Thematic Evaluation Study

Real-Time Evaluation of ADB's Initiatives to Support Access to Climate Finance

Independent Evaluation ADB

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NOTE

In this report, "$" refers to US dollars, unless stated otherwise.

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Abbreviations

ACEF	–	Asian Clean Energy Forum
ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
AFB	–	Adaptation Fund Board
AfDB	–	African Development Bank
AGF	–	Advisory Group on Climate Change Financing
AIE	–	accredited implementing entity
ALUWG	–	Adaptation and Land Use Working Group
ANR	–	agriculture and natural resources
APAN	–	Asia-Pacific Adaptation Network
ASEI	–	Asia Solar Energy Initiative
BAU	–	business-as-usual
BPMSD	–	Budget, Personnel and Management Systems Department
BTOR	–	back-to-office report
CCF	–	Climate Change Fund
CCFP	–	climate change focal point
CCIP	–	Climate Change Implementation Plan
CCSC	–	Climate Change Steering Committee
CDIA	–	Cities Development Initiative for Asia
CDM	–	clean development mechanism
CEFPF	–	Clean Energy Financing Partnership Facility
CER	–	certified emission reduction
CEWG	–	Clean Energy Working Group
CIFs	–	climate investment fund
COP	–	community of practice
CPEIR	–	Climate Public Expenditure and Institutional Review
CPS	–	country partnership strategy
CTCN	–	Climate Technology Center and Network
CTF	–	Clean Technology Fund
CTFC	–	Climate Technology Finance Center
DMC	–	developing member country
DRM	–	disaster risk management
DRR	–	disaster risk reduction
EOD	–	Environment Operational Directions
ETS	–	emissions trading system
FIP	–	Forest Investment Program
GCF	–	Green Climate Fund
GEF	–	Global Environment Facility
GHG	–	greenhouse gas
IDB	–	Inter-American Development Bank
IDRM	–	integrated disaster risk management
IED	–	Independent Evaluation Department
LDC	–	least developed countries
LDCF	–	Least Developed Country Fund
M&E	–	monitoring and evaluation
MDB	–	multilateral development bank
NAMA	–	Nationally Appropriate Mitigation Actions

NAP	–	National Adaptation Plans
NAPA	–	National Adaptation Programs of Action
NGO	–	nongovernment organization
OCR	–	ordinary capital resources
ODA	–	official development assistance
PCS	–	project classification system
PIF	–	project identification form
PPCR	–	Pilot Program for Climate Resilience
PRC	–	Peoples' Republic of China
PSOD	–	Private Sector Operations Department
REDD	–	Reducing Emissions from Deforestation and Forest Degradation
RETA	–	regional technical assistance
RRP	–	report and recommendation of the President
RSDD	–	Regional and Sustainable Development Department
RSDD-CD	–	Climate Change Coordination and Disaster Risk Management Unit
RSES	–	Environment and Safeguards Division
RSID	–	Sustainable Infrastructure Division
SCCF	–	Special Climate Change Fund
SCF	–	Strategic Climate Fund
SDG	–	Sustainable Development Goals
SPCR	–	Strategic Program for Climate Resilience
SREP	–	Scaling up Renewable Energy Program
STI	–	Sustainable Transport Initiative
TA	–	technical assistance
TFC	–	Trust Fund Committee
UN	–	United Nations
UNEP	–	United Nations Environment Program
UNFCCC	–	United Nations Framework Convention on Climate Change
WBG	–	World Bank Group
WIPO	–	World Intellectual Property Organization

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SUPPLEMENTARY APPENDIXES (available on request)

Acknowledgements

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The study team retains full responsibility for this report.

Foreword

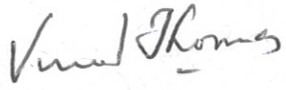
The Asia and Pacific region has a high stake in climate change and the emerging climate finance framework. Over the past three decades, the region has experienced an increase in weather related disasters that could be linked to climate change, and suffered more than 40% of global economic losses due to such disturbances. Meanwhile developing Asia now accounts for more than 35% of global greenhouse gas emissions, and it includes the People's Republic of China, the world's largest emitter of greenhouse gases.

Country actions are paramount in addressing climate change. In many respects, a collective answer is needed among governments, civil society, the private sector, international agencies and multilateral development banks. As part of this response, there have been steps to put in place a financial mechanism that enables countries to mitigate and adapt to climate change. ADB's opportunities and capabilities to access and use these finances are the subject of this review.

The primary area where ADB has been able to mainstream action is in clean energy interventions for mitigation. This activity can go much further, for instance, with sustainable transport. Actions are also warranted in sustainable and resilient land use, including in forestry. Considerable effort is required to mainstream adaptation and manage climate risks of vulnerable projects. The recent mid-term review of ADB's corporate strategy recognizes such opportunities to broaden and deepen efforts in adaptation and mitigation.

The crucial question concerns the steps required to implement the directions for climate mitigation and adaptation set out in the mid-term review.

Building on the initiatives in place, three sets of actions could propel countries to select ADB as a partner of choice in the use of climate finance. First, the institution can make available regional experiences and knowledge that are of high interest to multiple countries, for example, on harnessing public and private partnerships in this complex area. Second, it can introduce innovative financial products and raise resources by issuing climate bonds and help countries leverage other public and private sources of finance. Third, the organization can align internal processes and systems to motivate and support teamwork across units that is so essential to develop and implement climate projects—and to facilitate timely and credible reporting on progress being made.



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Executive Summary

Since the early 1980s, the Asia and Pacific region has been adversely affected by the increased frequency of meteorological, hydrological, and other weather-related disturbances. The region contributed 25% of the world's gross domestic product from 1980 to 2009, but suffered more than 40% of global economic losses caused by these natural hazards.

The Asian Development Bank (ADB) recognizes that vulnerabilities to climate variability and change and greenhouse gas (GHG) concentrations are on the rise. Since the 1990s, it has mainstreamed support for clean energy-focused investments for GHG mitigation. Over the past few years, ADB has turned its attention to supporting other mitigation and adaptation measures.

In an evaluation of the GHG implications of ADB's energy sector operations, a study published in 2009, the Independent Evaluation Department (IED) examined the clean energy portfolio to 2008 and suggested approaches to improve estimates for GHG emissions savings from clean energy projects.

The present evaluation recognizes the need for both adaptation and mitigation responses to climate change. It highlights the massive need for climate change financing in the foreseeable future.

The design of the evaluation framework reflects the formative nature and learning orientation of this real-time evaluation. Relevance of the study to ADB's climate change-related policies, programs, and interventions is provided by the ongoing dialogue under United Nations Framework Convention on Climate Change (UNFCCC) processes and their likely implications for the emerging global climate finance architecture.

ADB's initiatives are investigated from the viewpoints of understanding its preparedness and positioning for enhancing access to climate finance, increasing developing country capacity to attract and utilize climate finance, and scaling up and mainstreaming support for adaptation and mitigation. The emerging global climate finance architecture calls for attention to (i) supporting countries in achieving *transformational* objectives of low-carbon and climate-resilient development, (ii) tracking financing of adaptation and mitigation measures to assess *additionality* and ensure proper use of climate funds, and (iii) *leveraging* resources obtained from climate funds.

The report provides insights into how ADB's various initiatives have progressed, from the perspective of enhancing its ability to access and leverage climate finance. The evaluation does not examine or rate the performance of ADB-supported investment and technical assistance (TA) interventions.

The New Paradigm of International Finance Flows

The ongoing global debate on sustainable development and climate change reflects the need to increase the resource envelope to support mitigation of and adaptation to climate change. ADB endorses this objective, as is evident from (i) its participation in the UNFCCC dialogues over more than a decade; (ii) its efforts to access climate funds with a view to understanding their priorities, requirements, and processes; (iii) its joint work with other multilateral development banks (MDBs) on climate change-related matters; and (iv) its continued support for adaptation and mitigation initiatives in developing member countries.

The outcomes of ongoing global dialogues aimed at promoting sustainable development and meeting challenges posed by climate change are not yet certain, but they are directionally steady. The United Nations (UN)-led dialogue on the post-2015 global development agenda includes work on Sustainable Development Goals. The UN seeks to holistically address the three dimensions of sustainable development (economic, social, and environmental) and their interlinkages. Climate change is recognized by the UN as one of the key challenges of sustainable development. The second dialogue under UNFCCC processes has the objective of defining a global response to climate change (the climate deal) by 2015, and it is consistent with the objectives of the post-2015 global agenda. Despite these initiatives, there is some uncertainty about the outcome of discussions on the scope and scale of climate change initiatives, and about the pace at which the agreed-upon outcomes can be achieved. However, certain agreements are already in place, such as one on the future climate finance architecture.

Climate finance requirements are massive, and the target for mobilization by 2020 is challenging but feasible. Firm estimates for climate finance requirements are not available. Requirements for adaptation finance alone have been estimated to be up to $100 billion per year through 2050. Investments in mitigation have exceeded $200 billion per year over the last several years. Adaptation costs of developing Asia are estimated at $40 billion per year to 2050, with about $10 billion for Asian Development Fund (ADF) countries alone. The UNFCCC-led global dialogue refers to mobilizing $100 billion per year of climate finance by 2020. This amount is more than 50 times larger than the annual finance flows from all climate funds in 2010–2012. It is of the same order of magnitude as traditional official development assistance over the past few years ($120 billion to $135 billion between 2009 and 2012). The high-level advisory group on climate financing appointed by the UN Secretary-General has concluded that it is challenging but feasible to meet this goal.

Agencies such as ADB will function primarily as financial intermediaries for the transfer of climate finance to developing countries, and will leverage additional finance for climate action. Through UNFCCC dialogue, it has been decided to establish the Green Climate Fund (GCF), which will be the apex body for promoting a paradigm shift towards low-emission and climate-resilient development in developing countries. The GCF is expected to initiate mobilization of climate finance by December 2014, and efforts to formulate key policies and procedures are under way to enable the GCF to receive, manage, and disburse climate finance. The GCF will be the centerpiece of the climate finance architecture, the other components being multilaterals, bilaterals, other institutions, and private finance. The GCF will manage financial flows from the adaptation and mitigation financing windows and its Private Sector Facility. Under these new arrangements, ADB will have the opportunity to access climate finance from the GCF and to increase its private sector operations.

The GCF will make financial transfers to developing countries through international agencies and developing country-based financial intermediaries. The GCF will provide a direct access modality to make financial transfers to developing countries. In addition to MDBs and other international agencies, the GCF will disburse funds to accredited implementing entities that have national jurisdictions. These accredited entities may be located in countries that are relatively better off in terms of economic development and creditworthiness, and have a presence in other developing countries. ADB and other international agencies are expected to play a crucial role as the GCF's implementing entities in the initial years. ADB would gain by facilitating the accreditation of and adopting a collaborative approach to working with the national entities.

Findings on ADB's Preparedness and Positioning

ADB has embarked on (i) the development of strategies, policies, plans, and initiatives for improving access to, and leveraging of, climate finance; and (ii) the provision of TA and investment support to countries in (potentially) transformative areas to which they accord a high priority. These activities have been supported by initiatives in the areas of knowledge management, new product innovations, and strengthening organization and staffing arrangements.

Strategy, Policy, and Plans

Climate change has featured prominently in ADB strategies, policies, and operational plans since Strategy 2020 was formulated in 2008. These documents provide an appropriate enabling framework, and ADB has successfully mainstreamed clean energy-focused investments for mitigation. Through Strategy 2020, ADB has sought to refocus its operations in five core specializations—one of them being environment, including climate change. ADB documented its priorities for climate change in 2010, and in 2013 it explicitly articulated that climate change adaptation and mitigation cut across all other operational initiatives. The review of Strategy 2020 at mid-term, completed in 2014, emphasizes support for clean energy investments and sustainable transport, in addition to scaling up support for climate adaptation (through management of climate risks of vulnerable projects), strengthening integrated disaster risk management, promoting natural resource management, and facilitating access to global and regional funds. However, the review does not dwell on how ADB will achieve such objectives. Agriculture is not one of the core areas of ADB operations. Sector-level policies and operational plans in energy, transport, and water have increasingly emphasized measures that support both climate change adaptation and mitigation—although such support (other than mitigation through clean energy projects) is yet to be mainstreamed.

ADB rightly acknowledges the need for a holistic approach to meet needs for sustainable development and the challenge posed by climate change. ADB is beginning to design interventions that incorporate holistic approaches. More than 50% of Asia's projected population will live in urban areas by 2030; and demand for food will grow in the coming decades. At the same time, sustainability concerns arising from pressure on land use and the availability of water resources continue to rise. ADB has developed operational plans to support urbanization and overcome the food security challenge in Asia and the Pacific. Both urban growth and agriculture can contribute to, and be affected by, climate change. In articulating these cross-sector operational plans, ADB has recognized the need for a holistic approach that goes beyond an infrastructure focus. The operational plans seek to (i) improve services in urban areas and make them

affordable and sustainable; and (ii) enhance agricultural productivity and connectivity, improve resilience, and reduce food price volatility to meet the food security challenge. Despite these stated objectives, as of December 2013, few interventions that integrate holistic and cross-sector approaches were being designed or planned in support of urbanization and enhanced food security.

Experience with Climate Funds

ADB has managed several funds dedicated to climate change interventions, and has also accessed externally managed climate funds. In the process, ADB has kept itself informed of emerging practices related to access and use of climate finance. By the end of 2013, ADB had set up, managed, and accessed external climate funds of about $1.5 billion. Staff have accessed ADB-managed externally supported funds under the Clean Energy Financing Partnership Facility and the internally resourced and managed Climate Change Fund. Experience gained through the externally managed Climate Investment Funds (CIFs), which are considered as a pilot for the GCF, is particularly useful. The CIFs' four financing windows refer to transformation in much the same way as the GCF, and they are designed to promote a paradigm shift towards a low-emission and climate-resilient development pathway. In accessing finance from CIFs and the Global Environment Facility (GEF), ADB has established working relationships with other MDBs.

Staff have experience in accessing internally managed climate funds for a large number of interventions, but these activities do not provide the relevant experience in project documentation that is required for accessing climate finance from externally managed funds. Staff can secure funding support from internally managed sources quickly and easily by submitting an application as per a standardized two-page format along with a TA or project concept paper. ADB adopted this approach owing to the small volume of financial support that these internally managed funds provide. This ADB support has enabled the delivery of climate finance in line with ADB project timelines. But the simple process for accessing ADB's internally managed climate funds is in sharp contrast to the effort- and knowledge-intensive processes required to secure funding endorsement from CIFs and GEF. The GCF, which will administer the new global financial architecture for climate finance, is expected to seek similarly detailed justifications for endorsing applications.

Operations departments recover only a part of the administrative fees that external funds provide for project cycle management. This practice does not provide incentives to operations departments to access external funds. These external funds provide generous compensation to ADB for the additional staff time and intensive effort required for project preparation, processing, monitoring, and reporting. But operations departments that prepare projects receive only a part of the administrative fees, which does not cover all costs. For GEF-supported projects, the Regional and Sustainable Development Department (RSDD) has instituted a system that enables operations departments to recover consultant and travel expenses, but this arrangement does not cover other additional costs. For CIFs-supported projects, the operations departments are not compensated for the fees that accrue for project implementation. The balance of administrative fees provided by GEF and CIFs goes into the ordinary capital resources (OCR) pool.

ADB has gained some experience leveraging private capital and cofinancing from other development partners. Investment and TA operations supported through trust funds under the Clean Energy Financing Partnership Facility are normally cofinanced from OCR, ADF, TA resources, and counterpart funds. Similarly, Climate

Change Fund-supported projects receive cofinancing from ADB and counterpart resources, even though the fund is financed from ADB's internal resources. Projects supported by GEF and CIFs are also cofinanced mostly with ADB and counterpart resources. In a small number of cases, other development partners or the private sector have been cofinanciers with a climate fund, which has reduced barriers such as high upfront costs and high real or perceived risks. This practice has provided ADB with some useful experience.

CIFs are seen as pilots to the GCF, and they provide pointers on how concepts of transformation, additionality, and leverage can translate into actual practice. The CIFs have four financing windows, which cover 14 ADB countries and the Pacific region. The Pilot Program for Climate Resilience, one of the CIFs' financing windows, focuses on adaptation. This climate resilience program was examined as part of this study, and its operations provide the following pointers:

(i) *Transformation.* Transformational objectives vary across the participating countries and can include (a) institutional strengthening, planning, and budgeting; (b) improved preparedness to manage extreme climate events; (c) increased climate resilience of communities; (d) climate-resilient agriculture; and (e) climate proofing of infrastructure and other assets.

(ii) *Additionality.* In Tajikistan and the Pacific countries, additionality can apply to all activities in the Pilot Program investment plan, as resource constraints have prevented these activities from being initiated before the Program provided the financing. Some countries, such as Cambodia, have a strong preference for grants, although it has utilized concessional loans for adaptation. As development benefits are associated with climate adaptation interventions, there is room for providing additional resources in the form of loans on concessional terms.

(iii) *Leverage*. Projects supported by the Pilot Program in Bangladesh, Cambodia, and Nepal have attracted cofinance from other development partners. There is no leveraging of private capital, which reinforces the fact that the private sector does not normally find climate risk-coping measures financially attractive.

Climate Change Adaptation

To facilitate better estimation of ADB's support for adaptation, upfront project documentation for adaptation projects needs to improve and to provide information on the three criteria for reporting on adaptation finance agreed to by the MDBs in 2012: (i) justifying a project's vulnerability context, (ii) making explicit the intent to address climate change risks, and (iii) establishing a direct contribution of project activities to building climate resilience. ADB and other MDBs formalized an agreement on tracking and reporting on climate finance support in December 2012, although the basic tenets of the agreements were known beforehand. The three agreed-upon criteria need to be addressed upfront in documentation to provide a climate change context (both risk and vulnerability aspects) and state the objectives, outputs, and activities for addressing the vulnerabilities. The study team's review of ADB's project documentation revealed that, even if a liberal approach is adopted—that one or two sentences on the criteria are provided—only 16 of the 100 projects classified as adaptation projects meet

all three criteria. The context—mostly risks from climate change—was included in 79 cases. If project activities directly target climate change objectives, it is expected that a discussion on the three criteria would be automatically reflected in the project documents. Such projects are very rare. Of the 36 agriculture and natural resources projects classified as having adaptation components, only one project directly addressed climate change and incorporated measures to mitigate the adverse impacts of sea-level rise.

ADB's new project classification system seeks to improve compliance with internationally agreed-upon practices for tracking and reporting climate finance initiatives. ADB has experienced difficulties in compiling a comprehensive list of its climate change interventions. The list of climate change projects provided by RSDD to the study team does not tally with the list compiled by the study team from eOperations. In many cases, projects have been classified as adaptation projects when the project documents do not provide evidence to support this classification. The RSDD list has provided the basis for reporting to the international community on ADB's achievements on adaptation finance approvals in 2011 and 2012. Once the proposed revisions in the new project classification system on climate change are implemented, it can be expected that ADB's tracking of adaptation finance will provide better estimates for internal and external reporting purposes.

As per the MDB agreement on tracking and reporting of climate finance, support for management of climate-related disasters can qualify for adaptation finance and climate finance reporting. The joint MDB reports cite financial support to government bodies and nongovernment organizations to better manage increased frequency and/or intensity of climate-related disasters as an example of climate resilience-building activities. This recognizes that disaster risk management falls within the accepted range of vulnerability reduction-focused and impact reduction-focused activities that ADB and other MDBs support. However, a specific intervention will qualify for climate finance reporting if it meets the three above-mentioned criteria for reporting adaptation finance.

ADB's recent work in climate change risk management is consistent with integrated disaster risk management (IDRM) objectives. ADB's IDRM framework aims to increase medium-term and long-term resilience to natural hazards, and ADB is in the process of finalizing an IDRM operational plan by mid-2014. ADB's recent work aimed at furthering climate change risk assessment and adaptation is consistent with IDRM objectives. Such work includes (i) preparation and dissemination of knowledge products that provide insights on addressing climate change-related risks; (ii) use of software tools for climate risk screening and impact assessment; (iii) adaptation interventions supported through climate funds such as the CIFs' Pilot Program for Climate Resilience window; and (iv) innovative forms of insurance to improve the climate resilience of communities and governments.

Climate Change Mitigation

The mainstreaming of mitigation interventions has been limited to clean energy projects. The ADB target of clean energy approvals of $1 billion for 2008 was gradually ramped up to $2 billion by 2013. The clean energy targets for 2008–2013 were comfortably met; the $2 billion target was achieved by 2011. This includes clean energy financing in both energy and non-energy sectors, the latter in sustainable transport modes and energy efficiency measures in agriculture, urban, and water projects. However, ADB has not set targets for overall mitigation finance that includes activities

that promote carbon sequestration. Due to the lack of targets, ADB had to mount a special effort to report overall mitigation finance numbers to the international community for 2011 and 2012. ADB's nonclean energy climate mitigation interventions are estimated to be $287 million for 2011 and $137 million for 2012, and the low level of these figures indicates the need to scale up and mainstream these forms of mitigation interventions. ADB has supported a limited number of sustainable forest and land use management programs to date. ADB can explore opportunities to scale up sustainable transport options that lead to significant GHG mitigation, energy efficiency improvements in energy-consuming sectors, as well as sustainable and resilient management of forest and land use resources.

Estimates for GHG emissions savings from clean energy projects are broadly indicative and can be improved further. ADB and other international financial institutions agreed on a harmonized framework for GHG accounting in 2012. Although this agreement was reached in November 2012, the fundamental concept of verifiability of stated GHG emission savings has been known for many years. Available project documentation falls short of meeting this basic requirement. The baseline or counterfactual scenario against which the GHG emission savings are estimated in ADB's project documents is not explained sufficiently clearly, or baseline emissions are not quantifiable on the basis of data provided. Even where complete information is not available at approval, project documents can provide assumptions and input data used to derive the stated estimates of GHG emissions savings. In 30% of the 63 projects reviewed, data provided in the main report and recommendation of the President document are inconsistent with the information provided in linked documents and supplementary appendixes. IED's 2009 study highlighted the need to introduce a consistent framework for *ex-ante* assessment and the use of a plausible counterfactual to estimate GHG emission savings from projects with significant GHG impacts or savings. To date, these recommendations have been only partly implemented.

ADB has supported the introduction and demonstration of transformative clean energy technologies. Beyond the renewable energy technologies that have approached commercialization (such as wind energy), ADB has also supported, in the People's Republic of China, one demonstration project each for integrated gasification combined-cycle and concentrated solar power. Across multiple countries, ADB has also approved several TA interventions for capacity development and policy analysis related to these technologies as well as smart transmission grids and solar district heating systems.

ADB's nonsovereign operations climate change portfolio is focused on clean energy, although attempts are being made to diversify beyond clean energy projects. The nonsovereign operations (including private sector) clean energy portfolio has stabilized at 35%–45% of ADB's overall clean energy portfolio since 2008. Fewer than 10 projects in ADB's nonsovereign operations portfolio have accessed external climate funds. Venture capital and private equity funds supported through ADB's nonsovereign operations can work on adaptation-related transactions as well as mitigation initiatives, and reporting could be strengthened in this area.

Results Framework

ADB's results framework may be revised to enable the effectiveness of adaptation and mitigation portfolio outputs to be tracked, given that the review of Strategy 2020 at mid-term intensifies the emphasis on adaptation and mitigation initiatives through to 2020. Climate change has been integrated into the corporate

results framework at three levels, which track the state of development across the Asia and Pacific region, success of completed operations, and success at managing new and ongoing operations. An important indicator in the results framework for 2013–2016 is one that tracks the share (by number) of approved investment projects that include adaptation and/or mitigation activities; and TA interventions are not considered. ADB has set a target for 2016 to have 60% of the number of approved investment projects include adaptation and/or mitigation activities, even if they constitute only a minor component of the intervention. The results framework also includes an indicator to track, but does not set targets for, percentage of financing approved for climate change mitigation and/or adaptation. In 2011, the share of ADB support for adaptation and mitigation was less than 25% of its total operations by $ amount (as reported to the international community), and about 40% by number of projects. Therefore, the stated target will give little indication of the share of approved financing ($ amount) for 2016.

Knowledge Products and Services

Knowledge products span a vast range of sectors and themes, and they can be more tightly focused on specific climate change-related transformative areas that are of relevance to multiple developing countries. ADB has produced a large number of infrastructure sector-focused briefing notes, sector guidelines, and case studies since 2009. Many studies incorporate wider aspects of climate change, such as its impacts on food, energy, and people. ADB has produced studies on the economic implications of climate change in specific regions, and has worked towards creating other knowledge products such as wind and solar resource maps and hazard maps. There are opportunities for ADB to generate and share knowledge products in specific transformative areas that are relevant to multiple country governments at various stages of the transformation cycle. Such knowledge can be created (i) from a synthesis of project experience across ADB (for instance, on benefits and costs of upfront climate proofing of transport or water projects versus upfront provisioning for later retrofit of climate-proofing measures versus incorporating no-climate-change measures); and (ii) in emerging areas, such as energy efficiency of buildings as urbanization progresses across Asia (for instance, on building codes, efficient lighting, heating, ventilation, and air-conditioning).

ADB has created several partnerships wherein there are opportunities to increase leverage of both parties' competencies and experience. ADB has created many partnerships to expand its knowledge base and outreach. In the clean energy domain, partnerships have assisted ADB to achieve its financing targets for clean energy projects. In other domains, ADB has not yet leveraged knowledge or other strengths of its partners to any significant degree. To leverage the partnership with the Cities Development Initiative for Asia (CDIA), RSDD has recently begun facilitating monthly meetings between CDIA and ADB operations departments, but it is not clear what has been achieved to date. The meetings inform CDIA of ADB's planned activities sufficiently early in the project development cycle, and will help provide CDIA with sufficient time to conduct socially, environmentally, and institutionally responsive prefeasibility studies—one of its core competencies—in ADB-targeted cities.

ADB's efforts at introducing risk screening processes are well placed and require continued financial support. RSDD has made available a low-cost climate risk screening tool (AWARE for Projects) at the project level, which will establish a minimum level of rigor for screening projects. Operations departments may use the tool but retain the option to use other more sophisticated tools. This online tool will be

sufficient for low-risk projects. For medium- and high-risk projects, a desk study will also be required to identify suitable risk management measures. For some medium- or high-risk projects, climate projections using a more sophisticated tool may also be required. A portion of the 2013 replenishment to the Climate Change Fund is expected to be set aside to support such work. ADB has initiated a process to create a consortium and a data facility for climate projections. This data facility is still at an early stage of development, and even for the three pilot countries where it is being implemented, ADB needs continued financial and technical support from consortium partners to make it effective.

New Products and Services

ADB's Climate Technology Finance Center is designed to meet a perceived need, but it has been difficult to implement its mandate. The Center is intended to promote transfer of and investment in climate technologies and to help mainstream climate technology considerations in development planning. The Center works collaboratively with UNFCCC's Technology Mechanism and the World Intellectual Property Organization. Major barriers—related to technology transfer, planning, adoption, and promotion—will need to be overcome for the Center to be effective. Despite these constraints, at this early stage, the Center has provided lessons on climate change initiatives to other MDBs.

ADB's Carbon Market Development efforts began in the mid-2000s, and significant progress has been made in the compliance market. Through its carbon market initiative, ADB has supported countries in their efforts to develop a pipeline of projects that qualify under the Clean Development Mechanism. In 2009, this initiative was expanded to enable project proponents to leverage post-2012 certified emission reductions to finance upfront project development costs. ADB has supported the setup of a carbon dioxide emissions trading system in two cities in the People's Republic of China. It is expected that the two interventions will provide lessons on meeting the challenges of designing a national emissions trading system in a rapidly growing economy. ADB is working on a World Bank-led Partnership for Market Readiness program, and is supporting the piloting of market-based instruments for GHG emission reductions in Viet Nam. ADB has also supported introduction of grasslands, agriculture and forest offsets, mostly in the People's Republic of China.

ADB has made a start by introducing innovative instruments that support governments' efforts to reduce fiscal risks from natural hazards, and by raising climate finance through the issue of clean energy bonds and water bonds. In 2013, ADB started to support governments' efforts to reduce fiscal risk from natural hazards that affect crops. ADB can benefit from lessons on the experience of many Asian countries that have run crop insurance programs for several years. ADB has made a beginning by introducing affordable disaster risk financing products to reduce fiscal risk from catastrophes that affect homes, enterprises, and infrastructure in urban areas. ADB's IDRM approach and the forthcoming IDRM Operational Plan can contribute to the mainstreaming of support for adaptation. As of November 2013, ADB had raised $821 million through the issue of clean energy bonds, and more than $900 million through the issue of water bonds. In so doing, ADB has leveraged its longstanding experience in raising funds through international and domestic capital markets.

Organization and Staffing

The mainstreaming of adaptation and mitigation (beyond clean energy) will require additional climate change specialists, with a broader skills base, to design and implement these measures. Many of ADB's existing team of climate change specialists were recruited over the past 5 years. More than half of them are focused on clean energy. More than half of them are in RSDD. Although the existing team has been instrumental in mainstreaming mitigation through clean energy interventions, it is difficult under the current arrangements to scale up and mainstream mitigation operations in the transport, water, agriculture, and forestry subsectors. Similarly, it will be difficult to mainstream adaptation interventions (for instance in urban development and food security) with the existing team of climate change specialists.

Within ADB, coordination on climate change-related matters is weak. In RSDD, the climate change-related expertise is housed in the Climate Change Coordination and Disaster Risk Management Unit, and in multiple other divisions and units. Formal interface between RSDD and operations departments occurs mostly through working groups and the Environment Community of Practice. In three of the five operations departments the designated climate change focal points are housed in one of the sector divisions and have project processing responsibilities. Some focal points see their role as supporting preparation and processing of projects being developed by other staff within their department. The focal points recognize the need for a role at a more strategic level that is relevant to the objective of mainstreaming climate change interventions, but are not in a position to perform this role in most departments. Inadequate coordination has made it difficult for ADB to adopt a programmatic approach to implementing climate change initiatives in countries not supported by CIFs—even though ADB recognizes that they are a pilot for the GCF.

Lessons

Considerable effort is required to mainstream adaptation and mitigation responses (beyond clean energy) in a situation where the evolving climate finance architecture propels ADB to work increasingly as a financial intermediary for these funds. To become a partner of choice in climate finance, ADB needs to demonstrate excellence and expertise in transformative areas that are accorded high priority by borrowing countries. Three key lessons emerge from this evaluation:

(i) As ADB accumulates knowledge in specific areas in which many countries intend to transform their economies and societies, there may be opportunities for it to provide guidance to the GCF in the design and monitoring of its programs that aim to achieve transformational outcomes in areas to which developing countries accord high priority. In this way, ADB could position itself as being more than just one of the many implementing entities or financial intermediaries for the GCF.

(ii) ADB can provide support to meet viability gaps through the climate change transformation cycle for a range of adaptation and mitigation options, and it will be important for ADB to innovate with financial products, and to augment resources accessed from climate funds with leveraged finance from public and private sources.

(iii) To scale up and mainstream adaptation and mitigation (beyond clean energy), it will be necessary for ADB to (i) increase nonsovereign and private sector operations in a wide range of adaptation and mitigation domains, and (ii) ensure that the various initiatives that have been

pioneered largely by the knowledge departments are used purposefully by the operations departments.

Recommendations

The target of $100 billion per year of climate finance from developed countries is challenging but feasible. The time it takes to ramp up climate finance significantly provides ADB the opportunity to position itself to be a premier player in the climate change space in the Asia and Pacific region. ADB has already taken several initiatives in this direction, addressed challenges in the design and launch of these initiatives, and has worked closely with other MDBs. Much more needs to be accomplished along these lines. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change, which is being released in phases in 2013–2014, provides a context for ADB to refine its priorities.

IED suggests concerted actions to implement no-regret measures that enable ADB to (i) broker and create new knowledge, (ii) innovate with financial products and leverage resources, and (iii) align its organizational structure and systems with its evolving role in the climate change domain. These suggestions provide a framework for addressing ADB priorities.

Recommendation 1: Create and broker new knowledge to better support developing countries as they transform their economies.

ADB can create new knowledge that is (i) founded on science, economics, and practice; and (ii) focused on transformative areas that multiple countries consider as high-priority areas. For this purpose, ADB could develop and nurture partnerships that provide technical knowledge to support countries in high-priority transformative areas. New knowledge in high-priority areas can be created from a synthesis of relevant past ADB experience. ADB could also harness the expertise of its knowledge partners to design programs and projects in high-priority transformative areas and lay the foundation to create new knowledge. Energy efficiency of buildings and appliances is poised to be one such high-priority area for many countries of developing Asia, given the rapid urbanization rates projected to 2030 and beyond.

In many other areas that require transformative intervention, ADB can create outreach mechanisms and partnerships, and broker knowledge across the Asia and Pacific region and beyond.

Recommendation 2: Introduce innovative financial products and leverage other sources of public and private finance.

ADB needs to innovate with financial products that can facilitate governments' efforts to achieve transformational objectives. Most likely a range of products is required to meet the viability gap at different stages of the transformation cycle. A programmatic approach in the design of adaptation and mitigation interventions would enable ADB to participate in a dialogue with other entities that are better positioned to design and introduce certain financial products. In this way, ADB can focus on its core competencies, while it facilitates countries' efforts to achieve transformative outcomes.

One way ADB can raise finance to support climate change adaptation and mitigation interventions is to build on its limited experience issuing thematic bonds

related to clean energy and water. ADB can explore bond issuances that are dedicated to a wide variety of specific types of adaptation and mitigation solutions subject to investor demand, the availability of an eligible loan pipeline, and a robust project classification system to enable tracking and to meet internal and external reporting requirements on performance.

ADB can increase the leverage of the GCF's public sources of funds with private capital by strengthening private sector operations and the use of public-private partnerships.

Recommendation 3: Take several organizational measures to enable developing countries to shift to low-carbon and climate-resilient development paths.

Efforts to improve coordination at the management and operational levels to facilitate the scaling up and mainstreaming of support for adaptation and mitigation (beyond clean energy), and to increase access to, and leveraging of, climate finance can begin along the following lines:

(i) Align processes, reporting relationships, and incentive systems that encourage (a) a comprehensive and cross-sectoral perspective in the design of intervention strategies and projects; (b) knowledge and experience sharing across knowledge and operations departments; (c) a credible assessment of climate risks and vulnerabilities of proposed investment projects, and mitigation measures; (d) close working with partner organizations, preparation of detailed documentation to obtain climate finance support early in the project cycle, proper GHG accounting, and consistency among all project documents; and (e) transparent tracking and reporting using relevant indicators that are provided on a timely basis. Guidance on project documentation requirements can be refined in consultation with partner organizations.

(ii) Attract and retain staff with expertise relevant to transformational adaptation and mitigation programs. A complement of skill sets will be required to develop innovative solutions (such as structuring of affordable disaster risk-financing programs) and to advise governments (for instance, on policy, regulatory and institutional matters). Such staffing priorities will increase ADB's capacity to access climate funds, and to leverage climate finance from public and private sources.

Management Response

On 21 May 2014, the Director General, Independent Evaluation Department, received the following response from the Officer-in-Charge, Managing Director General on behalf of the Management:

I. General Comments

1. We welcome IED's Thematic Evaluation Study (TES) on ADB's Initiatives to Support Access to Climate Finance. Overall, the TES captures ADB's preparedness and positioning for the emerging global financial architecture for action against climate change well.

2. However, we would like to point out the much broader coverage of the report than what its title implies by discussing planning and implementation issues of our climate change interventions in a variety of sectors. Furthermore, while making critical observations of ADB's track record on important issues such as climate finance tracking support to adaptation, and constructing baselines for estimating greenhouse gas (GHG) emissions, the TES does not adequately recognize that the discourse and methodologies on these issues are still under discussion in the international policy arena, and are evolving rapidly.

3. Such incomplete recognition of the international context could be misleading. For instance, there is no universal agreement on what constitutes climate finance yet. Since 2012, ADB and other multilateral development banks are jointly developing and refining a methodology to broadly define climate finance and track its implementation, which is expected to significantly increase transparency in reporting of our climate finance record in the future.

4. Moreover, it is widely acknowledged that climate finance is an area where the private sector needs to play a critical role, while market failures and lack of an enabling environment through adequate government policies and regulations are quite often sizeable impediments. It is for this reason that the design of the Green Climate Fund, which is expected to channel sources of climate finance at scale, includes a Private Sector Facility. In this regard, the TES does not capture the complex nexus of the public and private sector engagement in the area, and its assessments of ADB's private sector operations in climate change fail to properly appreciate these complexities.

II. Comments on Key Findings

A. Strategy, Policy and Plans

5. We appreciate that the TES recognizes the strategic nature of the Mid-Term Review of Strategy 2020 (MTR) and the key role of operational plans in setting sector level objectives and means to achieve these objectives. We also recognize the need to adopt and scale up cross-sectoral approaches. Such efforts are already underway, as evidenced by the Urban Climate Change Resilience Trust Fund to build climate resilience in secondary cities, and the Secondary Cities Development Program, which incorporates tenets on environment, economics and competitiveness.

B. Experience with Climate Funds

6. The TES alerts that accessing internally managed funds does not enhance internal capacity for accessing climate finance from externally managed funds. This comparison is not relevant given the different nature and purpose of the funds, and different approaches that we have to take accordingly. We also would like to point out that ADB has mobilized significant amount of funds from the Climate Investment Funds ($825.5 million to date) and the Global Environment Facility ($221 million to date).

7. At the same time, however, we recognize that the process of accessing external funds is often more tedious and time-consuming. To ensure greater access of external climate finance, it is important to systematize and provide directions and incentives for incorporating climate considerations into projects in a way that allows these to qualify for external climate finance support. At present, the operations departments are allocated the administrative fees that external funds provide for project management through the overall budget allocations. In line with the MTR, ADB is now developing guidelines to explicitly allocate part of administrative fees to operational departments to better support project administration.

C. Climate Change Adaptation and Mitigation

8. The TES notes that the project documentation for adaptation projects needs to be improved by providing information on the three criteria for reporting on adaptation finance. Steps are already being taken in this direction, with systematic training on the climate section of the revised project classification system.

9. We note that there is still no clear distinction in the TES between risk screening tools and the risk screening process. ADB has introduced a process for screening projects at early stages of concept development to identify and assess potential risks resulting from climate change. The TES does not accurately describe this process nor the tools developed by ADB to support the process.

10. The TES states that mainstreaming of mitigation interventions has been limited to clean energy projects. This overlooks our significant efforts already initiated and being made for sustainable transport and other areas. The Sustainable Transport Initiative (STI) Operational Plan, approved in 2010, aims to increase the share of low-carbon and environmentally sound modes of transport in ADB's transport portfolio to 30% for urban transport (including public transport and non-motorized transport) and 25% for railways by 2020—up from the average levels in 2000–2009 of 2% for urban transport and 17% for railways. Supported by these efforts among others, we expect our interventions will significantly increase for a broader coverage of climate change mitigation matters in the years to come. In Southeast Asia, where mitigation options in forestry and agriculture are the most cost-effective, projects focusing on reducing emissions from deforestation and forest degradation are being prepared for Lao PDR, Indonesia, and the Philippines. We also believe these efforts are indicative of the diversification of ADB's efforts across various fronts.

D. Results Framework

11. We note the TES recognizes that the results framework (RF) has a package of indicators, as well as standard explanatory data (SED) indicators. The RF is still evolving and will be updated to align with the MTR recommendations. Any changes will be

introduced through a consultative process, guided by the MTR recommendations, and the findings from the TES will be taken into consideration in this process.

12. As a broad corporate framework, however, we believe the RF needs to be supported by other appropriate documents, such as operational plans, which include detailed and specific indicators, instead of trying to incorporate too many indicators.

III. Comments on Recommendations

13. **Recommendation 1: Create and broker new knowledge to better support developing countries as they transform their economies.** We agree in principle. We recognize the need to focus on projects that are more strategic and innovative. On the other hand, we also need to recognize what our DMCs demand and expect from ADB in the short term. To strengthen capacity at strategic levels in our DMCs, it is important to create new partnerships with institutions which have expertise and knowledge on climate change and development issues, and to build a network of Centers of Excellence. We will keep pursuing this agenda more closely under the framework of the Knowledge Management Action Plan.

14. **Recommendation 2: Introduce innovative financial products and leverage sources of public and private finance.** We agree. In fact, ADB is already employing innovative financing approaches to leverage public and private finance, such as the issuances of clean energy and water bonds, which the TES has also cited. Another example is the $81.5 million Canadian Climate Fund for the Private Sector in Asia, which uses concessional financing to leverage private finance.

15. ADB is also tapping non-traditional sources such as pension funds, sovereign wealth funds, and other institutional investors as exemplified in the case of the Climate Public Private Partnership Fund (CP3), a $1 billion+ investment vehicle co-managed by ADB and another global financial institution. Our Treasury Department is also assessing the possibility of issuance of green bonds. We have reiterated the role of innovative financing in the MTR, and will examine ways to further expand this frontier.

16. **Recommendation 3: Take several organizational measures to enable developing countries to shift to low-carbon and climate-resilient development paths.** We appreciate these recommendations, however, at the same time we need to take into account surrounding factors and constraints in contemplating their feasibility. ADB is already implementing several ideas suggested by the TES, including creation of opportunities to share knowledge and experience across knowledge and operations departments, including on the assessment of climate risks and vulnerabilities of projects, among others. The current arrangement of a centralized climate change focal team in RSDD-CD for bank-wide activities and coordination, and a network of designated climate change focal points in regional departments with technical expertise in sectors and themes, allows for a flexible approach towards achieving operational outcomes within a limited resource envelope, while much of the substantive coordination around individual themes is centered on dedicated working groups, such as the Agriculture and Land Use Working Group, and the committee of Climate Investment Funds focal points. We will keep examining the effectiveness of the current mechanism and explore ways for enhancement as necessary.

17. Meanwhile, the recommendation for the consideration of establishing a Community of Practice (COP) dedicated to climate change may not be an option to adopt at this stage. Given that climate change is a cross-cutting theme/issue, the

existing COPs should be encouraged to further integrate climate considerations into their work. A good example is the Transport COP, which has established a committee to deal with climate and environment issues in deliberating transport projects.

18. On the issue of staffing priorities, we would like to emphasize potential budgetary implications of the recommendation and reiterate the point that such needs should be carefully assessed against other competing demands in implementing strategic priorities under Strategy 2020.

Chair's Summary: Development Effectiveness Committee

The Development Effectiveness Committee considered the Independent Evaluation Department report, Thematic Evaluation Study: Real-Time Evaluation of ADB's Initiatives to Support Access to Climate Finance (IN.109-14) on 28 May 2014. The following is the Chair's summary of the Committee discussion:

I. Thematic Evaluation Study: Real-Time Evaluation of ADB's Initiatives to Support Access to Climate Finance (IN.109-14)

1. DEC discussed the real time evaluation study which sought to examine how ADB can position itself to improve access to climate finance, develop capacity among developing members to utilize climate finance, and scale up and mainstream support for climate change responses. The report recognized ADB's efforts to address climate change mitigation particularly in the energy and sustainable transport sectors, the policies it has put in place, knowledge products delivered, the use of technical assistance projects, including the screening of projects for climate risks. The study recommended: (i) increasing knowledge creation and brokering activities for mitigation and adaptation measures, (ii) introducing innovative financial products and leveraging sources of public and private finance, (iii) applying a cross-sectoral approach to programs and projects, and (iv) developing multi-sector based teams that draw on diverse skills and expertise. In its response to the report, Management generally agreed with IED's recommendations, but expressed reservations about establishing, at this juncture, a community of practice on climate change due to its cross cutting nature. The response also emphasized that the recommendation relating to staff priorities would need to be considered carefully given its budgetary implications.

II. General Comments

2. DEC members appreciated the timeliness of the report given the ongoing discussions of the midterm review (MTR) of Strategy 2020 and development of the MTR Action Plan, the operationalization of the Green Climate Fund (GCF) in 2014, and the prominence of climate change in the post 2015 global development agenda. A DEC member noted that the report is of particular interest to Pacific developing member countries (PDMCs) given their vulnerability to the effects of climate change and the difficulties they encounter in accessing climate finance. The member also noted that ADB has made excellent progress in assisting PDMCs to access an additional $60 million from the Pilot Program for Climate Resilience and serving as the latter's intermediary with complex international bureaucracies.

3. While noting that the report is a real time evaluation and that data may be inadequate as to be conclusive, another DEC member considered that the report would

have been more instructive if there were ratings on relevance, effectiveness, efficiency and sustainability. Some DEC members also commented on the quality of the report, and encouraged IED to improve the presentation of the research objectives. DEC members also mentioned that it was difficult to extract the key strategic messages from the report and that the conclusion did not clearly address whether ADB was indeed well positioned and prepared to support member countries' access to climate finance. IED responded that a clarification would be made in the way the objectives were stated, and that the report points to the fact that ADB is well-positioned in terms of engaging at the policy making level.

4. Some DEC members questioned whether the expected additional financing for climate change really represents an addition to traditional development funding levels, while others argued that in a realistic scenario, additional climate finance to traditional ODA may be difficult and it is the developing countries who have to exercise a choice of how best to utilize these two streams of financing to meet their development objectives. Staff agreed that while the issue of additionality will not be resolved easily, ADB has had positive experience in accessing $1.6 billion out of an overall resource envelope of $8 billion coming from climate investment funds. Staff emphasized the importance of ADB working with members to help build a portfolio of projects that will be ready when new funding becomes available.

III. On Project Documentation

5. Some DEC members recognized ADB's straightforward process for accessing internally funded and administered funds, e.g. climate change fund, using a two-page format submitted along with a TA or project concept paper. The DEC Chair underscored the importance of a more comprehensive and rigorous process for staff to access internal climate financing. Staff representatives assured DEC that the two-page format is accompanied by a comprehensive analysis. Some members were of the view that ADB should also improve its project documentation in line with international best practice. They also support ADB's joint undertaking with other multilateral development banks (MDBs) to develop methodologies and define the scope of climate finance. Asked about why ADB missed out on accessing the Adaptation Fund, staff mentioned that a vast majority of the funding went to UN agencies and ADB was not able to obtain implementing agency status due to legal issues pertaining to the locus of fiduciary responsibility. Other MDBs reported having similar difficulties accessing the fund due to fiduciary concerns. Also the size of financing available from the Adaptation Fund was quite small, i.e. $250 m total, so it was not worthwhile for ADB to spend too much time resolving the difficult issues. Instead, staff focused on accessing the Climate Investment Fund which had $8 billion.

IV. On Project Classification System

6. DEC underscored the importance of correct project classification and expressed concern about the differences observed in the list of projects identified by IED and by staff as addressing climate change. The DEC Chair also mentioned that he tried but failed to access the revised project classification system and inquired whether the current system accounts for considerations related to climate financing. Staff shared that the revised project classification system rolled out in April 2014 has integrated the methodology jointly developed with other MDBs in categorization of climate mitigation and adaptation actions and associated financing. The system specifies strict criteria that determine whether the project addresses climate change. Related to this, staff mentioned that ADB is also performing quality-at-entry assessment of country

partnership strategies and has also instituted a process where all projects are subject to a climate risk screening exercise. Staff is currently preparing an information paper for the Board providing the rationale for the various changes to the classification system.

V. Impact on Business Process and Staffing Issues

7. Citing new challenges brought about by adaptation, DEC members stressed the importance of greater cooperation and information sharing between RSDD, regional departments (RDs) and OSFMD. Some DEC members mentioned that adaptation components would have an impact on economic analysis of projects, and bidding evaluation practices adopted by OSFMD. DEC members stressed that ADB should have adequate staffing with requisite skills to access climate finance, especially because it also serves as an intermediary for DMCs. In line with the planned staffing review as a result of the MTR, a DEC member asked that this issue be given due attention. Citing ADB's shift to clean energy, staff explained that building staff capacity and expertise takes time and in this case, technical assistance resources were mobilized to hire renewable energy experts who were then deployed across the regional departments to develop the pipeline. Currently, the staffing approach is two-fold: an overall coordination of climate change activities by RSDD, and, engagement of sector experts in sector divisions of RDs, RSDD, and the Communities of Practice to integrate and mainstream climate change initiatives.

VI. On Innovative Financial Products

8. Most DEC members supported the development and use of various financial products to support DMCs such as the issuance of topical bonds, disaster risk financing, and continued support for carbon market initiatives. The DEC Chair requested additional information about ADB's thematic bonds, including issuance and use of funds. Staff cited the Clean Energy Bond as an example, which was issued based on ADB's pipeline of clean energy projects. Staff noted that the bond sales are driven by investors' preference, and that the name of the bond is mostly for marketing purposes. A DEC member expressed skepticism on the need for new financial products, stressing that the question is assessing and putting a price tag on the lack of mitigation and adaptation and then allowing the private sector to develop a business model out of that scenario.

VII. Green Climate Fund (GCF)

9. Staff expressed optimism about the GCF which is expected to be a significant player in the market. ADB is working from two fronts. First is by providing administrative support to GCF in its initial set-up. Second is through DMC readiness for accessing GCF. In this regard, ADB is working with DMCs to build a pipeline of climate related projects such as clean energy, transport, waste projects, and potential adaptation activities, while also supporting development of regulatory frameworks and institutional preparedness so that funding can be accessed. At present, the GCF has broadly agreed on allocation between mitigation and adaptation, but it will not adopt a country allocation system, thereby increasing competition for its resources.

VIII. Private Sector Financing

10. DEC members underscored the potential of private capital to contribute to climate financing as in the case of the clean energy sector, where it cornered most of

the investment. Staff mentioned that the private sector is more nimble because it does not have to go through country programming. Asked what type of measures should be done to tap into private sector capital, IED staff considered that ADB could play a catalytic role in mobilizing the private sector on the demand side by addressing credit risks attendant to private sector participation, such as in the case of public-private partnerships.

CHAPTER 1

Evaluation Focus

1. Global climate change has become an increasingly important issue for the international community over the last decade. To address global climate change issues, a coordinated and collective response is required from governments, international organizations such as multilateral development banks (MDBs), civil society, and the private sector. Dialogues on this matter have been led by the United Nations (UN) and coordinated through its UN Framework Convention on Climate Change (UNFCCC). To effectively participate in the global climate change program, the Asian Development Bank (ADB) needs to implement necessary preparatory activities and position itself as a capable and knowledgeable partner to support and advise its developing member countries (DMCs) on managing the adverse consequences of climate change.

A. Background

2. The Intergovernmental Panel on Climate Change has found that (i) it is extremely likely that global warming is a consequence of increased anthropogenic greenhouse gas (GHG) emissions, and (ii) cumulative total GHG emissions and mean surface temperature are approximately linearly related.[1] In spite of global attention to mitigation of GHG emissions over the past two decades, global GHG emissions have continued to rise. Since the early 1990s, the increase in GHG emissions has been most rapid in Asia, and developing Asia now accounts for more than 35% of global GHG emissions.[2] The frequency and intensity of extreme weather events—the singular most noticeable manifestation of climate change—have increased during this time period. Impacts from these extreme events reveal significant vulnerability and exposure of some ecosystems and many human systems to current climate variability.[3] The Asia and Pacific region, which contributed 25% of the world's gross domestic product from 1980 to 2009, has been most adversely affected by these natural hazards, and has suffered 42% of global economic losses. Linked Document 1 provides further information on these developments.

Developing Asia now accounts for more than 35% of global greenhouse gas emissions

The Asia and Pacific region has been most adversely affected by extreme weather events

3. ADB has been actively engaged in the intergovernmental process to manage climate change under the UNFCCC. ADB has expanded its climate change mitigation (mitigation) portfolio substantially, and is initiating efforts to scale up support for climate change adaptation (adaptation). Over the past few years, ADB has cooperated with other MDBs to put in place investment programs supported by Climate Investment Funds (CIFs) that help countries transform to low-carbon and climate-resilient growth paths.

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[1] Intergovernmental Panel for Climate Change. 2013. *Summary for Policymakers, In: Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the IPCC*. Cambridge, United Kingdom and New York, USA.

[2] PBL Netherlands Environment Assessment Agency. 2013. *Trends in Global CO_2 Emissions: 2013 Report*. The Hague.

[3] Intergovernmental Panel for Climate Change. 2014. *Summary for Policymakers, In: Climate Change 2014: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Fifth Assessment Report of the IPCC,* Cambridge, United Kingdom and New York, USA.

4. ADB's Independent Evaluation Department (IED) has prepared this evaluation report because adverse impacts of climate change are becoming more noticeable, and the need for closer attention to adaptation is becoming more evident. Rather than wait several years to evaluate the initial program of transformative climate change interventions, ADB decided it would be prudent to obtain evaluative feedback at this early stage of providing ongoing support. The evaluation is designed to contribute to the identification of options for improving ADB's approach to mainstreaming support for climate change, and to the design of future programs and interventions.

5. The study team met with staff from various knowledge and operations departments to better understand their perspectives on a range of ADB policies and strategies. Discussions were held on various issues including quality of knowledge products and services; management of ADB climate funds; ability to access externally managed funds; project design, monitoring, and verification; project classification; innovations in technology and financing; institutional level coordination; and capacity issues. The evaluation is expected to feed into IED's other work, such as the Annual Evaluation Review 2014.

B. Evaluation Objectives

6. The study investigates the external climate finance environment and ADB's policies, strategies, plans, initiatives, and project portfolio to assess its preparedness and positioning for enhancing access to climate finance, increasing developing country capacity to attract and utilize climate finance, and scaling up and mainstreaming support for adaptation and mitigation. The evaluation provides lessons and recommendations to enable ADB to increasingly support countries as a knowledge provider and financing facilitator of climate change programs. Potential ADB interventions can include activities that result in enhancing climate resilience, reducing vulnerability and exposure to climate change, and moving to a low-carbon growth path. The study gauges how ADB can enable countries to fulfill their commitments to the UNFCCC.

C. Study Period

7. The study reviews ADB's strategies, programs, and climate change-related experience since 2009, and to a lesser extent experience gained prior to 2009. The study focuses on the portfolio of investment and technical assistance (TA) interventions approved during 2009–2012.

D. Evaluation Framework and Approach

8. The study's evaluation framework reflects the formative nature and learning orientation of this real time evaluation. The ongoing global dialogue on climate change confirms the immediate relevance of ADB's response to climate change in terms of strategic plans and initiatives, as well as the intended results of its climate change initiatives to date. The evaluation reflects the backdrop of anticipated climate finance architecture and country perspectives.

9. The evaluation addresses the following three broad cross-cutting questions: (i) to what extent is adaptation and mitigation support aligned with country needs and ADB priorities; (ii) what is ADB's experience with adaptation and mitigation to date, and how can it be scaled up; and (iii) how can ADB measure and record inputs,

outputs, and impacts of adaptation and mitigation interventions. These questions are addressed in subsequent chapters.

1. Evaluation Issues

10. **Relevance from Climate Talks and MDB Agreements.** Chapter 2 defines the concepts of economic transformation of developing countries and additionality of climate finance. These concepts have been the subject of debate internationally; and they provide the context to evaluate ADB priorities in supporting adaptation and mitigation activities. Chapter 2 highlights key aspects of MDB agreements that provide a methodological basis for tracking of adaptation and mitigation activities and finance.

11. **ADB's Response to Climate Change.** ADB's corporate level, sector-specific, and cross-sectoral policies, strategies, and operational plans are examined in Chapter 3 with the objective of providing an understanding of ADB's orientation supporting countries' efforts to transform their economies to low-carbon and climate-resilient growth paths. Other ADB initiatives that aim to contribute to the scale-up and mainstreaming of support for adaptation and mitigation are discussed. The analysis covers ADB's recent initiatives to set targets for and improve tracking of adaptation and mitigation support.

12. **ADB's Climate Finance Experience.** ADB's experience in raising and managing funds specifically dedicated to supporting climate change interventions is examined in Chapter 4. ADB's experience with the process of accessing externally managed funds and its implications for usage of time and resources by ADB are reviewed in Chapter 4.

13. **ADB's Climate Change Portfolio.** Chapter 5 analyzes ADB's support for climate change interventions during the 4-year period 2009–2012. Issues related to project classification, numbers reported for adaptation and mitigation finance, support for hard and soft adaptation measures, targets and achievements for mitigation support, quality of *ex-ante* estimates of GHG emissions savings, and private sector operations are reviewed. Findings from case studies of ADB's adaptation support in selected vulnerable countries are presented.

14. **The Outlook.** The increasing emphasis on directing climate finance toward supporting country-led transformational agendas in the coming years is discussed in Chapter 6. This chapter discusses in broad terms the implications for ADB, particularly towards aligning itself to increasingly access externally managed climate funds and to raise climate finance from other sources.

2. Evaluation Methodology

15. The study team conducted an analysis of the climate change portfolio that covers all interventions ADB has classified as climate change interventions, as per (i) lists made available by the Regional and Sustainable Development Department (RSDD), and (ii) lists compiled by the study team from ADB's internal databases (notably eOperations). These lists include data on adaptation and mitigation loans and grants for investment projects as well as country-specific TA and regional technical assistance (RETA).

16. The study team prepared case studies on selected countries. The case studies were conducted on the basis of (i) desk reviews and interviews with relevant ADB staff for People's Republic of China (PRC), India, the Pacific region, Pakistan, Thailand, and Viet Nam; and (ii) desk reviews, discussions with concerned ADB staff, and interviews

with in-country stakeholders (such as national, provincial and local governments, executing agencies, implementing agencies, and civil society organizations). In-country interviews were undertaken in Bangladesh, Cambodia, Nepal, and Tajikistan. These countries were selected because ADB has provided adaptation interventions there that were coupled with support from the pilot program for climate resilience (PPCR) window of the CIFs.

17. The study team interviewed ADB staff working on climate change-related matters in knowledge departments, and staff in operations engaged in the preparation, processing, and implementation of adaptation and/or mitigation interventions.

18. The desk study encompassed a review of the following materials:

(i) documents that pertain to ADB's strategy, priorities and plans, country programming, and climate change-related knowledge products prepared by RSDD and selected regional departments;
(ii) literature on climate change mitigation and adaptation funds managed by ADB and/or accessed by ADB;
(iii) intervention-specific documents that include report and recommendation of the President (RRP), memos for supplementary financing or additional financing, TA and project completion reports, and documents available on eStar, such as concept papers, back-to-office reports (BTORs), consultants' reports, comments received from fund managers or trustees of relevant climate funds, supplementary appendixes on climate change (if any), and other relevant documents at the preparation and processing stages, and background information to verify GHG emission reduction estimates for mitigation projects;
(iv) country portfolio review mission documents (including background papers, aide-memoires or memoranda of understanding, and BTORs) for case-study countries;
(v) ADB's official databases such as eOperations (eOps), and loan and grant financial information services;
(vi) data on resident skills on climate change adaptation and mitigation (especially climate change specialists and sector specialists in energy, transport, water, urban, agriculture, environment, and natural resource divisions), as provided by the Budget, Personnel and Management Systems Department (BPMSD);
(vii) national and/or local economic development plans and priorities, national climate change plans and activities; and
(viii) other relevant literature from intergovernmental organizations, research institutions, and academic bodies.

3. Evaluation Limitations

19. This evaluation does not address the following issues: (i) whether or not climate change has occurred or will occur in the foreseeable future; (ii) broad economy-wide implications of climate variability and change on economic development; (iii) countries or geographies or communities in the Asia and Pacific region that are most vulnerable or most exposed to climate change; (iv) the success of DMCs in directly accessing climate finance; (v) the optimal mix of mitigation and adaptation finance; and (vi) whether or not, and if so to what extent, climate finance needs to be diverted from supporting mitigation to adaptation activities. The study findings are based on data and information available to date.

20. The lack of time and resources available for the study did not allow for (i) a detailed analysis of change management aspects required for ADB to mainstream support for adaptation and mitigation across sectors and countries, nor (ii) an analysis of how existing climate change resources and capacity have been used on activities linking disaster risk management and climate change adaptation. In a prior study, IED has provided lessons for mainstreaming disaster risk reduction, lessons from disaster recovery projects, and recommendations that point toward integration of climate change and natural disaster-related activities.[4] ADB has mainstreamed clean energy support in its operations, and the policy-level and TA support for GHG mitigation activities—which were analyzed in a previous IED study—are not updated.[5] Project portfolio analysis is limited to projects approved during 2009–2012.

[4] IED. 2012. *Special Evaluation Study, ADB's Response to Natural Disasters and Disaster Risks*. Manila, October.

[5] IED. 2009. *Greenhouse Gas Implications of ADB's Energy Sector Operations*. Manila, October.

CHAPTER 2

Relevance from Climate Talks and MDB Agreements

21. At its most basic level, adaptation to weather and climate has always been a feature of human life. Even though adaptation has been promoted as part of normal economic development, an adaptation deficit has always existed. The observed rise in global mean temperatures, frequency and intensity of extreme weather events during the past few decades, and anticipated future climate changes are expected to exacerbate the adaptation deficit. A concerted effort is required to reverse the trend in the rising adaptation deficit. The need to encourage transformation in developing countries through deployment of additional resources is recognized by the global community. Emerging concepts, related issues and aspects of MDB agreements are summarized below, and detailed in Linked Document 1.

Transformation of economies and societies to a low-carbon trajectory and climate-resilient development path will be essential

A. The New Paradigm

22. The global community recognizes that (i) it is extremely likely that the rise in global mean temperatures and incidence of extreme weather events over the past few decades is a consequence of increased GHG emissions, and (ii) climate change-induced stresses can potentially undermine progress in reducing poverty and improving economic well-being. A business-as-usual (BAU) approach to development will lead to a continuation of past trends of increasing GHG concentrations and increasing exposure and vulnerabilities to climate change. Transformation of economies and societies to a low-carbon trajectory and climate-resilient development path will be essential.

The Green Climate Fund has identified a preliminary set of priority result areas that have transformation potential and provide development co-benefits

23. The post-2015 global development agenda defines Sustainable Development Goals (SDGs) and seeks to address in a holistic and balanced manner the three dimensions of sustainable development (economic, social, and environmental) and their interlinkages. Efforts are being made by the UN to articulate SDGs that are transformative and address the challenges ahead. Management of challenges posed by climate change is recognized by the UN as one of the most important goals it needs to address.

24. Economic transformation has been discussed extensively by the international community, and through UNFCCC processes. Transformation can take place along several dimensions, and it is difficult to foresee all possible types of low-carbon growth and climate-resilience building transformative paths that may occur. The Green Climate Fund (GCF) has identified a preliminary set of priority result areas that have transformation potential and provide development co-benefits (Table 1). These priority result areas are multidimensional, not mutually exclusive, and reflect the need to adopt a comprehensive approach to economic transformation that supports climate change objectives.

Table 1: Priority Result Areas for Economic Transformation

Result Area	Coverage
Mitigation result areas	Energy efficiency of buildings and appliances
	Energy efficiency of industrial processes
	Low-emission transport
	Low-emission energy access
	Large-scale low-emission power generation
Adaptation result areas focusing on particular Exposure Units	Sustainable land use management, agriculture, and rural adaptation
	Ecosystem and ecosystem-based adaptation
	Design and planning of cities (adaptation and mitigation links emphasized)
	Sustainable forest management (emphasizing adaptation and mitigation links)
	Climate-resilient infrastructure
	People, health, and well-being
Adaptation result areas focusing on particular adaptation approaches	Readiness and capacity development (emphasizing adaptation and mitigation links)
	Effective community-based adaptation
	Approaches to risk sharing and transfer
	Programmatic and transformative adaptation activities
	Coordination, knowledge hubs, and South-South exchange
	Cross-cutting themes ("flagships") across result areas
Cross-cutting result area	Adaptation activities to reduce climate-related vulnerabilities

Source: (i) Green Climate Fund. 2013. *Business Model Framework: Initial Result Areas and Performance Indicators*. Paris, France, September; and (ii) Green Climate Fund. 2014. *Additional Result Areas and Indicators for Adaptation Activities*. Bali, Indonesia, February.

B. The Continuum of Development and Adaptation

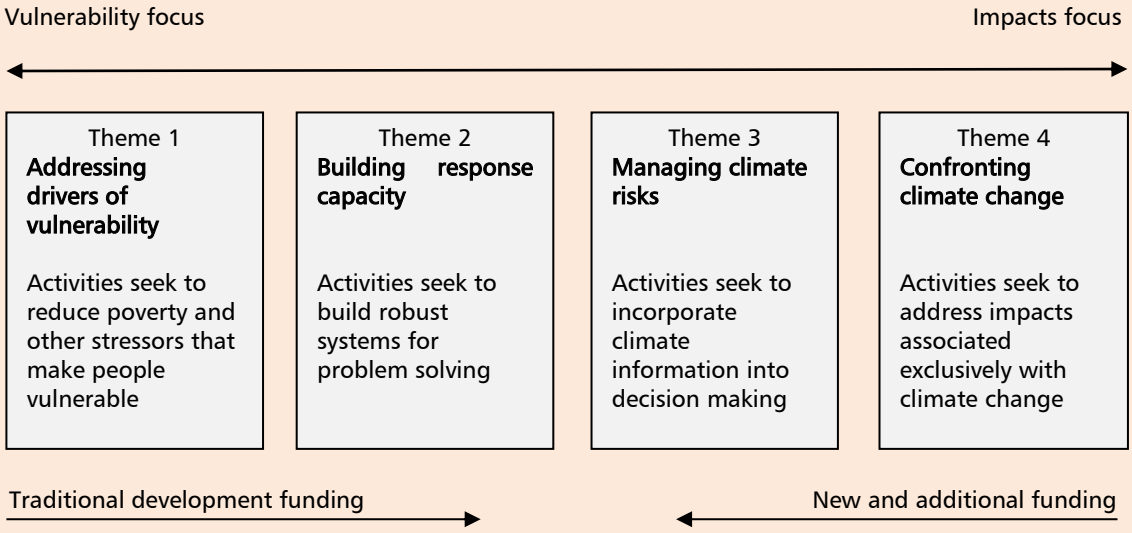
25. Economic development and climate adaptation are not identical, although there are areas of overlap. Figure 1 summarizes an often quoted framework that shows a range of climate adaptation activities along a continuum. Themes 1 and 2 address a range of vulnerability drivers and response-capacity issues that provide a strong development foundation and are not limited to climate change-related threats. Interventions under Themes 1 and 2 are justified primarily on the basis of their development benefits, and may address climate threats, or provide climate resilience benefits.[6] In contrast, interventions under themes 3 and 4 directly address risks associated with climate variability and change, and they are justified primarily on the basis of their propensity to reduce weather- and climate-related impacts. Theme 3 can encompass management of risks associated with climate variability (the domain of traditional disaster risk management). Theme 4 focuses entirely on the management of specific impacts from climate change that are beyond historical experience.[7]

Economic development and climate adaptation are not identical, although there are areas of overlap

[6] Interventions under Themes 1 and 2 can also address threats arising from earthquakes, epidemics, civil war, and terrorism.

[7] Such as relocation due to sea-level rise, building coastal defenses owing to sea level rise, or managing glacial lake outbursts.

Figure 1: The Development – Adaptation Continuum



Source: Based on Heather McGray, Rob Bradley, Anne Hammill, E Lisa Schipper and Jo-Ellen Parry, 2007. *Weathering the Storm: Options for Framing Adaptation and Development*, Adapted from World Resources Institute. Washington DC.

C. Additionality of Financial Resources

The need to increase the global resource envelope to address threats from climate variability and change is widely recognized

26. The concept of additionality is open to various interpretations. The need to increase the global resource envelope to address threats from climate variability and change is widely recognized. However, the estimation of a baseline value for traditional official development assistance (ODA) is a subject for debate.

27. In general, the additionality concept includes investment that would not be required if adaptation measures (related to climate variability and change) and GHG mitigation measures were not relevant. From a developing country perspective, additionality can refer to allocations for activities that help overcome financial constraints to addressing climate change concerns. Additional financial resources made available to support climate change adaptation- and mitigation-related measures are referred to as adaptation finance and mitigation finance, respectively, and are referred to collectively as climate finance. Adaptation finance and mitigation finance are generally treated separately, as synergies and trade-offs between these activities are still not well understood.

D. Estimates of Climate Finance

Private capital flows have been the major component of climate finance

28. Given that global attention initially focused on the reduction of GHG emissions, mitigation accounts for a high proportion of climate finance allocations and investments. Less than 20% of climate finance was allocated globally to adaptation in 2012.

29. Table 2 shows that in 2012, private capital flows accounted for more than 60% of climate finance. Private capital flows have been the major component of climate finance, but they are primarily limited to mitigation interventions. Private capital has predominantly supported investments in clean energy. Although investment in clean energy continues to account for most of global climate finance investments, estimates

indicate that it has contracted for two consecutive years—2012 and 2013.[8] Private sector support for adaptation has been limited.

30. Public sector sources of climate finance, including development finance institutions (encompassing MDBs) accounted for about 33% of total climate finance. The public sector's dominance in delivering adaptation finance reflects its longstanding experience in providing development assistance for activities that are relevant to adaptation. To date, public sector-financed climate funds have accounted for less than 1% of total climate finance.

To date, public sector-financed climate funds have accounted for less than 1% of total climate finance

Table 2: Global Climate Finance Estimates ($ billion)

Sources	2010–2011	2012
Public Sources		
- Government budgets	16.0–22.6	12
- Development finance institutions	76.8	122
- Climate funds	1.5	1.6
Private Sources		
- Project developers	115.0–129.3	102
- Corporate actors	69.3–80.5	66
- Households	32.3	33
- Institutional investors	0.6	0.4
- Commercial financial Institutions	30.7–40.4	21
- Venture capital, private equity, and infrastructure funds	2.4	1.2
Total	343–384.8	359

Source: Climate Policy Initiative. 2012. *The Landscape for Climate Finance 2012*. San Francisco, December; and Climate Policy Initiative. 2013. *The Global Landscape of Climate Finance 2013*. San Francisco, October.

E. Adaptation and Mitigation: Activities and Finance Tracking

31. Similarities between BAU development interventions and activities that lead to adaptation to climate change make it difficult to ascertain the extent to which a particular project intervention supports the development of resilience and reduction of vulnerability to climate change. Difficulties are encountered in demarcating the mitigation component of an investment project.

Multilateral Development Banks have been working towards a common approach to reporting on climate finance activities

32. MDBs have been working towards a common approach to reporting climate finance.[9] Two joint MDB reports (on adaptation finance and mitigation finance, respectively) were released in December 2012. One report provided an agreed-upon framework for reporting of adaptation finance,[10] which is based on the presentation of information on three qualifying criteria in upfront project documentation: (i) justification of a project's vulnerability context, (ii) making explicit the intent to address climate change risks, and (iii) establishing a direct contribution of project activities to building climate resilience.

33. As per the joint report on mitigation finance,[11] an activity can be classified as contributing to climate change mitigation if it promotes efforts to reduce or limit GHG emissions or enhances GHG sequestration. In the absence of a commonly agreed-upon

[8] See http://www.theguardian.com/environment/2013/jan/14/clean-energy-investment-fell-2012; and http://www.theguardian.com/environment/2014/jan/15/global-investment-clean-energy-falls

[9] In keeping with an agreement reached by the international community at the United Nations Conference on Sustainable Development, held in Rio de Janeiro (Brazil) in June 2012 (Rio+20).

[10] http://climatechange.worldbank.org/sites/default/files/Joint%20MDB%20Report%20on%20Adaptation%20Finance%202011.pdf

[11] http://www.eib.org/attachments/documents/joint_mdb_report_on_mitigation_finance_2011.pdf

method for GHG analysis among MDBs, mitigation activities considered in the joint approach are assumed to lead to emission reductions, on the basis of past experience and/or technical analysis. Ongoing efforts to harmonize GHG analysis among MDBs will bring more consistency in the identification of mitigation activities in the long term.

34. Both joint reports provide a list of activities that can qualify for mitigation finance or adaptation finance. The list for adaptation comprises a mix of broad categories and illustrative examples, while the list for mitigation is relatively more definitive.

35. The MDBs released a new joint report in November 2013 that covers both adaptation and mitigation finance.[12] This report provides regional and sector breakdowns of climate finance, and avoids double counting for projects that contribute to both mitigation and adaptation. Due to the difficulties in estimating allocations on adaptation and mitigation measures in MDB interventions, the new report mentions some simple approaches to allocate funds between these activities (for instance, splitting mitigation and adaptation finance on the basis of number of activities). Internal tracking and monitoring systems within MDBs will need to be refined to arrive at better estimates of overlaps between mitigation and adaptation allocations.

[12] http://reliefweb.int/sites/reliefweb.int/files/resources/climate-finance-2012.pdf

CHAPTER 3
ADB Response

36. In line with international developments, ADB initially focused on supporting its DMCs on GHG reduction mitigation measures. ADB started capacity development activities for mitigation in the mid-1990s, and investment support for mitigation projects in the early 2000's. Mitigation support that centered on clean energy has accelerated since the mid-2000s, with the launch of the Energy Efficiency Initiative and the Carbon Market Initiative. Further details are in Linked Document 2. In recent years, ADB has turned its attention to climate change adaptation, which has led to an emphasis on scaling up support for climate adaptation for projects vulnerable to climate risks.

37. ADB has endeavored to position itself as a provider of finance and expertise on managing climate change-related issues and has developed a wide array of strategies, policies, and operational plans. ADB has implemented several initiatives that can potentially contribute toward supporting developing countries in achieving relevant transformative climate change outcomes.

A. ADB-wide Framework for Climate Change

38. ADB has formulated strategies, policies, and plans at the corporate, sector, and thematic levels.

1. Strategic Directions

39. **ADB Corporate Strategy.** As outlined in Strategy 2020 produced in 2008,[13] ADB refocused its operations into five core specializations, one of them being environment, including climate change. ADB seeks to provide support to countries to move their economies onto low-carbon growth paths and adapt to the unavoidable impacts of climate change (including health-related impacts). ADB seeks to make Asian cities more livable by supporting national and municipal governments in addressing a range of local environmental problems through measures that impinge on climate change. Examples include cleaner modes of transport and improved solid waste management systems. The midterm review of Strategy 2020 emphasizes support for clean energy investments and sustainable transport, in addition to scaling up support for climate adaptation (by addressing climate risks of vulnerable projects), strengthening integrated disaster risk management, promoting natural resource management, and facilitating access to global and regional funds. Although significant impacts of climate change can occur in the agriculture and natural resources (ANR) sectors, and the midterm review recognizes the importance of food security issues and Environmental Operations Directions (see para 40), agriculture is not included in the core areas of ADB operations. The midterm review does not dwell on how ADB will achieve such objectives.

ADB seeks to provide support to countries to move their economies onto low-carbon growth paths and adapt to the unavoidable impacts of climate change

[13] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila.

40. **Priorities for Action.** ADB documented its priorities for climate change in 2010.[14] This document serves as the *de facto* ADB climate change strategy. It lists five priorities, three of which focus only on mitigation measures; one focuses only on adaptation, and the last supports both classes of responses to climate change.[15] The level of detail in the listing of the three mitigation priorities (clean energy, transport and urban, and land use and forests) is not matched by the broad-brush approach to the sole adaptation-only priority, which spans several sectors (agriculture, transport, urban, water). This mix of priorities reflects the fact that in 2010, ADB was in the initial stages of turning attention to adaptation. Of the mitigation priorities listed in this document, significant progress has been achieved only for clean energy.

Climate change mitigation and adaptation cut across all other environment operational directions

41. The Priorities for Action document recognizes that water is the principle medium through which impacts are manifest on food security, energy security, and migration[16]—be it flooding, drought, or sea-level rise. The document proposes three modalities to move forward, which are relevant equally to adaptation and mitigation: (i) mobilizing and innovating to meet financing needs, (ii) generating and disseminating knowledge, and (iii) cultivating and fostering partnerships.

42. **Environment Operational Directions.** Through the Environment Operational Directions (EOD) document of 2013,[17] ADB endeavors to strike a balance in its operations between climate change adaptation and mitigation. The EOD acknowledges and emphasizes that climate change mitigation and adaptation cut across all other operational directions and identifies the following priorities: (i) promoting a shift to sustainable infrastructure that contributes to low-carbon development and increased resilience to climate change; (ii) investing in natural capital to ensure that environmental goods and services can sustain future economic growth and well-being, contribute to carbon sequestration, and increase climate resilience; and (iii) strengthening environmental governance and management capacity, including the strengthening of country systems for environmental safeguards.

Energy, transport, and water sector policies and plans have been updated or augmented to orient them to address climate change-related issues

43. In addition to the list of supporting modalities outlined in the Priorities for Action document of 2010, the EOD adds the following three supporting modalities: (i) promoting regional cooperation and integration, (ii) complementing and facilitating operations through inputs from various knowledge departments and communities of practice (COPs), and (iii) mainstreaming environmental considerations into ADB operations. The latter modality refers to continuation and expansion of ongoing efforts for upstream environmental analysis, monitoring and assessing safeguard performance, and monitoring ADB's carbon footprint. The EOD falls short of explicitly stating its endeavors to reduce the carbon footprint for all infrastructure and other investments supported by ADB.

2. Sector Policies and Operational Plans

44. ADB operations have been sector focused for several years. During this period, the energy, transport, and water sector policies and plans have been updated or augmented to orient them to address climate change-related issues.

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[14] ADB. 2010. *Addressing Climate Change in Asia and the Pacific: Priorities for Action*. Manila, April.

[15] The five priority areas are (i) expanding the use of clean energy; (ii) encouraging sustainable transport and urban development; (iii) managing land use and forests for carbon sequestration; (iv) promoting climate-resilient development; and (v) strengthening policies, governance, and capacities.

[16] In that agriculture is a big water user; energy sector is a major water user (for cooling power plants and producing biofuels); and large populations live in coastal areas within 5 meters above sea level.

[17] ADB. 2013. *Environmental Operational Directions 2013–2020: Promoting Transitions to Green Growth in Asia and the Pacific*. Manila.

45. **Energy.** ADB's current energy policy of 2009[18] is designed to help countries move toward a low-carbon economy. The policy supports the mainstreaming of climate change mitigation activities through investments in GHG abatement projects and developing capacity to identify such projects and low-carbon development strategies. The 2009 energy policy is broadly consistent with the previous policy of 2000, which aimed to support end-use efficiency improvement, renewable energy, and a switch to cleaner fuels—albeit as measures to improve the local environment. As a result, the Energy Efficiency Initiative launched in 2006, which set targets for clean energy investment support, fits very well within the fold of the 2009 energy policy. Targets set for 2008–2013 ($1 billion per year ramped up to $2 billion per year) have been exceeded. The 2009 energy policy recognizes that the impacts of rapid climate change are expected to be profound in Asia and the Pacific, where many natural ecosystems are vulnerable to climate change and in some cases may be irreversibly damaged.

46. **Transport.** ADB established the Sustainable Transport Initiative (STI) in 2010,[19] which serves as the transport policy and is aligned with Strategy 2020. The STI aims to provide technical and other resources to proactively assist countries to develop transport systems that are sustainable, and to mainstream adaptation and mitigation in ADB's transport sector operations. The STI sets an operational target to reduce ADB support for the road subsector from 78% (in 2000–2009) of total transport sector approvals to 42% by 2020. The transport policy also targets an increase in support for the rail subsector to 25% by 2020 and for mass transit and nonmotorized transport in urban settings to 30%.[20] The STI seeks to introduce tariff regimes that favor cleaner transport modes; and to invest in affordable, safe, environmentally friendly, and intelligent transport systems, and missing links to shorten travel distances. Climate proofing of transport infrastructure is an important STI priority, and proposed initiatives include making climate adaptation adjustments to engineering specifications, alignments, and master plans. The objectives defined in the STI are consistent with ADB commitment at the Rio+20 Conference to invest $30 billion in sustainable forms of transport infrastructure over a 10-year period.[21]

47. **Water.** ADB's water policy of 2001 serves as a roadmap for water sector investments, reforms, and capacity development. The policy recognizes the need for ADB to formulate and implement integrated, cross-sectoral approaches for water management and development.[22] The water policy recognizes that water management begins with sound principles for water governance and stakeholder involvement, and views water as both a resource and a service.[23] The Water Operational Plan[24] for 2011–2050 recognizes the challenges posed by water stress, which is driven by (i) economic development, population growth, and increased urbanization on the one hand; and (ii) water resources threats from pollution that are being compounded by increased variability of fresh water as a result of climate change. The operational plan identifies a range of activities as priority areas to address these stresses, including integrated water

[18] ADB. 2009. *Energy Policy.* Manila, June.
[19] ADB. 2010. *Sustainable Transport Initiative: Operational Plan*. Manila, July.
[20] In 2012, more than 20% of transport approvals were for sustainable transport projects in urban areas, up from 2% during 2000–2009 (see: http://www.adb.org/publications/toward-sustainability-appraisal-framework-transport).
[21] This ADB commitment is part of the $175 billion commitment made by eight MDBs at the Rio+20 conference in Rio de Janeiro, Brazil in June 2012. Sustainable transport includes light rail transit, metro rail systems, conventional buses, bus rapid transit, bicycle and walking infrastructure, inland waterways, road safety, energy-efficient vehicles, and improved fuels. See http://www.adb.org/news/billions-benefit-rio20-transport-commitment
[22] ADB. 2001. *Water Policy: Water for All.* Manila, October.
[23] ADB. 2005. *ADB Water Policy as Guide for Investments.* Manila.
[24] ADB. 2011. *Water Operational Plan 2011–2050.* Manila.

resource management, expanded knowledge and capacity development, partnerships with the private sector, and efficient water use and waste water management. The water policy aims to sustain ADB's water sector investment at $2 billion to $2.5 billion per year from 2011 to 2020. In practice, to date, ADB has emphasized improvement of water supply services and demand management, and there has been limited investment in the area of water resource management.

3. Cross-sectoral Policies and Operational Plans

48. ADB is in the process of defining its role in urban development and sustainable food security. In so doing, ADB has the opportunity to take a fresh look at investments and capacity development-related objectives and targets across various infrastructure sectors and set them in the context of these cross-sectoral climate change themes. It is anticipated that both urban development and sustainable food security issues will become increasingly important in the coming decades.

With a high concentration of people, infrastructure, and other assets, the challenge will be to increase the resilience of cities to climate change

49. By 2030, about 55% of Asia's projected population of 4.8 billion will be urban.[25] With a high concentration of people, infrastructure, and other assets, the challenge will be to increase the resilience of cities to climate change. Designing and building cities that have a minimal carbon footprint will make it easier to meet this challenge. A large part of the remaining rural population of more than 2 billion will most likely be engaged in agriculture (which includes agricultural services, livestock and fishing, storage, and transportation).[26] The challenge of securing livelihoods of a large and dispersed rural population will make it necessary to address threats from climate change to agriculture and the entire food supply chain.

50. **Urban Development.** With rapid rates of urbanization projected to continue up to 2030, cities and towns will be growing and engulfing periurban and rural areas (footnote 25). ADB's approach to addressing climate change-related issues in urban areas has been shaped within the holistic scope and vision for addressing climate change. Strategy 2020 establishes a commitment to support environmentally sustainable growth to strengthen regional initiatives for mitigating and adapting to climate change due to Asia's rising contribution to GHG emissions. The Priorities for Action document of 2010 focuses on urban development and climate change, although it directs attention primarily to sustainable transport. The document articulates a vision for mitigation through alternative means of low carbon mobility, including modern mass transit systems, more efficient vehicles, cleaner fuels, and sound urban and intracity transport plans. The adaptation focus of the document is directed to help make transport infrastructure resilient to adverse impacts of climate change. The document highlights the opportunity to address GHG emissions through better landfill design and waste water treatment facilities.

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[25] ADB. 2011. *Competitive Cities in the 21st Century: Cluster-based local economic development (Urban Development Series)*. Manila.

[26] Data on employment in agricultural and related services and supply chains across all developing countries that ADB supports are not readily available. Available employment data cover agriculture, fishery, and forestry but exclude services completely (which include agriculture extension services as well as storage, handling, and transportation systems). Nonetheless, available data do show that the agriculture sector accounts for a substantial share of total employment in many developing countries in Asia and the Pacific (http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators#s_e).

51. The other multiple facets of urban development are addressed in the urban operational plan released in 2013.[27] This plan shifts the focus from assets and infrastructure to a more holistic approach to urban development through its stated mission "to catalyze a new form of climate-friendly and resilient, inclusive, competitive and environmentally sustainable urban development in Asia and the Pacific." Through this new paradigm, the operational plan explicitly expands the focus on urban development to (i) encompass transportation, water, waste water, sanitation, and energy; and (ii) establish a linkage between social and economic aspects of urbanization along with environmental considerations. As a result, three subthemes have been created, and they are beginning to be operationalized through the Green Cities, Inclusive Cities, and Competitive Cities initiatives.

52. **Sustainable Food Security.** Strategy 2020 recognizes sustainable food security as a crucial element in ADB's long term strategic framework. ADB identifies sustainable food security as one of the critical contributors to the region's economic transformation in the coming decades.[28] The operational plan recognizes that over the coming decades, demand for food and cereals will continue to increase at least in the populous parts of the region (South and East Asia), while many challenges will continue to persist and even intensify, such as (i) declining land and water resources, with stagnating or declining crop yields, productivity, and production; (ii) threat of climate change and consequent food price volatility; and (iii) inadequacies of access to rural finance, infrastructure, technology, markets, and nonfarm income opportunities.

Demand for food and cereals will continue to increase … while many challenges will continue to persist and even intensify, such as… the threat of climate change and consequent food price volatility

53. Towards achieving the goal of sustainable food security in developing Asia, the operational plan calls for the adoption of a comprehensive multisector approach to developing inclusive food and agriculture value-chain networks involving economic and social sectors, engaging rural and urban economies, and linking domestic and international markets. The plan proposes a three pronged approach: (i) enhancing the productivity of food and related rural economy; (ii) improving connectivity among producers, food and agriculture industries, markets, and consumers; and (iii) improving the resilience of agriculture to impacts of climate variability and change, as well as mitigating the effects of food price volatility. The plan proposes developing partnerships, enhancing ADB support for agricultural research, in-house policy research, and knowledge sharing. For 2010–2012 ADB's annual multisector engagement was envisaged to reach a level of $2 billion.

B. Supporting Initiatives

54. In line with ADB's high-level strategic objectives and directions, it has initiated several programs in the domains of knowledge management, new product and services development, and performance tracking and reporting. Various organizational measures have also been initiated. Many of these efforts are still in the initial stages of development (i.e., prior to, or early in implementation). To what extent these initiatives can contribute to transforming countries' efforts to move to low-carbon and climate-resilient growth paths is uncertain.

1. Knowledge Sharing and Management

55. New challenge areas, such as climate change, give rise to new knowledge needs. ADB recognizes that by putting knowledge at the center of development efforts, it can better understand the emerging needs of developing country governments and

[27] ADB. 2013. *Urban Operational Plan 2012–2020.* Manila.
[28] ADB. 2009. *Operational Plan for Sustainable Food Security in Asia and the Pacific.* Manila, December.

citizens. The active participation and strong collaboration among stakeholders in preparing knowledge products, and the willingness of clients to apply this knowledge, are among the factors that have contributed to successful knowledge products and services.[29] On climate change-related matters, ADB is well positioned to act as a knowledge broker; and it has begun to bridge some knowledge gaps.

On climate change-related matters, ADB is well positioned to act as a knowledge broker; and it has begun to bridge some knowledge gaps

a. Knowledge Material and Its Dissemination

56. ADB has prepared and disseminated data and information on causes and implications of climate change for more than a decade.[30] Strategy 2020, which came into effect in 2009, calls for 80% of operations to be conducted in five core areas—two of which are infrastructure and environment (which includes climate change). As a result, many infrastructure sector-related knowledge products have been created since 2009. These products include sector briefing notes and guidelines, as well as project-specific case study material (see Box 1). Operations departments have also worked towards creating knowledge products, such as wind and solar resource maps and hazard maps. Operations departments have supported countries in preparing background or concept notes for specific mitigation and adaptation options as per the target country's climate change priorities.

Box 1: Adaptation Technical Resources

Briefs. To bring to the attention of ADB Management risks related to climate change across sectors, RSDD has prepared sector briefing notes for the agriculture, energy, health, transport, urban development, and water sectors. The briefing notes provide the following information at a suitably high level:

- Technological options for infrastructure and other investments, and management practices and approaches that cover a range of options for adaptation to climate change.
- Financial and risk-sharing options that can contribute to enhancing resilience, such as insurance schemes, increasing access to credit (including microfinance), and private sector participation.
- Means to improve access to weather forecasts, and to promote awareness and knowledge of response options.
- Areas for further improvement of adaptive capacity, such as through assessment of climate change impacts on biophysical and socioeconomic factors that help identify hotspots and prioritize adaptation activities.

Sector Guidelines. With the objective of providing insights about addressing climate change risk concerns to relevant ADB staff as well as executing and implementing agencies in DMCs, ADB has begun preparing guidelines for specific sectors and subsectors. As of Q3 2013, only three such guidelines were available (for road projects, power projects, and agriculture); other guidelines are under preparation. The guidelines provide the following types of information:

- sector-wide vulnerability to climate change,
- implications of pursuing the BAU option,
- design and other non-engineering options to manage risk,
- approach to climate proofing a project (screening for risks, selectively managing identified risks, implementation, monitoring and evaluation), and
- incorporating adaptation strategies into policy and sector planning.

Case Studies. With the objective of showcasing success stories wherein ADB has addressed climate change risks in infrastructure projects, ADB has compiled specific case study material. These case

[29] IED. 2012. *Knowledge Products and Services: Building a Stronger Knowledge Institution (Special Evaluation Study)*. Manila, November.

[30] In the late-1990s, the focus was on climate change mitigation. The first attempt to address some impacts of climate change was reflected in a 2005 publication that focused on increasing adaptive capacity for climate proofing of infrastructure projects. Refer to ADB. 2005. *Climate Proofing: A Risk-based Approach to Adaptation (Pacific Studies Series)*. Manila.

studies are prepared for projects where climate change risks have been assessed in some detail.[a] Case studies have been of interest to ADB staff and a wider audience beyond ADB. RSDD has taken the lead in preparing many case studies. Projects for which such case studies have been prepared or are under preparation include the (i) O Mon IV Combined Cycle Power Plant in Viet Nam, (ii) Aviatu Port Development Project in Cook Islands, (iii) Rural Roads Improvement Project in Cambodia, and (iv) Central Mekong Delta Region Connectivity Project in Viet Nam. One operations department has also compiled information to showcase the Khulna water supply project in Bangladesh. The case studies typically include

- contextual information about the project and its surrounding environment;
- a description of the methodology to assess climate change risks and to scope adaptation measures;
- key climate change parameters to which the project is most sensitive, and an assessment of vulnerability to those parameters; and
- establishing priorities with measures to mitigate the vulnerabilities.

ADB = Asian Development Bank, RSDD = Regional and Sustainable Development Department.
[a] Consultants prepare detailed climate risk assessment reports that facilitate decision making on the measures to be taken to address those risks; with this report as a basis, it normally takes some $10,000–$20,000 to compile a case study. Such case study material is expected to be prepared for at least one project in each sector and subsector over the next few years.
Source: http://www.adb.org/publicatons

57. Other ADB studies incorporate wider aspects of climate change, such as its impact on food, energy, and people, and the economic implications of climate change in specific regions. [31] To varying degrees, the studies cover agriculture and other non-infrastructure sectors, capacity development, community development, and various aspects related to transformational change (such as institutional setup and practices, and policy and regulatory issues). Some studies are focused on specific issues and challenges such as health impacts of climate change. Supplementary Appendix A provides an overview of selected climate change studies.

58. Knowledge products are disseminated within and outside ADB. These materials can be accessed online through the ADB website, and there is a system to keep track of hits and downloads. Some documents have been distributed at conferences or other events such as the meetings of CIFs trust fund committees and the Asia Pacific Adaptation Network.

b. Tools for Climate Change Risk Screening and Impact Assessment

59. While climate change is a global issue, the potential risks are not likely to be uniform across the globe or across a country; they are location specific. RSDD has made available the "AWARE for Projects" on-line tool for climate risk-screening at the project level (Box 2). Operations departments may use this tool but retain the option to use other more sophisticated tools for climate risk analysis.[32] This establishes a certain minimum level of rigor for screening projects for risks and threats from climate change.

[31] These include, for instance (i) ADB. 2009. *The Economics of Climate Change in Southeast Asia: A Regional Review*. Manila, April; (ii) ADB. 2013. *Economic of Climate Change in East Asia*. Manila; and (iii) ADB. 2013. *Economics of Climate Change in the Pacific*. Manila.

[32] For instance, the South Asia Department (SARD) has used, on an experimental basis, a sophisticated modeling tool that assesses climate risks and impacts. This approach is data intensive, and expensive. SARD has documented the methodology, application, and results of this risk screening system, which is readily accessible to all SARD staff. Whether or not such a sophisticated method is required upfront is debatable, but it is very likely that experience thus gained could be useful for ADB. Other regional departments have also adopted suitable approaches.

Risk screening for projects must begin early in the project preparation cycle

60. The initial risk screening for projects must begin early in the project preparation cycle. As per ADB's streamlined business processes, the project team is required to conduct an initial risk screening at the project concept paper stage or before project preparatory work begins. Further work on the detailed risk screening (using the AWARE tool) and impact assessment is contingent on the findings of the initial risk screening. If the initial screening shows no material impact, the detailed risk screening system need not be used.

61. If the detailed risk screening (using the AWARE tool) indicates that climate risks are low, then no immediate action is required to modify the project design.[33] If a project is considered to be at medium- to high-risk (on the basis of AWARE for Projects), a more in-depth climate risk and vulnerability assessment is required during project preparation. This entails desk studies to identify suitable climate change risk management measures, for which the project preparation team needs to have the requisite expertise to identify and cost high-priority measures. Some projects may also require higher resolution climate projections modeling to identify the specific measures that need to be incorporated in project design.[34] High resolution data on climate, geophysical and other parameters will be required.

62. Where the AWARE tool is to be used, it is estimated to cost less than $1,000 per project. To support focused desk assessments and use of more sophisticated modeling tools, ADB is considering an initial allocation of $2 million from the Climate Change Fund (CCF) after it was replenished in 2013.

63. An important omission in the entire process is that GHG mitigation options during construction of proposed projects are not identified. This approach is not consistent with the intent of the EOD.

Box 2: Climate Change Risk Screening Tools

Initial Risk Screening. This activity is based on a short check-list of possible climate change risks that can be used to identify whether or not further investigation is necessary.[a] For assessing whether or not any risks exist, the project team needs to compile necessary background information during project preparation regarding whether or not

- a project area is subject to natural hazards;
- changes in precipitation, temperature, salinity, or extreme events over the project life span affect its sustainability or cost;
- demography or some socioeconomic aspects of the project area are already vulnerable;
- the project could increase the climate or disaster vulnerability of the surrounding area;
- the project use will depend on resources that could be affected by climate change.

Detailed Risk Screening. This activity is done through an online tool (AWARE) that has been prepared under the guidance of ADB's RSDD in consultation with ALUWG. RSDD engaged Acclimatise Climate Change Adaptation Consultants (United Kingdom) to develop the AWARE tool. AWARE incorporates climate and/or biophysical data for climate risk assessment. The data are at a resolution that is lower than station scale, but higher than in global climate models and comparable to regional climate models. AWARE analyzes climate change risks on the basis of the following:

- geographic and locational information (point location, multiple locations, area coverage, network),
- sector coverage (library of 17 sectors and 90 subsectors), and

[33] However, it is useful to review the level of sensitivity of key project components to climate variables at different milestones of project implementation, particularly if important project parameters change in a way that affects the climate risk profile of the project.

[34] The AWARE for Results online tool operates at a resolution of 0.5 x 0.5 decimal degrees (approximately 50 x 50 kilometers at the equator).

- climate-related risks from changes in temperature, precipitation, windspeed, solar radiation, and sea level rise.

ADB = Asian Development Bank, ALUWG = Adaptation and Land Use Working Group, RSDD = Regional and Sustainable Development Department.
[a] In ADB, the criteria for initial climate risk screening are appended to the checklist used for rapid environmental assessment. The initial climate risk screening list is not for environmental categorization, but to help identify potential climate and disaster risks.
Source: Compiled by the study team.

c. Regional Climate Consortium and Data Facility

64. Considerable effort and investment are required to compile climate data and spatial geophysical data of sufficiently high resolution to run climate models. Due to a lack of readily available down-scaled climate change data, ADB has proposed a regional climate projections consortium and data facility.[35] This initiative reflects the need to improve capacities in ADB and developing countries for developing, accessing, interpreting, and applying climate change projections to support climate risk assessments and adaptation planning. After application of the facility in three pilot countries (Indonesia, Philippines, and Thailand) in the coming years, ADB intends to extend this activity to countries that have accredited climate models.[36] Other countries whose climate models are not yet accepted within the international community may be considered at a later date.[37] Availability of resources is a constraint on the implementation of this program, and even for the three pilot countries, ADB needs continued financial and technical support from consortium partners.[38]

ADB needs continued financial and technical support from consortium partners for the proposed regional climate projections consortium and data facility

d. Partnerships and Other Initiatives

65. Through partnerships and other initiatives, ADB works with development partners, governments, the private sector, and civil society to expand its knowledge base and outreach. While the level of engagement is broad, ADB has been unable to leverage knowledge or other strengths of some partners to any significant degree (see Box 3). For instance, to gain from Cities Development Initiative for Asia (CDIA) expertise in preparing socially and environmentally responsive prefeasibility studies for cities where ADB plans to process projects, the CDIA needs to be informed in advance, perhaps at the country partnership strategy (CPS) formulation stage. Towards this objective, RSDD is facilitating monthly meetings between the CDIA and ADB operations departments to improve harmonization between the CDIA and the ADB project development cycle.

ADB has been unable to leverage knowledge or other strengths of its partners to any significant degree

[35] ADB. 2013. *Regional Climate Projections Consortium and Data Facility in Asia and the Pacific (Technical Assistance Report)*. Manila, April.
[36] These include (among others) Armenia, Azerbaijan, Bangladesh, Bhutan, PRC, Georgia, India, Mongolia, Nepal, Tonga, Uzbekistan, and Viet Nam.
[37] For these countries, the available climate models would represent the best available knowledge to date.
[38] World Meteorological Organization and centers of excellence in Australia, New Zealand, United Kingdom, and United States. These institutions have recognized expertise in climate science, climate risk and vulnerability research, adaptation planning and practice, as well as knowledge sharing and climate science communications.

Box 3: An Overview of Selected Partnerships

Asia Pacific Adaptation Network. APAN was established by ADB, United Nations Environment Program, Institute for Global Environment Strategies, and other partners. ADB is a member of the APAN Steering Committee. APAN provides a forum for sharing knowledge and experience on mainstreaming adaptation into development planning and development activities in the region. Other than a web-based portal, the most intensive interactions have been through an annual forum wherein governments, academics, ADB staff, and other practitioners share their experiences.[a]

Cities Development Initiative for Asia. The CDIA focuses predominantly on medium-sized Asian cities and has substantive expertise to prepare socially, environmentally, and institutionally responsive prefeasibility studies and link city governments with financiers. ADB has contributed to the establishment of the CDIA initiative, and has strong links.[b] ADB and the CDIA have been looking at ways in which to better leverage each other's competencies, experiences, and core areas of work. In the monthly meetings now held between the CDIA and ADB operations departments, it is possible to leverage key CDIA instruments to support project preparation across Asia-Pacific. The CDIA is actively working with the Green Cities and Competitive Cities teams in ADB.[c]

Regional Food Security Partnership. This is intended to promote private sector engagement in agriculture (including livestock and fisheries), and to develop business models that benefit private investors and small farmers. However, the partnership agreements appear to have been under discussion for nearly 3 years—with both the Food and Agriculture Organization and the International Fund for Agricultural Development. While there have been delays, an informal knowledge-sharing process has begun. Once the partnership agreements are in place, suitable low-risk opportunities for private sector participation will be identified.

Asian Clean Energy Forum. The ACEF began as a premier knowledge-sharing platform in 2006, and was initially meant to sensitize ADB staff (as well as other stakeholders) to the scope and benefits of emerging clean energy technologies. The ACEF can be considered as one of several factors that have contributed to increasing deployment of clean energy technologies in ADB's DMCs. With falling clean energy technology costs and recognition that they contribute to the strategic interests of governments (such as energy security and increasing energy access in remote areas) as well as governments' climate change mitigation objectives and targets—ADB recognizes the need to review and redefine the purpose and objectives of ACEF.

Asia Solar Energy Initiative. The ASEI targeted support for about 3,000 megawatts (MW) of solar energy capacity by 2013, and has made significant progress. As of November 2013, the ASEI had catalyzed 2,580 MW of solar power capacity. This capacity includes support for solar photovoltaic and concentrating solar power systems in a few countries, notably PRC, India, Thailand, and Uzbekistan. More than two thirds of the 2,580 MW capacity supported through the ASEI has been developed by providing finance for setting up transmission links. Over the next few years, ADB plans to encourage deployment and possible mainstreaming of solar technologies in other DMCs with significant solar energy potential.

ACEF = Asian Clean Energy Forum, ADB = Asian Development Bank, APAN = Asia Pacific Adaptation Network, ASEI = Asia Solar Energy Initiative, CDIA = Cities Development Initiative for Asia, DMC = developing member country, PRC = People's Republic of China, RFSP = Regional Food Security Partnership.

[a] APAN's website provides an online database on good practices, guidelines, manuals, and toolkits, taken from studies conducted through APAN's network of development and research institutions. More than 10 resources on good practices related to climate change adaptation in water resource management, and more than 25 on the agriculture sector are available on the website (http://www.apan-gan.net/)

[b] ADB is on the CDIA's Core Management Team and the Program Review Committee.

[c] Such ADB programs can possibly benefit from the institutionalized processes adopted by the CDIA that prioritize investments, conduct prefeasibility studies, and help enhance implementation capacity.

Source: Compiled by the study team.

2. New Products and Services

66. ADB has been designing and introducing products and services to promote the adoption of climate-friendly technologies, develop carbon markets, reduce fiscal risk from natural hazards, and increase long-term resilience to natural hazards.

a. Technology Development

67. ADB is in the process of setting up a Climate Technology Finance Center (CTFC) in partnership with the United Nations Environment Program, and with cofinancing from the Global Environment Facility (GEF) and other agencies. In addition to demonstrating a climate technology market-place, the CTFC objectives are to (i) mainstream mitigation and adaptation technologies in development planning, and (ii) promote investment in climate technologies in priority areas via venture capital and private equity funds.

68. Inspite of collaborating with the Technology Mechanism of the UNFCCC and the World Intellectual Property Organization (WIPO), it has been difficult to design and launch the CTFC. Major barriers related to technology transfer, planning, adoption, and promotion need to be overcome. Barriers include financial constraints, insufficient knowledge base and expertise, and inadequacies of public policies, regulations, and enforcement.[39] Box 4 provides an overview of the CTFC's collaborative approach and status as of August 2013.

Major barriers related to technology transfer, planning, adoption, and promotion need to be overcome

69. It is still too early to evaluate the CTFC program, although it is noteworthy that other MDBs have learned from this ADB initiative and are following a similar approach in framing their technology transfer programs. The challenges of effective coordination between the CTFC and operations departments to achieve successful technology transfer are recognized.[40] Further difficulties arise, as many country governments do not accord a high priority to the introduction of relatively high-cost climate change risk-reduction technologies. As a result, a phased approach to implementation is required to demonstrate benefits to countries. For example, the CTFC and the Central and West Asia Department (CWRD) have proposed as an initial step a climate technology assessment exercise for the Pakistan power sector.

Box 4: Genesis, Collaborations, and Status of the CTFC

Following the formulation of the Bali Action Plan,[a] ADB conceptualized the "Climate Technology Market Place" initiative in 2007. With the launch of the CTCN[b] after the UNFCCC 16th Conference of Parties in Cancun in December 2010, ADB initiated steps to develop a more comprehensive approach to technology transfer that culminated in the launch of the pilot Asia-Pacific Climate Technology Finance Center (CTFC).

The CTFC works in collaboration with the Technology Mechanism instituted by the UNFCCC[c] and the WIPO.[d] Through this collaborative effort the pilot CTFC program is intended to contribute to identifying technology needs and designing technology roadmaps for specific countries and technologies.

Initially, the marketplace is expected to focus on low-carbon technologies, although it can also be expanded later to support adaptation technologies as well. The other tracks are expected to cater to both mitigation and adaptation technologies right from the beginning. Some adaptation technologies are designed for climate-resilient infrastructure, buildings, flood management, and early warning systems.

Over the longer term, ADB intends to rely on a comprehensive database on low-carbon technologies being developed by WIPO, technology needs assessments conducted by the CTFC, technology roadmaps made by the International Energy Agency (IEA), as well as similar work done by the operations departments (if any) to identify or select technologies for transfer to specific countries,

[39] Such barriers were identified in the context of the technology marketplace. Refer to ADB. 2010. *Establishment of a Marketplace for Transfer of Low-Carbon Technologies to Asia and the Pacific*. Manila, May (report prepared by McKinsey and Company).

[40] For instance, there is no ADB policy on introduction of new climate change risk-reduction technologies in countries.

and/or to address barriers to adoption of specific technology clusters.

A TA to implement the pilot center[e] was approved in August 2011 for ADB to administer grants of up to $7.6 million from the GEF and up to $3.5 million from ACEF under the CEFPF. ADB then forged a tie-up with the United Nations Environment Program (UNEP), which has a climate technology network secretariat in Bangkok that also focuses on promotion of technology transfer. The GEF endorsed its support for $7.6 million in May 2012.[f] Specific projects and TA operations can be approved within ADB, but the process of identifying and engaging consultants has taken time.

As of August 2013, a suitable mix of individual consultants and consulting firms had been engaged to work towards (i) mainstreaming of new adaptation and mitigation technologies in development plans, (ii) investment in climate technologies in selected priority projects, and (iii) demonstration of the marketplace for low-carbon technologies. Some consultants were mobilized as late as June 2013.

ACEF = Asian Clean Energy Forum, ADB = Asian Development Bank, CEFPF = Clean Energy Financing Partnership Facility, CTFC = Climate Technology Finance Center, GEF = Global Environment Facility, TA = technical assistance, UNEP = United Nations Environment Program.
[a] Formulated at the UNFCCC 13th Conference of Parties in December 2007 in Bali (Indonesia).
[b] CTCN is hosted and managed by the United Nations Environment Program (UNEP) in collaboration with the United Nations Industrial Development Organization and 11 leading technical organizations from developing and developed countries.
[c] The Technology Mechanism comprises the CTCN and the Technology Executive Committee (TEC). ADB is an accredited observer organization of the TEC.
[d] WIPO is a member of the Steering Committee for the Technology Marketplace. WIPO is also expected to advise on intellectual property rights-related aspects on specific transactions between a technology seller and a technology buyer.
[e] ADB. 2011. *Technical Assistance Report: Establishing a Pilot Center to Facilitate Climate Technology Investments in Asia and the Pacific*. Manila, July (approved in August by ADB Board).
[f] The long time taken to obtain GEF endorsement reflects the extensive information and documentation requirements.
Source: Compiled by the study team.

b. Carbon Market Development

ADB has helped develop the baseline and credit carbon markets in various countries

70. ADB has provided support to the carbon market initiative since 2006. ADB has helped develop the baseline and credit carbon markets in various countries by supporting countries in their efforts to develop projects that qualify under the clean development mechanism (CDM) and can be registered for sales of certified emission reductions (CERs). Other areas of ADB support include (i) development of a pipeline of projects eligible for CDM; (ii) marketing support to project sponsors to maximize their financial benefits from CER sales; and (iii) financial support to project proponents through upfront payment for, or upfront commitment to, purchase of expected CERs up to 2012 at a predetermined price. In 2009, the carbon market initiative was expanded to enable project proponents to leverage post-2012 CERs. Further details are provided in Linked Document 2. ADB has also provided TA support for capacity development and enhancing readiness for CDM eligibility of specific projects.[41]

71. ADB's support for setting up cap-and-trade carbon-dioxide emissions trading systems (ETSs) in the PRC builds on previous experience supporting the setup of a national sulfur dioxide ETS in the country.[42] This ETS support is consistent with the PRC

[41] This includes, for instance (i) ADB. 2009. *Mongolia: Capacity Development Program on Clean Development Mechanism (Technical Assistance Report)*. Manila, October; and (ii) ADB. 2012. *India: Enhancing Readiness of the Railway Sector Investment Program as a Clean Development Mechanism Project (Small-Scale Technical Assistance)*. Manila, March.
[42] It included emissions tracking, allowance tracking and trading management, spatial modeling systems supported by a geographical information system, as well as necessary capacity development for national, provincial, and local governments and participating enterprises. Refer to ADB. 2008. *People's Republic of China, Design of the National Sulfur Dioxide Emission Trading System (Technical Assistance Report, TA 7191-PRC)*. Manila, December.

government's stated objective of reducing the country's carbon intensity by 40%–45% by 2020 compared with 2005, and with the PRC government's plans of pilot testing cap-and-trade ETSs in various cities and provinces during the 12th five-year plan period (2011–2015). ADB has approved support to set up ETSs in two cities: Tianjin and Shanghai.[43] These two interventions are intended to provide lessons on how to meet the challenges of designing a national ETS in a rapidly growing economy,[44] and how the ETS design can complement existing policies.[45] In March 2013, ADB approved support for piloting the use of market-based instruments for GHG emissions reductions in Viet Nam.[46] A market readiness proposal will be developed for selected priority sectors with a view to broadening the scope over time.[47]

72. ADB supported an assessment of the potential for introducing carbon market mechanisms to complement government investments for sustainable management of grasslands to increase carbon stocks.[48] The TA provided methodologies, tools and studies to strengthen government capacity in supporting communities for accessing carbon financing through sustainable grassland management projects. Several pilot emission trading schemes in PRC are expected to accept domestically approved grassland offsets (although they cannot be used to meet international buyers' compliance needs). ADB also approved support for introducing agriculture and forests offsets into PRC's carbon emission trading markets.[49] The TA seeks to assess the value of carbon sequestered in agricultural and forest lands in rural Beijing, costs of maintaining and increasing the area's carbon sequestration, and institutional arrangements to introduce carbon credits derived from agriculture and forestry into a carbon trading program. The TA also explores how fiscal policies and tools can support trading of agriculture and forestry offsets, and how this can complement existing eco-compensation programs that rely on public transfer.

Support to improve access to disaster risk finance and insurance, to provide early- and medium-term responses and assistance to mitigate disasters, is high on ADB's agenda

c. Financial Products and Financing

73. Support for disaster risk financing and insurance—to provide early- and medium-term disaster response and assistance—is high on ADB's agenda.[50] Innovative forms of insurance, such as parametric weather insurance, can improve the climate resilience of communities and governments. ADB has started to support country governments' efforts to reduce fiscal risks from natural hazards that affect crops.[51] Three interventions to pilot crop insurance schemes were approved in 2013, and they

[43] Refer to (i) ADB. 2011. *People's Republic of China: Developing Tianjin Emission Trading System (Technical Assistance Report)*. Manila, December; and (ii) ADB. 2012. *People's Republic of China, Advancing Shanghai Carbon Market through Emissions Trading Scheme (Technical Assistance Report)*. Manila, October.

[44] International experience on ETS design is limited to more mature and moderately expanding economies.

[45] Such as administrative measures related to setting targets for energy efficiency improvements in bulk energy users, as well as closure of energy inefficient industrial enterprises and power plants.

[46] ADB. 2013. *Technical Assistance to Viet Nam for Development the Market Readiness Proposal for a Domestic Carbon Market, TA 8341-VIE*. Manila, March.

[47] The market readiness proposal will include feasibility and capacity assessments for utilizing market mechanisms in the context of Viet Nam's mitigation strategies (initially focusing on the steel, solid waste management and power industries). This is part of the World Bank led Partnership for Market Readiness program, which brings together developed and developing countries, as well as other key experts and stakeholders, in particular to foster South-South exchange on improving mitigation actions.

[48] ADB. 2010, *Strengthening Carbon Financing for Regional Grassland Management in Northeast Asia, (Technical Assistance Report, RETA 7534)*, Manila, May. The degrading grasslands of PRC and Mongolia, and the resulting desertification provided the backdrop to this RETA.

[49] ADB. 2013. *Market-Based Eco-compensation Mechanisms in Beijing (TA 8471)*, Manila, October.

[50] ADB. 2011. *Financial Sector Operational Plan.* Manila, May.

[51] Fiscal risks from natural hazards have increased and reflect rising exposure to natural hazards as populations and asset bases increase. Such fiscal risks come on top of other risks that country governments can face from macroeconomic shocks (say, from financial crises) and contingent liabilities (such as through extensive use of guarantees).

were prompted by growing concerns for food security in highly vulnerable countries—Bangladesh, Cambodia, and Tajikistan. Several Asian countries have implemented some form of agricultural insurance program for several years. ADB can try and benefit from the lessons learned from experience gained in PRC, India, Indonesia, Philippines, Thailand, and Viet Nam.

ADB has started to raise climate finance through the issue of thematic and topical bonds related to clean energy and water

74. ADB has the opportunity to introduce similar pilots to help governments reduce fiscal risks from catastrophes that affect homes, enterprises, and infrastructure. To make significant inroads in this area, it will be necessary for ADB to design affordable insurance products, and to support country governments to develop policy, regulatory, and institutional frameworks and develop credible high-quality data repositories. Other challenges that will need to be addressed are related to low awareness levels within governments and the public at large. In 2011, ADB approved support for risk profiling, risk modeling, awareness raising, and designing and piloting a suitable disaster risk-financing product for two cities each in Indonesia and Philippines. The disaster risk-financing product could be some form of insurance or a catastrophe bond program or a standby emergency credit program, or an innovative combination of these programs.

75. ADB has started to raise climate finance through the issue of thematic or topical bonds related to clean energy and water. As of November 2013, ADB had raised $821 million through the issue of clean energy bonds and more than $900 million through the issue of water bonds.[52] In so doing, ADB leveraged its longstanding experience in raising funds through international and domestic capital markets.[53] ADB has used the money raised through sale of these fixed-income clean energy and water bonds to finance clean energy- and water-related projects across its developing countries, and to meet operations targets.

The Integrated Disaster Risk Management framework recognizes that disaster risk reduction is a possible entry point to address adaptation issues at the national and subnational levels

d. Disaster Risk Management

76. Building on its existing disaster and emergency assistance policy and action plan,[54] ADB is in the process of finalizing an integrated disaster risk management (IDRM) operational plan by mid-2014.[55] The IDRM framework aims to increase medium-term and long-term resilience to natural hazards. ADB's recent work aimed at furthering climate change risk management is consistent with IDRM objectives.[56]

77. The IDRM framework recognizes that disaster risk reduction is a possible entry point to address adaptation issues at the national and subnational levels by strengthening capacity to better resist and recover from climate risks. This framework can contribute to a country's efforts to prepare for more intense and frequent natural hazards that would adversely impact livelihoods, assets, water, and food security in the future.

78. The IDRM Operational Plan can contribute to mainstreaming of support for climate change adaptation. Some types of interventions supported by ADB for disaster

[52] The first clean energy and water bonds issues were in 2010.
[53] ADB is a leading AAA borrower in international and domestic capital markets, having issued bonds across various markets in 31 currencies.
[54] ADB. 2004. *Disaster and Emergency Assistance Policy*. Manila; and ADB. 2008. *Action Plan for Implementing ADB's Disaster and Emergency Assistance*. Manila.
[55] A draft IDRM Operational Plan was circulated to various departments in November 2013, and a revised draft in February 2014.
[56] For instance (i) interventions that are supported by some climate funds (such as the PPCR window of CIFs), (ii) knowledge products such as briefing notes and guidelines, (iii) tools for climate risk screening and impact assessment, and (iv) partnerships such as APAN and CDIA.

risk management (such as early warning systems)[57] have been supported in recent years as climate change adaptation interventions, with cofinancing from some climate funds. ADB now has access to funds dedicated for IDRM activities (such as the C$10 million Government of Canada contribution to the IDRM Fund that was approved in March 2013).[58]

3. Targets and Tracking

79. ADB's results framework monitors the progress of ADB operations towards achieving environmentally sustainable growth, which is one of ADB's three strategic agendas. The new project classification system (PCS) introduced in 2013 provides a basis for improved tracking of adaptation and mitigation interventions and financing.

a. Corporate Results Framework

80. ADB's results framework is designed to monitor ADB performance as per the corporate strategy, and maintains a balance between corporate strategic, thematic and operational priorities. The results framework integrates climate change at three levels: Level 1 focuses on the state of development in the Asia and Pacific region, Level 2 on completed operations, and level 3 on new and ongoing operations. Several climate change indicators are tracked and reported at these three levels, and specific targets are set. These are supplemented with standard explanatory data indicators that are tracked and reported, but do not have set targets (see Table 3).

Table 3: Integration of Climate Change in ADB's Results Framework

Results Framework Indicators	Standard Explanatory Data Indicators
Level 1 • Land area covered by forests (%) • Carbon dioxide emissions (metric tons per capita)	Level 1 • Carbon dioxide emissions (thousand metric tons) • Carbon dioxide intensity (kilogram per $ gross domestic product)
Level 2 • GHG emission reduction (metric tons of carbon dioxide equivalent per year) • Installed renewable energy generation capacity (megawatts) • Railways constructed or upgraded (kilometers) • Urban rail and bus based mass transit systems built or upgraded (kilometers) • Use of railways built or upgraded (average daily ton-kilometers in the first full year of operation) • Land improved through irrigation, drainage, and/or flood management (hectares)	Level 2 • Energy savings (terawatt hour equivalent per year) • Passengers on urban mass transit systems built or upgraded (average daily number in the first year of operation) • Households with reduced risk of flooding (number)
Level 3 • Operations supporting climate change mitigation and/or adaptation (%)	Level 3 • Operations supporting climate change (%) through only mitigation, only adaptation, and both mitigation and adaptation • Operations supporting disaster risk

[57] However, certain other types of disaster risk management interventions may not qualify as climate change adaptation-supporting interventions (for instance, seismic proofing of existing buildings or infrastructure).

[58] The IDRM Fund is to support ADB's activities under the IDRM framework and promotes the development of innovative regional solutions for IDRM in ADB's DMCs. It currently focuses on Southeast Asia.

Results Framework Indicators	Standard Explanatory Data Indicators
	reduction and management (%) • Financing for climate change mitigation and/or adaptation (%) • Quality at entry of country partnership strategies in integrating climate change concerns (%)[a]

[a] Under development.
Sources: ADB. 2012. *Review of the ADB Results Framework*. Manila; ADB. 2013. *Supplementary Appendix A: Indicator Definitions*. Manila; ADB. 2013. *Supplementary Appendix B: Standard Explanatory Data Definitions*. Manila.

81. Several Level 2 results framework indicators track project outputs. These include ADB supported installed renewable energy capacity, and kilometers of road and railway track constructed or upgraded. For the level 2 results framework indicator for climate change adaptation through improved irrigation, draining and flood management, it will be important to distinguish between BAU interventions from those that address specific climate change related risks and vulnerabilities.

The percentage of interventions that support climate change adaptation and mitigation activities in ADB is tracked

82. The percentage of interventions that support climate change adaptation and mitigation activities in ADB is tracked through a new indictor that was introduced in the 2012 review of ADB's results framework.[59] From the 2011–2012 baseline of 39% for ADB operations and 27% for Asian Development Fund (ADF) operations, the stated target for 2016 is 60% for both ADB and ADF operations.[60] The baseline and targets refer to the number of interventions. Even if a minor component of an intervention is relevant to climate change, it is counted as one intervention, no matter how small that component is, as a share of loan or grant amount. TA interventions are not included. The results framework may need to be revised, given the intensified emphasis on climate change in the review of Strategy 2020 at mid-term (para 39). Indicators to track transformation (output effectiveness), and leveraging of climate finance can also be considered.

The new project classification system facilitates climate financing tracking and reporting as per the harmonized framework agreed by the multilateral development banks in 2012

83. The results framework emphasizes an increasing role for private sector development and operations, which is consistent with the need for increasing leveraging for climate finance. From the 2010–2012 baseline levels of 37% and 29%, respectively, for ADB and ADF operations, the target for 2016 is set at 40% for both ADB and ADF operations. Similar to overall operations, the baseline and target values for the private sector focus on additionality of inputs and refer to the number of ADB project interventions. There is no indicator for the share of approved amounts of loans, equities, grants, guarantees, and other financial instruments.

b. Project Classification System

84. The new PCS, approved in 2013,[61] facilitates climate financing tracking and reporting as per the harmonized framework agreed to by the MDBs in 2012. In the new PCS, the climate change thematic classification enables application of the criteria agreed upon by the MDBs for qualification as adaptation and mitigation activities. The PCS enables tracking of climate finance, climate risk, and amount of GHG emission reduction.[62] Although the new PCS was approved in September 2013, revisions related

[59] ADB. 2012. *Review of the ADB Results Framework*. Manila, 18 December.
[60] ADB. 2013. *Development Effectiveness Review*, Manila.
[61] ADB. 2013. *Project Classification System: Draft Final Report*. Manila, September.
[62] In the new PCS, it is possible to tag a project as climate change, which then gets tagged automatically with the environmental sustainability theme. In the previous PCS (effective 2009), the only way to tag a project as climate change was to first tick the environmental sustainability thematic classification.

to the tracking of climate change adaptation and mitigation activities and financing are meant to be effective by April 2014 (when they will be incorporated in eOperations and new staff instructions). Such tracking was difficult in the earlier PCS framework (see Box 5).

Box 5: Climate Change in the ADB Project Classification System since 2000

Effective November 2000. ADB's PCS recognized the need to identify projects with a thematic classification of "environmental protection." This classification helped ADB identify climate change mitigation projects, but did not have any provisions for inclusion of climate change adaptation measures.[a]

Effective December 2004. Adaptation was first recognized as an activity under the broad theme of "environmental sustainability" and subtheme of "global and regional transboundary environmental concerns and issues" in the revised PCS of December 2004.[b] The same theme and subtheme of the 2004 PCS also clearly mentioned mitigation as an activity.

Effective January 2009. Tracking of climate change adaptation interventions began to be emphasized in 2009 with a revision of the PCS that required projects that promote environmental sustainability or disaster risk management to indicate whether or not they address adaptation and/or mitigation and the extent (high, medium, or low) of their expected impacts.[c]

ADB = Asian Development Bank, PCS = project classification system.
[a] ADB. 2000. *Staff Instruction: Loan Classification System—Conforming to the Poverty Reduction Strategy*. Manila, November.
[b] ADB. 2004. *Staff Instructions: Updating the Project Classification System*. Manila, December.
[c] ADB. 2009. *Staff Instructions for the Revised Project Classification System*. Manila, January.
Source: Compiled by the study team.

85. The new PCS includes a provision to state the ADB share of investment (dollar value) allocated for climate change adaptation and mitigation for any project that is classified as such. Although this provision is not strictly a project classification matter, it has been incorporated specifically to facilitate tracking and reporting of climate finance.

86. The new PCS endorses the continued use of existing ADB guidelines to estimate ADB investments in clean energy (which are consistent with the harmonized framework agreed upon with other MDBs).[63] The PCS notes that similar guidelines are under development for urban and transport projects; but it is silent on other mitigation categories (such as agriculture, forestry and land use, waste and wastewater).

87. The new PCS introduces a quality control procedure that is designed to (i) reduce the incidence of projects being classified as climate change interventions without meaningful substantiation in the project documents, (ii) ensure the verifiability of GHG emission reductions from information provided in project documents, and (iii) improve climate finance tracking. Available information on comments from COPs on RRPs at inter-departmental circulation (see Supplementary Appendix B) indicates that the suggested validation process can augment the COPs' efforts significantly.

88. Other key aspects of the new PCS are as follows: (i) for adaptation interventions, the categorization of climate change risk as high, medium, or low—and the implications of such categorization for follow-up actions—is consistent with the requirements of the risk screening framework; (ii) for mitigation interventions, information on carbon dioxide emission reduction is to be provided in the project documents; and (iii) the project classification as adaptation or mitigation is to be

[63] ADB. 2011. *Manual for Calculating Energy Output Indicators*. Manila, February.

reflected in the problem tree and design and monitoring framework. However, the PCS does not explicitly mention that the information provided should enable an independent verification of the given estimates of carbon dioxide emission reduction.

4. Organizational and Staffing Issues

89. ADB has introduced and gradually increased climate change-related expertise within its organizational structure. The Climate Change Coordination Unit was established in 2009; its terms of reference center around coordination of work on climate change. In February 2014, the disaster risk management function was merged with it to create the expanded Climate Change Coordination and Disaster Risk Management Unit (RSDD-CD). Mitigation expertise is in the Sustainable Infrastructure Division (RSID) and adaptation skills in the Environment and Safeguards Division (RSES). The food security related expertise is located in the Agriculture, Rural Development and Food Security Unit. Climate change staff in RSID and RSES are responsible for providing operational support of mitigation and adaptation issues, respectively. The operations departments have designated climate change focal points (CCFPs),[64] and other departments have earmarked staff to deal with climate change matters as and when necessary. Overall, RSDD monitors a broad range of matters that impinge on climate change adaptation and mitigation, and manages various partnerships.

The need to increase two-way communication between the Regional and Sustainable Development Department and other departments on climate change-related matters is accompanied by the need to institute and improve coordination at the management level across ADB

a. Interactions across Departments

90. The formal interface between RSDD and other departments occurs through the climate change network, the Adaptation and Land Use Working Group (ALUWG), and to some extent, the Clean Energy Working Group (CEWG).[65] There is no separate climate change COP. The Environment COP works towards developing new focus areas, and the EOD provides the operating framework for the Environment COP. It appears that (i) feedback from RSDD or the COPs on project documents at the interdepartmental circulation stage normally does not include comments on any specific climate change-related aspects (such as on GHG savings estimation or project classification),[66] and (ii) CCFPs and project team leaders seek advice or inputs from RSDD-CD (or other RSDD units/divisions) largely when they seek support from ADB-managed or other climate funds. Knowledge products prepared in RSDD are available to the operations departments.

91. The need to increase two-way communication between RSDD-CD and other departments on climate change-related matters is accompanied by the need to institute and improve coordination at the management level across ADB. Overall, the RSDD approach has been to give operations departments sufficient room for experimentation and innovation, and not to treat climate change as a safeguards or a compliance issue.

b. Climate Change Focal Points

92. Besides a CCFP, most regional departments have designated other staff as key contact persons for climate change-related work. In three of the five regional departments, the CCFP is located in a sector division mandated to work on natural resources. In these regional departments, the CCFPs are responsible for processing TA

[64] As of March 2014, no staff in the Central and West Asia Department had been designated as CCFP.
[65] The CEWG serves as a platform for coordination largely for projects proposed for funding from the clean energy window of the CCF and the Clean Energy Partnership Facility.
[66] On the basis of a review of documents circulated for staff review meetings (SRMs) and Management review meetings (MRMs) for more than 30 projects between March 2012 and July 2013 (see Supplementary Appendix B).

and/or investment projects in any given year. As a result, work on CCFP matters is constrained by available time. In one of the two regional department where the CCFP is housed in the front office (in its portfolio, results, and quality control unit), that person works full-time as a CCFP. The Private Sector Operations Department (PSOD) has identified key staff contacts, who work primarily on structuring transactions.[67]

93. **Role of CCFPs.** The CCFPs in at least three regional departments have joined ADB within the last 3 years (the most recent being in 2013), and there is little consensus on what their role should be. It appears that some CCFPs see their role mostly at the project level. In the South Asia and East Asia regional departments, the CCFPs are located in the front office, where they can access project documents from all divisions within the department. In other operations departments, the capacity of CCFPs is limited, as they are located in one sector division and find it difficult to access project documents from other divisions. Each department has developed a different way to address this difficulty, but problems persist in accessing project documents sufficiently early in the processing cycle (Box 6).

Box 6: Approaches to Strengthening the CCFP Role at the Project Level

In CWRD, the Director-General has issued an internal memo that requires all project documents to be circulated to the CCFP. While the CCFP was in place until early 2014, project documents from other sector divisions were not accessible to the CCFP.

In EARD, the CCFP is in the front office, and is supported by other specialists in sector divisions and resident missions. This has enabled EARD to step up its efforts to mainstream climate change. EARD has developed draft guidance for preliminary climate risk assessments on the basis of available historical data. This draft guidance has been used to assess potential climate change impacts on some proposed projects, and implications on project design.

In SARD, the CCFP is in the front office, where he has access to project documents from all divisions within the department. This has helped SARD to screen 30 proposed projects for climate change and disaster risks. For 14 of these 30 projects, SARD prepared adaptation action reports (as supplementary appendixes to RRPs) to guide detailed design and implementation.

In SERD, the CCFP is supported by designated deputies in all sector divisions and resident missions that process projects. The SERD CCFP thus has relatively easy access to project documents from other parts of SERD, and the deputies contribute to the process of ascertaining that climate change-related matters are appropriately addressed. The CCFP does not have any consulting support for this work.

In PARD, an internal guidance on screening, assessment, climate proofing, and monitoring of PARD projects is being developed. The current practice of screening of project documents on climate change-related aspects is a team effort led by the project team leader, and supported by the CCFP.

CCFP = climate change focal point, CWRD = Central and West Asia Department, EARD = East Asia Department, PARD = Pacific Department, RRP = report and recommendation of the President, SARD = South Asia Department SERD = Southeast Asia Department.
Source: Compiled by the study team.

94. The CCFPs recognize that they have a potential role at a more strategic level to help mainstream climate change adaptation-related issues into operations that is not being realized. This role could include, for instance, enhancing the awareness and capacity of ADB staff at headquarters and resident missions, designing suitable capacity development programs for executing and implementing agencies, facilitating

[67] They are engaged essentially in structuring clean energy projects for private sector and investment funds that focus on clean energy deals. As of November 2013, PSOD had not worked on any adaptation projects.

cofinancing where needed, and contributing to the preparation of CPSs. See Box 7 for further details.

Box 7: Role of CCFPs to Mainstream Climate Change-related Aspects into Operations

In addition to their current roles, staff members assigned as CCFPs could help mainstream climate change mitigation and adaptation into ADB operations in a number of ways:

Contribute to the capacity development of executing and implementing agencies by feeding into the design of TA and RETA operations (managed by the concerned operations department and RSDD). The TA and RETA activities can thus support and strengthen transformation-driven capacity development programs.

Work with ADB staff (in headquarters and resident missions) and with executing and implementing agencies towards building up a knowledge dissemination platform, as well as development of tracking and monitoring tools.

Facilitate cofinancing from designated climate funds and bilateral sources for capacity development and high-climate-change-risk projects.

Contribute to CPS preparation by interfacing with the CPS team, preparing or managing a country level climate change risk assessment.[a] Over time, this can help in consolidating available data for better assessment of climate risks at the sector level, creating a better understanding of intersectoral linkages on management of climate change, and improving project selection and design.

ADB = Asian Development Bank, CCFP = climate change focal point, CPS = country partnership strategy, RETA = regional technical assistance, RSDD = Regional and Sustainable Development Department, TA = technical assistance.
[a] Akin to a country environmental assessment.
Source: Compiled by the study team.

95. At present, many CCFPs are not in a position to contribute significantly to any of the aspects outlined in Box 7.[68] This lack of capacity is due to many reasons, including the following: (i) most CCFPs need to spend time on other activities; (ii) there is insufficient interest and appreciation of climate change-related issues on the part of many ADB staff; (iii) necessary biophysical data and climate data with sufficient granularity are not yet available, although they are expected to accumulate over time; and (iv) many country governments accord higher priority to other more pressing and immediate concerns.

96. Even if the CCFPs did not have other responsibilities (such as project processing), it would still be necessary to engage more qualified and experienced personnel to work with them at the project and strategic levels to address the aspects listed in Box 7. Therefore, CCFPs would need to have more consultant support and/or more ADB staff to work closely with them.

97. Given such organizational and staffing constraints, it has been difficult to disseminate the experiences gained from working with the CIFs and understand their intended approach of supporting transformative agendas in selected countries, even though ADB recognizes that CIFs are the forerunner and pilots to the GCF.

[68] In the South Asia Department, a department-level response led to significant work towards capacity development of executing and implementing agencies, knowledge sharing with ADB and counterpart staff, and contribution to CPS preparation.

c. ADB's In-house Climate Change Expertise

98. As of June 2013, ADB had 14 climate change specialists,[69] of whom 10 had been recruited during the previous 5 years. The climate change staff has a broad mix of educational and work experience, which in theory is appropriate because of the interdisciplinary nature of climate change interventions. Some other staff (designated as energy, natural resource, transport, urban, and water specialists, or as economists[70]) also have expertise related to climate change adaptation or mitigation—and may or may not be working on climate change-related aspects. Some CCFPs have work experience that is more relevant to adaptation. ADB continues to support relatively more mitigation interventions. It is noteworthy that, after they joined ADB, staff working in the climate change stream have continued to work in that stream for about 88% (on average) of their time, which is more than for staff in any other infrastructure work stream (Table 4).

99. In the Climate Change Coordination Unit of RSDD, three of the six international staff focus on the core functions related to coordination and oversight of ADB's climate change program. CCFPs and other staff in the climate change specialist stream are supposed to work jointly with a much larger number of energy, transport, urban, and water specialists (see Table 4). further details are provided in Supplementary Appendix C). As of July 2013, ADB had plans to recruit only one more climate change specialist, compared with plans to add more than 30 staff in infrastructure sectors.

Table 4: Staffing in Climate Change and Infrastructure Sectors

Stream	Number of Staff	Work Experience (Average Number of Years per Person)		
		Total	In ADB	In Same Stream in ADB
Climate Change	14	17.5	4.2	3.7
Energy[a]	35	19.4	6.8	5.4
Natural Resources[b]	16	21.9	8.2	4.2
Transport[c]	44	19.0	5.4	4.4
Urban	36	18.6	5.5	3.9
Water[d]	16	21.7	5.9	5.1

ADB = Asian Development Bank.
[a] Includes staff in the energy economist and energy specialist streams.
[b] Includes staff in the natural resource economist, natural resource specialist, agriculture and natural resource economist, and agriculture and natural resource specialist streams.
[c] Includes staff in the transport economist and transport specialist streams.
[d] Includes staff in the water resource specialist and water supply and sanitation specialist streams.
Source: Compiled by the study team (base data from BPMSD).

[69] Includes staff designated as senior and principal climate change specialists as well as those in an advisory role.
[70] Including staff designated as senior and principal specialists in their specific streams (energy, natural resources, transport, urban, water, economics).

CHAPTER 4

Experience with Climate Funds

100. ADB's support for climate change mitigation and adaptation interventions is funded through a mix of ADF and ordinary capital resources (OCR), as well as other sources of funds that include (i) single-donor or multi-donor carbon funds and trust funds that are managed by ADB; (ii) the CCF, which has been funded through ADB's internal resources; and (iii) externally managed funds that ADB can access.

101. By the end of 2013, ADB had set up, managed, and accessed externally managed climate funds of about $1.5 billion.[71] In the process, ADB has kept itself informed of emerging practices related to access and use of climate finance. Linked Document 2 provides an overview of several internally and externally managed climate finance windows.

A. Internally Managed Climate Finance Windows

The internally managed climate funds have helped sensitize ADB staff to the need for additional effort to raise climate finance

102. The internally managed climate funds have helped sensitize ADB staff to the need for additional effort to raise climate finance. However, these activities do not provide guidance on the level and forms of effort required to access externally managed climate change funds.

1. Climate Change Fund

103. ADB initially allocated $40 million from its net income in 2008, and replenished the CCF with $10 million in 2010. From this total amount, the CCF allocated about $30 million for GHG emission reduction, $6 million for activities that increase carbon sequestration and can also have adaptation benefits,[72] and $14 million for adaptation by the end of 2011.[73] The available CCF amount was committed to specific projects rather quickly and on a competitive basis, as a large number of projects were being prepared and processed at the time.[74] ADB replenished the CCF by a further $9 million in the latter half of 2013. Recognizing the need to increase support to adaptation activity, the adaptation support component has been earmarked at $4 million and equals the level earmarked for the GHG emission reduction mitigation component.[75]

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[71] If portions of externally managed funds that are earmarked for (but not yet accessed by) ADB are also included, the total exceeds $2.5 billion.

[72] These activities are in line with the United Nations Reduced Emissions from Deforestation and Forest Degradation (REDD) program; they also include Land Use Change.

[73] ADB. 2013. *Climate Change Fund: Progress Report as of December 2012.* Manila.

[74] In one case, a RETA earmarked for CCF support of $800,000 was not approved by the Board; this RETA was entitled "Promoting Ecosystem Services and Forest Carbon Financing in Asia and the Pacific." At the beginning of 2012, only about $0.1 million was available for allocation for GHG emission savings.

[75] The $4 million adaptation component will support climate impact and vulnerability assessments for medium- and high-risk projects, some specialized and expert services for high-risk projects, and other activities.

104. The Climate Change Steering Committee (CCSC) is responsible for making overall allocations (between emission reduction, activities that increase carbon sequestration, and adaptation) and project-wise allocations (for specific interventions). The CCSC makes project-wise allocations on the basis of recommendations from the CEWG and ALUWG, which in turn are based on a review of applications received as per a standardized 2-page format along with a TA or project concept paper.

105. Through the initial allocation and the first replenishment, the CCF is reported to have leveraged (i) nearly eight-fold the funds it allocated for carbon emission savings, (ii) 49-fold the funds it allocated for reduced emissions from deforestation and degradation (REDD+), and improved land use management, and (iii) more than 90-fold the amount it allocated for adaptation. However, these impressive results refer only to cofinancing with OCR, ADF, other TA resources, and other ADB-managed climate funds. The CCF was not used to leverage any climate funds that were not managed by ADB. The CCF was used to support projects in the pipeline, and the simple application process facilitated quick allocation. There is no evidence that the projects supported through the initial allocation and first replenishment would not have gone ahead in the absence of CCF support. At most, the CCF could be considered to have added a small distinct component or activity to a project, but not to have leveraged a project that was in the pipeline.

2. Clean Energy Financing Partnership Facility

106. The Clean Energy Financing Partnership Facility (CEFPF), established in 2007, serves as a partnership platform between ADB and its financing partners. The fund helped ADB achieve its annual target of $2 billion in clean energy investments by 2013. By the end of 2012, CEFPF funds had a combined commitment of $133.1 million, of which the cumulative allocations were $72.3 million. The cumulative investments supported 93 TA and investment projects in 29 DMCs, and helped lower barriers to renewable energy technologies.[76]

107. The CEFPF investment of $72.3 million is reported to have leveraged $1.6 billion until the end of 2012, a leverage ratio of 1:21 for clean energy investments from ADB, the national and local governments, the private sector, commercial banks, and other sources. The governance structure of the CEFPF has been aligned with the CCF. The CEWG recommends CEFPF allocations to the CCSC, which is responsible for allocating CEFPF resources. Project support through the CEFPF and CCF has sensitized staff of the need for additional documentation for accessing climate funds. These projects conform to ADB fiduciary standards, safeguards, and other requirements.

B. Externally Managed Climate Finance Windows

108. ADB has accessed financing for mitigation and adaptation projects from the CIFs and certain GEF-managed funds. However, due to largely fiduciary concerns that arise from the standard form of agreement sought by the Adaptation Fund, ADB had not accessed the Adaptation Fund as of November 2013. The three funds are discussed in Linked Document 2.

[76] ADB. 2013. *Clean Energy Financing Partnership Facility Annual Report 2012.* Manila.

More than a third of the financial resources pledged to the Climate Investment Funds are allocated to programs in Asia and the Pacific … ADB is implementing about 60% of this allocation

1. Climate Investment Funds

109. The CIFs are considered as a pilot for the GCF, which is intended to be the centerpiece of the new global finance architecture. As of December 2013, the contributor countries had pledged $8 billion for CIFs, of which about $2.6 billion (more than one third) had been earmarked for CIFs-supported programs in Asia and the Pacific. Since 2008–2009, when the four CIFs financing windows became operational,[77] the first step has been to prepare suitable investment plans for the pilot countries under each window.[78] The programmatic approach embedded in the investment plans is expected to result in synergies among the collaborating MDBs and other development partners, because the investment plans are developed through a consultative process. Investment plans can take up to 12–18 months to be firmed up and endorsed by the Trust Fund Committee and respective subcommittees (collectively referred to as TFCs). TA or investment projects begin to be implemented only thereafter. In some cases, the investment plans have been revised. Owing to time expended on finalizing investment plans, as of January 2014, most CIFs supported TA interventions, and all investment project interventions were still under implementation (see Table 5). ADB is implementing about 60% of the CIFs' allocations for the Asia and Pacific region.

Table 5: Climate Investment Funds—Status of Project Approvals (as of January 2014)

	Country	Total CTF Funding for IP ($ million)	CT Funding Administered by ADB ($ million)	Total no. of CTF Projects	No. of TFC Approved Projects in 2013	No. of TFC Approved Projects	Project Funds Approved in 2013 ($ million)	Project Funds Approved ($ million)
CTF	IND	775	550	4	1	1	200	200
	INO	400	200	2	1	1	150	150
	KAZ	189	50	1	0	0	-	-
	PHI	250	125	2	0	1	-	104
	THA	170	100	1	0	1	-	100
	VIE	250	211	4	1	1	50	50
	REG DPSP	150	35	1	0	0	-	-
CTF Total		**2,184**	**1,271**	**15**	**3**	**5**	**400**	**604**
SCF Window	**Country**	**Total SCF Funding for SPCRs/IPs ($ million)**	**SCF Funding Administered by ADB ($ million)**	**Total No. of Projects**	**No. of SC Approved Projects**	**No. of SC Approved Projects**	**Project Funds Approved ($ million)**	**Project Funds Approved ($ million)**
PPCR	BAN	110	72	3	1	3	40	72
	CAM	91	91	8	1	5	10	57
	NEP	75	32	2	1	2	24	32
	PAC REG	10	4	1	1	1	4	4
	PNG	30	30	1	0	0	-	-
	TAJ	58	28	2	1	2	22	28
	TON	20	20	1	1	1	20	20
		394	**276**	**18**	**6**	**14**	**121**	**212**
SREP	MAL	30	13	1	0	0	-	-
	NEP	40	22	2	1	1	10	10
		70	**35**	**3**	**1**	**1**	**10**	**10**
FIP	INO	70	18	1	0	0	-	-
	LAO	29	13	1	0	0	-	-
		99	**31**	**2**	**0**	**0**	**-**	**-**

[77] The Clean Technology Fund (CTF) became operational in July 2008, the Pilot Program for Climate Resilience (PPCR) in November 2008, the Forest Investment Program (FIP) in July 2009, and the Program for Scaling Up Renewable Energy in Low Income Countries (SREP) in December 2009. Refer to www.climatefundsupdate.org/listing.

[78] The term investment plan is used for the CTF, FIP, and SREP financing windows. For the PPCR, the investment plan is normally referred to as the strategic program for climate resilience (SPCR).

SCF Window	Country	Total SCF Funding for SPCRs/IPs ($ million)	SCF Funding Administered by ADB ($ million)	Total No. of Projects	No. of SC Approved Projects	No. of SC Approved Projects	Project Funds Approved ($ million)	Project Funds Approved ($ million)
SCF Total		564	342	23	7	15	131	222
CIF Total		2,747	1,613	38	10	20	531	825

BAN = Bangladesh, CAM = Cambodia, CTF = Clean Technology Fund, FIP = Forest Investment Program, IND = India, INO = Indonesia, IP =Investment Plan, KAZ = Kazakhstan, LAO =Lao People's Democratic Republic, MAL = Malaysia, NEP = Nepal, PAC REG = Pacific Region, PHI = Philippines, PNG = Papua New Guinea, PPCR = Pilot Program for Climate Resilience, REG DPSP = Regional Dedicated Private Sector Programs, SC = subcommittee, SCF = Strategic Climate Fund, SREP = Scaling up Renewable Energy Program, TAJ = Tajikistan, TFC = Trust Fund Committee, THA = Thailand, TON = Tonga, VIE = Viet Nam.
Note: Figures are in $ millions and are based on endorsed country investment plans or those currently expected to be revised.
Source: Regional and Sustainable Development Department.

110. **Transformation.** The CIFs' financing windows refer to transformation in much the same way as the GCF, and they are designed to promote a paradigm shift towards low-emission and climate-resilient development pathways. The CTF and SCF governance frameworks are seen as transformative, as they lead to the removal of risks and barriers to replication of projects implemented directly with CIFs' support. These frameworks also provide policy, regulatory, and institutional support aimed at (for instance) creating an enabling environment for private sector participation. Table 6 shows the transformative objectives of various CIFs' financing windows—and can be considered as a fair representation of TFC priorities.

Climate Investment Funds refer to transformation in much the same way as the Green Climate Fund … and promote a paradigm shift towards low-carbon and climate-resilient development

Table 6: Transformational Objectives of CIFs' Financing Windows

Financing Window	Response	Transformational Objective
Clean Technology Fund	Mitigation (emission reduction)	Transformed low carbon economies
Strategic Climate Fund		
- Forest Investment Program	Reduction of deforestation and forest degradation	Reduced GHG emissions from deforestation and degradation and promotion of sustainable forest management
- Pilot Program for Climate Resilience	Adaptation	Increased resilience of households, communities, businesses, sectors, and society to climate variability and climate change; strengthened climate-responsive development planning
- Scaling up Renewable Energy Program	Mitigation (emission reduction)	Low carbon development with reduced energy poverty and increased energy security

GHG = greenhouse gas.
Sources: Results Frameworks of CTF, FIP, PPCR, and SREP (www.climateinvestmentfunds.org).

111. While these TFC priorities are important, it is likely that CIFs will contribute to a transformative process only in some small (and possibly important) way, or initiate a process that can potentially have significant transformative outcomes. To the extent that CIFs' investment plans are consistent with country priorities,[79] as articulated in various documents prepared for the UNFCCC,[80] they can be considered as being country owned and country led. These plans would be transformative if CIFs helped to remove barriers such as high upfront costs and high real or perceived risks. To achieve transformative outcomes, it would be necessary for CIFs to leverage funds from other public and private sources, and to catalyze investment for replication and scale-up of similar projects. Leverage and scale-up are necessary for transformative outcomes to occur, because the CIFs' country allocations are small. In most cases, the amounts are

[79] However, in framing investment plans, MDBs are likely to superimpose their respective perspectives, which reflect their own strategies, policies, and results frameworks.
[80] For instance, National Communications, Nationally Appropriate Mitigation Actions (NAMAs), and National Adaptation Programs of Action (NAPAs).

less than $110 million per country under the three windows of the Strategic Climate Fund (SCF) and less than $800 million per country through the Clean Technology Fund (CTF).

112. The quick disbursal objective of the CIFs means that investment plans must incorporate existing knowledge (through existing policies, strategies, plans, technologies, and applications), and be formulated fairly quickly so that project design and processing can begin at the earliest time. For instance, in India, $550 million of the $775 million CTF investment plan that has been allocated to support solar energy facilities reflects the government's solar energy program, which was approved nearly 2 years before the CTF investment plan was endorsed. Likewise, in Cambodia, within the total Strategic Program for Climate Resilience (SPCR) of $91 million, the investment plan for the Pilot Program for Climate Resilience (PPCR) was about $79 million and it was allocated to projects that were nearing ADB approval at the time the SPCR was approved in June 2011.[81]

113. It is important to monitor transformation as it progresses. At this early stage, when many TA and investment projects are being implemented, or are still being processed, transformative impacts can only be inferred. A more rigorous assessment will be possible when appropriate mechanisms are put in place to gather and process information in line with the recently streamlined monitoring and evaluation (M&E) frameworks for the four financing windows.

In 2010, 11 of the 13 contributor countries indicated their contributions to Climate Investment Funds were new and additional

114. **Additionality.** CTF and SCF governance frameworks provide for new and additional resources to supplement existing ODA flows. In 2010, 11 of the 13 contributor countries indicated their CIFs' contributions were new and additional.[82] Each country used its own approach to determine additionality, although most countries justified additionality of their contributions on the grounds that: (i) they exceeded the 0.7% of gross national income target for ODA; or (ii) they represented an increase over ODA contributions in a baseline year. In general, it is difficult for agencies to demonstrate additionality due to problems ensuring consistency and transparency of reporting and setting baseline financial contributions.[83] In practice, for analytical purposes, to the extent that CIFs' allocations overcome financial constraints in the recipient country, they can be considered additional.

115. **Leverage.** In the context of CIFs, leverage refers to cofinancing from MDBs and financing raised from the private sector, national and local governments, commercial banks, and other entities. Overall, the $8 billion pledged to CIFs until December 2013 is expected to leverage more than $55 billion (a leverage ratio of 1:7.8). For support committed until December 2013, the overall leverage ratio is expected to be higher at 1:8.8.[84]

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[81] Precise data on adaptation components are not available. The entire PPCR funding is piggy-backed onto existing ADB-financed projects and is meant for improving climate resilience. $41 million is for projects aimed at improving climate resilience of infrastructure (roads, irrigation systems, water supply and sanitation infrastructure). $28 million is for projects aimed at improving flood and drought risk management through government capacity development and promoting climate resilient agriculture.

[82] Norway and Switzerland were the two exceptions that abstained from adopting any definition to determining additionality. Refer to Climate Investment Funds. 2010. *Distinguishing and Tracking CIF Contributions as New and Additional ODA Resources*. 18 November (CTF-SCF TFC.5/5/Rev.1). The leverage ratios for commitments made until December 2012 are 1:8.2 for CTF, 1:1.2 for PPCR, 1:12.3 for FIP, and 1:12.4 for SREP.

[83] World Bank. 2010. *Monitoring Climate Finance and ODA*. Washington DC.

[84] Climate Investment Funds. 2013. *Creating the Climate for Change, Annual Report 2012*.

2. Global Environment Facility

116. According to the GEF Operational Strategy, the strategic thrust of GEF-financed climate change activities is to support sustainable measures that minimize climate change damage by reducing the risk, or the adverse effects, of climate change. In response to increasing scientific concern and empirical evidence, GEF has increased its focus on adaptation, and addresses the impacts of climate change on human life and development, and on vulnerable ecosystems. Since the Least Developed Country Fund (LDCF) and the Special Climate Change Fund (SCCF) were established, GEF has increasingly focused its adaptation financing under the LDCF and SCCF portfolios.

ADB has obtained GEF support for several investments and TA operations from the Global Environment Facility focal areas of Climate Change and Sustainable Forest Management

117. ADB has obtained GEF support for several investments and TA operations under the GEF focal areas of Climate Change and Sustainable Forest Management. ADB has obtained financing from the GEF-managed LDCF and SCCF. To date, the LDCF has largely supported the national adaptation plans (NAPs), although ADB has secured LDCF financing for one adaptation project. As of February 2014, ADB has also secured GEF Council approval for three projects under the SCCF. Two other previously approved projects under the GEF Special Pilot on Adaptation are under implementation. ADB has also obtained GEF support under the mitigation window that comprises (i) 18 projects approved for climate change mitigation, of which 15 are in the climate change focal area; and (ii) two projects under the sustainable forest management focal area. Further details are in Linked Document 2.

118. ADB has been accredited as meeting GEF fiduciary standards, safeguard standards, and gender policy requirements. The accreditation process involved detailed analysis of ADB policies against international good practice standards adopted by GEF.

3. Adaptation Fund

The Adaptation Fund allows financial resources to be transferred directly to accredited implementing entities in eligible developing countries

119. The UNFCCC decided to establish the Adaptation Fund in 2001 to support climate change adaptation activities, which became operational in 2009. ADB's fiduciary concerns about accessing the Adaptation Fund arise from the standard legal agreement defining responsibility and liability for project management, including monitoring and reporting, and the requirement of refunding of project funds under certain circumstances. These requirements preclude ADB from accessing the Adaptation Fund to support any project activity, although it appears that some international agencies do not share these concerns.[85]

120. The Adaptation Fund has pioneered the "direct access" facility, which provides an alternative route to MDBs and other international bodies for making financial transfers to developing countries. The Adaptation Fund allows financial resources to be transferred directly to accredited implementing entities (AIEs) with national, subnational, or subregional jurisdictions in eligible developing countries. The direct access modality is an effort by the UNFCC to finance projects on the ground in an expedited, efficient, and effective manner that is consistent with national priorities, needs, and circumstances. As the Adaptation Fund is small (in the $100 million range or less at any given time), the AIEs are allowed to access only up to $10 million per

[85] For instance, the United Nations Development Program (UNDP) has accessed $93 million from the Adaptation Fund for 15 projects—which is more than 50% of the Fund's total portfolio on both counts. The United Nations Environment Program and the World Food Program have together accessed $45 million from the Fund to support seven projects. The World Bank and International Fund for Agricultural Development have also accessed the Fund for one project each.

year, and this has meant that only a few AIEs have gathered the experience of directly accessing climate funds.[86]

C. Securing Climate Finance from Externally Managed Funds

ADB's operations departments have gained experience accessing climate finance from external funds

121. ADB's operations departments have gained experience accessing climate finance from external funds. This experience provides lessons on the processes and other requirements for accessing external climate funds and highlights a range of issues that merit specific attention. One issue pertains to the extensive upfront documentation requirements for obtaining funding from such sources. Another issue is the need for ADB to compete with other agencies to access the same external funds—although competition is regulated to some extent. Certain characteristics of ADB systems and practices influence the perspective of its operations departments and their incentives to access external funds.

1. Documentation Requirements

122. The CIFs' documentary requirements are unique in the sense that project endorsement is linked to a previously endorsed investment plan (for CTF, FIP, and SREP) or an endorsed SPCR (for PPCR). The preparation of these documents can take more than a year in some cases; although in countries with good institutional capacity these documents can be prepared faster. Endorsed investment plans (or SPCRs) have also been revised for reasons such as increased allocations or replacement of interventions in the previously endorsed investment plan (or SPCR) with new ones.[87]

123. The endorsed investment plans (or SPCRs) define the contours of technical and financial assistance proposals. So the backdrop to any TA or investment proposal that goes to the TFCs is already known.[88] To the extent that the CIFs-supported cluster of investment projects and TA is transformational, it is explained in the investment plan and project documents (see Table 7).

Table 7: Information in an Endorsed SPCR- and PPCR-Supported Investment Project

SPCR Contents[a]	Investment Project Proposal Contents (Adaptation)[b]
• Background and rationale – Development context – Climate risks, sectoral vulnerabilities – Existing development plans and programs – Rationale for CIFs' support – Institutional analysis – Adaptive capacity – Participative and consultative process for preparing an investment plan or SPCR – Role of private sector • Towards proposing an investment program – Process of prioritization – Consistency between government priorities and prioritized areas (at the	• Downscaled climate change projections in the project area (best available projections) • Climate hazard projections in the project area • Preliminary climate change screening checklist • Vulnerability assessment (including exposure to hazards and adaptive capacity) in project area • Addressing climate change-related risks in the project risk assessment and risk management plan • Addressing vulnerabilities of communities through climate resilience-building measures (including training) and climate proofing of infrastructure in project area in poverty reduction and social strategy as well as gender action plan

[86] Overall, 15 national implementing entities have been accredited, of which only one is from an ADB member country (the National Bank of Agriculture and Rural Development, India).

[87] Endorsed CTF investment plans for at least five countries in the Asia Pacific region have been revised (Indonesia, Kazakhstan, Philippines, Thailand and Viet Nam). The original endorsed SPCR for Cambodia has also been revised.

[88] To the extent that an investment project is built on a CIF-supported TA, the background information gathered during TA implementation is also available.

SPCR Contents[a]	Investment Project Proposal Contents (Adaptation)[b]
sector, project, and community levels) – Framework and mechanism to coordinate activities across various levels of governance – Conceptual outline of specific investment proposals – Corresponding CIFs support and cofinancing from MDBs and other sources – Timelines – Expected outcomes – Institutional arrangements – Environmental and social risks – MDB administrative fees – Monitoring and evaluation	• Awareness creation, information sharing, financial and risk transfer mechanisms, related issues and challenges taken into account in the resettlement framework and plan • Incorporating necessary climate resilience building and climate proofing measures in to economic a+nd financial analyses

CIF = Climate Investment Fund, MDB = multilateral development bank, SPCR = Strategic Program for Climate Resilience.
[a] The contents of a CTF, FIP, and SREP investment plans are also analogous.
[b] For investment projects.
Source: Compiled by the study team.

Extensive upfront documentation is required to obtain endorsements from externally managed funds

124. GEF requires detailed documentation in two stages before it endorses support. A brief 5-page project identification form (PIF) is submitted for preliminary approval before a detailed application can be submitted. Box 8 provides an overview of the information required in a detailed application form, on the basis of which support from LDCF or SCCF is endorsed. As for CIFs, the application process is both knowledge and time intensive. In some cases, ADB engages a consultant to prepare the detailed proposal for LDCF or SCCF endorsement.

Box 8: Application Contents to Receive Endorsement for Project Support through GEF-managed LDCF and SCCF

- Alignment with national strategies and plans (NAPs, NAMAs, NATCOMs, etc.)
- Consistency with GEF adaptation strategy, priorities, and eligibility criteria
- Statement on ADB's comparative advantage with respect to the country/subregion, sector, and type of climate resilience or other adaptation measures
- Description of the baseline project and climate change risk issues it seeks to address:
  - Rationale of baseline project
  - Description of baseline project
  - Impact, outcome, and outputs of baseline project
  - Investment and financing plan for baseline project
  - Implementation arrangements for baseline project
- Problems to be addressed by the baseline project
  - Community-led protection measures
  - Vulnerability to climate change
- Value of LDCF- or SCCF-supported activities
  - Proposal for support (components beyond baseline projects) and their cost-effectiveness aspects
  - Benefits (e.g., support mainstreaming through demonstration effect, local government engagement, meeting information needs, socioeconomic benefits, filling gaps in adaptation planning, knowledge sharing)
  - Design parameters for LDCF or SCCF support (e.g., participatory and consultative approach, meeting current and future needs to manage risks)
  - Pilot community projects (where applicable, pilot selection criteria, process, and scope of activities)
- Potential risks of not achieving the intended objectives, and measures to address the risks
- Stakeholder-related information (type, how they will be engaged, their requirements, how project outputs help meet the requirements)
- Institutional aspects (entity, focal point, role, and responsibility of existing institutions; rationale and

role for new committee or secretariat or advisory body)
- Coordination with other relevant GEF initiatives or programs in the concerned country or subregion
- Implementation arrangements (consultants, network of research bodies, panel of experts, and their roles)
- Implementation program, with key activities and timelines
- Differences, if any, from the PIF.

ADB = Asian Development Bank, GEF = Global Environment Facility, LDCF = Least Developed Country Fund, NAMA = Nationally Appropriate Mitigation Actions, NAP = National Adaptation Plan, NATCOM = National Communications, SCCF = Special Climate Change Fund.
Source: Based on project applications endorsed for support from LDCF and SCCF.

Documentation requirements to secure the support of ADB-managed climate funds encourages project teams to seek climate finance and address climate risk-related issues

125. In comparison, the ADB-established and -managed CCF requires a short two-page submission from the project team. Basic information is required as per a standardized application form, which requires little additional effort beyond the TA or project concept paper, which has already been prepared by the project team. Documentation requirements to secure the support of other ADB-managed climate funds are similar. ADB adopted this approach due to the small volume of financial support these funds provide, and to encourage project teams to seek climate finance and address climate risk-related issues they would otherwise not do. However, such an approach does not provide significant lessons on documentation requirements for securing adaptation finance from outside ADB. [89]

2. Competition to Secure External Funding

126. From CCF's initial allocation and its first replenishment, project support has been committed relatively quickly, which is indicative of a strong pipeline and some level of competition.[90] ADB has not sought any funding from the Adaptation Fund—although it is noteworthy that, in addition to MDBs and other international agencies, several AIEs from eligible developing countries can also access this Fund, and in so doing enhance competition for allocation of its limited resources.

The Climate Investment Funds have adopted a partnership approach, and each financing window is implemented in selected countries

127. The GEF-managed LDCF and SCCF are implemented through ADB, other MDBs, and other UN agencies. Anticipating that the GCF would be set up and begin functioning by 2012 or 2013, many agencies (contributing countries) began limiting their commitments to replenish the LDCF and SCCF, which made it difficult for ADB to secure support from these funds.[91] As a result, project teams in ADB were hesitant to make the effort required to prepare five-page PIFs and detailed applications.[92] However, delays in setting up GCF meant that contributions to the LDCF increased in 2012 and 2013,[93] which has made it more attractive for ADB to make the effort to secure more LDCF support.

128. The CIFs have adopted a partnership approach, and each financing window is implemented in selected countries. This approach was adopted to improve the likelihood of demonstration of transformative impacts with available resources. For instance, the PPCR window aims to demonstrate transformative impacts in highly

[89] Although environmental impact assessment studies incorporate some climate change issues, they may not meet the requirements of externally managed funds.
[90] An alternative could have been to allocate only a part of the CCF resources when they first become available, with the remainder being spread over the next year or two.
[91] For instance, during 2011, the SCCF replenishments were limited to $25 million over a 6-month period.
[92] As of early 2013, only about 10 projects (which included some approved by the ADB Board in 2012 as well as some that were expected to seek ADB Board approval in 2013) were in the pipeline to seek LDCF and SCCF support.
[93] During 2012 and 2013, the cumulative pledges to the LDCF were more than $875 million, of which $200 million was pledged in 2013.

vulnerable countries. Box 9 summarizes the country selection process. PPCR resources are allocated between the selected countries by consensus. The SPCR defines the TA and investment projects to be supported as per the amount allocated to each selected country, and actual funding commitments are made after receipt of specific proposals. The other three financing windows under CIFs follow a similar process for allocating funds to specific TA and investment project interventions. Although funds earmarked for a recipient country can be withdrawn if approval rates are slow, this approach provides a reasonable degree of certainty of CIFs funds flows to ADB and other MDBs.

Box 9: Selection of Countries to Participate in the PPCR

The PPCR Subcommittee appointed an expert group in 2008 to advise on the selection of 5–10 countries, with one or more consisting of a regional group. The expert group adopted a top-down selection process, rather than a demand-led process. Its selection was influenced by data availability and the expertise of its members.

Trade-offs between country capability and vulnerability were considered, as also between small countries (e.g., small islands, where the entire population faces an existential threat) vs large countries (where a part of the population is exposed and vulnerable to climate change). The expert group recognized that country buy-in may be missing from some selected countries, as government's development priorities and plans were not considered sufficiently thoroughly in the selection process. The expert group recognized that any country selection process and choice of selected countries can be challenged.

Perhaps in response to such challenges, some modifications were subsequently made, in particular to include (i) one least developed country in southern Africa in place of a West African nation; and (ii) changes in selection of countries in the Caribbean and Pacific subregions. For the Asia and Pacific Region, the changes included inclusion of Papua New Guinea, Samoa, and Tonga in addition to the Pacific regional track, which covers 14 countries.

PPCR = Pilot Program for Climate Resilience.
Source: Climate Investment Funds. 2009. *The Selection of Countries to Participate in the Pilot Program for Climate Resilience: Report of the Expert Group Submitted to the Subcommittee of the PPCR*. January.

3. Administrative Fees

129. The high administrative burden to access externally managed climate funds is one of the factors that influences ADB's ability and willingness to access them. Additional time and effort for processing go beyond the normal ADB project processing schedule. Both CIFs and GEF provide administrative fees to ADB to cover the cost of project cycle management, but the operations departments that prepare and administer the projects receive only a part of the fees to cover these costs.

External climate finance sources provide administrative fees to ADB to cover the cost of project cycle management, but the operations departments receive only a part of these fees to cover their costs …

130. ADB is well compensated by GEF for staff and consultant inputs during the entire project cycle.[94] During the 12-year period from 2001 to 2012, ADB's actual expenditure on projects (as recorded), excluding staff time, was normally 10%–40% of fees received from GEF.[95] Despite the size of the GEF fees, the operations departments and RSDD recover only part of the project cycle costs on GEF-supported projects (see Box 10). Regarding CIFs, upfront support is provided through a core budget and a country programming budget, which is accessible to operations departments. The administrative fees for project administration during the implementation phase do not

[94] At present, GEF reimburses 8%–9.5% of the GEF share of project costs as administrative fees; earlier, administrative costs were pegged at 10% of the GEF share of project costs. 40% of the administrative fees is paid upon approval of the project concept (the PIF), and the balance of 60% upon endorsement of the GEF share of the project cost.
[95] Significant outliers are 4% in 2001 and 88% in 2003. Source: Data provided by RSDD.

flow to the operations departments. The balance of the administrative fees provided by GEF and CIFs goes into the OCR pool. The partial recovery of administrative fees from GEF and CIFs to operations departments does not appear to provide them adequate incentives to allocate resources to secure external climate finance.

…. this does not appear to provide operations departments adequate incentives to allocate resources to secure external climate finance

Box 10: RSDD Mechanism to Enable Operations Departments to Partly Recover Costs of Securing Climate Finance from GEF

RSDD's special mechanism enables operations departments to recover a part of their costs incurred on (i) engaging consultants for project preparation and M&E during implementation, and (ii) staff travel and related costs pertaining to GEF-endorsed projects. RSDD recovers its own administrative costs associated with GEF reporting and portfolio management through the same mechanism.

RSDD makes a proposal to BPMSD, which then allocates a certain portion of the administrative fees into a special fund.[a] Typically, the allocations to this special fund are significantly smaller than the total administrative fees paid by GEF, and the balance of administrative fees goes into the OCR pool.[b] The operations departments are required to apply to RSDD to obtain support from the special fund.

From 2010 to 2013, $1.9 million was allocated for business travel and staff consultants through the special fund. Of this, an estimated 77% was allocated to directly support operations departments, and 23% was used by RSDD for overall technical support and portfolio management.

BPMSD = Budget, Personnel and Management Systems Department, GEF = Global Environment Facility, RSDD = Regional and Sustainable Development Department.
[a] This special fund is referred to as the EGEF (ADB's fund code).
[b] For instance, over the 10-year period 2002–2012, of the total $12 million administrative fees paid by GEF, about $3 million was allocated to EGEF, and about $9 million went into OCR.
Source: Compiled by the study team.

CHAPTER 5
Project Support

131. ADB began developing regional climate change implementation plans (CCIPs) in 2008. CCIPs were intended to galvanize the operations departments into thinking holistically on climate change. In practice, most analytical and research effort has remained focused at the country level, and in consonance with the CPS cycle.[96] Interventions that contribute to mitigating climate change and/or adapting to it are consistent with and identified in the CPS. Adaptation and mitigation interventions generally continue to be treated separately during the project identification and design process.

ADB can broaden the mitigation portfolio and explore opportunities to scale up sustainable transport, demand-side energy efficiency, and sustainable and resilient management of land resources, including forests

132. In keeping with country priorities and needs, and in line with global developments, ADB initially focused on mitigation interventions. A large share of climate change-related investments was allocated for clean energy, which is consistent with the pattern of global financial flows for climate change. The mitigation portfolio has exceeded $2 billion per year over the past few years—being directed primarily to clean energy projects. ADB can broaden the mitigation portfolio and explore opportunities to scale up sustainable transport, demand-side energy efficiency, and sustainable and resilient management of land resources, including forests.

133. A landmark RETA,[97] approved in 2007, covered several broad areas that have been pursued since then. It closed in December 2012, and it provided support to participating governments to improve their understanding of actions required to adapt to climate change.[98] The RETA supported the preparation of CCIPs that provided a beginning toward integration of climate change adaptation and mitigation considerations into ADB's CPS processes and sector investment approaches. ADB's adaptation-related work that was launched by this RETA supported an institutional learning process and pilot activities at the sector, project, and community levels across a broad range of vulnerable geographies (such as low-lying coastal areas, dry land and mountainous ecosystems, and small islands). Since 2012, ADB has expanded its work on climate change adaptation, formulated various strategies and operational plans, and launched or is in the process of designing various initiatives (see Chapter 3). ADB has a significant adaptation portfolio, which includes many interventions supported by the PPCR (to date the largest global source of adaptation finance) and other climate funds (see Chapter 4). Support for adaptation in areas such as water and food security needs to be scaled up.

Support for adaptation in areas such as water and food security needs to be scaled up

[96] In most cases, CCIPs are not monitored or updated, and there are no time-bound plans. The CCIP prepared for East Asia was not approved. A few country-specific CCIPs were produced in 2012 and 2013 (e.g., Bangladesh and Nepal) and provide inputs into the CPS formulation process.

[97] ADB. 2007. *Regional Technical Assistance (6420): Promoting Climate Change Adaptation in Asia and the Pacific*. Manila, 21 November (approval).

[98] RETA 6420 provided support to developing countries towards incorporation of climate change aspects into investment plans and pilot testing of innovative adaptation activities. This included several activities, some of which were also supported by other RETA operations. Several knowledge products were prepared, including some that make the science of climate change and its impacts accessible to decision-makers. Prominent studies included (i) Glacial Melt in the Indus Valley; and (ii) Vulnerability to Climate Change: Adaptation Strategies and Layers of Resilience. The latter included agroclimatic analysis in seven countries, perception analysis (of people affected by climate change) in seven countries, vulnerability analysis in five countries, economic impact analysis in two countries, and crop impact analysis in two countries.

A. Listing of Climate Change Interventions

A systematically compiled and complete listing of ADB's climate change interventions is not available

134. ADB has built up a large portfolio of TA and investment projects that support adaptation and/or mitigation. However, a systematically compiled and complete listing of these interventions is not available. As per compilations made available by RSDD, ADB supported 188 investment projects during 2009–2012. This list is not consistent with information in ADB's online database (eOperations), which showed 147 investment projects.[99] Only 101 investment projects are common to both lists. The combined list of 234 projects is presented in Linked Document 3 and Supplementary Appendix D. The year-wise progression in the number of investment projects in the combined list is shown in Table 8.

Table 8: Number of Investment Projects Classified as Adaptation and/or Mitigation by Year of Approval

Year of Approval	Total	Adaptation	Mitigation	Both
2009	52	14	30	8
2010	60	23	32	5
2011	71	19	41	11
2012	51	17	31	3
Total	234	73	134	27

Source: Compiled by the study team.

135. Of the 134 mitigation projects in the combined list, the RSDD list included 119 (nearly 90%). In contrast, of the remaining 100 projects with some adaptation component (with or without mitigation), the RSDD list included only 69. This simple comparison is symptomatic of the difficulty in identifying project activities that support climate change adaptation.[100]

136. Table 9 shows that 80% of the projects in the combined list support infrastructure (energy, transport, water) sector or multisector investments. The ANR sector comprises most of the remaining adaptation and/or mitigation projects.

Table 9: Number of Investment Projects Classified as Adaptation and/or Mitigation (2009–2012)

Sector Classification	Total	Adaptation	Mitigation	Both
ANR	42	30	6	6
Energy	83	-	81	2
Multisector	32	11	13	8
Transport	43	22	19	2
Water	30	8	13	9
Other[a]	4	2	2	-
All	234	73	134	27

ANR = agriculture and natural resources.
[a] Includes 1 project each in the finance, health and social, public sector management, and education sectors.
Source: Compiled by the study team.

[99] The project team navigated through eOps to compile a list that includes many projects not in the RSDD list. The list so compiled may not be complete, but fulfills the purpose of displaying remarkable differences between the two lists each year from 2009 to 2012.

[100] It is noteworthy that the RSDD list was compiled on the basis of information provided by relevant staff from operations departments, who were tasked to hurriedly prepare a list from their respective departments within a few days. There is no evidence that the list so compiled was ever verified.

137. As per the RSDD list, ADB supported 303 TA operations during 2009–2012, which included 87 RETAs. In comparison, the ADB online database eOperations and a project search on the ADB website showed that ADB had supported 9 other RETAs and 52 other TA operations during the same time period. The combined list has 364 TA operations, of which 96 are RETAs. If project preparatory TA activities are not considered, the combined list has 230 TA operations, of which 91 are RETAs.

138. It is difficult to understand the basis on which a project is included in the RSDD list. It is also difficult to establish a link between a project's climate change classification and its impact level as indicated in project documents. Some investment projects not in the RSDD list are classified as having medium or high impacts for mitigation and/or adaptation in the project documents (see Table 10). The RSDD list includes 23 projects that have adaptation impacts, but the impact level (whether high or medium or low) is not marked in the project documents.[101]

Table 10: Impact Classification of Projects Not Included in the RSDD List

	Investment Projects				RETA and Other TA Operations			
	High	Medium	Low	All	High	Medium	Low	All
Adaptation	1	3	5	9	1	3	1	5
Mitigation	4	4	7	15	6	5	9	20
Both	8	4	10	22	10	6	6	22
Total	13	11	22	46	17	14	16	47

RETA = regional technical assistance, RSDD = Regional and Sustainable Development Department, TA = technical assistance.

Note: For investment and TA activities that have both adaptation and mitigation components, the highest impact category is considered (i.e., at least one of adaptation or mitigation impacts is rated high to be included in the "high" column; both adaptation and mitigation impacts are rated low to be included in the "low column; others are included in the "medium" column).

Source: Compiled by the study team.

B. Adaptation Projects

1. Investment Projects

139. **Sectoral Mix.** As per the combined list, ADB supported 100 investment projects that included adaptation components during 2009–2012. Of this, 73 were adaptation-only projects, and 27 involved both adaptation and mitigation responses to climate change. Table 11 shows that 96 of the 100 adaptation interventions were delivered through ANR, transport, water and multisector projects. In fact, multisector projects mostly incorporate various combinations of the other three sectors.

Table 11: Number of Adaptation Investment Projects (2009–2012)

Sector Classification	Total	Adaptation	Both
Agriculture and Natural Resources	36	30	6
Energy	2	-	2
Multisector	19	11	8
Transport	24	22	2
Water	17	8	9
Other[a]	2	2	-
All	100	73	27

[a] Includes 1 project each in health and education sectors.

Source: Compiled by the study team.

[101] The absence of impact level categorization is variously indicated as (i) "x" for 5 adaptation-only projects, (ii) "not marked" for 17 adaptation-only projects, and (iii) "-" for one project identified as having both adaptation and mitigation impacts.

140. **Adaptation Finance Reporting.** Until 2010, ADB followed a simple approach to estimate adaptation finance. It just aggregated ADB-approved loans and grant amounts for all projects that were classified as climate change adaptation projects. It is likely that this approach overestimated the level of adaptation finance, although this conclusion cannot be confirmed, as the accuracy and completeness of the list of projects were not adequately verified.

141. Therefore, for the purposes of reporting on adaptation finance as per the joint report with other MDBs agreed upon in 2012, ADB mounted a special effort. For financial projects and TA in RSDD's list of projects approved in 2011, ADB attempted to refine adaptation finance estimates as follows: (i) where such estimation was possible, by including estimated adaptation costs by project component; and (ii) where the component-wise cost estimates were not available, 50% of the approved loan amount was assumed to be the adaptation cost component.[102] ADB later conducted a similar exercise for 2012.

ADB reported adaptation finance of $757 million for 2011 and $896 million for 2012

142. ADB reported adaptation finance of $757 million for 2011 and $896 million for 2012. The adaptation finance amount reported for 2011 did not include adaptation finance components for four projects in the RSDD list that were classified as incorporating both adaptation and mitigation measures.[103] The inclusion of these figures increases the adaptation finance estimate for 2011 to $764 million. More accurate estimates of ADB's adaptation finance in both 2011 and 2012 would require (i) taking into account projects that are not in the RSDD list but have adaptation activities, and (ii) an assessment of whether or not projects that were classified as adaptation projects are correctly classified. In the new PCS, operations departments are required to estimate adaptation finance. While this is an important step forward, further guidance is necessary to ascertain common standards across all operations departments to ensure consistency in the estimation of adaptation finance.

The three criteria, for a proposed project to be included for reporting climate finance and considered as incorporating adaptation activities relate to its vulnerability to climate change, a stated intent to address the vulnerability, and inclusion of activities that directly reduce vulnerability

143. **Economic Development or Adaptation?** The joint MDB report of December 2012 on adaptation finance reports provides a basis for assessing whether interventions classified as adaptation can in fact be accepted as adaptation activities, and qualify for inclusion in adaptation finance reports in the coming years. To reiterate from Chapter 2, the following information on three qualifying criteria are required to be included in upfront project documentation: (i) justification of a project's vulnerability context, (ii) making explicit the intent to address climate change risks, and (iii) establishing a direct contribution of project activities to building climate resilience.

144. The study team acknowledges that documentation for all projects in Linked Document 3 was prepared before the joint MDB report of December 2012 was finalized. Therefore, the study team adopted liberal criteria across all 100 projects when deciding whether or not project documentation met the qualifying criteria. In particular, project document was considered to have appropriately

(i) provided a project's climate change vulnerability context even if it contained just one or two sentences that generally described the vulnerability context, or simply referred to a project preparatory TA report that had reviewed the vulnerability context; in a few cases the documents only elaborated the vulnerability context, either as part of

[102] As agreed with other MDBs, any aid activity that includes adaptation as a principal objective or a significant objective is assumed to have 50% of the aid amount for adaptation activity in the absence of a project-specific share.

[103] These are TA7842-REG ($1.5 million), TA8018-REG ($3.29 million), TA7776-INO ($0.225 million), and TA7779-VIE ($2.5 million).

the environmental impact assessment or in a separate supplementary appendix;

(ii) stated the objective of addressing climate vulnerability, even if this was not included in the project outcomes, but one or two sentences (or more) were stated anywhere in the project documents (whether the RRP or any linked document or any supplementary appendix); and

(iii) established a direct contribution of project activities to increasing climate resilience, even if the project document stated briefly in one or two sentences that climate change-related issues (if any) are to be addressed at the detailed design stage (and even if the vulnerability context is not provided).

Even with a liberal interpretation of the qualifying requirements, it is found that a significant number of projects neither provide a vulnerability context, nor state any intent to address any vulnerability, nor include any activities that could directly reduce vulnerability to climate change

145. Findings on the quality of project documentation on the basis of available materials (including linked documents and supplementary appendixes) are provided for 100 projects in Supplementary Appendix E. Table 12 summarizes these findings. Projects from a broad range of sectors and subsectors across all operations departments are considered to have met a qualifying criterion if project documents include only one or two sentences.[104] Even with such a liberal interpretation of the qualifying requirements, of the 100 investment projects classified as incorporating some adaptive responses to climate change, it is concluded that 16 projects neither provided a vulnerability context, nor stated any intent to address any vulnerability, nor included any activities that could directly reduce vulnerability to climate change. As a result, a significant number of investment projects may be considered to be normal economic development projects, perhaps with some adaptation cobenefits.

Table 12: Conformity with Criteria on Reporting Adaptation Finance (No. of projects)

Year or Sector	All Adaptation Projects	Context of Vulnerability Stated	Intent to Address Vulnerability Stated	Outputs and/or Activities Linked to Climate Change Context	All Three Criteria Complied with	No Criteria Complied with
2009	22	10	9	10	9	12
2010	28	26	24	26	23	1
2011	30	24	19	22	14	2
2012	20	19	16	16	15	1
ANR	36	34	29	32	27	1
Transport	24	20	20	19	19	4
Multisector	19	11	10	11	9	7
Water	17	12	5	9	4	4
Energy	2	1	2	2	1	0
Other	2	1	2	1	1	0
Total	100	79	68	74	61	16

ANR = agriculture and natural resources, No. = number.
Source: Compiled by the study team.

146. To gain an understanding of the basis for adaptation measures incorporated in the design of an investment project classified as an adaptation intervention, considerably more information is required than found in most project documents. Ideally, a risk analysis needs to be accompanied by vulnerability and impact analyses, as well as a design options analysis. For these analyses, considerable detail is required in

[104] Such projects include but are not limited to L2943 (PRC) and L2940 (PRC), approved in 2012; L2828 (VIE), L2780 (LAO), and L2820-G0273 (VAN), approved in 2011; G0235 (LAO), G0215 (NEP), and L2682/2683 (VIE), approved in 2010; and G0170-G0167 (AFG) and L2573 (PRC), approved in 2009.

the upfront project documentation, as is provided for only a few projects.[105] For most of the other 100 investment projects, the available documentation falls short of this requirement.[106] It is difficult to the gauge the extent that adaptation measures included in the project design—and the associated adaptation finance estimate—address climate change vulnerabilities, even if they respond to climate change risks.

147. **Hard and Soft Adaptation Measures.** Of the 100 investment projects that include adaptation components, at least 54 include some form of soft climate resilience-building measures, and 49 support hard climate proofing measures. Taken together, they account for 81 of the 100 investment projects (Table 13). For 13 of the remaining 19 projects, no well-defined climate change adaptation activities are evident from available project documents. For the remaining 6 projects, IED had no access to relevant project documents.

Table 13: Number of Projects with Hard and Soft Adaptation Measures

Sector	Hard Measures	Soft Measures	Hard and/or Soft Measures	Others	Total
ANR	10	29	34	2	36
Transport	20	6	20	4	24
Multisector	9	12	12	7	19
Water	7	5	11	6	17
Energy	2	1	2	0	2
Other	1	1	2	0	2
Total	49	54	81	19	100

ANR = agriculture and natural resources.
Source: Compiled by the study team.

148. Climate resilience building in the 54 soft measure projects occurs through one or more of the following: measures that address drivers of vulnerability (8 projects);[107] increase resilience to climate extremes (floods, droughts, storm surges) and erosion (12 projects);[108] agricultural support services (5 projects);[109] and capacity development (25 projects).[110] Five projects include a response to damage from natural hazards that is in conjunction with hard infrastructure measures and helps restore access to markets, respond to health and hygiene concerns in disaster-affected areas, distribute agricultural inputs to restore productive capacity, and incorporate in the rehabilitation response sound maintenance policies and participatory maintenance practices.

149. The 49 projects with only hard measures include some infrastructure climate proofing measures, and at least 81 include an element of investment in

[105] These include BAN: Coastal Climate-Resilient Infrastructure Project (L2913/G0310); BAN: Khulna Water Supply Project (L2756); BAN: Second Crop Diversification Project (L2649); BAN: Sustainable Rural Infrastructure Improvement Project (L2696); CAM: GMS Flood and Drought Risk Management and Mitigation Project (L2970/G0330); PRC: Ningxia Irrigated Agriculture and Water Conservation Demonstration Project (L2973); SOL: Transport Sector Development Project (G0243); VAN: Port Vila Urban Development (G0275/G0276); and VIE: GEMS Ben Luc-Long Thanh Expressway Project – Tranche 1 (MFF 0053, L2730).

[106] In most cases, although a detailed risk analysis is presented, the vulnerability analysis is insufficiently detailed. The project design is also normally given without any discussion of the options considered.

[107] Include improvement in food and water security, access to health services, and livelihood diversification.

[108] Include wetlands and mangrove protection, lake retention capacity enhancement, coastal forest farms, community plans for flooding and river embankments, participatory management in irrigation development and water management, strengthened water user associations, rehabilitation of reservoirs and water storage.

[109] Improving agronomic practices and productivity of staple grain crops; supporting farmers to diversify into high-value crops; planting drought-, flood-, and salinity-tolerant crops; introducing sustainable land management practices; water conservation techniques.

[110] Incorporating climate change considerations in policy, plans, standards, and design; hazard mapping and hydromet services; water resource and use management; disaster preparedness and risk management.

infrastructure.[111] This result is in line with (i) a previous IED finding of an unmistakable shift towards infrastructure, with five-sixths of total project financing going to the energy, transport, and water sectors in 2011; and (ii) the fact that furthering ADB's inclusive and environmentally sustainable growth objectives calls for attention to other core and noncore operational areas defined in Strategy 2020.[112]

150. It is not possible to identify the cost of climate proofing and climate resilience-enhancing measures. In many cases, cost estimation for climate proofing is expected to be done at the detailed design stage. Costs are not separately identified or estimated for many climate-resilience activities, which form only a part of a project component. However, it is understood that resilience building accounts for a small share of ADB-approved financing. In some cases, the climate resilience aspect is only a cobenefit. Project details are provided in Supplementary Appendix E.

In many cases, cost estimation for climate proofing is expected to be done at the detailed design stage

151. **Analysis of ANR Investment Projects.** ANR is not one of ADB's core areas, accounting for only 3% of overall ADB operations during 2008–2012. Despite the low level of priority, within the total of 100 investment projects classified as incorporating adaptation responses to climate change, the maximum number (36), occur in the ANR sector. These projects include ANR interventions classified as having adaptation-only activities, and both adaptation and mitigation activities. This result indicates the need for greater attention to be paid to ANR for mainstreaming of adaptation support. The study team tried to understand (i) the extent to which project documentation for ANR projects incorporates the three qualifying criteria as per the MDB joint report, and (ii) where ADB's ANR interventions fit on the continuum of BAU development to climate change adaptation. The analysis showed that many ANR projects can have adaptation benefits or cobenefits, whether or not the project documentation meets the criteria for classification for adaptation finance reporting.

152. Of the 36 ANR projects, 9 were shown to be highly impacted by climate change risks, 11 as being subject to medium impact, and 8 as low impact (Table 14).[113] An examination of these projects reveals they are mostly development projects with the objectives of raising rural incomes, providing livelihood opportunities, or improving food security. These projects have activities that provide adaptation benefits, in the form of either reducing vulnerability to climate change through increased livelihood opportunities, or building resilience to climate change through better management of natural resources, or managing climate risks by collecting and using relevant climate data, or through climate proofing activities. These activities are aimed at reducing the adaptation deficit to current climate variability rather than introducing adaptation measures for anticipated climate change risks.

153. Table 14 shows that 6 of the 36 ANR projects have activities that address vulnerability drivers to climate change. Examples include diversifying rural livelihoods, improving irrigation management, and promoting environmental conservation and sustainability (e.g., restoring and protecting wetlands). Nineteen projects have activities that build response capabilities to weather fluctuations. Many of these projects focus on dealing with stress due to drought or flood conditions, and use structural and nonstructural measures to enhance resilience to floods and droughts. These

[111] Some of the remaining 19 projects also supported infrastructure development. Four supported small-scale infrastructure projects. Four small loans supported feasibility studies or detailed engineering for infrastructure projects and/or provided project implementation support. One was a credit facility extended for agricultural and business activity. Four projects had no infrastructure components. No project documents were available for six projects.

[112] IED. 2012. *Annual Evaluation Review 2012.* Manila, May.

[113] Possible impacts of climate change have not been sized up for the remaining eight projects.

interventions aim at (i) efficient use of water resources through improved irrigation management, and rehabilitation and development of irrigation infrastructure; or (ii) improving flood management and drainage infrastructure. Another 10 projects include activities that specifically incorporate climate information into decision making. These activities include climate proofing of infrastructure such as rural roads, or climate risk management through collection of relevant data, or pilot testing of climate-resilient crop varieties. Only one project deals with mitigation of adverse impacts from anticipated climate change impact (sea level rise).[114]

154. Table 14 shows that in 34 of the 36 ANR projects, the project documentation provides the context for vulnerability to climate change. Project documents for 29 of the 36 ANR projects state that building climate resilience or reducing vulnerability is a project objective. Only 32 of the project documents discuss the link between project activities and climate resilience or vulnerability-related objectives. Even projects that recognize climate resilience building or vulnerability reduction as part of project benefits treat them only as unquantified cobenefits. No attempt is made to quantify and include these benefits in the economic and financial analyses. Likewise, the project documents do not provide sufficient data to estimate the cost of activities aimed specifically at addressing climate change risks.

Table 14: ANR Investment Projects that Address Climate Change Adaptation, 2009–2012 (number of projects)

		Conforming with Criteria for Adaptation Finance Reporting			Classification of the Development-Adaptation Continuum			
Adaptation Impact Rating and Number of Projects		Context of Vulnerability Stated	Intent to Address Vulnerability or Build Resilience Stated	Outputs and Activities Linked to Climate Change Context	Address Vulnerability Drivers	Build Response Capacity	Manage Climate Risks	Confront Climate Change
Rated HIGH	9	9	8	9	1	5	3	0
Rated MEDIUM	11	10	10	10	4	5	2	0
Rated LOW	8	8	4	5	1	3	3	1
Marked but not rated	3	3	2	3	0	1	2	0
Not marked	5	4	5	5	0	5	0	0
Total	36	34	29	32	6	19	10	1

ANR = agriculture and natural resources.
Source: IED study team.

155. Climate risk screening was conducted in some projects, but the project documents do not specify the risk-reduction measures incorporated in the project design. In the few cases where climate proofing measures were incorporated (such as higher and wider embankments), the project costs with and without such measures are not provided. As a result, economic analyses for with and without adaptive measures scenarios are not provided.

[114] India: Sustainable Coastal Protection and Management Investment Program (L2679; MFF 0049).

2. Technical Assistance

156. The combined list of TA operations includes 118 adaptation-only TA activities[115] of which 42 are project preparatory TA (see Linked Document 3). The remaining 76 are a mix of policy advisory and capacity development TA, and include 32 RETAs. Of these 76, 34 (including 14 RETAs) were approved for $1 million or more. The ANR sector had the greatest number of high valued TA activities (22), the sectoral classification of other TA operations being multisector (6), transport (5), and finance (1). The finance sector TA is a RETA that aims to support two cities each in two countries to strengthen urban and national capacity in disaster risk financing.[116] Of the 34 TA operations, only one RETA had been completed by December 2013.[117]

157. An examination of the high-valued TA activities shows that they are intended to complement the soft measures that are often a component of investment projects. The emphasis on institutional capacity development and strengthening resilience of communities is evident (see Table 15). Institutional capacity development TA attempted to mainstream the integration of adaptation considerations into development planning in Cambodia, Nepal, and Tajikistan. These three TA activities were supported through the PPCR CIF financing window. Given the enormity of the task of mainstreaming the integration of adaptation considerations into development planning, they are more likely to enable the recipient countries to move closer to the stated objective, rather than to succeed in actually mainstreaming adaptation considerations into development planning. Some other ADB-supported TA activities incorporate similar objectives, but are in all likelihood too small and would most likely need to be augmented by many more TA activities at the country and subregional levels.

Many TA interventions aim to develop institutional capacities to improve adaptation responses pertaining to specific sectors or themes or ecosystems

158. Table 15 shows that most TA aims to develop institutional capacities for improving adaptation responses pertaining to specific sectors or themes or ecosystems. It appears that ADB's support for community-level resilience building has been relatively limited.

Table 15: Overview of TA support for Climate Change Adaptation (from TA activities with approved amounts of more than $1 million)

Areas of Intervention	Number of TA activities	Remarks	TA Number[a]
Mainstreaming of climate change adaptation measures and integration into national or subnational plans, policies, programs	7	• Three large TA operations (each upward of $6 million) funded by CIFs under the PPCR window • One ADB-supported RETA of $1.25 million has articulated similar objectives • Two RETAs, focused respectively on South Asia and the Pacific regions, provide inputs that can potentially strongly contribute to inclusion of adaptation considerations into policies and programs • One TA that attempts to incorporate insights on risks and vulnerability from downscaled climate projections into provincial and sector level planning	8179, 8090, 7984, 7608, 7423, 7394, 7377
Institutional capacity	13	• 9 TA activities focused on IWRM and water	7610,

[115] The combined list also includes 48 TA operations that incorporate both adaptation and mitigation responses to climate change.
[116] ADB. 2011. *Developing a Disaster Risk Financing Capability (Regional TA 7812)*. Manila, May.
[117] As of December 2013, only one RETA had been completed (RETA 7423: Regional Economics of Climate Change in South Asia Part II: Adaptation and Impact Assessment).

Areas of Intervention	Number of TA activities	Remarks	TA Number[a]
development that focuses on a specific sector, thematic area, or type of ecosystem		resource management; TA designed with a view to supporting institutional reforms, conserving and managing water resourcing, supporting water security and food security • One TA focused on rural infrastructure and participatory watershed planning • One TA focused on integrated disaster risk management • Two TA operations focus on coastal and marine ecosystems	7780, 7860, 7967, 7610, 7762, 7581, 7547, 7532, 7716, 7812, 7306, 7307
Improving disaster preparedness	4	• To improve resilience to floods, droughts, and other extreme events	8089, 6498, 7276, 6498
Capacity development at the community level	2	• To improve community knowledge on climate proofing aspects of rural infrastructure, and for increasing coastal resilience	8102, 7753
Capacity development and project support for an infrastructure project	1	• Road connectivity project in Viet Nam	7822
No clear indication of CCA measure	7	• In two cases, it is a piggy-backed TA (where the loan/grant may have a climate proofing component) • In the remaining five cases, the TA report provides no adaptation measure-related information	8221, 8170, 8110, 8163, 7985, 7938, 7439

ADB = Asian Development Bank, CCA = climate change adaptation, CIF = Climate Investment Fund, IWRM = integrated water resources management, PPCR = Pilot Program for Climate Resilience, RETA = regional technical assistance, TA = technical assistance.
[a] For TA name corresponding to the listed TA numbers, refer to Supplementary Appendix D.
Source: Compiled by the study team.

3. Interventions in Highly Vulnerable Countries

159. The Asia and Pacific region's highly vulnerable countries selected for PPCR support are Bangladesh, Cambodia, Nepal, and Tajikistan, along with Papua New Guinea, Tonga, and the Pacific subregion.[118] These countries are characterized by insufficient adaptation capacity at the national and subnational levels. Government priorities and plans were considered in the country selection process.[119] In these countries, ADB has (i) contributed towards framing a suitable investment plan (referred to as an SPCR) in conjunction with other MDBs and in consultation with the respective governments and other stakeholders, and (ii) prepared and administered the agreed-upon TA activities and investment projects as per the SPCR. The SPCR focus on interventions that address risk from, and vulnerability to, climate change through sector-level and cross-sectoral interventions makes it distinct from a CPS.

[118] Samoa is also selected for PPCR support. PPCR interventions are led and managed by the World Bank Group, and therefore not included here.
[119] To the extent that data were gathered during the selection process, and the selection committee members' had prior country knowledge.

160. The original SPCRs for the selected countries were endorsed by the TFCs between November 2010 and November 2012. These SPCRs were originally designed to be in keeping with the original levels of resources allocated from SCF to the PPCR window, and from PPCR to the selected country. Later, and to the extent additional resources were pledged or committed by contributing countries into the SCF, they were allocated to PPCR and other financing windows under SCF, and then on to respective countries. As a result, SPCRs have been revised from time to time. SPCRs have been revised for other reasons, such as country preference for grant support, although the countries have accepted concessional loan assistance also (e.g., Cambodia).

161. An SPCR reflects (or is intended to reflect) the country's priorities and its capacities for building resilience to climate change. SPCRs can be subject to revisions, to reflect changes in the scope and resources allocated for ongoing TA and investment projects, and as a consequence of changes in other interventions listed in the original SPCR that are modified or replaced by new ones. ADB and other participating MDBs have conformed to all these requirements. ADB and other MDBs are required to follow PPCR guidelines to ensure that PPCR-relevant results and indicators are integrated into M&E systems at the country or program level.[120]

162. A good way to gauge the implications of PPCR on ADB operations is to compare PPCR interventions with ADB's other interventions in the same countries, or in some comparator countries.[121] In practice, as of end-December 2013, most ADB-administered and PPCR-supported interventions were either being processed or in the initial stages of implementation. As a result, it is necessary to refer mostly to the processes of preparing and updating SPCRs and their content. This provides pointers on how concepts and definitions of country ownership, transformation, additionality, and leverage translate into actual practice in the PPCR countries.[122] The findings are presented in Linked Document 4 and summarized in Table 16.

This experience provides pointers on how concepts and definitions of country ownership, transformation, additionality, and leverage translate into actual practice in countries supported by the Pilot Program for Climate Resilience

Table 16: Overview of Pilot Program for Climate Resilience in ADB Countries

Parameter	Observations	DMCs
Country Ownership	– Similar in scope to documents prepared for UNFCCC and/or national climate change policies and action plans	BAN, CAM, NEP, PAC, PNG, TAJ, TON
	– Institutional arrangements to oversee and coordinate PPCR-supported interventions set up before CIFs were established	BAN, CAM
	– Budget allocated for climate change adaptation before CIFs were established	BAN
	– Perception by some stakeholders (e.g., bilateral donors, some NGOs) that SPCR formulation process was driven by MDBs	BAN, CAM, NEP, TAJ

[120] The PPCR logic model and results framework suggest a model for M&E of impact, outcomes, and outputs of PPCR-funded activities.

[121] Some countries that could form a comparator group are those that were considered seriously in the PPCR country selection process—as they are also highly vulnerable to the threats of climate change. These countries include (i) Bhutan and India, which were considered as alternates to Nepal and Bangladesh, respectively; (ii) Uzbekistan, which was identified as an alternate to Tajikistan; and (iii) Cambodia along with Philippines and Viet Nam as a regional group, rather than Cambodia alone.

[122] Such concepts are relevant also to other financing windows under CIFs. However, such case studies do not form a part of this evaluation. Case studies from other CIF financing windows are being conducted through a joint evaluation of CIF programs worldwide. The joint evaluation is required as per the CIFs' governance framework, for which five MDBs (including ADB) are working jointly. The draft final report is to be released for feedback and comments by April 2014, and to be discussed at the forthcoming TFC meeting in June 2014. See www.cifevaluation.org for further information. IED is also preparing a topical paper that focuses on understanding transformation, additionality, and leverage aspects in CTF pilot countries in Asia and the Pacific, where the CIFs have supported mitigation measures.

Parameter	Observations	DMCs
	– Capacity weaknesses within central government agencies and provincial/local agencies that impeded SPCR formulation	BAN, CAM, NEP, TAJ
	– Consultative process not sufficient	BAN, CAM, NEP, TAJ
	– Quality of consultations not uniform across all regional DMCs	PAC
	– Major regional organizations involved in SPCR formulation	PAC
Transformational	Institutional	
	– Institutional arrangements created to oversee and coordinate PPCR-supported interventions intended to outlive the PPCR and CIFs	CAM, TAJ
	– Initiated interministerial dialogue on climate resilience	CAM
	– Made a beginning in building scientific knowledge for decision making	CAM, TAJ
	– Manpower to mainstream adaptation measures in infrastructure planning and implementation	PNG, TON
	– Improved long-term and in-depth capacity of the Department of Hydrology and Meteorology	NEP
	Planning	
	– Mainstreaming or Integration of climate change adaptation in development planning	BAN, CAM, NEP, TAJ, TON
	– Mainstreaming adaptation and DRM	PAC
	– Demonstrating integration of adaptation and DRM into infrastructure sector plans	PAC
	– Enabling framework for climate proofing coastal infrastructure	PNG
	Financing	
	– Establishing a financing framework that supports priority adaptation interventions in vulnerable communities	PNG, TON
	– PPCR considered as just another source of funds to support building resilience to climate change	BAN
	– Working towards a system of budgetary allocations for improving climate resilience	TAJ
	Improving Preparedness	
	– Attention to hydrological and meteorological services and/or knowledge management systems	BAN, CAM, NEP, TAJ
	– Developing early warning systems	PNG, TAJ, TON
	– Community emergency preparedness training	PNG, TAJ, TON
	– Capacity development for vulnerability mapping	PNG
	– Improved accuracy and timeliness of weather and flood forecasts and warnings for vulnerable communities nationwide	NEP, CAM
	Building Climate Resilient Communities and Infrastructure through soft measures only[a]	PAC, TON
	Building Climate Resilient Communities and Infrastructure, through a mix of hard and soft measures[a]	BAN, CAM, NEP, PNG, TAJ
Financial Additionality	– PPCR funds expand the geographic scope for investing in similar resilience-building measures	BAN
	– PPCR funds supporting incremental project costs (such as for climate proofing)	BAN, CAM
	– Would not have happened without PPCR support	TAJ, CAM, PAC, PNG, TON
	– Only with grant funding	NEP
	– Scope complementary to what other development partners support	PAC
Leverage	– No private sector support	CAM, TAJ, PAC, PNG,

Parameter	Observations	DMCs
		TON
	– Support from non-MDB and nongovernment sources	BAN,
	– Limited private sector support (for IFC projects, if approved by MDB Board)	BAN, NEP

BAN = Bangladesh, CAM = Cambodia, CIFs = Climate Investment Funds, DMC = developing member country, MDB = multilateral development bank, NEP = Nepal, NGO = nongovernment organization, PAC = Pacific, PNG = Papua New Guinea, PPCR = Pilot Program for Climate Resilience, SPCR = Strategic Program for Climate Resilience, TAJ = Tajikistan, TON = Tonga, UNFCCC = United Nations Framework Convention on Climate Change.

[a] Assistance on soft measures such as increasing awareness, strengthening water users associations, community involvement to plant and maintain trees, knowledge dissemination (CAM, TAJ); introduction of microfinance and micro-insurance (TAJ); increased community involvement in planting and caring for trees to improve survival rate (CAM); diversified livelihoods through a mix of cereals, cash crops and livestock (CAM); improved access to water resources (BAN, TAJ); improved watershed management in priority areas (NEP); climate-resilient agriculture through introduction of adaptive agriculture measures and scaled-up deployment of climate-resilient crop varieties (BAN, NEP); climate-resilient food production and storage systems (PNG); climate-resilient fisheries management (PNG); greater public and private sector awareness, collaboration, and investment in climate resilience (NEP); pilot business model for low-cost climate-resilient housing (BAN); large-scale coastal infrastructure climate-proofed (BAN); planting trees on roadsides to prevent the road from caving in due to soil erosion (CAM).

[b] same as footnote a.

Source: Case studies compiled by the IED study team.

163. **Country Ownership.** Table 16 shows that PPCR interventions can be broadly considered to be country owned even though capacity weaknesses within government ministries and agencies exist, the consultative process may not have been sufficiently thorough, and some stakeholders are of the view that MDBs have pushed their agendas while preparing SPCRs. Nonetheless, the SPCRs are broadly consistent with other plans and strategies articulated by the respective governments.

164. **Transformation.** For societies to transform, a massive amount of financial and knowledge resources are required. The ability to learn at all stages, including demonstration and replication (for both soft and hard measures), is useful, as well as the ability to access funding for investments from multiple sources. To the extent that nongovernment organizations (NGOs) have worked at the grass-roots level (for instance, in Bangladesh, Cambodia, and Tajikistan), it is useful to tap their knowledge and experience. However, in many cases trade-offs between long-term climate benefits (through transformative approaches) versus meeting short-term objectives need to be considered. There is no guidance from CIFs on how to gauge or calibrate transformation or transformative intent. Commenting on draft SPCRs—which are normally from two contributing countries—appears to be the only quality assurance process in place, and there is no guidance on the consultation process that is to be followed while setting the transformative agenda in the SPCRs.

Trade-offs between long-term climate benefits (through transformative approaches) versus meeting short-term objectives need to be considered

165. Activities across the following aspects can be considered as contributing to transformation: (i) institutional and planning-related aspects, which, coupled with budgetary allocations and financing-related aspects, can facilitate a systematic approach to prioritizing and addressing climate change adaptation needs; (ii) improving preparedness to manage extreme climate events to reduce loss of life as well as loss and damage of assets; information and knowledge gathered can provide insights for improved planning and policy; (iii) a range of other targeted measures that include knowledge sharing for increasing public and private awareness, improving community participation to improve tree survival rate, diversifying livelihoods, climate-resilient agriculture, and piloting business models for creating climate-resilient assets; and (iv) climate proofing of infrastructure and other assets. Policy support and measures to address the health effects of climate change can contribute to transformation, but there is a noticeable lack of direct PPCR support for such activities.

The ultimate objective of integrating adaptation into development planning is an important theme

166. It appears that planning support—with the ultimate objective of integrating adaptation into development planning—is an important theme that has permeated across all PPCR ADB member countries. Country-specific contexts, including planning processes and associated deficiencies, have defined the specific scope for planning. Progress to date has been slower than anticipated, largely due to capacity limitations. For instance:

(i) In Bangladesh, where in addition to a multidonor-supported trust fund, the government has established a trust fund for supporting adaptation activities, PPCR support for planning was limited to information- and knowledge management-related aspects—that can ultimately contribute to informed decision-making.
(ii) In Cambodia, the emphasis was more on strengthening institutional capacity so that the local and provincial ministries and institutions could feed into the national level planning process.
(iii) In Nepal, there was a distinct focus on technical (baseline sector-wise vulnerability assessments across selected districts, beginning with hydrological modeling) and knowledge management aspects.
(iv) In the Pacific region and Tajikistan, PPCR has supported a broad mix of activities that reflects the low starting base in these countries.
(v) In Tajikistan, support for the setup of institutional mechanisms that outlive the CIFs and PPCR is included, along with establishment of a climate modeling facility, training of personnel to use climate models, systems for sharing climate change-related knowledge across all stakeholder categories, and M&E systems beyond financial tracking.
(vi) In the Pacific region, the approach has been to strengthen mechanisms for information gathering, analysis, and modeling, and demonstration of how adaptation and disaster risk management (DRM) can be integrated into sector planning.

167. **Additionality.** Similar to transformation, additionality varies considerably across the case study countries, and relates to the resource constraints that would have prevented project investment in the absence of PPCR support. For instance, in Tajikistan, the entire PPCR support program can be considered financially additional (i.e., resource constraints did not allow capacity development and other investments in the SPCR to take place). It is noted that some countries that accept only grants (such as Nepal) or have a strong preference for grants (such as Cambodia) for adaptation, have imposed new criteria for viewing additionality.

168. **Leveraging.** PPCR supported projects in Bangladesh, Cambodia and Nepal have attracted cofinancing from other development partners.[123] The lack of private sector cofinancing reiterates the fact that the private sector does not normally find climate risk-coping measures sufficiently attractive.

[123] In Bangladesh, for the Coastal Climate-Resilient Infrastructure Projects (Loan 2913, Grant 0310), the International Fund for Agricultural Development provided $60 million and Kreditanstalt fur Wiederaufbau provided $8.8 million cofinancing. In Cambodia, for the TA Mainstreaming Climate Resilience into Development Planning (TA8179), the Nordic Development Fund provided $1.3 million cofinancing. In Nepal for the Building Climate Resilience of Watersheds in Mountain Eco-Regions project, the Nordic Development Fund provided $4.6 million cofinancing.

C. Mitigation Projects

169. Through the Energy Efficiency Initiative, ADB set targets for clean energy investment support. In comparison, ADB did not set targets for overall mitigation finance. ADB comfortably exceeded the $1 billion target set for clean energy for 2008, which was gradually ramped up to $2 billion by 2013.

The $2 billion per year target set for 2013 was achieved 2 years earlier

1. Targets and Achievements

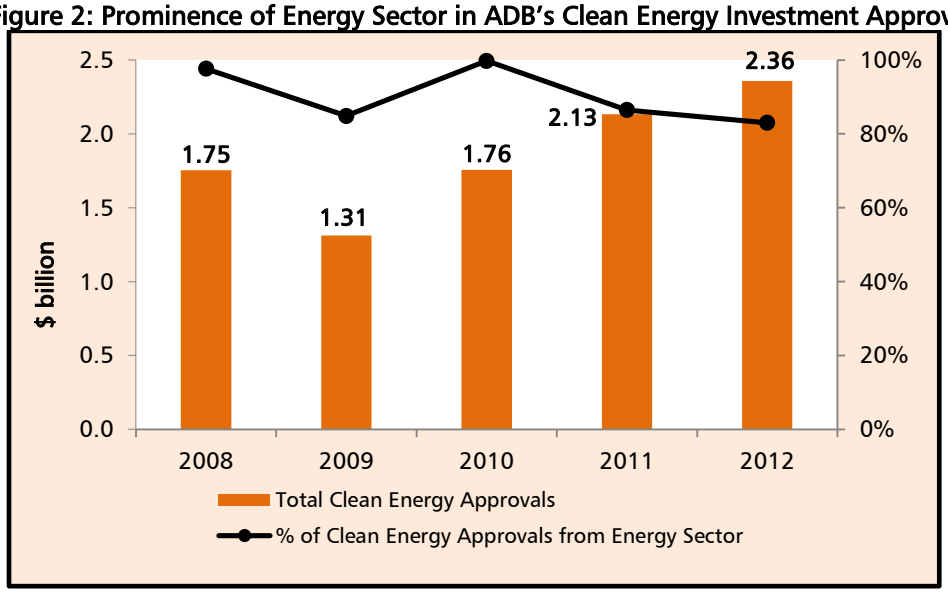
170. There are no targets for mitigation support, and approvals for nonclean energy mitigation projects have not been formally tracked to date. Data for ADB's mitigation support are available only for 2011 and 2012, as ADB had mounted a special effort to compile information for reporting mitigation finance in the joint MDB reports. It was reported that ADB approved support of $2.420 billion in 2011 and $2.438 billion in 2012 (using internal and external resources) for climate change mitigation.

171. ADB comfortably exceeded the progressively increasing targets for clean energy investment approvals during 2008–2012; and the $2 billion per year target set for 2013 was achieved 2 years earlier. Available data show that (i) most of ADB's mitigation support comprises clean energy approvals—nearly 90% in 2011 and more than 95% in 2012; and (ii) the energy sector itself accounts for a major share of approved clean energy investments (Figure 2).

172. Clean energy approvals are comprised mostly of renewable energy (solar, wind, and other new and renewable sources such as waste-to-energy, geothermal, biomass-to-electricity) and supply-side energy efficiency increasing measures in generation, transmission, and distribution systems. Support for demand-side energy efficiency measures (in buildings, industry, streetlights, agriculture, and water supply and sewerage systems) and sustainable transport modes typically accounts for less than 20% of clean energy approvals, although it is spread over 40% of the projects.

Support for demand-side energy efficiency measures and sustainable transport modes typically account for less than 20% of clean energy approvals

Figure 2: Prominence of Energy Sector in ADB's Clean Energy Investment Approvals



Source: Compiled by the study team.

173. In line with the STI established in 2010, ADB has increased support for urban metros and waterways. Support for road projects has emphasized bus rapid transit

systems, regional road corridors to facilitate cross-border trade, road asset management, and road safety aspects. Twenty-six loans/grants and 45 TA operations were approved in 2012, which included more than 20% of lending approvals for sustainable urban transport. Many projects under the STI will lead to GHG emissions reductions. ADB can explore opportunities to support projects that lead to significant GHG abatement.

ADB's non-clean energy climate mitigation interventions are estimated to be $287 million for 2011 and $137 million for 2012

174. ADB's non-clean energy climate mitigation interventions are estimated to be $287 million for 2011 and $137 million for 2012. This limited investment indicates the need to scale up and mainstream support for nonclean energy forms of mitigation, such as sustainable forest and land use management.

175. The EOD recognizes that the Asia-Pacific region has some of the largest and most diverse ecosystems in the world. The sustainable and resilient management of forests and other natural resources can provide the basis for local livelihoods, clean water supplies, and protection of biological diversity. Managing land use and forests to maintain or sequester carbon is an important climate change mitigation strategy. ADB has supported carbon sequestration activities in the agriculture, forestry, and land-use sectors.[124] Most of these interventions include funding support from the CCF's REDD+ and land use component or the GEF sustainable forestry management window or the CIFs' FIP window.[125] The broad objective of the interventions was to reduce barriers to implementation of the UN's REDD program. These interventions have only recently been approved,[126] or are still under preparation and processing.[127] ADB needs to explore more such opportunities.

The fundamental concept of verifiability of stated GHG emission savings has been known for many years

2. Quality of Estimated GHG Emission Savings

176. GHG emission savings is the most interesting parameter for mitigation projects. ADB and other international financial institutions agreed on a harmonized framework for GHG accounting in 2012.[128] Although this agreement was reached only in November 2012, the fundamental concept (of verifiability of stated GHG emission savings) has been known for many years, and includes (i) the recording of definitions, assumptions and methodologies, and making them available to third parties; (ii) estimating gross GHG emissions and GHG emission savings; and (iii) defining

[124] Includes afforestation and reforestation, reducing emissions from deforestation or degradation of ecosystems, sustainable forest management, agriculture, livestock, and biofuels. Such interventions also generate multiple cobenefits such as biodiversity conservation, maintenance of ecological balance and ecosystem services and functions, and improved livelihoods of the poor.

[125] An important exception is the Integrated Citarum Water Resource Management Investment Program, which was approved in November 2008.

[126] The salient projects approved as of end-2013 include one for sustainable forest ecosystem development in the PRC, for protection and restoration of critical watersheds across four priority river basins in the Philippines, sustainable forestry and biodiversity management in Borneo. Also included are efforts to establish baseline emission levels in the Greater Mekong Subregion (GMS), and a comprehensive system to monitor forest carbon stock in the PRC.

[127] ADB is preparing and processing two CIF-supported projects: a community-based forest management program in Indonesia, and a program to protect forests for ecosystem services in Lao People's Democratic Republic (Lao PDR). Both of these are expected to be processed and approved by mid-2014.

[128] The harmonized framework commits the endorsing institutions to (i) screen proposed direct investments for likely significant GHG emissions, (ii) estimate the gross (or absolute) and net GHG emissions that a project is expected to produce on an annual basis for a representative year once it is complete, and (iii) report annually aggregated net emissions for screened-in mitigation projects. The framework provides some guidance on defining scopes, project boundaries, and use of methodologies but leaves open the decision to the endorsing institutions. http://www.worldbank.org/content/dam/Worldbank/ document/ IFI_Framework_for_Harmonized_Approach%20to_Greenhouse_Gas_Accounting.pdf. RSDD is in the process of preparing guidelines for estimating GHG emission reductions for ADB projects within this framework.

boundaries of the project or subproject or component for which the GHG emission savings are estimated. The harmonized framework is expected to be refined in the coming years, and to address various methodological issues for GHG emission savings estimation for various types of mitigation projects. Some of these issues include the accounting for scope 3 emissions, separate accounting for electricity and thermal/fuel energy vectors, and treatment of transmission projects that evacuate power from renewable energy sources versus those that reduce transmission losses and strengthen the grid. These issues are discussed further in Linked Document 5.

177. The typology of mitigation activities covering reporting of mitigation finance include projects in transport, agriculture, and others sectors and subsectors. As energy sector projects account for more than 80% of ADB's support for clean energy each year since 2008 (Figure 2), the study team focused on clean energy components of energy sector projects. The study team investigated a total of 63 projects approved for support in seven countries (Bangladesh, PRC, India, Pakistan, Philippines, Thailand and Viet Nam) during the 4-year period 2009–2012. The 63 projects account for 78% of the 81 energy sector projects and 55% of the 115 clean energy projects approved during the 4-year period. The projects comprise a mix of electricity generation and supply-side (including efficiency improvement) projects as well as fuel and thermal energy projects—the same types of projects that were investigated for their GHG emission reductions in a previous IED study.[129]

For many projects, it is difficult to verify the estimated GHG emission savings provided in project documents

178. Table 17 summarizes the GHG accounting-related aspects of 63 projects for which IED reviewed the RRP and other relevant project documents. For many projects, it is difficult to verify the estimated GHG emission savings provided in project documents. The baseline or counterfactual scenario against which the GHG emission savings are estimated is not explained sufficiently clearly, or baseline emissions may not be quantifiable on the basis of data provided. IED appreciates that at approval and during project preparation, a complete data set may not be available for a detailed estimation of GHG savings, but emphasizes that any approach or empirical reference used for estimating the stated GHG emission reductions is required to be presented in the project documentation to facilitate verifiability of the stated estimates. In some cases, input data in the main RRP document are not consistent with data in linked documents and supplementary appendixes. In other cases, there are clear methodological errors.[130] Therefore, it is highly likely the estimates for GHG emission reduction resulting from ADB's clean energy portfolio are, at best, only broadly indicative. Further details are provided in Linked Document 5. It is reiterated there is significant scope for improved documentation of inputs, assumptions, and methodologies for estimating gross GHG emissions and emission savings across both electricity and thermal energy projects.

There is a noticeable improvement in overall quality of information provided in project documents for estimation of GHG savings

179. Yet, compared to the previous IED study (footnote 5), there is a noticeable improvement in overall quality of information provided in project documents for estimation of GHG savings. In that study, which reviewed projects approved during 2001–2008, in most cases IED had to decide on a suitable methodology for estimating GHG reductions, as well as compile some data from other sources. With the objective of improving the quality of GHG emission savings estimates, the previous IED study had recommended (i) the use of a consistent framework for undertaking GHG assessments at appraisal; and (ii) the use of a plausible counterfactual for projects with significant

[129] IED. 2009. *Evaluation Knowledge Brief: Greenhouse Gas Implications of ADB's Energy Sector Operations.* Manila, October.

[130] Such as attributing gross GHG emissions to the use of rice husks and wood plantation residues as fuel for a power plant (Loan 7290-THA).

GHG impacts or savings. The study team finds that these recommendations have been partly implemented to date.

Table 17: GHG Accounting-related Issues in Project Documents

Parameter	Number
Number of projects investigated (sample size)	63
Number of projects for which documents specify:	
– grid emission factor, or relevant emission coefficient	15
– all parameters to verify GHG emission savings	6[a]
– value for baseline emissions	6
– value for gross emissions	4
– gross emissions are zero (excluding scope 3 emissions)	49[a]
– no additional information to assess baseline and gross emissions [b]	43
– inconsistencies in given GHG or energy values	21[a]
Number of projects that propose sale of carbon credits	33

GHG = greenhouse gas.
[a] Includes the entire project supported through grant G0253/0254, which is to support buy-down of prices of solar photovoltaic and biomass-based systems—even though data on relevant parameters are available only for the solar photovoltaic component.
[b] Refers to the lack of information beyond the stated value of GHG emissions savings and energy output.
Source: Compiled by the study team.

3. ADB Portfolio Performance

180. Although indicative, it is interesting to compare the energy sector portfolio performance during 2009–2012 with that of the previous 8 years, 2001–2008.[131] As GHG emissions savings for six of the seven countries included in the investigation for 2009–2012 were also assessed for the previous 8-year period, the indicators presented in Table 18 refer to these six countries only. Table 18 distinguishes projects that increase electricity supply (or save electricity) from those that directly impact fuel supply or use.

Table 18: Energy Portfolio Indicators for Investment Projects in Six Selected Countries

Item	2001–2008	2009–2012
Power Generation and Supply-Side Projects		
ADB's annual average lending ($million) [a]	664	1,391
Annual average capital investment mobilized ($million) [a]	2,559	3,105
Annual average energy supplied from ADB projects (GWh)	13,082	5,808
Annual average GHG emissions of ADB projects (thousand tCO_2e)	8,617	698
Annual average GHG emission savings (thousand tCO_2e)	2,142	3,124
Annual average GHG savings attributable to ADB (thousand tCO_2e)	556	1,404
Annual energy supplied per unit of investment (GWh/$million)	5.1	1.9
Annual GHG emission savings per unit of investment (tCO_2e/$million)	837	1006
Annual gross GHG emissions per unit of energy (tCO_2e/GWh)	659	120
Annual GHG emissions savings per unit of energy (tCO_2e/GWh)	164	540

[131] The portfolio for the 8-year period was analyzed as part of a previous IED evaluation (See Independent Evaluation Department. 2009. *Greenhouse Gas Implications of ADB's Energy Sector Operations*. Manila, October.) Six countries (Bangladesh, PRC, India, Pakistan, Philippines, and Viet Nam) that accounted for 80% of lending during 2001–2008 were selected as part of that exercise.

Fuel and Thermal Energy Supply Projects [b]		
ADB's annual average lending ($ million) [a]	110	328
Annual average capital investment mobilized ($million) [a]	535	631
Annual average energy supplied from ADB projects (GWh)	15,961	10,009
Annual average GHG emissions of ADB projects (thousand tCO_2e)	3,151	3,019
Annual average GHG emission saving (thousand tCO_2e)	1,590	1,732
Annual average GHG savings attributable to ADB (thousand tCO_2e)	327	902
Annual energy supplied per unit of investment (GWh/$million)	29.8	15.9
Net annual GHG emission savings per unit of investment (tCO_2e/$million)	2,972	2,745
Annual gross GHG emissions per unit of energy (tCO_2e/GWh)	197	302
Annual GHG emissions savings per energy unit (tCO_2e/GWh)	100	173

ADB = Asian Development Bank, GHG = greenhouse gas, GWh = gigawatt-hour.

[a] Values in US dollars are normalized to 2005 for 2001-2008 by project based on the Manufacturing Unit Value (MUV) index from http://go.worldbank.org/SZXEODLF60. For 2009-2012 weighted average normalization factors based on all projects in the period were used for electricity and fuels projects. There are separately calculated normalization factors for electricity and fuels, with different factors for total investment and the ADB financing in each category.

[b] Includes two demand-side energy efficiency projects with electricity and direct fuel savings that cannot be distinguished for the purposes of allocating investment to the different energy vectors.

Source: Independent Evaluation Department calculations based on loan approval documents.

181. Table 18 shows that ADB lending for energy projects increased from $774 million to $1,719 million on an average annual basis.[132] The increase in lending was larger, in relative terms, for fuel and thermal projects than for power subsector projects—although the power subsector continued to dominate the portfolio (accounting for 81% in 2009–2012 and 86% in 2001–2008). Overall, the increase in ADB lending was accompanied by a decrease in the leverage of ADB's resources. In the power subsector, ADB's share of the investment increased from 26% to 45%; and for fuel and thermal projects it went up from 21% to 52%.

182. While the average annual rate of ADB approvals increased between the two periods, energy supplied or saved actually decreased substantially. ADB's energy portfolio became more expensive in terms of investment per gigawatt-hour (GWh) of energy supplied—about 2.7 times for power subsector projects and 1.9 times for thermal projects. At the same time, the GHG savings per GWh also increased by 3.3 times for power subsector projects and 1.7 times for thermal projects. As a result, ton of GHG savings per unit of investment increased for electricity, although it reduced for projects in the fuel sector.

183. Reasons for differences in the energy portfolio indicators are explained in further detail in Linked Document 6. For fuel and thermal energy supply projects, the reduction in GHG savings per unit of ADB financing reflects largely changes in the portfolio mix. The main contributors to the differences in the electricity sub-subsector portfolio projects are changes in the portfolio mix and average emission factors used to calculate baseline GHG emissions. There was a sharp drop in the share of ADB financing and total investment mobilized for coal-fired power plants, and a substantial increase for renewable energy projects (biomass-waste-to-energy, solar, and wind).[133] Given the significantly high capacity utilization factors of coal-fired power plants in comparison to renewable energy, the GHG savings per unit of ADB financing increased even though overall grid emission factors declined.

[132] Values for both periods are in US dollars normalized to 2005.

[133] For coal-fired plants, the share of ADB financing reduced from 14% in 2001–2008 to 2% in 2009–2012, and share of total investment mobilized dropped from 41% to 3%. For renewable energy projects, the share of ADB financing increased from 4% to 23%, and total investment mobilized from 2% to 32%.

ADB has supported the introduction and demonstration of transformative clean energy technologies

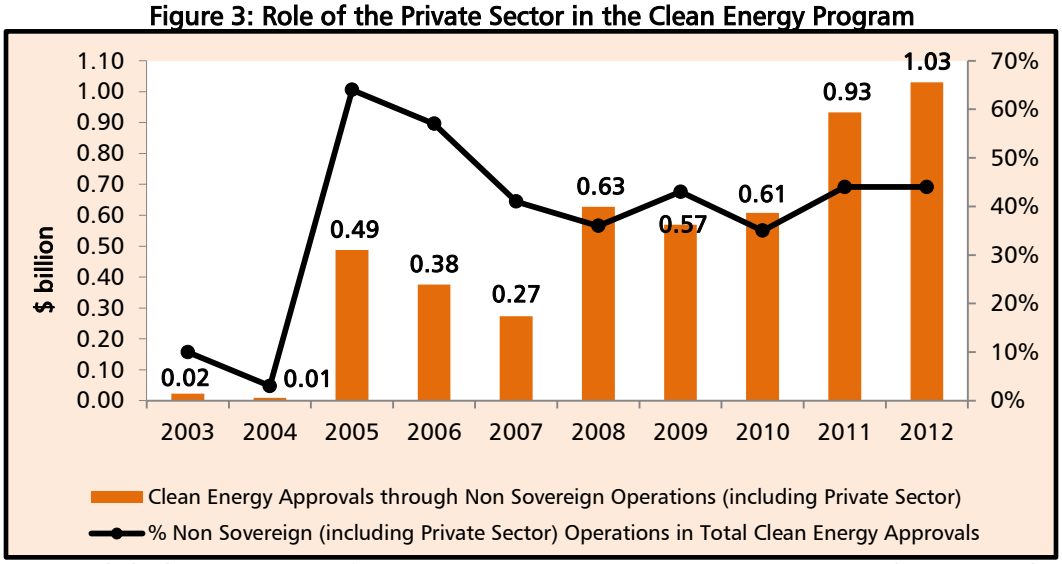
184. ADB has contributed to the decline in overall grid emission factors in DMCs. Beyond the renewable energy technologies that have approached commercialization (such as wind energy), ADB has supported the introduction and demonstration of transformative clean energy technologies. These include carbon capture and storage, integrated gasification combined cycle, smart grid, and concentrated solar power. The deployment of these clean technologies will help further reduce overall grid emission factors. To date, ADB has supported the demonstration of an integrated gasification combined cycle plant and a concentrated solar power plant. Both demonstration projects are in PRC. ADB has also approved several TAs for capacity development and policy analysis related to these technologies. The project pipeline also includes support for a smart transmission grid in Viet Nam, and solar district heating in Mongolia.

D. Nonsovereign Operations Portfolio

ADB's nonsovereign operations (including private sector operations) have limited climate change interventions largely to clean energy

185. ADB's nonsovereign operations (including private sector operations) have thus far limited climate change interventions largely to clean energy. The nonsovereign clean energy portfolio has grown significantly since 2003, and it appears to have stabilized at the level of 35%–45% of ADB's total approved clean energy investments (Figure 3). Nonsovereign operations have focused largely on energy supply side (renewable energy and cleaner fuels). Energy efficiency demand-side interventions have been limited within the buildings, transport, and water sectors.

Figure 3: Role of the Private Sector in the Clean Energy Program



Note: Includes loan component of one water sector investment (Inv 7262-INO) approved in 2007, and one transport sector investment (Inv 7339/Loan 2748-IND) approved in 2011. Also includes investment in various funds: Asia Clean Energy Private Equity Funds (2008), Clean Energy Resources Asia Growth Fund (2010), Renewable Energy Asia Fund (2010), Climatech Venture Capital Funds (2011), Sino-Green Climate Investment Fund (2011), and Climate Public-Private Partnership Fund (2012). Some of these funds intend to promote climate change adaptation-related technologies and measures, which cannot be separated out from mitigation support on the basis of available data. To the extent that adaptation technologies are actually supported, the data in Figure 2 are overestimated.
Source: Compiled by the study team.

186. The need for leveraging of GCF's public sources of funds with private capital will provide an opportunity for ADB to increase its private sector operations. PSOD could access climate finance from GCF's private sector window. PSOD has made a beginning by securing financing from external climate funds. This includes two CTF-

supported projects in Thailand and one project in Indonesia.[134] For the latter project, CTF will provide mezzanine finance to bridge the gap between equity and senior debt. PSOD has the opportunity to participate in CIFs' set-aside facilities that aim to promote low-carbon development in least developed and low-income countries, or preserve forests and promote sustainable forest management, or promote adaptation measures in highly vulnerable countries (para. 205).

187. It is apparent that some adaptation options could have been promoted by certain ADB-supported venture capital and private equity funds. To date investments have focused on transfer of technology from Europe and North America to developing Asia. For instance, the Seed Capital Assistance Facility, launched in 2008, can support funds that invest in adaptation technologies and/or adaptation technology enterprises.[135] Likewise, the Clean Energy Resources Asia Growth Fund, launched in 2009, can support investment in technology approaches to adaptation, such as water desalination solutions, wastewater management, drip irrigation, and waste recycling (electronic waste, plastic, and rubber).[136] The Climate Technology Initiative, launched in 2010,[137] is intended to support funds that focus on technologies, projects, and companies that address climate change mitigation and adaptation, and environmental protection. In recent years, some ADB-supported funds have not closed as planned owing to difficulties raising capital from other sources, and their project pipeline quality has not been strong.

188. ADB set up the Climate Public-Private Partnership Fund with the Government of the United Kingdom and a commercial fund manager. The Fund was to have been launched in 2013, but the Fund Manager preferred to delay going to the market due to the prevailing financial market conditions. It is envisaged that once the Fund is launched, it can make considerable headway, given the track record and broad sector and regional presence of the institutions behind it.

[134] Examples are the Bangchak Provincial Solar Power project (CTF concessional loan of $12.6 million) and the Thepanna Wind Power Project (CTF concessional loan of $4 million), both approved in 2012. CTF is to also support a geothermal-based power plant in Indonesia by providing mezzanine finance.

[135] The Seed Capital Assistance Facility is implemented jointly by the United Nations Environment Program (UNEP), ADB, and the African Development Bank, with support from the Frankfurt School of Finance and Management. Through this Facility, ADB has supported selected private equity funds to develop and operate investment windows dedicated to early stage renewable energy and/or energy efficiency projects.

[136] The Clean Energy Resources Asia Growth Fund was launched in late 2009, and can support improvements in energy and resource use efficiency.

[137] ADB approved investment in three venture capital funds selected through a competitive bidding process.

CHAPTER 6
The Outlook

189. Sustainable development along all three dimensions (economic, social, and environmental) is difficult to achieve without paying close attention to mitigating climate change and adapting to the impacts. The achievement of the transformational objectives of low-carbon and climate-resilient growth will contribute to sustainable development. ADB's efforts to facilitate and accelerate transformation in the developing countries of Asia and the Pacific are likely to be influenced by (i) the future global climate finance architecture, (ii) developing country priorities to address climate change-related issues, and (iii) ADB's responsiveness in adjusting to the new global financial architecture for climate finance. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change that is being released in 2013–2014 provides a context for ADB to build on its activities and set its priorities.[138]

A. Emerging Global Climate Finance Architecture

190. The ongoing discussions on the post-2015 global development agenda are expected to be concluded by November 2015. Global climate talks are expected to contribute to the post-2015 development agenda. What precisely will be achieved under these processes at this point in time is a matter of conjecture. The UN Secretary-General has called upon all governments to show ambition in defining and setting SDGs and to address the challenges ahead, including climate change.

It seems likely that many decisions taken under the UNFCCC process will provide a basis for future activities to manage climate change

191. It seems likely that many decisions taken under the UNFCCC process will provide a basis for future activities to manage climate change. Among the more salient decisions are the following: (i) the developed country parties to jointly mobilize $100 billion per year by 2020 to enable developing country parties to mitigate the effects of climate change; (ii) to establish the GCF as the centerpiece of UNFCCC's finance mechanism to promote a paradigm shift towards low-emission and climate-resilient development in developing countries;[139] and (iii) to formulate key policies and procedures that enable GCF to receive, manage, and disburse funds by September 2014 and initiate mobilization by December 2014.[140]

192. In the broad context of long-term financial support, industrialized countries committed at the UNFCCC Cancun Conference of Parties in 2010 to provide funds rising to $100 billion per year by 2020 to support concrete mitigation actions by developing countries that are implemented in a transparent way.[141] These funds were to be raised from a mix of public and private sources. Although not strictly comparable to

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[138] The Fifth Assessment Report of the Intergovernmental Panel on Climate Change is being released in four phases: (i) The Physical Science Basis in September 2013; (ii) Impacts, Adaptation, and Vulnerability in March 2014; (iii) Mitigation of Climate Change in April 2014; and (iv) the Synthesis Report in October 2014.

[139] Green Climate Fund. 2011. *Governing Instrument for the Green Climate Fund*. Durban, December.

[140] GCF. 2013. *Green Climate Fund sets out roadmap to mobilize resources (Press Release)*. 11 October; and GCF. 2013. *Green Climate Fund moves towards full operations and rallies support at COP 19 (Press Release)*. 19 November.

[141] http://cancun.unfccc.int/financial-technology-and-capacity-building-support/new-long-term-funding-arrangements/#c294.

traditional ODA, which comes from public sources only, the stated figure of $100 billion is of the same order of magnitude as current levels of traditional ODA ($120 billion in 2009, $129 billion in 2010, $135 billion in 2011, and $127 billion in 2012).[142] As many donor countries have experienced difficulty in meeting the 0.7% of gross national income target for ODA, efforts to ramp up support for climate finance to $100 billion per year by 2020 have not been very successful to date.[143]

193. The perspectives differ among countries. Recognizing that ODA can have climate benefits, and climate finance can give broader development benefits, some countries consider the two financing streams to be fungible. Some other countries refer to the additionality and predictability objectives laid out in the UNFCCC (the Framework Convention) and would prefer that they be treated separately.[144]

194. Other uncertainties about the future climate finance architecture include the following: (i) to what extent consolidation of global climate funds will take place, and whether or not the GCF will subsume some or all of the other climate funds; and (ii) to what extent the GCF (and the future climate finance mechanism) will support adaptation. The GCF governing instrument refers to a balanced allocation between adaptation and mitigation. There is no specific amount committed (even in principle) to adaptation. Initially, the GCF will make allocations to its Private Sector Facility, and finance private sector initiatives in mitigation and adaptation, and promote private sector participation in developing countries, including small island countries and least developed countries.[145] To what extent the GCF will play a role in balancing allocations between adaptation and mitigation (and perhaps between geographies) remains uncertain.

The UNFCCC process, through which the Green Climate Fund has been set up, is directionally steady

195. Despite these uncertainties, the UNFCCC process—through which the GCF has been set up—is directionally steady.[146] Available information provides further guidance for ADB to consider as it positions itself to scale up and mainstream climate change adaptation and mitigation (beyond clean energy).

196. **Role for GCF and Other International Agencies.** As per the GCF's governing instrument, its purpose is to make a significant and ambitious contribution to global efforts towards attaining the goals set by the international community to combat climate change. The GCF will be the apex body to (i) promote transformation of developing countries towards low-carbon and climate-resilient development in a transparent and accountable manner; (ii) play a key role in channeling new, additional, adequate, and predicable climate finance; (iii) catalyze climate finance from public and

[142] Refers to net ODA flows from Development Assistance Committee members (28 countries plus the European Union); Refer to: http://www.oecd.org/dac/stats

[143] At the 16th Conference of Parties in Cancun, the developed countries confirmed their agreement to provide new and additional resources approaching $30 billion during 2010–2012. This collective commitment, referred to as fast-start finance, is considered a precursor to GCF and the goal of mobilizing $100 billion per year by 2020. Although donor countries claim that they have contributed $30 billion, its additionality is strongly contested by developing countries. As of mid-2013, developed country commitments to GCF are also mostly to cover start-up costs. No further commitments have been made as yet for 2013–2015. At a meeting called by the UN Secretary-General in September 2014, some commitment is expected from some contributing countries.

[144] http://unfccc.int/essential_background/convention/items/6036.php (United Nations, 1992, United Nations Framework Convention on Climate Change).

[145] Green Climate Fund. 2014. *Policies and Procedures for the Initial Allocation of Fund Resources*. Bali, Indonesia, Feb.

[146] The steadiness reflects the recognition that atmospheric concentration of carbon dioxide has already reached 400 parts per million (ppm), and that it must be stabilized fairly quickly in the 400–450 ppm range so as to have a fair chance of avoiding mean global temperatures from rising more than 2 C from pre-industrial levels (which is expected to keep climate change within reasonable limits).

private sources at international and national levels; and (iv) pursue country-driven approaches and strengthen engagement with relevant institutions and stakeholders.

197. In other words, MDBs and other international agencies—termed implementing entities—will function as financial intermediaries to the GCF. MDBs are already playing a financial intermediation role with many climate funds, including GEF and CIFs. The difference with the proposed structure is that over a period of time, the GCF is intended to administer a volume of funds more than 50 times larger than all present day climate funds put together. Therefore, implementing entities will probably need to function as financial intermediaries for the GCF for a significant portion of their own total portfolio.

In addition to international implementing entities, climate finance will be administered by accredited national and subnational financial intermediaries

198. **Direct Access.** The GCF is to provide a direct access modality to make financial transfers to developing countries. So in addition to international implementing entities, climate finance will be administered through accredited national and subnational financial intermediaries.[147] As needed, the GCF would provide readiness and preparatory support to prospective financial intermediaries to increase their capabilities for meeting its accreditation criteria. In the initial years, ADB and other implementing entities are expected to play a crucial role as GCF intermediaries while these national institutions get accredited. To support this process, ADB's efforts at capacity development in its DMCs could include technical assistance to facilitate the accreditation of national and subnational institutions.

199. **National Focal Points.** Developing countries are required to designate national focal points as key interlocutors for the GCF. As needed, the GCF would assist countries in identifying national focal points and developing their capacities. ADB could support such efforts.

It is challenging but feasible to meet the goal of sourcing $100 billion per year of new and additional finance

200. **Closing Viability Gaps.** The achievement of transformation will require innovations in policies, institutional arrangements, processes, and financial instruments. The GCF is expected to work on the principle of funding viability gaps. Support for closing a viability gap will be similar to an MDB extending a loan or grant to cover the incremental cost of implementing a transformational intervention for the first time in a country (e.g., for climate proofing a road by building it to a higher standard). The viability gap can also be overcome by interventions such as providing support for framing implementing regulations.

201. **New and Additional Funding.** The UN Secretary-General's High-Level Advisory Group on Climate Change Financing (AGF) has found it challenging but feasible to meet the goal of sourcing $100 billion per year of new and additional finance.[148] The AGF has referred to a range of public sources of funds, such as direct budget contributions, carbon tax revenues, emission allowance sales revenues, removal of fossil fuel subsidies, purchase of carbon offsets in developing countries, and other new taxes. The AGF has identified private capital as a potential source of financing.

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[147] Implementing entities and financial intermediaries would undertake first-level due diligence of proposed projects or programs, conclude grant or loan agreements with the executing entities, disburse funds to executing entities (and in case of loans, receive debt service from executing entities), and ensure that executing entities adhere to the GCF's social and environmental safeguards, fiduciary standards, and other requirements. As of early 2014, the accreditation criteria for implementing entities and intermediaries were still to be finalized.

[148] United Nations. 2010. *Report of the Secretary-General's High-Level Advisory Group on Climate Change Financing*. 5 November.

202. **Private Sector.** The extent to which the private sector will play a role in reaching the $100 billion per year target is unclear. Until 2013, significant private investment occurred in mitigation initiatives (mostly clean energy) in relatively creditworthy low- and middle-income developing countries. As noted in Table 2, private capital is not considered to have contributed to climate funds. The GCF's Private Sector Facility, which will (at least initially) be resourced from public sources of capital, will finance private sector adaptation and mitigation activities in developing countries. In addition, other financing windows (for adaptation and mitigation) are expected to leverage private capital.

203. **Learning from CIFs.** The CIFs, in their capacity as pilots to the GCF, are intended to provide a preview of the likely use of climate finance for various types of adaptation and mitigation measures across several selected countries. CIFs are providing insights on how newly emerging concepts for climate finance (such as country ownership, transformation, additionality, and leverage) can possibly translate into actual practice. These insights will accumulate over the next few years as more projects begin to be implemented in more countries. However, experience gained directly through CIFs is expected to remain limited to developing countries receiving this support.

Climate Investment Funds are intended to provide a preview of the likely use of climate finance for various types of adaptation and mitigation measures across several selected countries

204. CIFs' private sector programs and set-aside facilities have the potential to provide significant lessons for the Private Sector Facility of GCF. CIF-backed private sector programs are financed in two ways: (i) through projects and programs that engage the private sector via public sector arms of MDBs, and (ii) directly through private sector arms (departments) of MDBs. Early lessons from CIF-supported private sector interventions are available and show considerable leveraging of CIFs resources;[149] these interventions are not from ADB's DMCs. An ADB-led program on renewable energy mini-grids and distributed power generation was approved in October 2013 as one of the dedicated private sector programs.[150] This program will be piloted initially in India, Indonesia, and Philippines.

205. Over the next few years, the CIFs set-aside facility under the PPCR could provide insights on catalyzing private investment for promoting adaptation measures in highly vulnerable countries.[151] Relevant experience in engaging the private sector for low-carbon development in least developed and low-income countries may be gained through another CIF set-aside facility.[152] Likewise, experience is expected to be gained with preserving forests and sustainable forest management in selected countries

[149] Climate Investment Funds. 2011. *Lessons Learned from Private Sector Interventions through MDB Intermediaries*. Washington DC, November.

[150] The program aims to leverage private investment to fill financing gaps and promote widespread development of renewable energy mini-grids to serve rural and underserved off-grid communities with reliable, affordable, and clean electricity. It also aims to demonstrate business models that can be replicated and scaled up. ADB can also submit projects under other approved programs such as one that aims to mitigate drilling risks for geothermal project development. Refer to: CIF, 2013, *Dedicated Private Sector Programs*, Washington DC, October.

[151] Under the PPCR, more than US$29 million of concessional funds were set aside to contribute to financing of innovative programs and projects that engage the private sector in activities that reduce the climate change exposure of one or two highly vulnerable countries that are being supported through the PPCR window.

[152] Under the Program for Scaling Up Renewable Energy in Low Income Countries, US$90 million in concessional funds are set aside to contribute to financing private sector engagement in piloting and demonstrating economic, social, and environmental viable low carbon development pathways in six pilot countries that include three least developed countries (Ethiopia, Mali, and Nepal), one low-income country (Kenya), one lower middle-income country (Honduras), and one upper middle-income country (Maldives). Twelve proposals were submitted to the CIFs' governing bodies by September 2013 and are under review.

through yet another CIF set-aside facility.[153] In spite of all this activity, it can be expected that the status quo will persist for several years. Adaptation investment will probably continue to come from public sources (contributing countries) in countries and sectors that have poor prospects for attracting private investments.[154]

206. **Transparency.** While developing country governments prefer climate finance to flow directly into their national budgets, developed country parties prefer climate finance to be ring-fenced to facilitate transparency. The Climate Public Expenditure and Institutional Review (CPEIR) system attempts to define a ring-fencing mechanism that enables developing country governments to review how national climate change aims are reflected in public expenditures.[155] Box 11 provides an overview of the approach and findings from a pilot CPEIR exercise in Cambodia, which showed that a thorough analysis of climate-relevant public expenditure requires good public finance management systems. Over a period of time, it is anticipated the CPEIR system will enable developing country governments to conduct dialogue with climate financiers and other stakeholders on the use of climate financing as part of the national response to climate change. It is probable that the CPEIR or a similar system will provide a basis for validating whether or not climate finance-supported interventions contribute to meeting the governments' climate change objectives.

Box 11: Climate Public Expenditure and Institutional Review (Case Study for Cambodia)

The CPEIR for Cambodia used three categories of climate relevance for estimating the share of total public expenditure that is climate relevant. Programs with clear primary objectives of delivering visible concrete climate resilience or mitigation outcomes are considered as high-relevance programs. Programs with strong contributions to adaptation or mitigation but motivated by broader development concerns (forestry, biodiversity, water, and climate proofing of infrastructure) are considered to be of medium relevance; and those that contribute indirectly (livelihood programs) are considered low relevance. 80%, 50%, and 25% of total expenditure respectively for high-, medium-, and low-relevance programs are assumed as climate-relevant expenditures.

The Ministry of Public Works and Transport contributes the most to climate-relevant expenditure (27% of total), followed by Ministry of Water Resources and Meteorology (13%) and Ministry of Health (10%). The CPEIR notes that a thorough analysis of climate-relevant public expenditure would require good public finance management systems in place providing data on budgets at the department level in line ministries.

Externally funded programs dedicated to climate change focus on high-relevance activities and are largely implemented outside the budget.

CPEIR = Climate Public Expenditure and Institutional Review.
Source: http://www.aideffectiveness.org/CPEIR

[153] Under the Forest Investment Program (FIP), more than $50 million in concessional funds was set aside to contribute to the financing of programs and projects that engage the private sector in reducing emissions from deforestation and forest degradation and promote sustainable forest management in eight pilot countries. Eleven proposals were submitted to the CIFs' governing bodies by September 2013, and are under review.

[154] Center for Global Development (Nancy Birdsall and Michele de Nevers). 2012. *Adaptation Finance: How to Get Out from between a Rock and a Hard Place*. Washington DC, February.

[155] CPEIRs have been supported by UNDP and the Capacity Development for Development Effectiveness (CDDE) facility for Asia and the Pacific. The Overseas Development Institute has conducted five pilot CPEIR reviews for Bangladesh, Cambodia, Nepal, Samoa, and Thailand. For more information, visit http://www.aideffectiveness.org/CPEIR.

B. Developing Country Priorities to Address Climate Change

207. Developing country governments are generally reasonably well informed about causes and implications of climate change and opportunities to access climate finance (Box 12). This awareness is due in part to their participation in the UNFCCC process for nearly two decades, and through support from the aid community including MDBs. Increasingly, governments recognize that poverty reduction and inclusive growth help to strengthen climate resilience of the poor; and social protection programs can contribute to addressing climate change and other risks and vulnerabilities. Governments recognize the benefits of adopting and increasing penetration of new adaptation and mitigation technologies.[156] Yet, borrowing governments have other development priorities, and they are not in a position to identify strategic needs to address climate change. Many ADF countries have requested ADB assistance to refine their climate change strategies, develop relevant capacities, and close knowledge gaps to enable informed decision making to improve water, food, and energy security, which is broadly indicative of their increasing interest in managing climate change.[157]

Box 12: Developing Country Priorities for Adaptation and Mitigation

Over a period of time, ADB DMCs and other developing countries have become increasingly aware of technological, financial, strategic, and other issues and options for climate change adaptation and mitigation. Many have articulated their approaches, priorities, and positions through UNFCCC processes that require governments to submit National Communications that include information on GHG emissions, adaptation and mitigation measures, and constraints in implementing such measures. Developing countries are required to submit Nationally Appropriate Mitigation Actions (NAMAs) that can specify voluntary GHG emission reduction targets, or spell out other activities such as establishing priorities and strategies for mitigation, establishing a baseline, or developing capacity to enable registration of projects under the clean development mechanism. The least developed countries (LDCs) are required to submit National Adaptation Programs of Action (NAPAs), which include a list of priority adaptation projects. In each case, the government spells out priorities and effectively commits to achieving elements of adaptation and mitigation that are in sync with its overall economic development priorities. Following the adoption of the Nairobi Work Program in 2006, the scope of adaptation-related work was broadened to include all developing countries. These countries are submitting their National Adaptation Plans (NAPs) to UNFCCC. The submissions to UNFCCC can thus be considered to be country led.

Some countries have also articulated climate change action plans or specific plans to address some aspects of climate change adaptation or mitigation.

ADB = Asian Development Bank, GHG = greenhouse gas, LDC = least developed country, NAMA = Nationally Appropriate Mitigation Action, NAPA = National Adaptation Program of Action, UNFCCC = United Nations Framework Convention on Climate Change.
Source: Compiled by the study team.

208. To achieve economic transformation, developing country governments will need to adopt policy, institutional, and other pricing and non-pricing measures that make it possible to attract and utilize climate finance, and to attract private capital.[158] In the broad context of ADB DMCs, the transformative agenda will need to recognize rising total population levels and urbanization trends. The need to provide food, water, energy, housing, and other products and services to rising populations living in urban

To achieve economic transformation, developing country governments will need to adopt policy, institutional, and other pricing and non-pricing measures that make it possible to attract and utilize climate finance, and attract private capital

[156] Some developing countries may also choose to invest in mitigation and adaptation options to reap other development benefits.
[157] ADB. 2011. *Operations for Climate Change Adaptation and Mitigation (ADF XI Replenishment Meeting)*. Manila, 8–9 September.
[158] Pricing reforms and reduction of fossil fuel subsidies can be a major driver for attracting private capital.

centers and to large and dispersed rural populations and the associated challenges posed by water and land constraints, will increase over time. These trends reinforce the need for (i) cross-sectoral considerations in designing interventions, and (ii) multipronged transformative approaches to mitigate GHG emissions and increase resilience to climate change.

Potentially transformative priority result areas identified by the Green Climate Fund are multifaceted

209. Potentially transformative priority result areas (see Table 1) are multifaceted. Table 19 illustrates the extensive coverage of issues that is embodied in two such priority result areas. One focuses on improving energy efficiency in buildings and appliances, which is a mitigation response that is largely relevant to urban areas. The other result area focuses on increasing the agriculture sector's resilience to climate change, incorporates mostly adaptive responses, and is largely relevant in rural areas.

Table 19: Examples of Multidimensional Coverage of Priority Result Areas

Priority Result Area	Specific Candidate Areas for Transformation
Energy efficiency of buildings and appliances	New Buildings • Develop building codes: for various climatic zones and building usage pattern • Develop a system to check for compliance (with building code) of a new proposed building • Create or improve capacity to monitor compliance with building code postconstruction—certified building energy auditors, relevant equipment and software tool-kit for energy audits, suitable measurement and verification protocols, legal mechanism for enforcement • Revise or update education curricula for architects and engineers Existing Buildings • Develop energy efficiency benchmarks • Develop energy efficiency performance scoring systems Appliances (if manufactured within the DMC) • Set standards for selected appliances (e.g., televisions, air-conditioners, and refrigerators) • Design labels for the selected appliances • Develop a compliance system (to ensure that manufacturers affix labels with ratings that correctly reflect efficiency levels) • Develop a system for regulator to confirm the correctness of a label (if a product customer challenges the label rating) Appliances (if imported by the DMC) • Policy and regulatory framework to set efficiency criteria for import of appliances • An import duty structure to discourage import of energy-inefficient appliances • Train customs officials on matters relating to efficiency labels, testing of sample from an imported consignment • Develop a compliance system (to ensure that items with allowed efficiency ratings are imported)
Sustainable land use management, agriculture, and rural adaptation	Support Institutional Transformation • Undertake climate vulnerability assessments • Integrate adaptation into national planning, poverty reduction, and rural and agricultural development strategies • Create or strengthen water user associations • Continual capacity development as knowledge evolves Policy and Regulatory Reforms • Appropriate pricing of water, energy, fertilizer, and other inputs to agriculture Provide public goods • Early warning systems

Priority Result Area	Specific Candidate Areas for Transformation
	• Research to develop climate-resilient crop varieties and cropping practices • Extension and support services to diversify livelihoods (e.g., switching to high-value crops, livestock) and raise incomes Climate Proofing of Rural Infrastructure • Structural design features in rural roads, irrigation structures, and drainage infrastructure for protection against floods and landslides. • Shoreline protection infrastructure for protection against storm surges. Priority Support for "No-Regret" or "Low-Regret" Interventions • Flood protection • Integrated water resource management • Risk mitigation instruments (index-based crop insurance, livestock insurance) • Pilot test innovative technologies • Harness synergies between adaptation and mitigation technologies or cropping systems to increase yields simultaneously through strengthened resilience of food production systems and ecosystems that result from decreased GHG emissions (zero tillage farming practices) • Improve adaptive capacity to replicate successful approaches

DMC = developing member country, GHG = greenhouse gas.
Source: Compiled by the study team.

210. It is very likely that some candidate areas for transformation will be of interest to many developing countries, although few countries would find all candidate areas of interest. For instance, no-regret or low-regret interventions such as introduction of risk-mitigation instruments for crop or livestock insurance could be of interest to many countries with significant agriculture-dependent population. Likewise, matters related to efficiency labelling or testing protocols for selected appliances (such as air-conditioners) could be of interest to many countries in developing Asia.

211. Although it is difficult to forecast climate finance requirements of developing countries with a reasonable degree of certainty, adaptation costs of developing Asia are estimated at about $40 billion per year over 2010–2050, with about $10 billion allocated for ADF countries alone.[159] Mitigation finance requirements are in addition to these numbers.

C. Implications for ADB

212. ADB has the opportunity to position itself as a premier player in the climate change space in the Asia and Pacific region. ADB has already taken many initiatives in this direction, addressed challenges in the design and launch of these initiatives, and worked closely with other MDBs. With the ultimate objective of making ADB a partner of choice in enabling its DMCs to meet the challenges posed by climate change, ADB can focus on the following: (i) increasing DMC capacity to utilize larger volumes of climate finance, and supporting countries in transformation areas to which they accord a high priority; and (ii) functioning as a financial intermediary for a significant share of overall operations, which would most likely call for a bigger role for private sector operations. Each of these aspects spans a broad canvass. Certain organizational aspects will also need to be addressed to facilitate such a focus.

[159] ADB. 2011. *Operations for Climate Change Adaptation and Mitigation (ADF XI Replenishment Meeting).* Manila, 8–9 September.

ADB could benefit by adopting programmatic approaches to adaptation and mitigation, and building on the experience gained by supporting Climate Investment Funds

213. **Improving DMC Capacity to Attract and Use More Climate Finance.** The midterm review of Strategy 2020 emphasizes support for climate change mitigation and adaptation (through managing climate risks of vulnerable projects) projects in DMCs. This objective allows for continued (and perhaps enhanced) support for investment and TA activities in the climate change space, and improving DMC readiness for attracting and using climate finance.

214. ADB could benefit by adopting programmatic approaches to supporting adaptation and mitigation, and building on the experience gained through CIFs. To date, ADB has not replicated the programmatic approach of preparing investment plans for identifying potentially transformative interventions in countries not supported by CIFs—even though ADB recognizes that CIFs are a pilot for the GCF. Nevertheless, it appears that ADB is beginning to adopt an approach wherein a CPS (backed by a climate change study) can become a vehicle for advancing a programmatic approach. Box 13 shows how climate change considerations have been reflected in CPS documents since 2010. To what extent a programmatic approach so prepared has benefited from consultation with some stakeholder categories (such as local governments and civil society organizations) is not clear. In early 2014, ADB initiated a process to review quality-at-entry of climate change considerations in a CPS. As per the draft IDRM operational plan (para 76), ADB will prepare further guidance on incorporation of disaster and climate risk concerns into sector and thematic work that goes into CPS preparation.

Box 13: Climate Change Considerations in CPS

Bangladesh. The 2010 country environment assessment identified ways to integrate climate change considerations into the CPS (2011–2015). The CPS included mainstreaming of environmental considerations into ADB operations by (i) incorporating adaptation to climate change and disaster risk management into projects; and (ii) scaling up investments in mitigating climate change, particularly in clean energy (including energy efficiency).

Cambodia. The summary environmental assessment provided with the Cambodia CPS (2011–2013) discusses the implications of climate change for Cambodia. This is along the lines of the National Communications submitted to UNFCCC. Given Cambodia's huge development needs and uncertainty regarding climate change impacts, it suggests that priority should be given to "no-regret" type of interventions that focus on improving livelihoods and reducing vulnerabilities. It acknowledges the availability of funds from PPCR for mainstreaming climate resilience into development planning and mentions that future ADB projects would take into account climate change-related objectives in design of projects. However, there is no discussion of bringing about transformational outcomes as in the PPCR.

Indonesia. As per the country environment note of 2010 (and CPS 2012–2014), ADB will (i) design projects that climate proof water resources infrastructure, incorporate changing and more extreme weather events into flood management strategies, and develop irrigation and agricultural practices that are more resilient to extreme weather events; and (ii) in the energy sector, support the government in improving energy efficiency, encourage renewable energy, and reduce CO_2 emissions through carbon capture and storage.

Nepal. The CPS (2010–2012) included activities such as climate risk screening for ADB-supported infrastructure projects, climate proofing of investments deemed to be at risk, supporting a strategic program for climate resilience, and strengthening capacity for managing climate change and environment. The new CPS (2013–2017) supports the government in developing capacity for mainstreaming environment and climate change issues in national, regional, and local plans and programs.

Philippines. The environmental summary that accompanies the CPS (2011–2016) identifies ADB's priority support areas as (i) enhancing the private sector role in climate change adaptation and disaster risk management activities, (ii) preserving and sustaining the natural environment, and (iii) improving sustainable infrastructure in highly urbanized areas. The CPS has a detailed discussion on climate change and related disaster risk-reduction issues, acknowledges its linkages with adaptation, and mentions cross-sector pilot activities to build climate resilience. The CPS mentions mainstreaming and scale-up of activities to manage climate change that are closely aligned with ADB's Priorities for Action document of 2010.

ADB = Asian Development Bank, CPS = Country Partnership Strategy, UNFCCC = United Nations Framework Convention on Climate Change.
Source: Compiled by the study team.

215. As priority result areas identified by the GCF have transformation potential, it is important that (i) ADB's programmatic approach facilitates transformative outcomes, and (ii) provides support at all stages of the transformation cycle. In the context of a particular country, a transformative outcome can be achieved for any candidate area (Table 19 provides some examples) only over a period of time. However, at any given time, a cross-section of countries can be at different stages of the transformation cycle.

ADB's ability to support countries can improve by providing … a mix of financial products and services ….. knowledge and expertise to design and structure interventions in keeping with country priorities

216. ADB's ability to support countries at various stages of the transformation cycle would most likely call for (i) having a mix of financial products and services that are suited to different stages of the transformation cycle (i.e., meet viability gaps at different stages of the life cycle), and (ii) knowledge and expertise to design and structure interventions in keeping with country priorities. In addition to supporting executing and implementing agencies, ADB could improve its competitive advantage by (i) supporting national institutions for GCF accreditation, and (ii) supporting the setting up of climate finance governance systems.

217. **Raising Climate Finance.** The GCF will channel, catalyze, and manage financial flows from public sector sources of developed countries to developing countries. It will catalyze direct private capital flows from private sector sources of developed countries to developing countries, but not manage this segment. Other international agencies (including MDBs and bilaterals) will also manage and administer climate finance.[160] ADB will have the opportunity to access and leverage climate finance from all GCF windows. ADB has established links with the GCF and it is in a position to gauge the evolution of the future global financial architecture as it unfolds.[161] It appears that, in addition to the need for leveraging of GCF resources from other implementing entities, development partners, borrowing governments, and borrowing entities, it will also be important for ADB to leverage funds from private sector sources. This scenario points to an increasing role for ADB's private sector arm.

ADB can explore bond issuances that are dedicated to a wide variety of specific types of adaptation and mitigation solutions

218. As demand for climate finance is expected to exceed availability, it is important for ADB to consider other avenues for sourcing climate finance. For instance, ADB can explore bond issuances that are dedicated to a wide variety of specific types of adaptation and mitigation solutions, subject to investor demand; availability of eligible loan pipeline; and robust classification systems, tracking, and reporting. ADB could consider negotiating with ADF donors to not reduce their contributions to ADF in the coming years as more countries graduate from the program. ADF donors could consider increasing allocation for supporting climate resilience-related programs and projects in the remaining ADF-only and ADB-blend countries. Some other regional public goods that ADF could support (such as DRM, and river-basin approaches to water resource management) would also contribute to building climate resilience.

219. Increased ADB access of climate finance and climate financing operations could have implications for ADB's results framework. To the extent that performance-based systems dominate the future climate finance landscape, M&E requirements could be affected. At some stage, ADB could consider aligning its results framework with prominent sources of climate finance.

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[160] Climate finance flows may also occur through South-South cooperation. Financial flows through this channel are not counted towards the $100 billion per year target.

[161] ADB has provided inputs to the GCF Board through regional stakeholder dialogues on the GCF that ADB organized in 2013 and 2014. ADB is assisting the GCF Secretariat in developing its administrative policies in accordance with a request from the GCF Board. Previously, ADB had seconded staff to the Technical Support Unit that was established by the UNFCCC to support the design of the GCF.

Increasingly, ADB will need to operate as a financial intermediary with an emphasis on private sector operations

220. **Organizational Challenges.** The changing external landscape of climate finance and developing country needs is expected to influence ADB operations in the following ways: (i) ADB will increasingly need to operate as a financial intermediary with an emphasis on private sector operations; and (ii) ADB will need to take holistic and cross-sectoral considerations into account in the design and implementation of interventions.

221. ADB has started formulating a wide range of climate change-responsive strategies and policies. These initiatives have been supported by activities such as managing climate funds, accessing externally managed climate funds, developing a sizable portfolio of investment projects and TA, innovating new financial products, developing tools for climate risk analysis, revising the project classification system, and many more measures. Through these measures, ADB has increased staff awareness and started to develop capacity to meet the opportunities and challenges that will be created by developments to support the climate change program.

ADB will need to take holistic and cross-sectoral considerations into account in the design and implementation of interventions

222. Other MDBs have made efforts in this direction, and ADB has collaborated on certain climate change-related initiatives. These activities include the development of systems for the tracking of adaptation and mitigation finance, and for GHG accounting. Avenues for further collaboration can be explored.

223. At present the EOD—which notes that climate change cuts across all other operational directions—provides the operating framework for the Environment COP to dwell on climate change issues. Over time, it may be worthwhile to consider setting up a COP dedicated to climate change-specific issues—such as issues that arise from the evolving international climate finance architecture, and are likely to fall beyond the purview of the Environment COP and other COPs.

224. One distinctive feature of some MDBs' climate change initiatives is their effort to improve internal coordination at both the management and operational levels, and to facilitate coordination between central (knowledge, theme-focused) and operations departments. Although the efficacy of the coordination mechanisms these MDBs have tried has not been formally evaluated, they have strived to build on the experience gained and make changes to their operations (see Box 14). Efforts to improve internal coordination remain works-in-progress in these MDBs, and ADB can learn from their experience.

Box 14: Overview of MDB Moves to Meet Climate Finance Requirements

African Development Bank (AfDB)

- AfDB has relocated its climate change unit twice since May 2010 in order to improve coordination across its various departments.
- The erstwhile Climate Change, Gender and Sustainable Development Unit was disbanded in May 2010 when the Department of Energy, Environment and Climate Change was created in the Infrastructure Vice Presidency. Some staff from the Unit were placed in the Department to support various operations departments, while the remaining were placed in the Compliance and Safeguards Division under the First Vice President.
- Coordination for extending support on climate change-related matters was further improved when a high-level Climate Change Coordination Unit—comprising directors of various climate change-related divisions or departments and headed by a full-time director—was set up under the First Vice President.
- As of September 2013, this structure was likely to be further modified before the end of 2013.

Inter-American Development Bank (IDB)

- The Climate Change and Sustainability (CCS) Division has the major responsibility for implementing the

Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy

- The CCS Division is housed in the Infrastructure and Environment Sector group, and is under the same Vice Presidency as all infrastructure divisions. The CCS Division and all infrastructure divisions have a mandate to operate across the entire Latin America and the Caribbean. This enables a good level of coordination among the divisions.
- The CCS Division supports projects (with climate change components) that are prepared and processed by other infrastructure divisions.
- However, CCS takes the lead in originating and designing first-of-their-kind project interventions.

World Bank Group (WBG)

- Following a review of the 2010 review of the strategic framework for climate change and development, there was a Vice President-level appointment of a Special Envoy for about 2 years (2010–2012) to provide necessary impetus to the climate change support effort. This also helped the World Bank to develop external relations through the Sustainable Development Network.
- The Climate Policy and Finance Department was established in 2012 as an independent department in the Vice Presidency of Sustainable Development
- The Climate Policy and Finance department was headed by a Director, and had the following units:[a]
    - Climate Change Policy led by a Manager: This unit deals with policies, priorities, partnerships including on finance and also data, tools and matrices, and collaborations (G8/20/ San Giorgio Group, different LEDS partnership and adaptation networks).
    - Carbon Finance led by a manager who manages all the carbon funds
    - Climate Investment Funds Administrative Unit led by a manager
    - GEF and Montreal Protocol implementation unit led by a manager
- At the management level, a WBG-wide Climate Change Management Group (CCMG) was established as an effective coordination mechanism that coordinated cross-sectoral work on climate change, facilitated the development and implementation of a common corporate vision, and helped create a community of "climate change-concerned" development professionals.
- At the operational level, regional departments identified climate change coordinators that complement and work closely with the CCMG. Climate change coordinators may also be appointed for specific countries where the WBG has a significant climate change-related work program.
- A dedicated climate change practice was created at the WBI in response to increased demand from clients for capacity development. Four key capacity development programs were included: (i) leadership and coalition building for climate change; (ii) mitigation innovation in carbon finance; (iii) cities and climate change; and (iv) water, agriculture, and natural resources management and adaptation.
- Managers of the divisions within the Climate Policy and Finance Department also had strong incentives to let their staff work on CIFs and other carbon funds.
- As of October 2013, WBG is also restructuring into 14 global practices.[b]

AfDB = African Development Bank, CCMG = Climate Change Management Group, CCS = Climate Change and Sustainability, CIF = Climate Investment Fund, GEF = Global Environment Facility, IDB = Inter-American Development Bank, LEDS = Low Emissions Development Strategies, WBG = World Bank Group.

[a] As necessary, suitable firewalls are created for specific units to ensure no conflict of interest with the World Bank.

[b] http://www.nytimes.com/2013/10/07/business/international/world-bank-rooted-in-bureaucracy-proposes-a-sweeping-reorganization.html?_r=0

Source: Compiled by the study team.

225. ADB can learn from the World Bank Group (WBG) experience of having a system that encourages staff to work on projects supported by non-WBG sources that include trust funds, CIFs, and other climate funds.[162] The administrative fees collected from these funds for project preparation and administration remain within the

[162] This follows from the overall WBG approach to retain a small core staff strength and engage consultants (including many on a long-term basis) whose consulting fees are effectively paid from non-WB G sources.

department and add to its official budget. Therefore, the more a department accesses trust funds, the more activity that is possible within the department.[163] This initiative is one of several reasons that have contributed to WBG's ability to raise climate finance from trust funds and externally managed climate funds.

226. From ADB's perspective, in addition to intensifying its initiatives and activities towards creating and brokering knowledge, as well as innovating with financial mechanisms and raising more climate finance, it will need to take necessary institutional level measures to cater to the future climate finance architecture and DMC needs.

[163] Even CIF accounts are maintained by WBG personnel who charge their time to CIFs.

Appendix

Real-Time Evaluation of ADB's Initiatives to Support Access to Climate Finance
Linked Documents

1. **Literature Review**
   http://www.adb.org/sites/default/files/Linked-Document-1-Literature-Review.pdf

2. **Overview of Climate Finance Windows**
   http://www.adb.org/sites/default/ files/Linked-Document-2-Overview-of-Climate-Finance-Windows.pdf

3. **Climate Change Interventions**
   http://www.adb.org/sites/default/files/Linked-Document-3-Climate-Change-Interventions.pdf

4. **Case Studies (Bangladesh, Cambodia, Nepal, Pacific Region, Tajikistan)**

   4a: ADB Support for Climate Change Adaptation and Mitigation in Bangladesh
   http://www.adb.org/sites/default/files/Linked-Document-4a-ADB-Support-for-Climate-Change-Adaptation-and-Mitigation-in-BAN.pdf

   4b: ADB Supported Climate Change Interventions in Cambodia
   http://www.adb.org/sites/default/files/Linked-Document-4b-ADB-Supported-Climate-Change-Interventions-in-CAM.pdf

   4c: ADB Support for Climate Change Adaptation and Mitigation in Nepal
   http://www.adb.org/sites/default/files/Linked-Document-4c-ADB-Support-for-Climate-Change-Adaptation-and-Mitigation-in-NEP.pdf

   4d: ADB Supported Climate Change Interventions in the Pacific
   http://www.adb.org/sites/default/files/Linked-Document-4d-ADB-Supported-Climate-Change-Interventions-in-the-PAC.pdf

   4e: ADB's Climate Change Interventions in Tajikistan
   http://www.adb.org/sites/default/files/Linked-Document-4e-ADB-Climate-Change-Interventions-in-TAJ.pdf

5. **Greenhouse Gas Accounting-Related Issues**
   http://www.adb.org/sites/default/files/Linked-Document-5-Greenhouse-Gas-Accounting-Related-Issues.pdf

6. **Comparison of Projects Approved in 2001–2008 and 2009–2012**
   http://www.adb.org/sites/default/files/Linked-Document-6-Comparison-of-Projects-Approved-in-2001-2008-and-2009-2012.pdf