,455,115.66</b>	<b>10,270,643.42</b>	<b>1,567.83</b>	<b>5,257,164.48</b>
<b>2008-2016</b>				<b>419.70</b>	<b>13,152,257.06</b>	<b>6,902,805.38</b>	<b>826.45</b>	<b>3,779,794.48</b>
<b>2017</b>				<b>-</b>	<b>604,767</b>	<b>5,553</b>	<b>284</b>	<b>332,800</b>
<b>2018</b>				<b>-</b>	<b>9,698,092</b>	<b>3,362,285</b>	<b>457</b>	<b>1,144,570</b>
<b>2017</b>								
<b>Projects approved by ADB for implementation</b>								
1	REG: ASEAN Distributed Power Project	CF	20,000	-	130,660	-	214.00	257,000
2	SRI: Rooftop Solar Power Generation Project (Application title SRI: Solar Rooftop Power Generation Project)	TALL	1,000	-	55,600	-	50.00	72,300
3	BAN: Railway Rolling Stock Operations Improvement Project	TALL	500	-	1,483	5,553	-	-
4	REG: Additional Financing Project Development and Investment Facilitation	TA	1,000	-	400,000	-	-	-
5	BAN: Power System Efficiency Improvement Project (Original Application Title: BAN: Additional Financing to Loan 2769 for Solar Irrigation Component)	GCI	3,000	-	13,624	-	18.30	-
6	IND: Tamil Nadu Urban Flagship Investment Program	GCI	2,000	-	3,400	-	2.00	3,500
	CF (2017)		20,000	-	130,660	-	214	257,000
	GCI (2017)		5,000	-	17,024	-	20	3,500
	TALL (2017)		1,500	-	57,083	5,553	50	72,300
	TA (2017)		1,000	-	400,000	-	-	-
	<b>Subtotal</b>		<b>27,500</b>	<b>-</b>	<b>604,767</b>	<b>5,553</b>	<b>284</b>	<b>332,800</b>
<b>2018</b>								
<b>Projects approved by ADB for implementation</b>								
1	MON: Sermsang Khushig Kundii Solar Project (original application title: MON: Sermsang Khunsight Kundi Solar Project)	TA	225	-	25,200	-	15.00	23,600
2	NEP: Disaster Resilience - Public Schools Infrastructure and Communities (DR-PSIC)	GCI	5,000	-	1,138	-	1.07	1,310
3	REG: Floating Solar Energy Development	TA	3,000	-	140	-	0.32	425
4	VIE: Floating Solar Project	CF	11,000	-	29,953	-	48.00	62,415

ADB = Asian Development Bank, BAN = Bangladesh, CEFPF = Clean Energy Financing Partnership Facility, CO<sub>2</sub> = 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.

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

Source: ADB Estimates

Table A4.1 continued

No.	Project	Modality	Allocation (In \$ '000)	Demand reduction (MW)	CO <sub>2</sub> emission reduction (tCO <sub>2</sub> e/yr)	Energy savings (MWh- equivalent/yr)	Installed capacity using RE (MW)	RE power generation (MWh/yr)
<b>2018</b>								
<b>Projects approved by ADB for implementation</b>								
5	REG: Integrated High Impact Innovation in Sustainable Energy Technology - Energy System Analysis, Technology Road Maps and Feasibility Studies for Pilot Testing	TA	1,000	-	1	-	-	-
6	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	TA	1,800	-	TBD	-	-	-
7	PRC: Air Quality Improvement in Greater Beijing - Tianjin - Hebei Region (Shandong Clean Heating and Cooling Project)	TALL	750	-	3,820,000	3,362,285	240.00	1,052,800
<b>Projects awaiting ADB approval</b>								
8	REG: Regional Cooperation on Increasing Cross Border Energy Training within Central Asian Power System	TA	1,000	-	5,587,560	-	-	-
9	PRC: Proposed Low Carbon City Transformation Program in Xiangtan, Hunan	TA	500	-	TBD	TBD	TBD	TBD
10	UZB: Climate Resilience Hydropower Development and Sustainability Support Program	TALL	500	-	-	-	-	-
11	INO: Enhancing Access to Electricity Through Community Scale Renewable Systems	GCI	3,000	-	5,100	-	2.70	4,020
12	REG: Deploying Solar Energy at Scale	TA	2,000	-	150,000	-	150.00	-
13	PAK: Karachi Bus Rapid Transit Project	TA	750	-	79,000	-	-	-
	CF (2018)		11,000	-	29,953	-	48	62,415
	GCI (2018)		8,000	-	6,238	-	4	5,330
	TALL (2018)		1,250	-	3,820,000	3,362,285	240	1,052,800
	TA (2018)		10,275	-	5,841,901	-	165	24,025
	<b>Subtotal</b>		<b>30,525</b>	<b>-</b>	<b>9,698,092</b>	<b>3,362,285</b>	<b>457</b>	<b>1,144,570</b>

ADB = Asian Development Bank, PRC = China, People's Republic of, CO<sub>2</sub> = carbon dioxide, GCI = grant component of investments, INO = Indonesia, MW = megawatt, MWh = megawatt-hour, PAK = Pakistan, RE = renewable energy, REG = regional, TA = technical assistance, TALL = technical assistance linked to loan, tCO<sub>2</sub>e = ton of carbon dioxide equivalent, UZB = Uzbekistan.

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

Source: ADB Estimates

**Table A5.1: Contribution Towards Achieving Target Outputs of 2018 Projects**

Projects	Output 1. Clean Energy Investments in DMC Increased	Output 2. Deployment of New Technologies with Strong Demonstration Effect Facilitated	Output 3. New Approaches to Promote Clean Energy Introduced	Output 4. Benefits from Access to Energy Delivered	Output 5. Health and Productivity Benefits Provided	Output 6. Barriers to Clean Energy/CCs Investments Lowered
REG: 2018 Asia Clean Energy Forum	●	●				●
NEP: Disaster Resilience - Public Schools Infrastructure and Communities (DR-PSIC)	●	●	●	●	●	●
REG: Promoting Sustainable Energy for All in Asia and the Pacific	●	●				●
REG: Floating Solar Energy Development	●	●	●			●
CAM: Support for a Sustainable Power Sector	●	●				●
VIE: Floating Solar Project	●	●	●		●	●
MON: Sermsang Khushig Kundii Solar Project	●	●	●		●	●
REG: Integrated High Impact Innovation in Sustainable Energy Technology	●	●	●			●
PRC: Advanced Renewable Energy Technology Demonstration	●	●				●
INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	●	●				●
REG: Regional Cooperation on Increasing Cross Border Energy Training within Central Asian Power System	●	●	●		●	●
REG: Asia Pacific Forum on Low Carbon Technology 2018	●	●				●
PRC: Proposed Low Carbon City Transformation Program in Xiangtan, Hunan	●	●			●	●
PRC: Air Quality Improvement in Greater Beijing - Tianjin - Hebei Region (Shandong Clean Heating and Cooling Project)	●	●		●	●	●
UZB: Climate Resilience Hydropower Development and Sustainability Support Program	●	●				●
INO: Enhancing Access to Electricity Through Community Scale Renewable Systems	●	●	●	●	●	●
VIE: Battery Energy Storage System and Renewable Energy Forecasting for Viet Nam	●	●				●
REG: Deploying Solar Energy at Scale	●	●				●
PAK: Karachi Bus Rapid Transit Project	●	●	●			●

CAM = Cambodia, CCS = carbon capture and storage, PRC = China, People's Republic of, DMC = developing member country, INO = Indonesia, MON = Mongolia, NEP = Nepal, PAK = Pakistan, REG = regional, UZB = Uzbekistan, VIE = Viet Nam.

Source: ADB estimates.

Table A5.2: Contribution Towards Achieving Target Outputs, as of 31 December 2018

No.	Project Name	Sector	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
<b>CONCESSIONAL FINANCING/GRANT COMPONENT OF INVESTMENT/TECHNICAL ASSISTANCE LINKED TO LOAN/TECHNICAL ASSISTANCE/DIRECT CHARGES</b>															
	2008-2016		181,734	2,984,721	845,553	1,451,100	44	1	12	162,997	152,997	10,000	-	12%	71%
	2017		39,925	370,650	59,800	67,842	16	-	6	8,000	8,000	-	-	0%	100%
	2018		36,725	896,450	26,500	29,600	15	-	5	117,500	37,500	-	80,000	100%	100%
	<b>Total Cumulative Amount</b>		<b>258,384</b>	<b>4,251,821</b>	<b>931,853</b>	<b>1,548,542</b>	<b>48</b>	<b>1</b>	<b>15</b>	<b>288,497</b>	<b>198,497</b>	<b>10,000</b>	<b>80,000</b>	<b>45%</b>	<b>84%</b>
	2008-2016		160	45	4	4	97	1	16	15	9	1	-	2	12
	2017		15	4	2	3	13	-	5	4	4	3	-	-	1
	2018		19	9	2	6	1	-	3	2	-	1	-	-	1
	<b>Total Projects Contributing to Outputs</b>		<b>187</b>	<b>58</b>	<b>8</b>	<b>13</b>	<b>102</b>	<b>1</b>	<b>21</b>	<b>22</b>	<b>15</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>14</b>
	<b>Total Amounts</b>		<b>70,250</b>	<b>653,300</b>	<b>865,423</b>	<b>873,100</b>	-	-	-	-	-	-	-	-	-
	2013-2016		39,250	333,300	845,423	817,100	-	-	-	-	-	-	-	-	-
	2017		20,000	300,000	-	45,000	-	-	-	-	-	-	-	-	-
	2018		11,000	20,000	20,000	11,000	-	-	-	-	-	-	-	-	-
	<b>Total Projects</b>		<b>6</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>-</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	2013-2016		4	4	4	3	4	-	4	1	1	-	-	-	-
	2017		1	1	-	1	1	-	-	-	-	-	-	-	-
	2018		1	1	1	1	1	-	-	-	-	-	-	-	-
<b>2017</b>															
1	REG: ASEAN Distributed Power Project	Energy	20,000	300,000	-	45,000	Solar, wind, small hydro and smart grid		distributed solar business model	n/a	n/a			-	-
<b>2018</b>															
1	VIE: Floating Solar Project	Energy	11,000	20,000	20,000	11,000	floating solar PV		Blended finance structure	n/a	n/a			-	-
	<b>Total Amounts</b>		<b>63,500</b>	<b>524,880</b>	<b>-</b>	<b>36,442</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>132,597</b>	<b>122,597</b>	<b>10,000</b>	<b>-</b>	<b>-</b>	<b>1</b>
	2008-2016		50,500	444,880	-	14,000	-	1	-	87,097	77,097	10,000	-	-	-
	2017		5,000	20,000	-	22,442	-	-	-	8,000	8,000	-	-	-	1
	2018		8,000	60,000	-	-	-	-	-	37,500	37,500	-	-	-	-
	<b>Total Projects</b>		<b>22</b>	<b>16</b>	<b>-</b>	<b>2</b>	<b>18</b>	<b>1</b>	<b>7</b>	<b>9</b>	<b>8</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>3</b>
	2008-2016		18	14	-	1	16	1	5	6	5	1	-	2	3
	2017		2	1	-	1	2	-	2	1	1	-	-	-	-
	2018		2	1	-	-	-	-	-	2	2	-	-	-	-
<b>2017</b>															
1	BAN: Power System Efficiency Improvement Project (Original Application Title: BAN: Additional Financing to Loan 2769 for Solar Irrigation Component)	Agriculture	3,000	20,000	-	22,442	Solar (PV - irrigation)		Output-based aid	8,000	8,000	-		-	1
2	IND: Tamil Nadu Urban Flagship Investment Program	Water	2,000	-	-	-	Solar PV		demonstration value	n/a	n/a	n/a		-	0
<b>2018</b>															
1	NEP: Disaster Resilience - Public Schools Infrastructure and Communities (DR-PSIC)	Education	5,000	-	-	-	solar pv		Output-based aid, demonstration site	20,000	20,000			empower women by providing better educational opportunities	0
2	INO: Enhancing Access to Electricity Through Community Scale Renewable Systems	Energy	3,000	60,000	-	-	remote monitoring and energy management systems (EMS),		Output-based Aid	17,500	17,500			-	0

ADB = Asian Development Bank, BAN = Bangladesh, CCS = carbon capture and storage, CE = clean energy, DMC = developing member countries, HH = household, IND = India, INO = Indonesia, NEP = Nepal, REG = regional, VIE = Viet Nam.

Source: ADB estimates.



Table A5.2 continued

No.	Project Name	Sector	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 individuals trained	Number of women trained	Number of trainings/conferences/workshops held
<b>CONCESSIONAL FINANCING/GRANT COMPONENT OF INVESTMENT/TECHNICAL ASSISTANCE LINKED TO LOAN/TECHNICAL ASSISTANCE/DIRECT CHARGES</b>													
	2008-2016		-	3,812	345	11	18	-	10	-	5,639	2,032	106
	2017		-	20	-	2	2	-	8	-	447	24	27
	2018		-	5	5	2	3	-	30	-	1,317	63	83
	<b>Total Cumulative Amount</b>		-	<b>3,837</b>	<b>350</b>	<b>14</b>	<b>18</b>	-	<b>48</b>	-	<b>7,403</b>	<b>2,119</b>	<b>216</b>
	2008-2016		25	4	4	16	28	159	18	1	23	17	32
	2017		5	1	-	2	2	12	8	-	10	5	9
	2018		1	2	2	-	1	-	10	-	10	6	14
	<b>Total Projects Contributing to Outputs</b>		<b>31</b>	<b>7</b>	<b>6</b>	<b>18</b>	<b>29</b>	<b>170</b>	<b>36</b>	<b>1</b>	<b>43</b>	<b>28</b>	<b>55</b>
Concessional Financing	<b>Total Amounts</b>		-	<b>3,832</b>	<b>345</b>	-	-	-	-	-	-	-	-
	2013-2016		-	3,812	345	-	-	-	-	-	-	-	-
	2017		-	20	-	-	-	-	-	-	-	-	-
	2018		-	-	-	-	-	-	-	-	-	-	-
	<b>Total Projects</b>		<b>6</b>	<b>5</b>	<b>4</b>	-	<b>6</b>	<b>3</b>	-	-	-	-	-
	2013-2016		4	3	3	-	4	3	-	-	-	-	-
	2017		1	1	-	-	1	-	-	-	-	-	-
	2018		1	1	1	-	1	-	-	-	-	-	-
2019		-	-	-	-	-	-	-	-	-	-	-	
2020		-	-	-	-	-	-	-	-	-	-	-	
<b>2017</b>													
1	REG: ASEAN Distributed Power Project	Energy	employment	20	-	-	-	Blended finance with concessional funds	Private sector concessional climate financing for RE projects	-	-	-	-
<b>2018</b>													
1	VIE: Floating Solar Project	Energy	employment	TBD	TBD	-	-	Blended finance with concessional funds	Private sector concessional climate financing for floating solar project	-	-	-	-
Grant Component of Investments	<b>Total Amounts</b>		-	-	-	-	-	-	<b>2</b>	-	<b>5,010</b>	<b>2,003</b>	<b>11</b>
	2008-2016		-	-	-	-	-	-	1	-	5,010	2,003	9
	2017		-	-	-	-	-	-	-	-	-	-	-
	2018		-	-	-	-	-	-	1	-	-	-	2
	<b>Total Projects</b>		<b>9</b>	-	-	<b>1</b>	<b>6</b>	<b>19</b>	<b>4</b>	-	<b>3</b>	<b>2</b>	<b>6</b>
	2008-2016		8	-	-	1	5	18	3	-	3	2	4
	2017		1	-	-	-	1	1	-	-	-	-	-
2018		-	-	-	-	-	-	1	-	-	-	2	
<b>2017</b>													
1	BAN: Power System Efficiency Improvement Project (Original Application Title: BAN: Additional Financing to Loan 2769 for Solar Irrigation Component)	Agriculture	increased agricultural productivity	-	-	-	-	Output-based aid	On the job training and awareness campaign	-	-	-	-
2	IND: Tamil Nadu Urban Flagship Investment Program	Water	0	-	-	-	-	-	0	-	-	-	-
<b>2018</b>													
1	NEP: Disaster Resilience - Public Schools Infrastructure and Communities (DR-PSIC)	Education	increased productivity through education	-	-	-	-	output-based aid	training program on using clean energy and solar panel maintenance	1	TBD	TBD	1
2	INO: Enhancing Access to Electricity Through Community Scale Renewable Systems	Energy	access to energy will increase productivity	-	-	-	-	-	training on PV maintenance	-	TBD	TBD	1

BAN = Bangladesh, CCS = carbon capture and storage, CE = clean energy, DMC = developing member countries, IND = India, INO = Indonesia, NEP = Nepal, PV = photovoltaic, RE = renewable energy, REG = regional, TBD = to be determined, VIE = Viet Nam.

Source: ADB estimates.

Table A5.2 continued

No.	Project Name	Sector	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	
<b>Technical Assistance Linked to Loan</b>			<b>Total Amounts</b>	<b>24,245</b>	<b>2,020,876</b>	<b>59,800</b>	<b>620,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80,000</b>	<b>0</b>	<b>0</b>	<b>80,000</b>	<b>0</b>	<b>0</b>
			2008-2016	20,495	1,610,876	-	620,000	-	-	-	-	-	-	-	-	-
			2017	2,500	50,000	59,800	-	-	-	-	-	-	-	-	-	-
			2018	1,250	360,000	-	-	-	-	80,000	-	-	80,000	-	-	-
			<b>Total Projects</b>	<b>25</b>	<b>19</b>	<b>1</b>	<b>0</b>	<b>18</b>	<b>(1)</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>(1)</b>	<b>1</b>
			2008-2016	20	18	-	1	16	-	2	1	-	-	-	-	1
			2017	3	1	2	-	3	-	3	3	3	-	-	-	1
			2018	2	1	-	-	-	-	1	-	-	1	-	-	-
<b>2017</b>																
1	INO: Scaling up Energy Efficiency	Energy	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)	Energy	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	Transport	500	-	-	-	Energy efficient technologies and practices applicable to transport system	-	-	n/a	n/a	n/a	-	-	-	-
<b>2018</b>																
1	PRC: Air Quality Improvement in Greater Beijing - Tianjin - Hebei Region (Shandong Clean Heating and Cooling Project)	Energy	750	360,000	-	-	integrated RE and coal-free based heating and cooling solutions; waste heat recovery	-	-	80,000	-	-	80,000	-	-	-
2	UZB: Climate Resilience Hydropower Development and Sustainability Support Program	Energy	500	-	-	-	Hydropower	-	-	n/a	n/a	n/a	-	-	-	-
<b>TOTAL FOR CF, GCIs AND TALLs</b>																
			2008-2016	110,245	2,389,056	845,423	1,451,100	-	-	87,097	77,097	10,000	-	-	-	-
			2017	27,500	370,000	59,800	67,442	-	-	8,000	8,000	-	-	-	-	1
			2018	20,250	440,000	20,000	11,000	-	-	117,500	37,500	-	80,000	-	-	-
			<b>Total Amounts</b>	<b>157,995</b>	<b>3,199,056</b>	<b>925,223</b>	<b>1,529,542</b>	<b>-</b>	<b>1</b>	<b>212,597</b>	<b>122,597</b>	<b>10,000</b>	<b>80,000</b>	<b>-</b>	<b>1</b>	<b>1</b>
			2008-2016	42	36	4	5	36	1	11	8	6	1	-	2	4
			2017	6	3	2	2	6	-	2	4	4	3	-	-	1
			2018	5	3	1	1	1	-	3	2	2	1	-	-	-
			<b>Total Projects Contributing to Outputs</b>	<b>52</b>	<b>42</b>	<b>7</b>	<b>8</b>	<b>43</b>	<b>1</b>	<b>13</b>	<b>15</b>	<b>12</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>5</b>

ADB = Asian Development Bank, BAN = Bangladesh, CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, DMC = developing member countries, HH = household, INO = Indonesia, REG = regional, SRI = Sri Lanka, UZB = Uzbekistan.

Source: ADB estimates.

Table A5.2 continued

No.	Project Name	Sector	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 individuals trained	Number of women trained	Number of trainings/conferences/workshops held	
<b>Technical Assistance Linked to Loan</b>			<b>Total Amounts</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>755</b>	<b>64</b>	<b>43</b>	
			2008-2016	-	-	-	-	-	2	-	276	17	27	
			2017	-	-	-	-	-	2	-	199	24	9	
			2018	-	-	-	-	-	-	-	280	23	7	
			<b>Total Projects</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>22</b>	<b>3</b>	<b>0</b>	<b>8</b>	<b>7</b>	<b>8</b>
			2008-2016	5	1	1	3	8	20	2	-	4	4	4
			2017	1	-	-	1	3	2	-	3	2	3	
			2018	-	-	-	-	-	-	-	2	2	2	
<b>2017</b>														
1	INO: Scaling up Energy Efficiency	Energy	-	-	-	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)	Energy	boosting RE generation will increase productivity	-	-	-	-	training and increased awareness across stakeholders	-	-	80	24	1	
3	BAN: Railway Rolling Stock Operations Improvement Project	Transport	-	-	-	-	-	training program and report on the assessment of energy efficiency of Bangladesh railway operations	1	-	100	-	4	
<b>2018</b>														
1	PRC: Air Quality Improvement in Greater Beijing - Tianjin - Hebei Region (Shandong Clean Heating and Cooling Project)	Energy	awareness program on the impacts of air pollution and environmental and health benefits of the clean heating designed covering at least 40% women participants in awareness program	-	-	-	-	awareness program on impacts of air pollution and environmental and health benefits of clean heating; socially inclusive capacity program	-	-	100	20	3	
2	UZB: Climate Resilience Hydropower Development and Sustainability Support Program	Energy	-	-	-	-	-	hydropower development master plan	-	-	180	3	4	
<b>TOTAL FOR CF, GCIs AND TALLs</b>														
			2008-2016	-	3,712	345	-	-	3	-	5,286	2,020	36	
			2017	-	20	-	-	-	2	-	199	24	9	
			2018	-	-	-	-	-	1	-	280	23	9	
			<b>Total Amounts</b>	<b>-</b>	<b>3,732</b>	<b>345</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>5,765</b>	<b>2,067</b>	<b>54</b>	
			2008-2016	17	4	4	4	17	41	5	7	6	8	
			2017	3	1	-	1	2	4	2	3	2	3	
			2018	1	1	1	1	1	1	-	2	2	4	
			<b>Total Projects Contributing to Outputs</b>	<b>21</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>20</b>	<b>45</b>	<b>8</b>	<b>-</b>	<b>12</b>	<b>10</b>	<b>15</b>

BAN = Bangladesh, CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, DMC = developing member countries, ESCO = energy service company, INO = Indonesia, RE = renewable energy, REG = regional, SRI = Sri Lanka, UZB = Uzbekistan.

Source: ADB estimates.

Table A5.3: Contribution of TAs and DCs toward Achieving Target Outputs, as of 31 December 2018

No.	Project Name	Sector	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	<b>Total Amounts</b>		<b>94,770</b>	<b>1,052,540</b>	<b>6,630</b>	<b>19,000</b>	-	-	-	<b>900</b>	<b>900</b>	-	-	-	-	
	2008-2016		66,395	595,440	130	-	-	-	-	900	900	-	-	-	-	
	2017		12,200	650	-	400	-	-	-	-	-	-	-	-	-	
	2018		16,175	456,450	6,500	18,600	-	-	-	-	-	-	-	-	-	
	<b>Total Projects</b>		<b>75</b>	<b>15</b>	<b>2</b>	<b>6</b>	<b>49</b>	-	<b>7</b>	<b>6</b>	<b>2</b>	-	-	-	<b>5</b>	
	2008-2016		60	8	1	-	46	-	4	6	2	-	-	-	-	5
	2017		7	1	-	1	7	-	3	-	-	-	-	-	-	-
2018		12	6	1	5	-	-	-	-	-	-	-	-	-	-	
<b>2017</b>																
1	PRC: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project	Energy	5,500	-	-	-	CCS		-	n/a	n/a	n/a	n/a		-	
2	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)	Transport	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		-	
3	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia - Additional Financing	Energy	1,500	-	-	-	CCS		-	n/a	n/a	n/a	n/a		-	
4	PRC:Preparing Air Quality Improvement Program in the Greater Beijing-Tianjin-Hebei Region	Energy	400	650	-	-	low carbon emission technologies		Carbon emission inventory and action planning	n/a	n/a	n/a	n/a		-	
5	REG: Regional Cooperation on Renewable Energy Integration to the Grid	Energy	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		-	
6	BAN: Capacity Development for Renewable Energy Investment Programming and Implementation (original application title: BAN: Preparing Renewable Energy Project)	Energy	1,500	-	-	400	floating solar PV, solar PV, wind, biomass, smart grid		0	n/a	n/a	n/a	n/a		-	
7	REG: Additional Financing Project Development and Investment Facilitation	Energy	1,000	-	-	-	none		business development and access to finance	n/a	n/a	n/a	n/a		-	

ADB = Asian Development Bank, BAN = Bangladesh, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, EMS = energy management system, HH = household, PV = photovoltaic, REG = regional,.

Source: ADB estimates.

Table A5.3 continued

No.	Project Name	Sector	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 individuals trained	Number of women trained	Number of trainings/conferences/workshops held
Stand Alone Technical Assistance	<b>Total Amounts</b>		-	5	5	-	-	-	28	-	1,323	52	131
	2008-2016		-	-	-	-	-	-	6	-	172	12	57
	2017		-	-	-	-	-	-	4	-	204	-	17
	2018		-	5	5	-	-	-	18	-	947	40	57
	<b>Total Projects</b>		9	1	1	12	8	62	20	1	20	15	27
	2008-2016		7	-	-	11	9	60	9	1	8	8	14
	2017		2	-	-	1	-	6	4	-	6	3	5
2018		-	1	1	-	-	-	7	-	6	4	8	
<b>2017</b>													
1	PRC: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project	Energy	-					2 publication and 5 trainings for CCUS Center and policy makers	1		TBD	TBD	1
2	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)	Transport	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
3	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia - Additional Financing	Energy	0					workshops, training, seminars and conferences	0		TBD	TBD	-
4	PRC: Preparing Air Quality Improvement Program in the Greater Beijing-Tianjin-Hebei Region	Energy	health benefits						-		-	-	-
5	REG: Regional Cooperation on Renewable Energy Integration to the Grid	Energy	-					training program and report	1		14	-	7
6	BAN: Capacity Development for Renewable Energy Investment Programming and Implementation (original application title: BAN: Preparing Renewable Energy Project)	Energy	-					exploratory study on floating PV power system; institutional capacity building	1		100	-	1
7	REG: Additional Financing Project Development and Investment Facilitation	Energy	-					workshops for finance institutions, credit guarantee institutions and insurance agencies organized	0		30	-	5

BAN = Bangladesh, CAREC = Central Asia Regional Economic Cooperation, CCS = carbon capture and storage, CCUS = carbon capture, utilization and storage, CE = clean energy, CEFFP = Clean Energy Financing Partnership Facility, PRC = China, People's Republic of, REG = regional, TBD = to be determined.

Source: ADB estimates.

Table A5.3 continued

No.	Project Name	Sector	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
2018															
1	REG: Promoting Sustainable Energy for All in Asia and the Pacific	Energy	2,000	-	-	-	None		0	n/a	n/a	n/a	n/a		-
2	REG: Floating Solar Energy Development	Energy	3,000	-	-	-	floating solar PV		demonstration value	n/a	n/a	n/a	n/a		-
3	CAM: Support for a Sustainable Power Sector (under Regional: Southeast Asia Energy Sector Development, Investment Planning and Capacity Building Facility)	Energy	1,000	400	-	-	solar (floating and distributed), wind, RE-based minigrids and energy storage		0	n/a	n/a	n/a	n/a		-
4	MON: Sermsang Khushig Kundii Solar Project (original application title: MON: Sermsang Khunsight Kundii Solar Project)	Energy	225	15,000	6,500	4,500	Solar PV		first renewable IPP in the country	n/a	n/a	n/a	n/a		-
5	REG: Integrated High Impact Innovation in Sustainable Energy Technology - Energy System Analysis, Technology Road Maps and Feasibility Studies for Pilot Testing	Energy	1,000	-	-	2,600	Various innovative tech: biomass and waste, small hydro, solar and wind		demonstration value	n/a	n/a	n/a	n/a		-
	REG: Integrated High Impact Innovation in Sustainable Energy Technology - Prefeasibility Analysis for Carbon Capture, Utilization and Storage	Energy	2,000	-	-	-	CCS		0	n/a	n/a	n/a	n/a		-
6	PRC: Advanced Renewable Energy Technology Demonstration	Energy	200	150	-	-	RE-based distributed heating system		0	n/a	n/a	n/a	n/a		-
7	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	Energy	1,800	-	-	-	CCS		0	n/a	n/a	n/a	n/a		-
8	REG: Regional Cooperation on Increasing Cross Border Energy Training within Central Asian Power System	Energy	1,000	500	-	1,000	energy data management (EDM) system		Regional Cooperation Mechanism	n/a	n/a	n/a	n/a		-

ADB = Asian Development Bank, CAM = Cambodia, CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, DMC = developing member country, HH = households, INO = Indonesia, IPP = independent power producer, MON = Mongolia, PV = photovoltaic, RE = renewable energy, REG = regional.

Source: ADB estimates.

Table A5.3 continued

No.	Project Name	Sector	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 individuals trained	Number of women trained	Number of trainings/conferences/workshops held
2018													
1	REG: Promoting Sustainable Energy for All in Asia and the Pacific	Energy	-			policy recommendations to enhance DMC sustainable energy planning/reporting platforms	-	forum and deepdive workshops; 5 Knowledge products or reports	5		800	TBD	30
2	REG: Floating Solar Energy Development	Energy	-				development of business models to engage private sector participation	institutional capacity in designing, constructing and operating floating solar PV enhanced	0		30	6	5
3	CAM: Support for a Sustainable Power Sector (under Regional: Southeast Asia Energy Sector Development, Investment Planning and Capacity Building Facility)	Energy	-				development of vehicle to attract global climate financing for RE projects	national least-cost power development plan; training and capacity development plan	1		25	13	1
4	MON: Sermsang Khushig Kundi Solar Project (original application title: MON: Sermsang Khunsight Kundi Solar Project)	Energy	-					due diligence report	0		-	-	-
5	REG: Integrated High Impact Innovation in Sustainable Energy Technology - Energy System Analysis, Technology Road Maps and Feasibility Studies for Pilot Testing	Energy	-				development of business models	5 publications on innovative tech and/or business models	5		TBD	TBD	10
	REG: Integrated High Impact Innovation in Sustainable Energy Technology - Prefeasibility Analysis for Carbon Capture, Utilization and Storage	Energy	-					3 prefeasibility analysis for CCS published	1		-	-	-
6	PRC: Advanced Renewable Energy Technology Demonstration	Energy	-					1 workshop on RE-based distributed heating in high-altitude regions	0		TBD	TBD	1
7	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	Energy	-					final technical assessments, safeguards due diligence	1		-	-	-
8	REG: Regional Cooperation on Increasing Cross Border Energy Training within Central Asian Power System	Energy	increase number of women employed by 10% (2017 baseline of 48)	5	5			staff training, and study tours	0		12	6	3

CAM = Cambodia, CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, DMC = developing member country, INO = Indonesia, MON = Mongolia, PV = photovoltaic, RE = renewable energy, REG = regional.

Source: ADB estimates.

Table A5.3 continued

No.	Project Name	Sector	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		
<b>2018</b>																	
9	PRC: Proposed Low Carbon City Transformation Program in Xiangtan, Hunan	Urban	500	170,400	-	300	waste-to-energy, wind/solar/geothermal energy supply systems, RE and CE-based district heating and/or cooling systems		0	n/a	n/a	n/a	n/a		-		
10	VIE: Battery Energy Storage System and Renewable Energy Forecasting for Viet Nam	Energy	700	-	-	-	Battery Energy Storage System; SCADA/EMS for RE forecasting and measurement		0	n/a	n/a	n/a	n/a		-		
11	REG: Deploying Solar Energy at Scale	Energy	2,000	TBD	TBD	TBD	Solar		0	n/a	n/a	n/a	n/a		-		
12	PAK: Karachi Bus Rapid Transit Project	Transport	750	270,000	-	10,200	Biogas	Blended finance		n/a	n/a	n/a	n/a		-		
<b>Direct Charges</b>			<b>Total Amounts</b>	<b>5,619</b>	<b>225</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>75,000</b>	<b>75,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		
			2008	490													
			2008-2016	5,094	225	-	-	-	-	-	75,000	75,000	-	-	-	-	
			2017	225	-	-	-	-	-	-	-	-	-	-	-	-	
			2018	300	-	-	-	-	-	-	-	-	-	-	-	-	
			<b>Total Projects</b>	<b>64</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>15</b>	<b>-</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1</b>
			2008-2016	60	1	-	-	15	-	1	1	1	-	-	-	-	1
			2017	2	-	-	-	-	-	-	-	-	-	-	-	-	-
2018	2	-	-	-	-	-	-	-	-	-	-	-	-	-			
<b>2017</b>																	
1	REG: 12th Asia Clean Energy Forum	Energy	150	-													
2	INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	Energy	75	-													
<b>2018</b>																	
1	REG: 2018 Asia Clean Energy Forum	Energy	150	-													
2	REG: Asia Pacific Forum on Low Carbon Technology 2018	Energy	150	-													
<b>TOTAL FOR TAs AND DCs</b>																	
2008-2016			71,489	595,665	130	-	-	-	-	75,900	75,900	-	-	-	-		
2017			12,425	650	-	400	-	-	-	-	-	-	-	-	-		
2018			16,475	456,450	6,500	18,600	-	-	-	-	-	-	-	-	-		
<b>Total Amounts</b>			<b>100,389</b>	<b>1,052,765</b>	<b>6,630</b>	<b>19,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>75,900</b>	<b>75,900</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		
2008-2016			120	9	1	-	61	-	5	7	3	-	-	-	6		
2017			9	1	-	1	7	-	3	-	-	-	-	-	-		
2018			14	6	1	5	-	-	-	-	-	-	-	-	-		
<b>Total Projects Contributing to Outputs</b>			<b>139</b>	<b>16</b>	<b>2</b>	<b>6</b>	<b>64</b>	<b>-</b>	<b>8</b>	<b>7</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6</b>		

ADB = Asian Development Bank, CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, DC = direct charge, DMC = developing member country, EMS = energy management system, HH = households, INO = Indonesia, PAK = Pakistan, REG = regional, TA = technical assistance, VIE = Viet Nam.

Source: ADB estimates.



Table A5.3 continued

No.	Project Name	Sector	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 individuals trained	Number of women trained	Number of trainings/conferences/workshops held
2018													
9	PRC: Proposed Low Carbon City Transformation Program in Xiangtan, Hunan	Urban	health benefits			green procurement policy	-	book on 'low-carbon development and innovation policy- experienced from Xiangtan's policy reforms' and green procurement policy manual including tool kits and training materials	2				
10	VIE: Battery Energy Storage System and Renewable Energy Forecasting for Viet Nam	Energy	-				-	training and workshop on Battery Energy Storage System (BESS); and RE forecasting and measurement	0		30	15	2
11	REG: Deploying Solar Energy at Scale	Energy	-				at least 3 financing instruments developed	3 KP developed with ISA	3		50		5
12	PAK: Karachi Bus Rapid Transit Project	Transport	-				-	0	0				
<b>Direct Charges</b>	<b>Total Amounts</b>		-	-	-	-	-	-	<b>14</b>	-	<b>315</b>	-	<b>31</b>
	2008												
	2008-2016		-	-	-	-	-	-	1	-	181	-	13
	2017		-	-	-	-	-	-	2	-	44	-	1
	2018		-	-	-	-	-	-	11	-	90	-	17
	<b>Total Projects</b>		<b>1</b>	-	-	<b>1</b>	<b>2</b>	<b>62</b>	<b>8</b>	-	<b>11</b>	<b>3</b>	<b>13</b>
	2008-2016		1	-	-	1	2	60	4	-	8	3	10
2017		-	-	-	-	-	2	2	-	1	-	1	
2018		-	-	-	-	-	-	2	-	2	-	2	
2017													
1	REG: 12th Asia Clean Energy Forum	Energy					-	forum and pre-forum events, forum documents	1		44		1
2	INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	Energy					-	rapid environmental and social assessment report	1				
2018													
1	REG: 2018 Asia Clean Energy Forum	Energy					-	forum and pre-forum events, forum documents	1		55		16
2	REG: Asia Pacific Forum on Low Carbon Technology 2018	Energy					-	forum	10		35		1
<b>TOTAL FOR TAs AND DCs</b>													
	2008-2016		-	-	-	-	-	-	7	-	353	12	70
	2017		-	-	-	-	-	-	6	-	248	-	18
	2018		-	5	5	-	-	-	29	-	1,037	40	74
	<b>Total Amounts</b>		-	<b>5</b>	<b>5</b>	-	-	-	<b>42</b>	-	<b>1,638</b>	<b>52</b>	<b>162</b>
	2008-2016		8	-	-	12	11	120	13	1	16	11	24
	2017		2	-	-	1	-	8	6	-	7	3	6
	2018		-	1	1	-	-	-	9	-	8	4	10
	<b>Total Projects Contributing to Outputs</b>		<b>10</b>	<b>1</b>	<b>1</b>	<b>13</b>	<b>11</b>	<b>124</b>	<b>28</b>	<b>1</b>	<b>31</b>	<b>18</b>	<b>40</b>

CCS = carbon capture and storage, CE = clean energy, PRC = China, People's Republic of, DC = direct charge, DMC = developing member country, HH = households, INO = Indonesia, ISA = International Solar Alliance, KP = knowledge product, PAK = Pakistan, RE = renewable energy, REG = regional, TA = technical assistance, VIE = Viet Nam.

Source: ADB estimates.

Table A7.1 CEFPF Activities against Target Outputs, as of 31 December 2018

Indicator	Target (By 2020)	1 January - 31 December 2018						Cumulative (As of 31 December 2018) <sup>a</sup>					
		CF	GCI	TALL	TA	DC	Total	CF	GCI	TALL	TA	DC	Total
Allocations (\$'000)		11,000	8,000	1,250	16,175	300	36,725	70,250	63,500	24,245	94,770	5,619	258,384
No. of projects receiving allocation		1	2	2	12	2	19	6	22	25	74	64	187
<b>CE Investments in DMCs Increased</b>													
<b>ADB's clean energy investments in DMCs leveraged (\$'000)</b>	<b>\$ 4 billion<sup>b</sup></b>	<b>20,000</b>	<b>60,000</b>	<b>360,000</b>	<b>456,450</b>	<b>-</b>	<b>896,450</b>	<b>653,300</b>	<b>524,880</b>	<b>1,920,876</b>	<b>1,052,540</b>	<b>225</b>	<b>4,251,821</b>
<i>ADB CE investments leveraged per US\$ of CEFPF financing (\$)</i>		24						16					
<b>Private sector clean energy investments leveraged (\$'000)<sup>c</sup></b>	<b>\$ 1.2 billion</b>	<b>20,000</b>	<b>-</b>	<b>-</b>	<b>6,500</b>	<b>-</b>	<b>26,500</b>	<b>865,423</b>	<b>-</b>	<b>59,800</b>	<b>6,630</b>	<b>-</b>	<b>931,853</b>
<b>Non-private sector clean energy investments leveraged (\$'000)<sup>c</sup></b>	<b>\$ 1.2 billion</b>	<b>11,000</b>	<b>-</b>	<b>-</b>	<b>18,600</b>	<b>-</b>	<b>29,600</b>	<b>873,100</b>	<b>36,442</b>	<b>620,000</b>	<b>19,000</b>	<b>-</b>	<b>1,548,542</b>
<i>Other CE investments leveraged per US\$ of CEFPF financing (\$)</i>		2						10					
<b>Deployment of New Technologies with Strong Demonstration Effect Facilitated</b>													
<b>New clean energy/CCS technologies deployed</b>	<b>55 technologies</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>14</b>	<b>0</b>	<b>15</b>	<b>7</b>	<b>14</b>	<b>27</b>	<b>38</b>	<b>15</b>	<b>48</b>
<i>No. of contributing projects on technology deployment</i>		1	2	1	10	0	15	6	19	18	60	16	120
<i>% of contributing projects on technology deployment</i>		100%	100%	50%	83%	0%	79%	100%	86%	72%	81%	25%	64%
<b>No. of CCS demonstration projects in identified priority countries commencing<sup>d</sup></b>	<b>2</b>								<b>1</b>				<b>1</b>
<b>New Approaches/Methodologies to Promote CE/CCS Introduced</b>													
<b>New approaches/methodologies to promote clean energy/CCS introduced<sup>d</sup></b>	<b>15 approaches</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>10</b>	<b>1</b>	<b>15</b>
<i>No. of contributing projects on new approach</i>		1	2	0	5	0	8	6	10	2	12	1	31
<i>% of contributing projects on new approach</i>		0%	100%	0%	42%	0%	42%	100%	67%	13%	23%	2%	24%
<b>Benefits from Access to Energy Delivered</b>													
<i>No. of projects with access to energy component</i>		0	2	1	0	0	3	1	14	6	11	3	34
<i>% of projects with access to energy component</i>		0%	100%	50%	0%	0%	16%	17%	64%	24%	15%	5%	18%
<b>No. of HHs provided with access to energy in participating DMCs<sup>d</sup></b>	<b>700,000</b>	<b>-</b>	<b>37,500</b>	<b>80,000</b>	<b>-</b>	<b>-</b>	<b>117,500</b>	<b>-</b>	<b>132,597</b>	<b>80,000</b>	<b>900</b>	<b>75,000</b>	<b>288,497</b>
<i>HHs connected to electricity<sup>d</sup></i>	350,000	-	37,500	-	-	-	37,500	-	122,597	-	900	75,000	198,497
<i>HHs connected to modern fuels and/or efficient devices for cooking<sup>d</sup></i>	175,000	-	-	-	-	-	-	-	10,000	-	-	-	10,000
<i>HHs connected to modern fuels and/or efficient devices for heating<sup>d</sup></i>	175,000	-	-	80,000	-	-	80,000	-	-	80,000	-	-	80,000
<b>% of access to energy projects with gender mainstreaming<sup>c</sup></b>	<b>30%</b>	<b>0%</b>	<b>100%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>67%</b>	<b>50%</b>	<b>0%</b>	<b>0%</b>	<b>45%</b>
<i>No. of contributing access to energy projects on gender mainstreaming</i>		-	2	1	-	-	3	-	4	1	-	-	5
<b>% of access to energy projects with gender concerns<sup>d</sup></b>	<b>80%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>89%</b>	<b>100%</b>	<b>83%</b>	<b>100%</b>	<b>84%</b>
<i>No. of contributing access to energy projects on gender concerns</i>		-	2	1	-	-	3	0	8	2	5	1	16

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.

<sup>a</sup>Includes adjustments made following approval or withdrawal of projects.

<sup>b</sup>This is the cumulative total target of the clean energy funds by 2020, supporting the \$2 billion annual target of ADB.

<sup>c</sup>Performance indicator effective in 2014.

<sup>d</sup>Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards.

Note: Excludes three adaptation projects that were provided allocation under the Canadian Climate Fund for the Private Sector in Asia. These adaptation projects are non-energy sector projects and do not contribute to the clean energy targets.

Table A7 continued

Indicator	Target (By 2020)	1 January - 31 December 2018						Cumulative (As of 31 December 2018) <sup>a</sup>					
		CF	GCI	TALL	TA	DC	Total	CF	GCI	TALL	TA	DC	Total
<b>Health and Productivity Benefits Provided</b>													
<b>% of projects supported highlighting cobenefits on health and productivity<sup>b</sup></b>	<b>40%</b>	<b>100%</b>	<b>100%</b>	<b>50%</b>	<b>17%</b>	<b>0%</b>	<b>32%</b>	<b>100%</b>	<b>73%</b>	<b>50%</b>	<b>23%</b>	<b>2%</b>	<b>29%</b>
<i>No. of contributing projects on cobenefits</i>		1	2	1	2	0	6	6	11	8	12	1	38
No. of individuals employed <sup>c</sup>		TBD	0	0	5	0	5	16,890	0	0	5	0	16,895
No. of women employed <sup>c</sup>		TBD	0	0	5	0	5	1,510	0	0	5	0	1,515
% of women employed <sup>c</sup>		0%	0%	0%	100%	0%	100%	9%	0%	0%	100%	0%	9%
<i>No. of contributing projects on employment</i>		1	0	0	1	0	2	6	0	0	1	0	7
<b>Barriers to CE/CCS Investments Lowered</b>													
<b>National or local policies enabling CE/CCS development in participating DMCs developed<sup>d</sup></b>	<b>20</b>	-	-	-	2	-	2	-	1	4	9	1	14
<i>No. of contributing projects on policy development</i>		-	-	-	2	-	2	-	1	4	14	1	20
<b>Financing models suitable for bundling small CE/CCS investment applied in participating DMCs<sup>d</sup></b>	<b>25</b>	<b>1</b>	<b>1</b>	-	<b>1</b>	-	<b>3</b>	<b>1</b>	<b>4</b>	<b>6</b>	<b>10</b>	<b>2</b>	<b>18</b>
<i>No. of contributing projects on financing models</i>		1	1	-	4	-	6	6	7	8	11	2	33
<b>% of projects producing/disseminating knowledge products or contributing to capacity building</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<i>No. of contributing projects on knowledge products and/or capacity building</i>		1	2	2	12	2	19	6	22	25	74	64	187
<i>No. of projects that disseminate knowledge products, practices and information in a gender sensitive manner<sup>c</sup></i>		-	-	-	-	-	-	-	-	-	1	-	1
<i>No. of knowledge products produced and/or disseminated<sup>c</sup></i>		-	1	-	17	11	29	-	4	4	29	17	54
<i>No. of individuals trained<sup>c</sup></i>		-	-	280	947	90	1,317	-	5,010	755	1,323	315	7,403
<i>No. of women trained<sup>c</sup></i>		-	-	23	40	-	63	-	2,003	64	52	-	2,119
<i>% of women trained<sup>c</sup></i>		0%	0%	8%	4%	0%	5%	0%	40%	8%	4%	0%	29%
<i>No. of trainings/conferences/workshops held<sup>c</sup></i>		-	2	7	57	17	83	-	11	43	131	31	216

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.

<sup>a</sup>Includes adjustments made following approval or withdrawal of projects.

<sup>b</sup>Performance indicator effective in 2011. The cumulative percentage accounts for projects from 2011 onwards.

<sup>c</sup>Performance indicator effective in 2014.

<sup>d</sup>Total may not add-up due to coverage of policies or financing models by various projects.

Note: Excludes three adaptation projects that were provided allocation under the Canadian Climate Fund for the Private Sector in Asia. These adaptation projects are non-energy sector projects and do not contribute to the clean energy targets.

Source: ADB estimates.

**Table A6.1: Clean Energy Technologies Deployed by CEFPF, As of 31 December 2018**

No.	Project Name	Predominant Technology
<b>2008</b>		
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)
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)
3	PHI: Energy Efficiency Project (Grant Component of Loan with same project name)	Energy-efficient lighting: (CFL)
4	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)
5	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 compensators, lighting, heating, ventilation, and air conditioning, air compressors and pumping systems, recovery of waste energy from industry, industrial boilers and industrial cogeneration, others)
6	PHI: Pasuquin East Wind Farm Development (Energy Logics Philippines Inc.-Wind Farm Development)	wind power
7	REG: Promoting Access to Renewable Energy in the Pacific	mini-hydropower, alternative fuels, solar power
8	REG: Promoting Energy Efficiency in the Pacific	EE improvements in the industrial, commercial, residential and public sectors
9	SRI: Building the Capacity of Sustainable Energy Authority (SEA)	None
10	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)
11	PRC: Zhangbei Wind Power Project	Wind Power Generation Technology
12	IND: Initial ADB Loan Due Diligence Preparatory Work for Solar Thermal Power Plant Projection in Rajasthan	Solar thermal power system
13	REG: Asia Clean Energy Forum 2008	None
14	REG: Recruitment of Clean Energy Expert	None
15	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
16	VIE: Preparation of Renewable Energy for Remote Island and Mountain Communes	off-grid micro hydropower, wind diesel-solar hybrid power systems

BAN = Bangladesh, BHU = Bhutan, CFL = compact fluorescent lamp, PRC = China, People's Republic of; CEFPF = Clean Energy Financing Partnership Facility, EE = energy efficiency, IND = India, PHI = Philippines, REG = regional, SRI = Sri Lanka, THA = Thailand, VIE = Viet Nam  
Source: approved CEFPF application documents and ADB project documents

Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2009</b>		
1	PRC: Integrated Renewable Biomass Energy Development Sector Project	Waste treatment and renewable biogas production (Anaerobic digestion technology); medium- and large-sized biogas plants
2	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)
3	PRC: Municipal Waste to Energy Project	Waste-to-energy (grate incineration technology, advanced flue gas emission control)
4	MON: Ulaanbaatar Clean Air	Cleaner/energy efficient heating systems
5	NEP: Compact Fluorescent Lighting and Solar-Powered Street-Lighting (Direct Charge)	energy efficient lighting (CFLs) and solar power street-lighting
6	PRC: Qinghai Pasture Conservation Using Solar Photovoltaic (PV)-Driven Irrigation	Solar Photovoltaic (PV)-driven Irrigation pasture
7	REG: 4th Asia Clean Energy Forum 2009	None
8	PRC: Workshop in PRC-ADB Cooperation in Clean Energy Project Financing	None
9	REG: Clean Energy Expo China Conference 2009	None
10	REG: South Asia Regional Climate Change Conference	None
11	MON: CDM Baseline Study for Thermo Technical Rehabilitation of Pre-Cast Panel Buildings in Ulaanbaatar	Building insulation retrofits
12	REG: Carbon Forum Asia 2009	None
13	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)
14	REG: Empowering the Poor Through Increasing Access to Energy	natural gas, micro-hydropower, biogas, small wind, solar, liquefied petroleum gas
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
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
17	PRC: Carbon Dioxide Capture and Storage (CCS) Demonstration - Strategic Analysis and Capacity Strengthening	Carbon Capture and Storage
18	REG: Carbon Dioxide Capture and Storage (CCS) Demonstration in Developing Countries - Analysis of Key Issues and Barriers	Carbon Capture and Storage

CFL = compact fluorescent lamp, PRC = China, People's Republic of; CDM = clean development mechanism, DMC = developing member country, DNA = designated national authority, INO = Indonesia, MON = Mongolia, NEP = Nepal, REG = regional  
Source: approved CEFPP application documents and ADB project documents

Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2010</b>		
1	REG: Needs Assessment and Development of the Solar Energy Program	Solar photovoltaic and solar thermal
2	PHI: Preparing Three Wind Farm Projects in Luzon	Wind power
3	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
4	REG: Strengthening Planning Capacity for Low Carbon Growth in Developing Asia (subproject under RETA: Enabling Climate Change Responses in Asia and the Pacific)	None
5	THA: Solar Power Project	Solar photovoltaic (thin film)
6	PRC: Investment Summit for Hainan's Clean Energy Development	None
7	REG: Montreal 2010: 21st World Energy Congress	None
8	REG: 5th Asia Clean Energy Forum 2010	None
9	REG: Quantum Leap in Wind Power in Asia (Direct Charge)	Wind power
10	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
11	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)
12	PRC: Renewable Energy Development in Qinghai	Grid connected solar photovoltaic
13	PRC: Municipal Natural Gas Infrastructure Development Project (Phase 2)	Natural gas conversion
14	INO: Institutional Capacity Building of Indonesia Eximbank (Original title: Indonesia Eximbank Capacity Building)	Energy efficiency technologies in the manufacturing sector
15	REG: Determining the Potential for Carbon Capture and Storage in Southeast Asia	Carbon Capture and Storage
16	REG: Promoting Renewable Energy, Clean Fuels, and Energy Efficiency in the Greater Mekong Subregion (GMS)	biomass, biofuels, solar, wind, micro/mini-hydropower, natural gas
17	REG: Promoting Renewable Energy, Clean Fuels, and Energy Efficiency in the Greater Mekong Subregion (GMS)	biomass, biofuels, solar, wind, micro/mini-hydropower, natural gas
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)
19	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)

BAN = Bangladesh, PRC = China, People's Republic of; INO = Indonesia, PHI = Philippines, REG = regional, THA = Thailand

Source: approved CEFPF application documents and ADB project documents

Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2010</b>		
20	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)
21	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
22	REG: Clean Energy Expo Asia 2010	None
23	REG: Carbon Forum Asia 2010	None
24	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
25	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)
26	IND: Capacity Building for Commercial Bank Lending for Solar Energy	Solar power (crystalline, thin film, concentrated solar power)
27	REG: Quantum Leap in Wind Power in Asia and the Pacific	Wind power
28	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
29	REG: Promoting Energy Efficiency in the Pacific (Phase II) - PNG Component	Energy-efficient lighting (CFL, LED), building retrofits
<b>2011</b>		
1	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
2	REG: 6th Asia Clean Energy Forum 2011	None
3	REG: Carbon Capture Storage Financing Roundtable	Carbon Capture and Storage
4	REG: Regional Economics of Climate Change in Central and West Asia	Various technologies in the transport/energy sector
5	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)

CDTA = capacity building technical assistance, CFL = compact fluorescent lamp, PRC = China, People's Republic of; IND = India, LED = light emitting diode, MFF = multitranches financing facility, REG = regional, Sri = Sri Lanka, VIE = Viet Nam.  
Source: approved CEFPF application documents and ADB project documents

Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2011</b>		
6	REG: Determining the Potential for Carbon Capture and Storage in Southeast Asia - Supplementary Financing	Carbon Capture and Storage
7	PRC: Study on Carbon Capture and Storage on Natural Gas-Based Power Plants	Carbon Capture and Storage (natural gas-based power plants)
8	REG: Wind Energy Futures in Asia - Regional	Wind power
9	INO: West Kalimantan Power Grid Strengthening Project	Solar-powered WLED, energy efficient lamp (CFL) and transmission and distribution
10	REG: International Carbon Capture and Storage Conference	Carbon Capture and Storage
11	REG: Mainstreaming the Asia Solar Energy Initiative	Solar energy
12	REG: Carbon Forum Asia 2011	None
13	REG: Clean Energy Expo Asia 2011	None
14	CAM: Designing Output-Based Aid Scheme for Rural Electrification in Cambodia	Low carbon alternative, demand-side management, improved cook stoves
15	REG: Solar Energy Training	Solar energy
<b>2012</b>		
1	VIE: Partnership for Market Readiness	None
2	NEP: Sustainable Rural Ecology for Green Growth	Pyrolysis
3	REG: Fourth Meeting of the Asia Solar Energy Forum	Solar energy
4	REG: 7th Asia Clean Energy Forum 2012	None
5	TON: Outer Island Renewable Energy Development Project	Solar energy
6	REG: Determining the Potential for Carbon Capture and Storage in Southeast Asia - Supplementary Financing	Carbon Capture and Storage
7	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)
8	BAN: Supporting Brick Sector Development Program	Energy efficient brick kiln technologies (e.g. vertical shaft brick kiln, hybrid hoffman kilns, tunnel kilns)
9	REG: Mainstreaming the Asia Solar Energy Initiative II	Solar energy
10	SRI: Solar Rooftop Pilot under SRI: Clean Energy and Network Efficiency Improvement Project	Solar PV
11	REG: Clean Energy Expo Asia 2012	None
12	REG: Carbon Forum Asia 2012	None
13	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)

BAN = Bangladesh, CAM = Cambodia, CCS = carbon capture and storage, CFL = compact fluorescent lamp, PRC = China, People's Republic of, INO = Indonesia, NEP = Nepal, REG = regional, SRI = Sri Lanka, TON = Tonga, Vie = Viet Nam, WLED = white light emitting diode.  
Source: approved CEFPP application documents and ADB project documents



Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2012</b>		
14	IND: Preparation of the Utility Scale Concentrated Solar Power Program	Concentrated solar power
15	REG: Clean Energy Technology Knowledge Sharing 2012	Smart grid and wind power
16	REG: Carbon Capture and Storage in Developing Asia	Carbon Capture and Storage
17	TON: Outer Island Energy Efficiency Project	Transmission and distribution (T&D) retrofits/upgrade, solar street lighting
<b>2013</b>		
10	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
11	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
12	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
13	PRC: Energy Efficiency Multi-Project Financing Program	Building retrofits, energy efficiency products in new buildings
14	IND: Concentrated Solar Power Project	Concentrated solar power
15	REG: Carbon Forum Asia 2013	None
16	PAK: Determining the Potential of Carbon Capture and Storage	Carbon capture and storage
17	REG: Sustainable Energy Training Program	Wind, solar, transmission and distribution, smart grids, energy efficiency technologies
18	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
19	SAM: Renewable Energy Development and Power Sector Rehabilitation Project	Small hydropower
20	INO: Sarulla Geothermal Power Generation Project	Geothermal

CFL = compact fluorescent lamp, PRC = China, People's Republic of, IND = India, INO = Indonesia, NEP = Nepal, PAK = Pakistan, REG = regional, SAM = Samoa, TON = Tonga, Vie = Viet Nam.

Source: approved CEFPP application documents and ADB project documents

Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2014</b>		
1	REG: Climate-Friendly Agribusiness Value Chains Development	None
2	REG: 9th Asia Clean Energy Forum	None
3	REG: Sustainable Energy Training Program 2014	Energy efficiency technologies, solar
4	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia	Carbon capture and storage
5	IND: Capacity Building of the Indian Renewable Energy Development Agency	None
6	REG: External Evaluation of Clean Energy Financing Partnership Facility (Clean Energy Fund Component)	None
<b>2015</b>		
1	CAM: Supplementary Financing for Electricity Access to Low Income Households (under Loan CAM: Medium Voltage Sub-Transmission Expansion Sector Project)	Transmission and distribution (T&D); CFL, LED, Low carbon alternative,
2	IND: Demand -Side Energy Efficiency Invest Project	energy efficient lighting (LED) lights and energy efficient agricultural pumps
3	REG: International Hydropower Association World Congress on Advancing Sustainable Hydropower 2015	Hydropower
4	IND: Preparing the India solar Park Development and Transmission Sector Park	Solar energy
5	SAM: Solar Power IPP	Solar PV
6	SAM: Solar Power IPP	Solar PV
7	INO: Preparing the Eastern Indonesia Sustainable Energy Access Sector Project	Solar photovoltaic (PV) - gas hybrid
<b>2016</b>		
1	SRI: Wind Power Generation Project	wind power
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
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
4	REG: 11th Asia Clean Energy Forum 2016	None
5	SRI: Supporting Electricity Supply Reliability Improvement Project-Renewable Energy Micro-grid	Renewable energy-based microgrid (Solar), AC-DC hybrid microgrid
6	NEP: Power Transmission and Distribution Efficiency Enhancement Project (Original application title: NEP: Electricity Distribution Efficiency Improvement Project)	Energy Efficiency technology

CAM = Cambodia, CFL = compact fluorescent lamp, PRC = China, People's Republic of, IND = India, INO = Indonesia, LED = light emitting diode, NEP = Nepal, REG = regional, SAM = Samoa, SRI = Sri Lanka.

Source: approved CEFPF application documents and ADB project documents

Table A6.1 continued

No.	Project Name	Predominant Technology
		<b>2016</b>
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
8	INO: Banten and South Sulawesi Wind Power Development (application title: INO: Banten and West Nusa Tenggara Wind Power Development)	Wind Power
9	RMI: Majuro Power Network Strengthening	None
10	REG: CCS Way Forward in Asia (Deep dive workshop)	CCS
11	INO: Preparation of the Gundih Pilot Carbon Capture and Storage	Carbon capture and storage
12	REG: CAREC ESCC Investment Forum	None
13	SRI: Consultancy Services for Technical Design and Specifications for Installation of +100/-50 Mvar Compensator at Biyagama Grid Substation	
14	SOL: Higher Education in the Pacific Investment program - Tranche 2	Solar photovoltaic system
15	TAJ: CAREC Corridor 2, 5 and 6 (Dushanbe-Kurgonteppa) Road Project	Solar PV-based micro-grid, light emitting diode
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
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
18	INO: Minimum Energy Performance Standards (MEPS) Development for Appliances in Indonesia	none
19	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	CCS
20	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	CCS
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
22	UZB: Sustainable Hydropower Project	Hydropower
23	UZB: Second Solar Power Project	Solar photovoltaic (crystalline)
24	KAZ: Introducing the Auction Mechanism for Renewable Energy Projects	None
25	CAM: Solar Power Project	Solar PV
26	KAZ: Fostering the Development of Renewable Energy Generation in Kazakhstan	None
27	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 technologies (including battery storage)

CAM = Cambodia, CAREC = Central Asia Region Economic Cooperation, CCS = carbon capture and storage, PRC = China, People's Republic of, INO = Indonesia, KAZ = Kazakhstan, REG = regional, RMI = Republic of the Marshall Islands, SOL = Solomon Islands, SRI = Sri Lanka, TAJ = Tajikistan, UZB = Uzbekistan.

Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2017</b>		
1	REG: 12th Asia Clean Energy Forum	none
2	PRC: Feasibility Assessment of Industrial Scale CCS Capacity Development TA Project	CCS
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)	clean energy technology (solar, BRT, LED, landfill-gas utilization for power, geothermal-based heating and cooling, power storage)
4	INO: Scaling up Energy Efficiency	none
5	REG: Promoting Carbon Capture and Storage in the People's Republic of China and Indonesia - Additional Financing	CCS
6	REG: ASEAN Distributed Power Project	Solar, wind, small hydro and smart grid
7	PRC: Preparing Air Quality Improvement Program in the Greater Beijing-Tianjin-Hebei Region	low carbon emission technologies
8	SRI: Rooftop Solar Power Generation Project (Application title SRI: Solar Rooftop Power Generation Project)	Solar photovoltaic system
9	BAN: Railway Rolling Stock Operations Improvement Project	Energy efficient technologies and practices applicable to transport system
10	REG: Regional Cooperation on Renewable Energy Integration to the Grid	power dispatching operation tools, such as RE forecasting tools and SCADA/EMS
11	INO: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	Geothermal
12	BAN: Power System Efficiency Improvement Project (Original Application Title: BAN: Additional Financing to Loan 2769 for Solar Irrigation Component)	Solar (PV - irrigation)
13	BAN: Capacity Development for Renewable Energy Investment Programming and Implementation (original application title: BAN: Preparing Renewable Energy Project)	floating solar PV, solar PV, wind, biomass, smart grid
14	REG: Additional Financing Project Development and Investment Facilitation	none
15	IND: Tamil Nadu Urban Flagship Investment Program	Solar PV
16	REG: Olam International Limited: Inclusive, Sustainable, and Connected Coffee Value Chain - Timor-Leste, Indonesia, Viet Nam, and Papua New Guinea	none

BAN = Bangladesh, BRT = bus rapid transit, CAREC = Central Asia Region Economic Cooperation, CCS = carbon capture and storage, PRC = China, People's Republic of, EMS = energy management system, IND = India, INO = Indonesia, LED = light emitting diode, REG = regional, SRI = Sri Lanka.

Source: approved CEFPF application documents and ADB project documents

Table A6.1 continued

No.	Project Name	Predominant Technology
<b>2018</b>		
1	REG: 2018 Asia Clean Energy Forum	none
2	NEP: Disaster Resilience - Public Schools Infrastructure and Communities (DR-PSIC)	solar pv
3	REG: Promoting Sustainable Energy for All in Asia and the Pacific	None
4	REG: Floating Solar Energy Development	floating solar PV
5	CAM: Support for a Sustainable Power Sector (under Regional: Southeast Asia Energy Sector Development, Investment Planning and Capacity Building Facility)	solar (floating and distributed), wind, RE-based minigrids and energy storage
6	VIE: Floating Solar Project	floating solar PV
7	MON: Sermsang Khushig Kundii Solar Project (original application title: MON: Sermsang Khunsight Kundi Solar Project)	Solar PV
8	REG: Integrated High Impact Innovation in Sustainable Energy Technology - Energy System Analysis, Technology Road Maps and Feasibility Studies for Pilot Testing	Various innovative tech: biomass and waste, small hydro, solar and wind
9	REG: Integrated High Impact Innovation in Sustainable Energy Technology - Prefeasibility Analysis for Carbon Capture, Utilization and Storage	CCS
10	PRC: Advanced Renewable Energy Technology Demonstration	RE-based distributed heating system
11	INO: Pilot Carbon Capture and Storage Activity in Natural Gas Processing Sector	CCS
12	REG: Regional Cooperation on Increasing Cross Border Energy Training within Central Asian Power System	energy data management (EDM) system
13	REG: Asia Pacific Forum on Low Carbon Technology 2018	low carbon technology
14	PRC: Proposed Low Carbon City Transformation Program in Xiangtan, Hunan	waste-to-energy, wind/solar/geothermal energy supply systems, RE and CE-based district heating and/or cooling systems
15	PRC: Air Quality Improvement in Greater Beijing - Tianjin - Hebei Region (Shandong Clean Heating and Cooling Project)	integrated RE and coal-free based heating and cooling solutions; waste heat recovery
16	UZB: Climate Resilience Hydropower Development and Sustainability Support Program	Hydropower
17	INO: Enhancing Access to Electricity Through Community Scale Renewable Systems	remote monitoring and energy management systems (EMS),
18	VIE: Battery Energy Storage System and Renewable Energy Forecasting for Viet Nam	Battery Energy Storage System; SCADA/EMS for RE forecasting and measurement
19	REG: Deploying Solar Energy at Scale	Solar
20	PAK: Karachi Bus Rapid Transit Project	Biogas

CAM = Cambodia, CCS = carbon capture and storage, CE = clean energy PRC = China, People's Republic of, EMS = energy management system, INO = Indonesia, MON = Mongolia, NEP = Nepal, PAK = Pakistan, RE = renewable energy, REG = regional, UZB = Uzbekistan, VIE = Viet Nam.

Source: approved CEFPPF application documents and ADB project documents

## **Completed Direct Charge Projects in 2018**

### **Regional: Asia Clean Energy Forum 2017**

This direct charge cofinanced the 11<sup>th</sup> Asia Clean Energy Forum. 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 Agency (KEA). The Forum was held on 5-8 June 2017 at ADB Headquarters in Manila and was attended by a total of 1,440 policymakers, practitioners, donors, financiers, and other experts from 71 countries for a week of discussions, workshops, and networking. With the forum theme "The Future is Here: Achieving Universal Access and Climate Targets", the main forum featured 20 sessions across 4 thematic tracks: (i) innovations in energy efficiency, (ii) innovations in renewable energy, (iii) increasing energy access, and (iv) charting the future of clean energy in Asia. Aside from the main forum, 21 deep dive workshops were facilitated to foster targeted and in-depth discussions on climate energy issues in the region which includes incubation of clean energy companies, RE grid integration, energy sector climate resilience in Asia, waste to energy technologies, and the future of hydropower among others. 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.

### **Indonesia: Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia**

Geothermal energy in Indonesia has the potential to help meet the country's rising electricity demand while contributing to a more sustainable energy mix. This direct charge supported the development of potential geothermal sites in Indonesia. Specifically, the direct charge produced the following outputs: (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. One of the sites was recommended for future development with identified issues to be addressed early in the project preparation to minimize impacts and project development risks.

### **Indonesia: Minimum Energy Performance Standards Development for Appliances in Indonesia**

This direct charge supported energy efficiency initiatives in Indonesia. The Ministry of Energy and Mineral Resources (MEMR) is embarking on a concerted effort to roll out energy efficiency regulations, implementation rules, and standards, with an immediate focus on household appliances. MEMR adopted the Minimum Energy Performance Standards (MEPS) and issued labeling protocols for CFL in 2011 and air conditioners in 2015. The development of MEPS for appliances has been actively supported by ADB through TA8483: Asia Energy Efficiency Accelerator-Energy Efficiency Policy and Capacity Development. To build on the success of TA8483 and ensure the sustainability of the MEPS, this direct charge produced the following outputs (i) draft test standards for four appliances (refrigerators, electric motors, rice cookers and well-pumps), (ii) draft MEPS levels and related regulations for two appliances (refrigerators and electric motors), and (iii) timeline/roadmap for MEPS development and labeling of next tranche of priority appliances. These have been well-received by MEMR and are directly supporting the Government's efforts to development a marketplace for energy efficiency appliances in Indonesia.

### **Regional: Deep Dive Workshop on “Paving Clean and Low Carbon Transport and Energy Systems using Hydrogen and Fuel Cells” at the ADB Transport Forum 2016 and relevant knowledge products on Hydrogen and fuel cells**

The deep dive workshop “Hydrogen and Fuel Cells as part of the future Low Carbon Transport and Energy Systems” was organized as part of technical session at the ADB Transport Forum 2016 in 2016 at the ADB Headquarters. The workshop, jointly organized by ADB and Ricardo Energy & Environment (REE), was held on 16 September 2016 and was attended by over 40 participants. The workshop had three main sessions: (i) overview of hydrogen and key drivers and barriers for deploying hydrogen and fuel cells in transport, (ii) overview of regional approaches for supporting the deployment and commercialization of hydrogen and fuel cells; and (iii) specific hydrogen applications and case studies. Hydrogen and fuel cell experts from leading organizations from Europe, Japan, Republic of Korea, and USA presented their insights and experience in supporting the deployment in hydrogen, particularly discussing key drivers and barriers on the use of hydrogen and its integration both in transport and energy systems, and deployment strategies and roadmaps from different regions. Knowledge product on hydrogen and fuel cell was prepared under this direct charge and served as a quick reference to gain up-to-date information on hydrogen fuel cell applications.

### **Sri Lanka: Consultancy Services for Technical Design and Specifications for Installation of +100/-50 Mvar Compensator at Biyagama Grid Substation**

The *Sri Lanka: Supporting Electricity Supply Reliability Improvement Project* includes a component on improving reactive power management in the transmission system which will include the installation of Static Var Compensator (SVC). CEFPF financing was used to engage a Power System Engineer to provide the technical support from designing, preparation of technical specifications, and supporting technical evaluation of potential bidders' proposals for installation of SVC at the Giyagama grid substation. Initially, training was included in the scope of the direct charge but during implementation, it was decided that there is no need for the formal training and just focus the work on the technical studies and assisting the CEB engineers prepare the technical specifications which would in themselves capacitate the engineers.

### **Indonesia: Preparation of the Gundih Pilot Carbon Capture and Storage Project**

The direct charge supported the preparation of the Gundih Pilot Carbon Capture and Storage (CCS) Project in Indonesia. The safeguards assessments successfully initiated for the proposed pilot project under this direct charge will be continued under a full technical assistance. The pilot project will enable Indonesia to pilot test an innovative way to reduce its CO<sub>2</sub> emissions and assist in achieving the country's greenhouse gas reduction targets. If successful, the pilot project will establish the first operational CCS facility in Southeast Asia.

### **Regional: Pacific Energy Summit 2015**

The direct charge supported the sixth annual Pacific Energy Summit 2015 with the theme "Strengthening Markets for Energy and Environmental Security" held on May 27-29, 2015 in Beijing, People's Republic of China. The summit was cohosted by the National Bureau of Asian Research and the China Energy Research Society. The summit convened over 200 senior government representatives, industry executives, and energy specialists from 18 countries to offer their expertise and leadership on important issues, and discussed transnational approaches to developing market-based energy policies. The event was successful in providing a venue for promoting broader understanding among DMCs on the future energy and climate issues, and supporting policies and innovative financing mechanisms established within the region to promote greater reduction in GHG emissions in energy use.



### **REG: Daegu 2013: 22nd World Energy Congress**

The World Energy Congress is the World Energy Council's global flagship event that enables dialogue among Ministers, CEOs and industry experts on critical developments in the energy sector. The 22nd World Energy Congress (WEC) which was hosted by the World Energy Council and the WEC Korean Member Committee and held in 13-17 October 2013 in Daegu, South Korea. The event had more than 7,500 participants from 123 countries including 272 speakers from 68 countries who discussed the most urgent energy challenges during the program. This direct charge supported the participation of representatives from ADB's developing member countries and it is anticipated that the knowledge and information that they acquire would be disseminated to their respective offices/governments. During the forum, ADB also launched two publications in a side event, the Energy Outlook for Asia and the Pacific and the Energy Statistics in Asia and the Pacific (1990-2009). Overall, the forum provided delegates with a high-level exclusive and informative program featuring addresses by government ministers and chief executives along with experts from around the world. It enabled dialogue among Ministers, CEOs and industry experts on critical developments in the energy sector and offered a unique opportunity for participants to better understand energy issues and solutions for a global perspective.

### **India: Preparation of Utility Scale Concentrated Solar Power Program**

The direct charge supported the preliminary preparatory work for the concentrating solar power (CSP) demonstration projects in India. The utility scale concentrated solar power program supports the rollout of the Jawarharlal Nehru National Solar Mission under India's National Action Plan for Climate Change that targets installation of 20,000 MW by 2022. Specifically, CEFPP support was used to review the identified technology configurations, sizes, and costs before the commencement of the bidding process, and the initial structuring of the public-private partnership arrangements and bid process. If successful, the CSP demonstration could help address risk perceptions, drive down costs, lower entry barriers and increase investor interest for CSP technologies. As of direct charge closing, the processing of the ensuing loan was put on hold because the government priorities shifted to support solar PV project development but there is continuous dialogue with the government about the CSP project development and ADB will provide support for CSP investment in the future.

**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 2018 (Expressed in US Dollars)		
TOTAL CONTRIBUTION COMMITTED		110,202,397.93
Exchange gain (loss) on contribution received		<u>(6,500,670.10)</u>
Contribution received:		
Government of Australia (AUD13,584,000)	13,333,980.70	
Government of Norway (NOK300,000,000)	43,320,896.06	
Government of Spain (USD9,500,000)	9,500,000.00	
Government of Sweden (SEK175,000,000)	24,241,651.07 <sup>c/</sup>	
Department of Energy and Climate Change (GBP10,000,000)	<u>13,305,200.00</u>	
NET CONTRIBUTION RECEIVED		103,701,727.83
Interest income - cash in bank	121,051.83	
Interest income - investments	2,294,972.01	
Gain (loss) on foreign exchange transactions	<u>(22,443.16)</u>	<u>2,393,580.68</u>
TOTAL AMOUNT AVAILABLE		106,095,308.51
Amounts utilized for:		
Project expenditures (Statement 2)		
Grant component of investment (GCI)	(12,786,345.55)	
Technical assistance linked to loan (TALL)	(7,285,540.15)	
Technical assistance (TA)	(23,259,005.85)	
Direct charges	(3,771,527.94)	
ADB service fees	(1,970,970.87) <sup>b/</sup>	
Audit fees	(197,242.00)	
Financial expenses	<u>(11,028.42)</u>	<u>(49,281,660.78)</u>
UNUTILIZED BALANCE		56,813,647.73 <sup>a/</sup>
Outstanding commitments - GCI, TALL and TA	(29,202,039.54)	
Reserve for ADB service fees	(1,401,421.24) <sup>b/</sup>	
Undisbursed direct charges	<u>(140,066.74)</u>	<u>(30,743,527.52)</u>
UNCOMMITTED BALANCE		26,070,120.21
Projects approved but not yet effective:		
TA9682-PRC: Air Quality Improvement in Greater Beijing-Tianjin-Hebei Reg-Shading	(750,000.00)	
G0583-BAN: Power System Efficiency Improvement Project- Additional Financing	(3,000,000.00)	
Reserve for ADB service fees	<u>(187,500.00) <sup>b/</sup></u>	<u>(3,937,500.00)</u>
UNCOMMITTED BALANCE AVAILABLE FOR NEW COMMITMENTS		<u>22,132,620.21</u>

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.

<sup>a/</sup> Represented by:		
Cash in bank		4,023,775.10
Investment		51,714,909.64
Accrued interest		34,402.49
Advances under TA Grants		1,094,850.37
Interfund receivable		1,070.00
Interfund payable		<u>(55,359.87)</u>
		<u>56,813,647.73</u>

<sup>b/</sup> Represents 5% and 2% of TA and Grant project expenditures/outstanding commitments/approved but not yet effective projects. 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.

<sup>c/</sup> Includes unutilized funds transferred from Funds 57 and 70 amounting to \$ 42.56.

ASIAN DEVELOPMENT BANK  
Statement of TA/Grant Expenditures and Direct Charges  
Clean Energy Fund  
As of 31 December 2018  
(Expressed in US Dollars)

TA/Grant Title Approved Application	TA/Grant/ Application No./Type <sup>4/</sup>	Date of Approval	TA/Grant/ Direct Charge Amount <sup>1/</sup>	Amount Received	Project Expenditures/Direct Charges <sup>2/</sup>			Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs	
					Cumulative up to 31/12/2017	Transactions 01/01-31/12/18	Cumulative up to 31/12/18			Unutilized Commitment (Savings)	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
<b>APPROVED and EFFECTIVE PROJECTS</b>											
<b>Grant Component of Investment (GCI):</b>											
<b>Cambodia</b>											
Medium-Voltage Sub-Transmission Expansion Sector - Additional Financing	G0468	09-Dec-15	1,000,000.00		-	1,000,000.00	1,000,000.00			-	14-Sep-18
<b>China, People's Republic of</b>											
Integrated Renewable Biomass Energy Development Project	G0202	16-Apr-10	3,000,000.00		818,423.73	225,551.54	1,043,975.27	1,956,024.73	31-Dec-18		
<b>Indonesia</b>											
Java-Bali Electricity Distribution Performance 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
<b>Nepal</b>											
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
Disaster Resilience of Schools Project	G0602	10-Sep-18	5,000,000.00		-	-	-	5,000,000.00	31-Mar-23		
<b>Regional</b>											
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-Jun-20		
<b>Sri Lanka</b>											
Clean Energy and Network Efficiency Improvement Project	G0303	18-Sep-12	1,500,000.00		690,040.38	207,907.18	897,947.56	602,052.44	30-Jun-19		
Supporting Electricity Supply Reliability Improvement Proj-Ren Energy	G0486	26-Jul-16	1,800,000.00		-	60,042.70	60,042.70	1,739,957.30	31-Mar-22		
<b>Thailand</b>											
NSP: Solar Power Project	G0201	16-Apr-10	2,000,000.00		-	-	-			2,000,000.00	03-Dec-13
<b>Viet Nam</b>											
Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector - Additional Financing	G0384	09-Apr-14	3,000,000.00		-	1,829,691.17	1,829,691.17			1,170,308.83	24-May-18
<b>Tajikistan</b>											
Strengthening Technical and Vocational Education and Training	G0453	09-Nov-15	2,000,000.00		955,491.31	515,478.26	1,470,969.57	529,030.43	30-Sep-21		
Carec Corridors 2, 5 & 6 (Dushanbe-Kurgonteppa) Road Project	G0510	31-Oct-16	2,000,000.00		-	33,695.00	33,695.00	1,966,305.00	30-Sep-21		
<b>Sub Total</b>			<b>30,000,000.00</b>		<b>8,913,979.70</b>	<b>3,872,365.85</b>	<b>12,786,345.55</b>	<b>13,184,078.06</b>		<b>4,029,576.39</b>	

TA/Grant Title Approved Application	TA/Grant/ Application No./Type	Date of Approval	TA/Grant/ Direct Charge Amount <sup>11</sup>	Amount Received	Project Expenditures/Direct Charges <sup>2/</sup>			Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants/DCs	
					Cumulative up to 31/12/2017	Transactions 01/01-31/12/18	Cumulative up to 31/12/18			Unutilized Commitment (Savings)	Financial Completion Date
<b>Technical Assistance Linked to Loan (TALL):</b>											
<b><u>Bangladesh</u></b>											
Supporting Brick Sector Development Program	8197/CD	22-Oct-12	750,000.00		709,582.15	20,779.96	730,362.11			19,637.89	03-Oct-18
<b><u>China, People's Republic of</u></b>											
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 - <b>WITHDRAWN/CANCELLED</b>	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		477,150.00	93,340.00	570,490.00	82,510.00	31-Mar-18		
Municipal Natural Gas Infrastructure Development Project	7636/CD	9-Nov-10	592,000.00		412,109.00	-	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		389,533.59	19,771.21	409,304.80			90,695.20	01-Jun-18
Strengthening Capacity in Implementation of Green Financing Platform	9251/CD	29-Nov-16	1,000,000.00		122,651.63	133,380.67	256,032.30	743,967.70	30-Nov-19		
<b><u>India</u></b>											
Demand-Side Energy Efficiency Investment	9081/PP	23-Feb-16	1,000,000.00		175,674.89	311,843.08	487,517.97	512,482.03	22-Feb-21		
<b><u>Indonesia</u></b>											
Scaling Up Energy Efficiency	9370/PA	14-Sep-17	1,000,000.00		-	418,886.35	418,886.35	581,113.65	31-Aug-20		
<b><u>Lao People's Democratic Republic</u></b>											
Hydropower Impacts and Best Practices : A Communications Project - <b>WITHDRAWN/CANCELLED</b>	8058/CD	8-Feb-12	180,000.00		-	-	-			180,000.00	19-Jul-13
<b><u>Regional</u></b>											
Pacific Renewable Energy Investment Facility	9242/PP	24-Nov-16	3,000,000.00		-	341,184.88	341,184.88	2,658,815.12	30-Nov-26		
<b><u>Samoa</u></b>											
Renewable Energy Development and Power Sector Rehabilitation	G0371	15-Nov-13	1,000,000.00		855,039.41	127,037.34	982,076.75	17,923.25	30/06/2019		
<b><u>Sri Lanka</u></b>											
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
<b><u>Uzbekistan</u></b>											
Second Solar Power Project	9262/PP	05-Dec-16	1,000,000.00		153,443.00	(1,925.00)	151,518.00			848,482.00	21-May-18
<b>Sub Total</b>			<b>14,075,000.00</b>		<b>5,821,241.66</b>	<b>1,464,298.49</b>	<b>7,285,540.15</b>	<b>4,776,702.75</b>		<b>2,012,757.10</b>	

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					Cumulative up to	Transactions	Cumulative up to			Unutilized Commitment	Financial Completion
					31/12/2017	01/01-31/12/18	31/12/18			(Savings)	Date
<b>Technical Assistance (TA):</b>											
<b><u>Afghanistan</u></b>											
Renew able Energy Development	8808/CD	12-Dec-14	1,000,000.00		982,805.27	7,235.00	990,040.27			9,959.73	31-Jan-18
<b><u>Azerbaijan</u></b>											
Renew able Energy Development Biomass Cogeneration Project	8364/PP	8-May-13	1,000,000.00		830,949.07	-	830,949.07			169,050.93	31-May-17
<b><u>China, People's Republic of</u></b>											
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
Renew able 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 Renew able Energy	7721/CD	08-Dec-10	900,000.00		810,249.98	-	810,249.98			89,750.02	27-Jan-14
Preparing Air Quality Improvement Program 2017-2019 in the Greater Beijing-Tianjin-Hebei Region	9309/PP	10-Apr-17	400,000.00		-	198,689.07	198,689.07	201,310.93	30-Dec-20		
Advanced Renew able Energy Technology Demonstration	9577/RD	31-Aug-18	200,000.00		-	-	-	200,000.00	31-May-20		
<b><u>India</u></b>											
Concentrated Solar Power Project	8455/PP	24-Sep-13	1,000,000.00		688,093.66	-	688,093.66			311,906.34	31-Jan-17
<b><u>Indonesia</u></b>											
Scaling Up Renew able 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
<b><u>Kazakhstan</u></b>											
Fostering the Development of Renew able Energy	9301/CD	06-Mar-17	1,000,000.00		599,100.00	276,776.00	875,876.00	124,124.00	31-Dec-18		
<b><u>Marshall Islands</u></b>											
Majuro Power Network Strengthening	9225/CD	09-Nov-16	690,000.00		166,148.33	386,168.00	552,316.33			137,683.67	03-Oct-18
<b><u>Nepal</u></b>											
Power Transmission & Distribution Efficiency Enhancement Project	9144/PP	22-Jul-16	1,500,000.00		135,774.35	202,165.39	337,939.74	1,162,060.26	31-Dec-19		
<b><u>Philippines</u></b>											
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
<b><u>Sri Lanka</u></b>											
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		920,126.71	863,879.07	1,784,005.78	215,994.22	28-Feb-19		

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					Cumulative up to 31/12/2017	Transactions 01/01-31/12/18	Cumulative up to 31/12/18			Unutilized Commitment (Savings)	Financial Completion Date
<b>Technical Assistance (TA):</b>											
<b>Thailand</b>											
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
<b>Tonga</b>											
Outer Island Renew able 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
<b>Uzbekistan</b>											
Samarkand Solar Power Project	8372/PP	29-May-13	750,000.00		747,071.37	-	747,071.37			2,928.63	31-Dec-16
<b>Regional</b>											
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		1,135,124.09	-	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		1,863,974.43	-	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		753,140.03	583,509.39	1,336,649.42	163,350.58	31-Dec-20		
Project Development and Investment Facilitation	8954/CD	10-Sep-15	1,000,000.00		-	40,025.19	40,025.19	959,974.81	31-Dec-20		
Access to Electricity w/ New Off- Grid Solar Tech in Central Asia	9168/CD	14-Sep-16	2,000,000.00		453,559.76	777,680.24	1,231,240.00	768,760.00	22-Jan-19		
Improving Institutional Capacity on Preparing Energy Efficiency Investment	9266/CD	06-Dec-16	2,000,000.00		231,174.74	588,285.24	819,459.98	1,180,540.02	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	688,652.19	988,628.37	1,011,371.63	20-Feb-19		
Promoting Low -Carbon Development in Central Asia Regional Economic Cooperation Program Cities	9308/CD	06-Apr-17	800,000.00		-	97,777.72	97,777.72	702,222.28	31-Dec-19		
Floating Solar Energy Development	9564/CD	17-Aug-18	3,000,000.00		-	143,725.00	143,725.00	2,856,275.00	31-Mar-21		
Southeast Asia Energy Sector Development, Investment Planning	9600/PP	01-Oct-18	1,000,000.00		-	4,725.00	4,725.00	995,275.00	31-Dec-21		
Energy System Analysis, Technology Road Maps and Feasibility Study	9690/RD	13-Dec-18	700,000.00		-	-	-	700,000.00	30-Sep-23		
<b>Sub Total</b>			<b>36,440,000.00</b>		<b>18,399,713.35</b>	<b>4,859,292.50</b>	<b>23,259,005.85</b>	<b>11,241,258.73</b>		<b>1,939,735.42</b>	
<b>Total TAs and Grants</b>			<b>80,515,000.00</b>		<b>33,134,934.71</b>	<b>10,195,956.84</b>	<b>43,330,891.55</b>	<b>29,202,039.54</b>		<b>7,982,068.91</b>	
<b>Direct Charges:</b>											
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

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					Cumulative	Transactions	Cumulative			Unutilized Commitment (Savings)	Financial Completion Date
					up to 31/12/2017	01/01-31/12/18	up to 31/12/18				
<b>Direct Charges:</b>											
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

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					Cumulative up to 31/12/2017	Transactions 01/01-31/12/18	Cumulative up to 31/12/18			Unutilized Commitment (Savings)	Financial Completion Date
<b>Direct Charges:</b>											
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 Growth	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 (ASE) 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 Power Program	CEFPDC00042	03-Sep-12	75,000.00		55,630.75	-	55,630.75			19,369.25	22-Feb-18
Clean Energy Technology Knowledge 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 Hydropower Association (IHA) World Congress on Advancing Sustainable Hydropower 2013	CEFPDC00047	08-May-13	35,000.00		22,416.91	-	22,416.91			12,583.09	30-Sep-14



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<b>Direct Charges:</b>											
Daegu 2013: 22nd World Energy Congress	CEFPDC00048	08-May-13	150,000.00		23,464.95	-	23,464.95			126,535.05	27-Jul-18
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	13-Sep-18
11th Asia Clean Energy Forum	CEFPDC00060	01-Mar-16	150,000.00		125,706.06	-	125,706.06			24,293.94	13-Jul-17
CAREC ESCC Investment Forum	CEFPDC00064	14-Jun-16	150,000.00		101,598.68	-	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	2,200.86	50,128.02			24,771.98	21-Nov-18
Deep Dive 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 Hydrogen and fuel cells	CEFPDC00066	24-Aug-16	85,000.00		62,663.01	-	62,663.01			22,336.99	21-Dec-18
Minimum Energy Performance Standards (MEPS) Development for Appliances in Indonesia	CEFPDC00067	25-Aug-16	51,250.00		50,404.20	-	50,404.20			845.80	22-Jan-18
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	71,103.96	96,334.39			53,665.61	13-Jul-18

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					Cumulative up to 31/12/2017	Transactions 01/01-31/12/18	Cumulative up to 31/12/18			Unutilized Commitment (Savings)	Financial Completion Date
<b>Direct Charges:</b>											
Rapid Safeguard Assessment of Potential Sites for Geothermal Power Generation in Indonesia	CEFPDC00071	17-Aug-17	75,000.00	-	58,889.99	58,889.99				16,110.01	07-Aug-18
2018 Asia Clean Energy Forum	CEFPDC00072	05-Feb-18	150,000.00	-	134,973.87	134,973.87	15,026.13				
Asia Pacific Forum on Low Carbon Technology 2018	CEFPDC00073	23-Aug-18	150,000.00	-	24,959.39	24,959.39	125,040.61				
<b>Total Direct Charges</b>			<b>5,235,350.00</b>		<b>3,479,399.87</b>	<b>292,128.07</b>	<b>3,771,527.94</b>	<b>140,066.74</b>		<b>1,323,755.32</b>	
<b>TOTAL APPROVED and EFFECTIVE PROJECTS</b>			<b>85,750,350.00</b>	<b>103,701,727.83</b>	<b>36,614,334.58</b>	<b>10,488,084.91</b>	<b>47,102,419.49</b>	<b>29,342,106.28</b>		<b>9,305,824.23</b>	

**Add:****Approved But Not Yet Effective Projects****Grant Component of Investment (GCI):****Bangladesh**

Power System Efficiency Improvement Project- Additional Financing	G0583	05-Jul-18	3,000,000.00	
<b>Sub Total</b>			<b>3,000,000.00</b>	

**Technical Assistance Linked to Loan (TALL):****China, People's Republic of**

Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region- Shandong Clean Heating and Cooling Project	9682/CD	13-Dec-18	750,000.00	
<b>Sub Total</b>			<b>750,000.00</b>	

<b>TOTAL APPROVED BUT NOT YET EFFECTIVE PROJECTS</b>	<b>3,750,000.00</b>
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<b>GRAND TOTAL</b>	<b>89,500,350.00</b>
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**Contributions received:**

Government of Australia	AUD	13,584,000	\$ 13,333,980.70
Government of Norway	NOK	300,000,000	43,320,896.06
Government of Spain	USD	9,500,000	9,500,000.00
Government of Sweden	SEK	175,000,000	24,241,651.07 <sup>5/</sup>
Department of Energy and Climate Change	GBP	10,000,000	13,305,200.00
			<b>\$ 103,701,727.83 <sup>3/</sup></b>

<sup>1/</sup> US\$ equivalent of TA Grant and Direct Charges at time of TA approval.

<sup>2/</sup> Actual disbursements.

<sup>3/</sup> Represents actual US\$ equivalent of contributions received.

<sup>4/</sup> TA Types: PP = Project Preparatory; AO = Advisory; CD = Capacity Development; PA = Policy and Advisory; REG = Regional; RD = Research and Development

<sup>5/</sup> Includes unutilized funds transferred from Funds 57 and 70 amounting to \$ 42.56.

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

STATUS OF GRANT  
As of 31 December 2018  
(Expressed in US Dollars)

TOTAL CONTRIBUTION COMMITTED (JPY5,472,500,000)		55,702,503.17
Exchange gain (loss) on contribution received		<u>1,389,186.53</u>
NET CONTRIBUTION AVAILABLE		57,091,689.70
Interest income - cash in bank	45,721.46	
Interest income - investments	2,036,695.64	
Gain (loss) on foreign exchange transactions	<u>39,624.50</u>	<u>2,122,041.60</u>
TOTAL AMOUNT AVAILABLE		59,213,731.30
Amounts utilized for:		
Project expenditures (Statement 2)		
Grant component of investment (GCI)	(4,924,429.06)	
Technical assistance linked to a loan (TALL)	(4,450,046.53)	
Technical assistance (TA)	(21,309,364.92)	
ADB service fees	(1,393,704.20)	<sup>b/</sup>
Audit fee	(205,653.00)	
Financial expenses	<u>(7,556.89)</u>	<u>(32,290,754.60)</u>
UNUTILIZED BALANCE		26,922,976.70 <sup>a/</sup>
Outstanding commitments-GCI, TALL and TA	(12,462,803.38)	
Reserve for ADB service fees	<u>(584,935.21)</u>	<sup>b/</sup> <u>(13,047,738.59)</u>
UNCOMMITTED BALANCE		13,875,238.11
Approved projects not yet effective		
9504/BAN: Railway Rolling Stock Operations Improvement Project (TALL)	(500,000.00)	
0613/IND: MFF Tamil Nadu Flagship Investment Program - Project 1 (GCI)	(2,000,000.00)	
Reserve for ADB service fees	<u>(125,000.00)</u>	<sup>b/</sup> <u>(2,625,000.00)</u>
BALANCE AVAILABLE FOR FURTHER COMMITMENTS		<u>11,250,238.11</u>

<sup>a/</sup> Represented by:

Cash	3,579,454.07
Investments	23,107,245.34
Accrued interest	19,256.04
Interfund receivable	31,632.68
Advances	205,298.73
Interfund payable	<u>(19,910.16)</u>
	<u>26,922,976.70</u>

<sup>b/</sup> Represents 5% and 2% of TA and Grant project expenditures/outstanding commitments/approved projects 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 2018  
(Expressed in US Dollars)

TA/Grant Title	TA/Grant No./Type	Date of Approval	TA/Grant Amount <sup>1/</sup>	Amount Received	Project Expenditures <sup>2/</sup>			Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants	
					Cumulative up to 31 Dec 2017	Transactions 01 Jan to 31 Dec 2018	Cumulative up to 31 Dec 2018			Unutilized Commitment (Savings)	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
<b>APPROVED and EFFECTIVE PROJECTS</b>											
<b>Grant Component of Investment (GCI):</b>											
<b>Bangladesh</b>											
Public-Private Infrastructure Development Facility	0254	17-May-11	2,000,000.00		2,000,000.00	-	2,000,000.00			-	21-Jul-14
<b>Bhutan</b>											
Green Power Development Project	0141	26-Dec-08	1,000,000.00		917,346.72	-	917,346.72			82,653.28	02-Apr-14
<b>Nepal</b>											
South Asia Tourism Infrastructure Development Project	0383	28-Mar-14	3,000,000.00		110,782.50	130,716.80	241,499.30	2,758,500.70	15-Jun-19		
<b>Philippines</b>											
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
<b>Viet Nam</b>											
Energy Efficiency for Ho Chi Minh City Water Supply	0365	17-Oct-13	2,000,000.00			726,501.40	726,501.40	1,273,498.60	30-Jun-18		
<b>Sub Total</b>			<b>9,500,000.00</b>		<b>4,067,210.86</b>	<b>857,218.20</b>	<b>4,924,429.06</b>	<b>4,031,999.30</b>		<b>543,571.64</b>	
<b>Technical Assistance Linked to Loan (TALL):</b>											
<b>Bangladesh</b>											
Energy Efficiency Improvement	7642/CD	10-Nov-10	1,500,000.00		973,757.44	-	973,757.44	-		526,242.56	17-Mar-14
Capacity Devt for Renewable Energy Investment Programming & Imple	9628/CD	2-Nov-18	1,500,000.00			-	-	1,500,000.00	31-Dec-20		
<b>India</b>											
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		198,546.98	98,826.64	297,373.62	452,626.38	31-Dec-19		
<b>Indonesia</b>											
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
<b>Sri Lanka</b>											
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		-	371,492.92	371,492.92	628,507.08	28-Feb-20		
<b>Uzbekistan</b>											
Sustainable Hydropower Project	9236/PP	22-Nov-16	2,000,000.00		137,359.82	47,736.00	185,095.82	1,814,904.18	28-Feb-19		
<b>Sub Total</b>			<b>10,450,000.00</b>		<b>3,931,990.97</b>	<b>518,055.56</b>	<b>4,450,046.53</b>	<b>4,396,037.64</b>		<b>1,603,915.83</b>	

TA/Grant Title	TA/Grant No./Type	Date of Approval	TA/Grant Amount <sup>1/</sup>	Amount Received	Project Expenditures <sup>2/</sup>			Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants	
					Cumulative up to 31 Dec 2017	Transactions 01 Jan to 31 Dec 2018	Cumulative up to 31 Dec 2018			Unutilized Commitment (Savings)	Financial Completion Date
					(C)	(D)	(E) = (C) + (D)			(F) = (A) - (E)	(G)
<b>Technical Assistance (TA):</b>											
<b>India</b>											
Preparing the Solar Park Development and Transmission Sector Project	8979/PP	23-Oct-15	1,000,000.00		603,963.76	299,431.51	903,395.27			96,604.73	01-Aug-18
<b>Indonesia</b>											
Eastern Indonesia Sustainable Energy Access Sector Project	9082/PP	2-Mar-16	1,400,000.00		754,165.95	605,804.27	1,359,970.22	40,029.78	31-Dec-18		
<b>Mongolia</b>											
Ulaanbaatar Clean Air	7462/PA	14-Dec-09	500,000.00		488,673.51	-	488,673.51			11,326.49	18-Oct-12
<b>Philippines</b>											
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
<b>Thailand</b>											
Lamthakong Wind Farm Development Project - <del>WITHDRAWN/CANCELLED</del>	7444/PP	8-Dec-09	160,000.00			-				160,000.00	21-Dec-10
Chaiyapun Wind Farm Development Project - <del>WITHDRAWN/CANCELLED</del>	7445/PP	8-Dec-09	160,000.00			-				160,000.00	21-Dec-10
<b>Regional</b>											
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		1,681,742.89	-	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		1,391,657.41	-	1,391,657.41			608,342.59	27-Dec-17
Promotion of Investment in Climate Technology Products Through Venture Cap	8018/PA	20-Dec-11	1,500,000.00		628,618.57	455,717.87	1,084,336.44	415,663.56	31-Dec-18		
Demonstration of an Assisted Brkr Model for Transfer Low-Carbon Tech	8105/CD	15-Jun-12	2,000,000.00		1,783,367.70	151,016.42	1,934,384.12	65,615.88	31-Dec-18		
Economics of Climate Change in Central	8119/RD	18-Jul-12	2,000,000.00		1,882,172.83	-	1,882,172.83			117,827.17	07-Mar-18
Climate-Friendly Agribusiness Value Chains Sector	8897/PP	12-May-15	1,500,000.00		474,161.28	836,960.01	1,311,121.29	188,878.71	30-Sep-18		
Regional Cooperation on Renewable Energy Integration to the Grid	9365/CD	7-Sep-17	1,500,000.00		-	130,618.49	130,618.49	1,369,381.51	02-Aug-19		
Sustainable Energy for all Regional Hub for Asia and the Pacific	8953/CD	10-Sep-15	2,000,000.00		-	44,803.00	44,803.00	1,955,197.00	31-Dec-20		
<b>Sub Total</b>			<b>29,350,000.00</b>		<b>18,785,013.35</b>	<b>2,524,351.57</b>	<b>21,309,364.92</b>	<b>4,034,766.44</b>		<b>4,005,868.64</b>	
<b>TOTAL APPROVED and EFFECTIVE PROJECTS</b>			<b>49,300,000.00</b>	<b>57,091,689.70</b> <sup>3/</sup>	<b>26,784,215.18</b>	<b>3,899,625.33</b>	<b>30,683,840.51</b>	<b>12,462,803.38</b>		<b>6,153,356.11</b>	

TA/Grant Title	TA/Grant No./Type <sup>4/</sup>	Date of Approval	TA/Grant Amount <sup>1/</sup>	Amount Received	Project Expenditures <sup>2/</sup>		Outstanding Commitments	Expected TA/Grant Completion Date	Completed TAs/Grants		
					Cumulative up to 31 Dec 2017	Transactions 01 Jan to 31 Dec 2018			Cumulative up to 31 Dec 2018	Unutilized Commitment (Savings)	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
<b>Add:</b>											
<b><u>Approved projects not yet effective</u></b>											
<b><u>Grant Components of Investment:</u></b>											
<b>India</b>											
MFF: Tamil Nadu Flagship Investment Program - PROJECT 1	0613	28-Sep-18	2,000,000.00								
			<b>Sub Total</b>	<b>2,000,000.00</b>							
<b><u>Technical Assistance Linked to Loan (TALL):</u></b>											
<b>Bangladesh</b>											
Railway Rolling Stock Operations Improvement Project	9504/CD	21-Feb-18	500,000.00								
			<b>Sub Total</b>	<b>500,000.00</b>							
			<b>TOTAL APPROVED BUT NOT YET EFFECTIVE PROJECTS</b>	<b>2,500,000.00</b>							
			<b>GRAND TOTAL</b>	<b>51,800,000.00</b>							

**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
	<b>JPY 5,472,500,000</b>	<b>\$ 57,091,689.70</b> <sup>3/</sup>

<sup>1/</sup> US\$ equivalent of TA/Grant at time of approval.

<sup>2/</sup> Actual disbursements.

<sup>3/</sup> Represents actual US\$ equivalent of contributions received.

<sup>4/</sup> TA Types: PP = Project Preparatory; PA = Policy and Advisory; CD = Capacity Development; RD = Research and Development

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 2018  
(Expressed in US Dollars)

TOTAL CONTRIBUTION COMMITTED		70,852,779.46 <sup>d/</sup>
Exchange gain (loss) on contribution received		(341,014.22)
Unrealized exchange gain (loss) on contribution receivable		<u>(6,794,032.50)</u>
Contribution received:		
Contribution received from Global CCS Institute (AUD 18,178,885.88)	14,516,746.29 <sup>d/</sup>	
Contribution received from DECC - Promissory Note (GBP 15,000,000)	<u>23,803,000.00</u>	
	38,319,746.29	
Contribution receivable from DECC - Promissory Note (GBP 20,000,000)	<u>25,397,986.45</u> <sup>c/</sup>	
NET CONTRIBUTION AVAILABLE		63,717,732.74
Interest income - cash in bank	27,727.71	
Interest income - investments	1,005,586.73	
Gain (loss) on foreign exchange transactions	<u>318.42</u>	<u>1,033,632.86</u>
TOTAL AMOUNT AVAILABLE		64,751,365.60
Amounts utilized for:		
Project expenditures (Statement 2)		
Technical assistance (TA)	(8,757,002.38)	
Direct charges	(214,450.67)	
ADB service fees	(437,850.16) <sup>b/</sup>	
Audit fees	(108,041.00)	
Financial expenses	<u>(5,751.50)</u>	<u>(9,523,095.71)</u>
UNUTILIZED BALANCE		55,228,269.89 <sup>a/</sup>
Outstanding commitments	(6,496,175.49)	
Reserve for ADB service fees	(324,808.77) <sup>b/</sup>	
Undisbursed direct charges	<u>(48,993.31)</u>	<u>(6,869,977.57)</u>
UNCOMMITTED BALANCE		<u><u>48,358,292.32</u></u>

<sup>a/</sup> Represented by:

Cash in bank		2,798,097.95
Investments		27,012,304.08
Accrued interest		22,510.25
Contribution receivable		25,397,986.45
Interfund payable		<u>(2,628.84)</u>
		<u><u>55,228,269.89</u></u>

<sup>b/</sup> Represents 5% of the project expenditures/outstanding commitments.

<sup>c/</sup> Contribution receivable 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).

<sup>d/</sup> Net of returned to donor amounting to \$ 2,652,075.13.

ASIAN DEVELOPMENT BANK  
Statement of TA Expenditures and Direct Charges - Carbon Capture and Storage Fund  
As of 31 December 2018  
(Expressed in US Dollars)

TA/DC Title	TA/ DC No./ Type	Date of Approval	TA Direct Charge Amount <sup>1/</sup>	Amount Received	Project Expenditures/Direct Charges <sup>2/</sup>			Outstanding Commitments	Expected TA Completion Date	Completed TAs/DCs	
					Cumulative up to 31/12/17	Transactions 01/01-31/12/18	Cumulative up to 31/12/18			Unutilized Commitment (Savings)	Financial Completion Date
			(A)	(B)	(C)	(D)	(E) = (C) + (D)	(F) = (A) - (E)	(G)	(H) = (A) - (E)	(I)
<b>APPROVED and EFFECTIVE PROJECTS</b>											
<b>Technical Assistance (TA):</b>											
<b>Indonesia</b>											
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	2,300,000.00		25,958.06	315,685.31	341,643.37	1,958,356.63	30-Sep-19		
<b>Pakistan</b>											
Determining the Potential for Carbon Capture and Storage	8648/CD	14-May-14	1,000,000.00		299,878.86	44,092.73	343,971.59			656,028.41	27-Jun-18
<b>PRC</b>											
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
Promoting and Scaling up of Large Scale Carbon Capture and Storage	9509/CD	21-Mar-18	1,200,000.00		-	-	-	1,200,000.00	03-Dec-20		
<b>Regional</b>											
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		976,253.47	985,927.67	1,962,181.14	1,337,818.86	31-Aug-19		
Prefeasibility Analysis for Carbon Capture, Utilization and Storage	9686/RD	13-Dec-18	2,000,000.00		-	-	-	2,000,000.00	30-Sep-23		
<b>Sub Total</b>			<b>17,525,000.00</b>		<b>7,411,296.67</b>	<b>1,345,705.71</b>	<b>8,757,002.38</b>	<b>6,496,175.49</b>		<b>2,271,822.13</b>	
<b>Direct Charge (DC):</b>											
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



TA/DC Title	TA/ DC No./ Type <sup>4/</sup>	Date of Approval	TA Direct Charge Amount <sup>1/</sup>	Amount Received	Project Expenditures/Direct Charges <sup>2/</sup>			Outstanding Commitments	Expected TA Completion Date	Completed TAs/DCs	
					Cumulative up to 31/12/17	Transactions 01/01-31/12/18	Cumulative up to 31/12/18			Unutilized Commitment (Savings)	Financial Completion Date
					(C)	(D)	(E) = (C) + (D)			(F) = (A) - (E)	(G)
<b>Direct Charge (DC):</b>											
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		26,006.69	-	26,006.69	48,993.31			
INO: Preparation of the Gundih Pilot Carbon Capture and Storage	CCSFDC 00063	10-May-16	75,000.00		26,868.39	5,718.00	32,586.39			42,413.61	03-Oct-18
<b>Sub Total</b>			<b>384,000.00</b>		<b>208,732.67</b>	<b>5,718.00</b>	<b>214,450.67</b>	<b>48,993.31</b>		<b>120,556.02</b>	
<b>TOTAL APPROVED AND EFFECTIVE PROJECTS</b>			<b>17,909,000.00</b>	<b>38,319,746.29 <sup>3/</sup></b>	<b>7,620,029.34</b>	<b>1,351,423.71</b>	<b>8,971,453.05</b>	<b>6,545,168.80</b>		<b>2,392,378.15</b>	

**Contributions received:**

Global CCS Institute	AUD 18,178,885.88	14,516,746.29 <sup>5/</sup>
Department of Energy and Climate Change (DECC)	GBP 15,000,000.00	23,803,000.00
		<u>38,319,746.29</u>

<sup>1/</sup> US\$ equivalent of TA/DC at the time of TA approval.

<sup>2/</sup> Actual disbursements.

<sup>3/</sup> Represents the actual US\$ equivalent of contributions received.

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

<sup>5/</sup> Net of returned to donor amounting to \$ 2,652,075.13.

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

STATUS OF FUND  
As of 31 December 2018  
(Expressed in US dollars)

	<u>Concessional Financing</u>	<u>Grant</u>	<u>Total</u>
TOTAL CONTRIBUTION COMMITTED (CAD79,451,401.01)	70,555,598.76 <sup>a/</sup>	7,238,781.94 <sup>a/</sup>	77,794,380.70
Exchange gain (loss) on contribution received	-	74,471.60	74,471.60
<b>NET CONTRIBUTION AVAILABLE</b>	<b>70,555,598.76</b>	<b>7,313,253.54</b>	<b>77,868,852.30</b>
Interest income - cash in bank	2,926.85	9,285.65	12,212.50
Interest income - investments	679,566.15	202,016.09	881,582.24
Gain (loss) on foreign exchange transactions	-	(221.53)	(221.53)
Interest / service charge on loans	5,843,777.37	-	5,843,777.37
Other income from loans			
Amortized front-end fees on loans	58,879.47	-	58,879.47
Amortized loan origination costs	(7,848.36)	-	(7,848.36)
Liquidated damages on loans	12,582.40	-	12,582.40
<b>TOTAL AMOUNT AVAILABLE</b>	<b>77,145,482.64</b>	<b>7,524,333.75</b>	<b>84,669,816.39</b>
Amounts utilized for:			
Loan outstanding			
Loans	(38,578,725.00) <sup>d/</sup>		
Deferred front-end fees on loans	166,120.53		
Deferred loan origination costs	(22,151.64)		
Direct loan origination costs	30,000.00	-	30,000.00
Technical assistance linked to loan (TALL)	-	(235,017.10)	(235,017.10)
Technical assistance (TA)	-	(1,563,664.42)	(1,563,664.42)
ADB service fees	(1,962,500.00) <sup>c/</sup>	(89,934.09) <sup>c/</sup>	(2,052,434.09)
Audit fee	(37,602.11)	(3,718.89)	(41,321.00)
Financial expenses	(301.41)	(169.98)	(471.39)
<b>UNUTILIZED BALANCE</b>	<b>36,740,323.01 <sup>b/</sup></b>	<b>5,631,829.27 <sup>b/</sup></b>	<b>42,372,152.28</b>
Outstanding commitments:			
Loans - non sovereign	(20,000,000.00)	-	(20,000,000.00)
TA and TALL	-	(1,841,818.48)	(1,841,818.48)
Reserve for ADB service fees	(1,000,000.00) <sup>c/</sup>	(92,090.92) <sup>c/</sup>	(1,092,090.92)
<b>UNCOMMITTED BALANCE</b>	<b>15,740,323.01</b>	<b>3,697,919.87</b>	<b>19,438,242.88</b>
Approved loan but not yet effective:			
8350/VIE: Da Nhim-Ham Thuan - Da Mi Hydro Power			
Joint Stock Company ( Floating Solar Energy Project)	(11,000,000.00)		(11,000,000.00)
Reserve for ADB service fees	(550,000.00) <sup>c/</sup>		(550,000.00)
<b>BALANCE AVAILABLE FOR FURTHER COMMITMENTS</b>	<b>4,190,323.01</b>	<b>3,697,919.87</b>	<b>7,888,242.88</b>

<sup>a/</sup> 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 is net of return to donor amounting to USD2,880,218.34 (CAD2,941,566.99) and includes Special Reserve for the Fund amounting to \$500,000.

<sup>b/</sup> Represented by:

Cash in bank	2,295,243.24	1,698,769.76	3,994,013.00
Investments	33,739,456.89	3,972,389.32	37,711,846.21
Accrued interest - time deposit	23,242.74	2,736.53	25,979.27
Accrued liquidated damages on loans	12,582.40	-	12,582.40
Accrued Interest/ service charge	669,797.74	-	669,797.74
Interfund payable	-	(42,066.34)	(42,066.34)
	<u>36,740,323.01</u>	<u>5,631,829.27</u>	<u>42,372,152.28</u>

<sup>c/</sup> Represents 5% of project expenditures / outstanding commitment / approved loan but not yet effective.

<sup>d/</sup> Net of principal repayment from borrower amounting to \$671,275.

ASIAN DEVELOPMENT BANK  
Statement of TA / Loan / Grant Expenditures - Canadian Climate Fund for the Private Sector in Asia  
As of 31 December 2018

(Expressed in US Dollars)

TA / Loan / Grant Title	TA / Grant <sup>2/</sup> Loan No.	Date of Approval/ Supplementary	TA / Grant Loan Amount <sup>1/</sup> (A)	Amount Received (B)	Project Expenditures <sup>2/</sup>			Outstanding Commitments (F) = (A) - (E)	Expected TA / Grant Completion Date (G)	Completed TA / Grant	
					Cumulative	Transactions	Cumulative			Unutilized Commitment (H) = (A) - (E)	Financial Completion Date (I)
					up to 31/12/17 (C)	1/01-31/12/18 (D)	up to 31/12/18 (E) = (C) + (D)				
<b>APPROVED and EFFECTIVE PROJECTS</b>											
<b>Concessional Financing (CF)</b>											
<b>Indonesia</b>											
Sarulla Geothermal Power Development Project	8278	05-Dec-13	20,000,000.00		20,000,000.00	-	20,000,000.00	-			
<b>Georgia</b>											
Adjaristsqali Hydropower Project	8281	19-May-14	15,000,000.00		15,000,000.00	-	15,000,000.00	-			
<b>Cambodia</b>											
Cambodia Solar Power Project	8317	07-Dec-16	3,250,000.00		3,250,000.00	-	3,250,000.00	-			
<b>Regional</b>											
ASEAN Distributed Power Project	8326	17-May-17	20,000,000.00		-	-	-	20,000,000.00			
<b>Samoa</b>											
Solar Power Development Project	8329	04-Aug-17	1,000,000.00		1,000,000.00	-	1,000,000.00	-			
			<u>59,250,000.00</u>		<u>39,250,000.00</u>	<u>-</u>	<u>39,250,000.00</u>	<u>20,000,000.00</u>			
<b>Technical Assistance Linked to Loan (TALL)</b>											
<b>Indonesia</b>											
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
<b>Samoa</b>											
Development of Solar Power Ipp	8999/PP	25-Nov-15	<u>225,000.00</u>		<u>84,505.11</u>	<u>20,011.99</u>	<u>104,517.10</u>	<u>120,482.90</u>	31-Mar-19		
			<u>450,000.00</u>		<u>215,005.11</u>	<u>20,011.99</u>	<u>235,017.10</u>	<u>120,482.90</u>		<u>94,500.00</u>	
<b>Technical Assistance (TA)</b>											
<b>Bhutan</b>											
Climate Resilient Hazelnut Value Chain	9092/CD	11-Apr-16	1,300,000.00		160,996.00	217,000.00	377,996.00	922,004.00	15-Oct-19		
<b>Indonesia</b>											
Banten and South Sulawesi Wind Power Development Project	9104/PP	08-Apr-16	500,000.00		227,050.00	3,768.75	230,818.75	269,181.25	30-Jun-19		
<b>Mongolia</b>											
Sermsang Khushig Kundii Solar Project	9527/PP	21-May-18	225,000.00		-	63,960.86	63,960.86	161,039.14	30-Nov-20		
<b>Regional</b>											
Climate Friendly Agribusiness Value Chains	8897/PP	12-May-15	1,000,000.00		315,889.28	557,973.30	873,862.58	126,137.42	30-Sep-18		
OLAM Intl LTD: Inclusive, Sustainable & Connected Coffe Value Chain-S1	9473/CD	18-Dec-17	100,000.00		-	-	-	100,000.00	30-Sep-20		
OLAM Intl LTD: Inclusive, Sustainable & Connected Coffe Value Chain-S2	9521/CD	10-May-18	<u>160,000.00</u>		<u>-</u>	<u>17,026.23</u>	<u>17,026.23</u>	<u>142,973.77</u>	14-May-21		
			<u>3,285,000.00</u>		<u>703,935.28</u>	<u>859,729.14</u>	<u>1,563,664.42</u>	<u>1,721,335.58</u>		<u>-</u>	
<b>TOTAL APPROVED and EFFECTIVE PROJECTS</b>			<u><b>62,985,000.00</b></u>		<u><b>40,168,940.39</b></u>	<u><b>879,741.13</b></u>	<u><b>41,048,681.52</b></u>	<u><b>21,841,818.48</b></u>		<u><b>94,500.00</b></u>	

TA / Loan / Grant Title	TA / Grant <sup>6/</sup> Loan No.	Date of Approval/ Supplementary	TA / Grant Loan Amount <sup>1/</sup> (A)	Amount Received (B)	Project Expenditures <sup>2/</sup>			Outstanding Commitments (F) = (A) - (E)	Expected TA / Grant Completion Date (G)	Completed TA / Grant	
					Cumulative	Transactions	Cumulative			Unutilized	Financial
					up to 31/12/17 (C)	1/01-31/12/18 (D)	up to 31/12/18 (E) = (C) + (D)			Commitment (H) = (A) - (E)	Completion Date (I)

Add:

Approved Loan But Not Yet Effective:

**Concessional Financing (CF)**

**Vietnam**

Da Nhim-Ham Thuan - Da Mi Hydro Power Joint Stock Company ( Floating Solar Energy Project)	9350	04-Oct-18	11,000,000.00							
<b>GRAND TOTAL</b>			<b>73,985,000.00</b>							

US\$ 70,555,598.76 <sup>3/ 7/</sup>  
 CAD 72,058,433.01

US\$ 7,313,253.54 <sup>3/ 5/</sup>  
 CAD 7,392,968.00

<sup>1/</sup> US\$ equivalent of TA / Grant / Loan at the time of approval.

<sup>2/</sup> Actual disbursements.

<sup>3/</sup> Represents actual US\$ equivalent of contributions received.

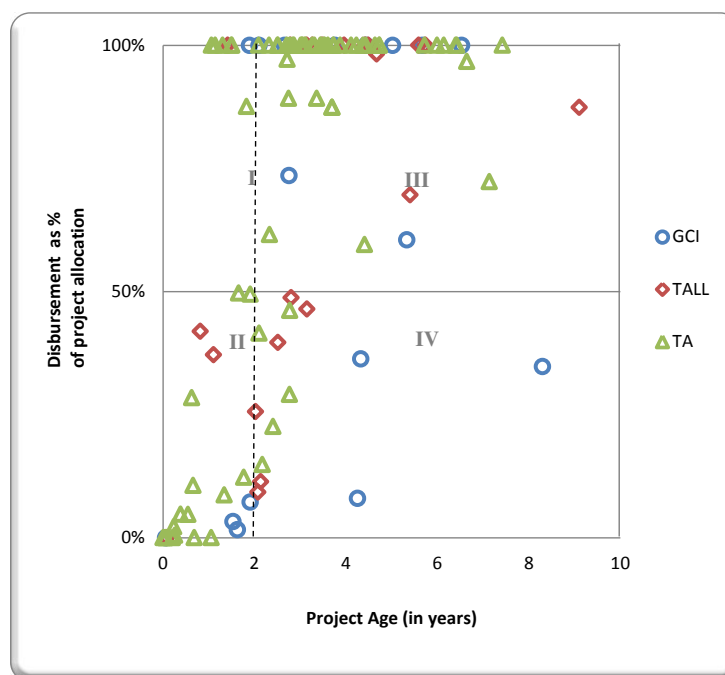
<sup>4/</sup> Contribution received for concessional financing.

<sup>5/</sup> Contribution received for grant.

<sup>6/</sup> TA Type: CD = Capacity and Development ; REG = Regional; PP = Project Preparatory

<sup>7/</sup> Net of return to donor amounting to USD2,880,218.34 (CAD2,941,566.99).

<sup>4/</sup> TA Types: PP = Project Preparatory; AO = Advisory; REG = Regional; CD = Capacity and Development

**Figure A10: Disbursement Ratios of GCIs, TALLs, & TAs as of 31 December 2018**

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 CEFPP.

- **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 14 projects (out of 112) 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 CEFPP 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 \$17.0 million out of the \$23.6 million project

allocation in *Quadrant IV* have been awarded in contracts, or 72.1%<sup>49</sup> 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.

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<sup>49</sup> Contracts awarded ratio is computed as total contracts awarded over approved allocations.

**Table A11.1: CEFPF Portfolio Profile – Resource Utilization, as of 31 December 2018 (Inclusive of fees)**

No.	Project Name	Sector	Operations Dept.	Country	Amounts in \$'000									
					CEFPF Allocation	Use of CEFPF Funds					CEFPF Fund Source			
						CF	GCI	TALL	TA	DC	CEF	ACEF	CCSF	CFPS
<b>GRAND TOTAL</b>					<b>273,393</b>	<b>73,763</b>	<b>66,234</b>	<b>27,008</b>	<b>100,769</b>	<b>5,619</b>	<b>97,402</b>	<b>58,059</b>	<b>40,100</b>	<b>77,831</b>
					<b>100%</b>	<b>61%</b>			<b>39%</b>		<b>36%</b>	<b>21%</b>	<b>15%</b>	<b>28%</b>
<b>I. Allocations to projects approved by ADB for implementation</b>														
<b>2008-2016 TOTAL (158 projects)</b>					192,516	41,213	52,584	21,496	72,130	5,094	74,197	44,934	28,760	44,625
<b>2017 TOTAL (15 projects)</b>					42,330	21,000	5,250	4,200	11,655	225	6,735	6,825	7,350	21,420
1	Floating Solar Project	Energy	PSOD	VIE	11,550	11,550								11,550
2	Disaster Resilience of Public Schools Infrastructure and Communities	Education	SARD	NEP	5,250		5,250				5,250			
3	Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region - Shandong Clean Heating and Cooling Project	Energy	EARD	PRC	788			788			788			
4	Floating Solar Energy Development	Energy	CWRD	REG	3,150				3,150		3,150			
5	Support for a Sustainable Power Sector	Energy	SERD	CAM	1,050				1,050		1,050			
6	Integrated High Impact Innovation in Sustainable Energy Technology	Energy	SDCC	REG	3,150				3,150		1,050		2,100	
7	Advanced Renewable Energy Technology Demonstration	Energy	EARD	PRC	210				210		210			
*8	Promoting Sustainable Energy for All Regional Hub for Asia and the Pacific - Subproject C	Energy	SDCC	REG	2,100				2,100			2,100		
9	Regional Cooperation on Increasing Cross Border Energy Trading within Central Asian Power System (CAPS)	Energy	CWRD	REG	1,050				1,050			1,050		
*10	Pilot Carbon Capture and Storage Activity in the Natural Gas Processing Sector	Energy	SERD	INO	1,890				1,890				1,890	
11	Sermsang Khunsight Kundi Solar Project	Energy	PSOD	MON	236				236					236
12	2018 Asia Clean Energy Forum	Energy	SDCC	REG	150					150	150			
13	Asia Pacific Forum on Low Carbon Technology 2018	Energy	EARD	REG	150					150	150			
<b>Subtotal</b>					<b>265,570</b>	<b>73,763</b>	<b>63,084</b>	<b>26,483</b>	<b>96,621</b>	<b>5,619</b>	<b>92,730</b>	<b>54,909</b>	<b>40,100</b>	<b>77,831</b>
					<b>97%</b>	<b>62%</b>			<b>38%</b>		<b>35%</b>	<b>21%</b>	<b>15%</b>	<b>29%</b>

ACEF = Asian Clean Energy Fund, CAM = Cambodia, 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, MON = Mongolia, NEP = Nepal, PSOD = Private Sector Operations Department, REG = regional, SARD = South Asia Department, SDCC = Sustainable Development and Climate Change Department, SERD = Southeast Asia Department, TA = technical assistance, TALL = technical assistance linked to loan, VIE = Vietnam.

Note: \* 'Promoting Sustainable Energy for All Regional Hub for Asia and the Pacific – Subproject C' and 'Pilot Carbon Capture and Storage Activity in the Natural Gas Processing Sector' are additional financing to existing projects of the same names.

Source: Asian Development Bank estimates.

Table A11.1 continued

					Amounts in \$'000									
No.	Project Name	Sector	Operations Dept.	Country	CEFPF Allocation	Use of CEFPF Funds					CEFPF Fund Source			
						CF	GCI	TALL	TA	DC	CEF	ACEF	CCSF	CFPS
<b>II. Allocations to projects awaiting approval by ADB</b>														
14	Climate Resilient Hydropower Development and Sustainability Support Program	Energy	CWRD	UZB	525			525			525			
15	Proposed Low Carbon City Transformation Program in Xiantan, Hunan	Energy	EARD	PRC	525				525		525			
16	Battery Energy Storage System and Renewable Energy Forecasting for Viet Nam	Energy	SERD	VIE	735				735		735			
17	Deploying Solar Energy At Scale	Energy	SARD	REG	2,100				2,100		2,100			
18	Karachi Bus Rapid Transit Project	Transport	CWRD	PAK	788				788		788			
<b>Subtotal</b>					<b>4,673</b>	<b>-</b>	<b>-</b>	<b>525</b>	<b>4,148</b>	<b>-</b>	<b>4,673</b>	<b>-</b>	<b>-</b>	<b>-</b>
					<b>2%</b>	<b>11%</b>			<b>89%</b>		<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>III. Allocations to projects for consideration by financing partner</b>														
19	Enhancing Access to Electricity Through Community Scale Renewable Systems	Energy	SERD	INO	3,150		3,150					3,150		
<b>Subtotal</b>					<b>3,150</b>	<b>-</b>	<b>3,150</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3,150</b>	<b>-</b>	<b>-</b>
					<b>1%</b>	<b>100%</b>			<b>0%</b>		<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>
<b>2018 TOTAL (19 projects)</b>					<b>38,546</b>	<b>11,550</b>	<b>8,400</b>	<b>1,313</b>	<b>16,984</b>	<b>300</b>	<b>16,470</b>	<b>6,300</b>	<b>3,990</b>	<b>11,786</b>
<b>GRAND TOTAL</b>					<b>273,393</b>	<b>73,763</b>	<b>66,234</b>	<b>27,008</b>	<b>100,769</b>	<b>5,619</b>	<b>97,402</b>	<b>58,059</b>	<b>40,100</b>	<b>77,831</b>
					<b>100%</b>	<b>61%</b>			<b>39%</b>		<b>36%</b>	<b>21%</b>	<b>15%</b>	<b>28%</b>

ACEF = Asian Clean Energy Fund, 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, PAK = Pakistan, REG = regional, SARD = South Asia Department, SERD = Southeast Asia Department, TA = technical assistance, TALL = technical assistance linked to loan, UZB = Uzbekistan, VIE = Vietnam.

Source: Asian Development Bank estimates.



Table A11.2: CEFPF Portfolio Profile – Regional Distribution of Projects, as of 31 December 2018 (Inclusive of fees)

No.	Project Name	Sector	Operations Dept	Country	CEFPF Allocation	Amounts in \$'000					Sovereign	Non-Sovereign
						CF	GCI	TALL	TA	DC		
<b>GRAND TOTAL</b>					<b>273,393</b>	<b>73,763</b>	<b>66,234</b>	<b>27,008</b>	<b>100,769</b>	<b>5,619</b>	<b>188,290</b>	<b>85,103</b>
					100%	61%			39%		69%	31%
<b>Central And West Asia</b>					<b>41,700</b>	<b>15,750</b>	<b>4,200</b>	<b>3,675</b>	<b>17,850</b>	<b>225</b>	<b>25,950</b>	<b>15,750</b>
					15%	57%			43%		62%	38%
<b>2008-2016 Total (16 projects)</b>					34,613	15,750	4,200	3,150	11,288	225	18,863	15,750
<b>2017 Total (1 project)</b>					1,575	-	-	-	1,575	-	1,575	-
<b>2018 Total (4 projects)</b>					5,513	-	-	525	4,988	-	5,513	-
1	Climate Resilient Hydropower Development and Sustainability Support Program	Energy	CWRD	UZB	525			525			525	
2	Floating Solar Energy Development	Energy	CWRD	REG	3,150				3,150		3,150	
3	Regional Cooperation on Increasing Cross Border Energy Trading within Central Asian Power System (CAPS)	Energy	CWRD	REG	1,050				1,050		1,050	
4	Karachi Bus Rapid Transit Project	Transport	CWRD	PAK	788				788		788	
<b>East Asia</b>					<b>23,667</b>	<b>-</b>	<b>3,060</b>	<b>5,536</b>	<b>14,779</b>	<b>292</b>	<b>21,598</b>	<b>2,069</b>
					9%		36%		64%		91%	9%
<b>2008-2016 Total (20 projects)</b>					15,713	-	3,060	4,748	7,613	292	13,881	1,832
<b>2017 Total (2 projects)</b>					6,195	-	-	-	6,195	-	6,195	-
<b>2018 Total (4 projects)</b>					1,759	-	-	788	971	-	1,523	236
5	Air Quality Improvement in the Greater Beijing-Tianjin-Hebei Region - Shandong Clean Heating and Cooling Project	Energy	EARD	PRC	788			788			788	
6	Sermsang Khunsight Kundi Solar Project	Energy	PSOD	MON	236				236			236
7	Advanced Renewable Energy Technology Demonstration	Energy	EARD	PRC	210				210		210	
8	Proposed Low Carbon City Transformation Program in Xiantan, Hunan	Energy	EARD	PRC	525				525		525	
<b>Pacific</b>					<b>16,002</b>	<b>1,050</b>	<b>1,575</b>	<b>4,436</b>	<b>8,941</b>	<b>-</b>	<b>14,716</b>	<b>1,286</b>
					6%		44%		56%		92%	8%
<b>2008-2016 Total (12 projects)</b>					16,002	1,050	1,575	4,436	8,941	-	14,716	1,286
<b>2017 Total (0 project)</b>					-	-	-	-	-	-	-	-
<b>2018 Total (0 project)</b>					-	-	-	-	-	-	-	-
<b>South Asia</b>					<b>47,699</b>	<b>-</b>	<b>24,459</b>	<b>10,920</b>	<b>11,970</b>	<b>350</b>	<b>45,546</b>	<b>2,153</b>
					17%		74%		26%		95%	5%
<b>2008-2016 Total (25 projects)</b>					31,949	-	13,959	7,770	9,870	350	29,796	2,153
<b>2017 Total (5 projects)</b>					8,400	-	5,250	3,150	-	-	8,400	-
<b>2018 Total (2 projects)</b>					7,350	-	5,250	-	2,100	-	7,350	-
9	Disaster Resilience of Public Schools Infrastructure and Communities	Education	SARD	NEP	5,250		5,250				5,250	
10	Deploying Solar Energy At-Scale	Energy	SARD	REG	2,100				2,100		2,100	

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, MON = Mongolia, NEP = Nepal, PAK = Pakistan, PSOD = Private Sector Operations Department, REG = regional, SARD = South Asia Department, TA = technical assistance, TALL = technical assistance linked to loan, UZB = Uzbekistan.

Source: Asian Development Bank estimates.

Table A11.2 continued

No.	Project Name	Sector	Operations Dept	Country	Amounts in \$'000							
					CEFPF Allocation	Use of CEFPF Funds					Sovereign	Non-Sovereign
						CF	GCI	TALL	TA	DC		
<b>South East Asia</b>					<b>108,360</b>	<b>56,963</b>	<b>32,940</b>	<b>2,441</b>	<b>15,545</b>	<b>471</b>	<b>46,510</b>	<b>61,850</b>
					<b>40%</b>	<b>85%</b>			<b>15%</b>		<b>43%</b>	<b>57%</b>
<b>2008-2016 (28 projects)</b>					67,860	24,413	29,790	1,391	11,870	396	38,560	29,300
<b>2017 Total (3 projects)</b>					22,125	21,000	-	1,050	-	75	1,125	21,000
<b>2018 Total (5 projects)</b>					18,375	11,550	3,150	-	3,675	-	6,825	11,550
11	Floating Solar Project	Energy	PSOD	VIE	11,550	11,550						11,550
12	Enhancing Access to Electricity Through Community Scale Renewable Systems	Energy	SERD	INO	3,150		3,150				3,150	
13	Support for a Sustainable Power Sector	Energy	SERD	CAM	1,050				1,050		1,050	
*14	Pilot Carbon Capture and Storage Activity in the Natural Gas Processing Sector	Energy	SERD	INO	1,890				1,890		1,890	
15	Battery Energy Storage System and Renewable Energy Forecasting for Viet Nam	Energy	SERD	VIE	735				735		735	
<b>Regional</b>					<b>35,965</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>31,684</b>	<b>4,281</b>	<b>33,970</b>	<b>1,995</b>
					<b>13%</b>	<b>0%</b>			<b>100%</b>		<b>94%</b>	<b>6%</b>
<b>2008-2016 (57 projects)</b>					26,380	-	-	-	22,549	3,831	24,805	1,575
<b>2017 Total (4 projects)</b>					4,035	-	-	-	3,885	150	3,615	420
<b>2018 Total (4 projects)</b>					5,550	-	-	-	5,250	300	5,550	-
*16	Promoting Sustainable Energy for All Regional Hub for Asia and the Pacific - Subproject C	Energy	SDCC	REG	2,100				2,100		2,100	
17	Integrated High Impact Innovation in Sustainable Energy Technology	Energy	SDCC	REG	3,150				3,150		3,150	
18	2018 Asia Clean Energy Forum	Energy	SDCC	REG	150					150	150	
19	Asia Pacific Forum on Low Carbon Technology 2018	Energy	EARD	REG	150					150	150	
<b>GRAND TOTAL</b>					<b>273,393</b>	<b>73,763</b>	<b>66,234</b>	<b>27,008</b>	<b>100,769</b>	<b>5,619</b>	<b>188,290</b>	<b>85,103</b>
					<b>100%</b>	<b>61%</b>			<b>39%</b>		<b>69%</b>	<b>31%</b>

CAM = Cambodia, 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, VIE = Vietnam.

Note: \* 'Promoting Sustainable Energy for All Regional Hub for Asia and the Pacific – Subproject C' and 'Pilot Carbon Capture and Storage Activity in the Natural Gas Processing Sector' are additional financing to existing projects of the same names.

Source: Asian Development Bank estimates.

Table A12: CEFPF Allocation by Country, as of 31 December 2018 (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	2,160	-	-	3,413	5,573
Georgia	GEO	-	-	-	15,750	15,750
China, People's Republic of	PRC	11,438	-	11,025	-	22,463
India	IND	2,250	4,725	-	-	6,975
Indonesia	INO	5,346	5,775	19,526	21,761	52,409
Kazakhstan	KAZ	1,125	-	-	-	1,125
Mongolia	MON	75	525	-	236	836
Nepal	NEP	11,234	3,150	-	-	14,384
Pakistan	PAK	788	-	1,050	-	1,838
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
Tajikistan	TAJ	4,200	-	-	-	4,200
Thailand	THA	3,150	-	-	-	3,150
Tonga	TON	656	-	-	-	656
Uzbekistan	UZB	2,363	2,100	-	-	4,463
Vietnam	VIE	4,095	2,040	-	11,550	17,685
Regional	REG	31,816	25,725	8,499	22,470	88,510
<b>TOTAL</b>		<b>97,402</b>	<b>58,059</b>	<b>40,100</b>	<b>77,831</b>	<b>273,393</b>

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.