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# FAST OUT OF THE GATE

## How Developing Asian Countries Can Prepare to Access International Green Growth Financing

### EXECUTIVE SUMMARY



April 2013

This document was prepared for the United States Agency for International Development Regional Development Mission for Asia (USAID/RDMA) by Nexant, Inc. and ICF International on Contract No. AID-486-C-11-00002. The contents are not the responsibility of USAID, and do not necessarily reflect the views of the United States Government.





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# Introduction

This report reviews the main public and private sector funds and mechanisms for financing low emission projects, businesses, and infrastructure in the Asia region that mitigate emissions of greenhouse gases (GHGs) and thereby address climate change.

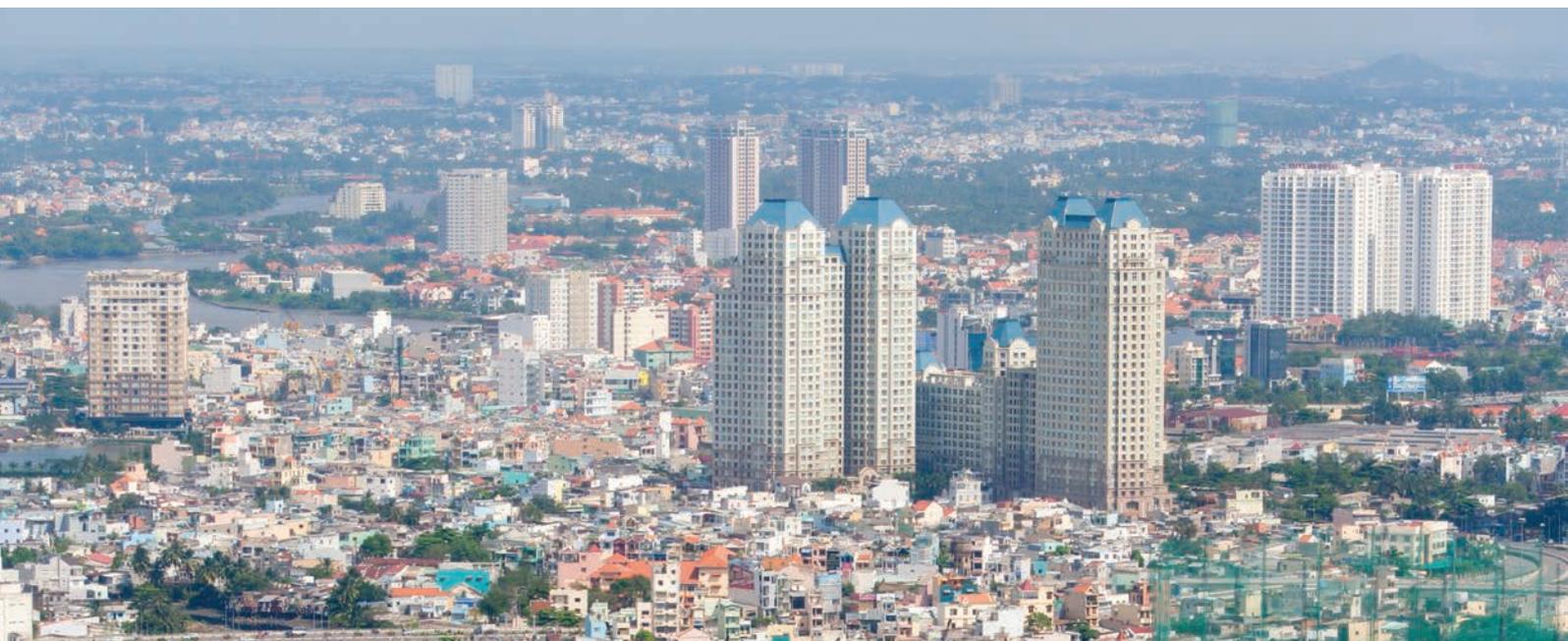
In describing how public sector funds can be accessed and effectively allocated, the report highlights the critical role of strong frameworks for measurement, reporting, and verification (MRV) of GHG emissions. The report also summarizes available private sector funds, while providing a historical account of the importance of the private sector as the dominant source of climate finance and projecting its continuing importance over the next several decades. Countries that are first to develop MRV systems required by public and private sector funds will be “fast out of the gate” and well on the path to effectively accessing climate finance.

The public and private sectors embrace different and sometimes opposing objectives with respect to climate finance. The public sector is primarily driven by

development goals and the public good, whereas the private sector is primarily driven by profit maximization. Bridging the gap between these objectives to leverage financing will remain the greatest challenge in scaling up climate finance to the required volumes. To this end, the public sector must play an essential role over the coming decades in seeking innovative ways of mobilizing private sector climate finance.

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Based on an extensive review of climate funds as well as interviews with public and private fund managers across the Asian region,<sup>1</sup> this report characterizes public and private sector financing mechanisms available in developing Asia. The report focuses on the countries included in the U.S. Agency for International Development (USAID) Low Emissions Asian Development (LEAD) program: Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Nepal, Papua New Guinea, the Philippines,



<sup>1</sup> The report is based on a review of more than 200 climate-related funds and financing mechanisms in the Asian region, along with interviews with 24 development financing institutions, banks, and private sector fund managers across seven countries. The research was conducted from July through December 2012. The report is available online at: <http://lowemissionsasia.org/resources/fast-out-gate-vol-1.pdf>.



## USAID LEAD Program Focus Countries

Thailand, and Vietnam (see map above).<sup>2</sup> LEAD is a regional program of USAID's Regional Development Mission for Asia (USAID/RDMA).

This report reviews financing mechanisms for GHG mitigation measures in the energy and forestry sectors,<sup>3</sup> aiming to (a) help prepare developing Asian countries to access available financing, and (b) identify necessary elements of such preparations, among them improved GHG inventory systems and accounting, participation in carbon markets, and MRV of emissions reductions. The report aims to help a wide range of stakeholders acquire and manage finance in their quest for low-emission development. These stakeholders include, but are not limited to, Asian governments and policy-makers, public and private fund managers, project developers and proponents, and local communities.

This report supports the work of the Asia Low Emission Development Strategies (LEDS) Partnership and is intended as input to inform its regional activities. The Partnership brings together governments, donors, technical experts, and financiers in a

network for sharing experience, knowledge, and best practices in LEDS planning and implementation.<sup>4</sup> Participants at the first Asia LEDS Partnership event, the Asia LEDS Forum (September 2012), called for greater coordination and dialogue among governments, development finance institutions, and the private sector on ways to finance LEDS and green growth across multiple economic sectors, including energy, agriculture, forestry, and industry.<sup>5</sup> As a result, the Partnership has prioritized financing for LEDS and green growth.

The information on available climate financing mechanisms presented in this report will be converted into an on-line database that can benefit LEAD focus countries. The experience and findings from this research will be used as the basis for designing capacity building activities on climate finance for donors, recipients, and the private sector. These activities will be conducted under the framework of the LEAD program and the Asia LEDS Partnership.

<sup>2</sup> Further details regarding the LEAD program are available at <http://LowEmissionsAsia.org>.

<sup>3</sup> Mechanisms for financing mitigation in the forestry sector are covered under the framework of Reducing Emissions from Deforestation and Degradation in Developing Countries (REDD). USAID's Climate Change Adaptation Project Preparation Facility for Asia and the Pacific (ADAPT Asia-Pacific) addresses financing for adaptation. This report does not explicitly address financing for climate change adaptation.

<sup>4</sup> The Asia LEDS Partnership is a regional initiative/network under the LEDS Global Partnership. It provides a platform for regional exchange and collaboration to advance low-emission development in Asia. Partners include both developed and developing Asian countries as well as international partners (e.g., the Asian Development Bank (ADB), the World Bank, the Low Carbon Asia Research Network (LoCARNet), United Nations (UN) agencies, and USAID). For more information, see: <http://asialeds.org/>.

<sup>5</sup> USAID LEAD Program, Meeting Report: Asia LEDS Forum 2012: Catalyzing an Era of Green Growth (Bangkok, Thailand, September 18-21, 2012).

# Climate Financing:

## WHAT IS IT, HOW MUCH IS NEEDED, AND HOW MUCH IS AVAILABLE?

HSBC, the British multinational banking and financial services company, estimates that during the decade 2010–2020, USD 10 trillion in cumulative capital investments into clean energy, or about USD 1 trillion per year, will be required globally.

### WHAT IS CLIMATE FINANCE?

No universally accepted definition of climate change finance, or climate finance, is currently available. However, the term generally is understood to include financial resources directed toward two general activities: climate change adaptation and greenhouse gas mitigation. Adaptation covers ways of adjusting to the consequences of climate change, while mitigation involves reducing sources of GHG emissions or enhancing carbon sinks (UNDP, 2011). The focus of this report as well as the predominance of climate finance historically has been on mitigation, mostly in the energy, agriculture, and transportation sectors.

Climate finance includes public and private sources from both developed and developing countries, while recipients include both developed and developing countries. There may or may not be an intermediary actor, such as a development finance institution, collecting and disbursing funds made available through a wide range of financial sources and mechanisms.

### HOW MUCH IS NEEDED?

The flow of investment required for the transition to a low-carbon economy globally is several orders of magnitude greater than those volumes currently deployed. HSBC, the British multinational banking and financial services company, estimates that, during the decade 2010–2020 a total of USD 10 trillion in cumulative capital investments into clean energy, or about USD 1 trillion per year, will be required globally<sup>6</sup>

(HSBC, 2010). Given a typical debt-equity ratio of 60:40 for capital investment, this amounts to an annual need for approximately USD 600 billion in bank loans or bonds and USD 400 billion in equity. Bloomberg New Energy Finance estimates that India and Southeast Asia alone will require USD 144 billion per year of climate investment, or 14.4 percent of the global requirement (Frankfurt School et al., 2012).

International donors and governments are establishing a Green Climate Fund, aiming for USD 100 billion per year in climate finance by 2020.<sup>7</sup> Gaining actual allocations for this amount of public financing is a challenging goal, given the current geopolitical climate. Even with such a large public sector commitment from donors, in order to fill the gap in climate finance, private sector financing will need to increase from its current global volume of USD 200-300 billion to USD 900 billion annually. This is consistent with the United Nations Framework Convention on Climate Change (UNFCCC) estimate that more than 85 percent of all finance to address climate change will need to come from the private sector (UNEP, 2012).

### HOW MUCH IS AVAILABLE?

**Total current climate investment amounts to 20-30 percent of what is needed.** Globally, estimates of existing public and private funds allocated for climate finance range from just over USD 200 billion to USD 364 billion annually (Frankfurt School et al., 2012, and Climate Policy Initiative, 2011). Yet this amounts to only between 20-30 percent of the approximately USD 1 trillion required annually over the next decade to finance the transition to a low-carbon economy (Robins, 2010). Even if the Green Climate Fund is successfully implemented, this would still leave a large gap requiring private sector participation. One of the key challenges over the next decade will be mobilizing private sector climate investments, using public sector funds to catalyze the private sector.

<sup>6</sup> Estimated amount required in order to meet the target threshold of 450 ppm atmospheric CO<sub>2</sub> concentrations that will limit the global temperature increase to 2°C.

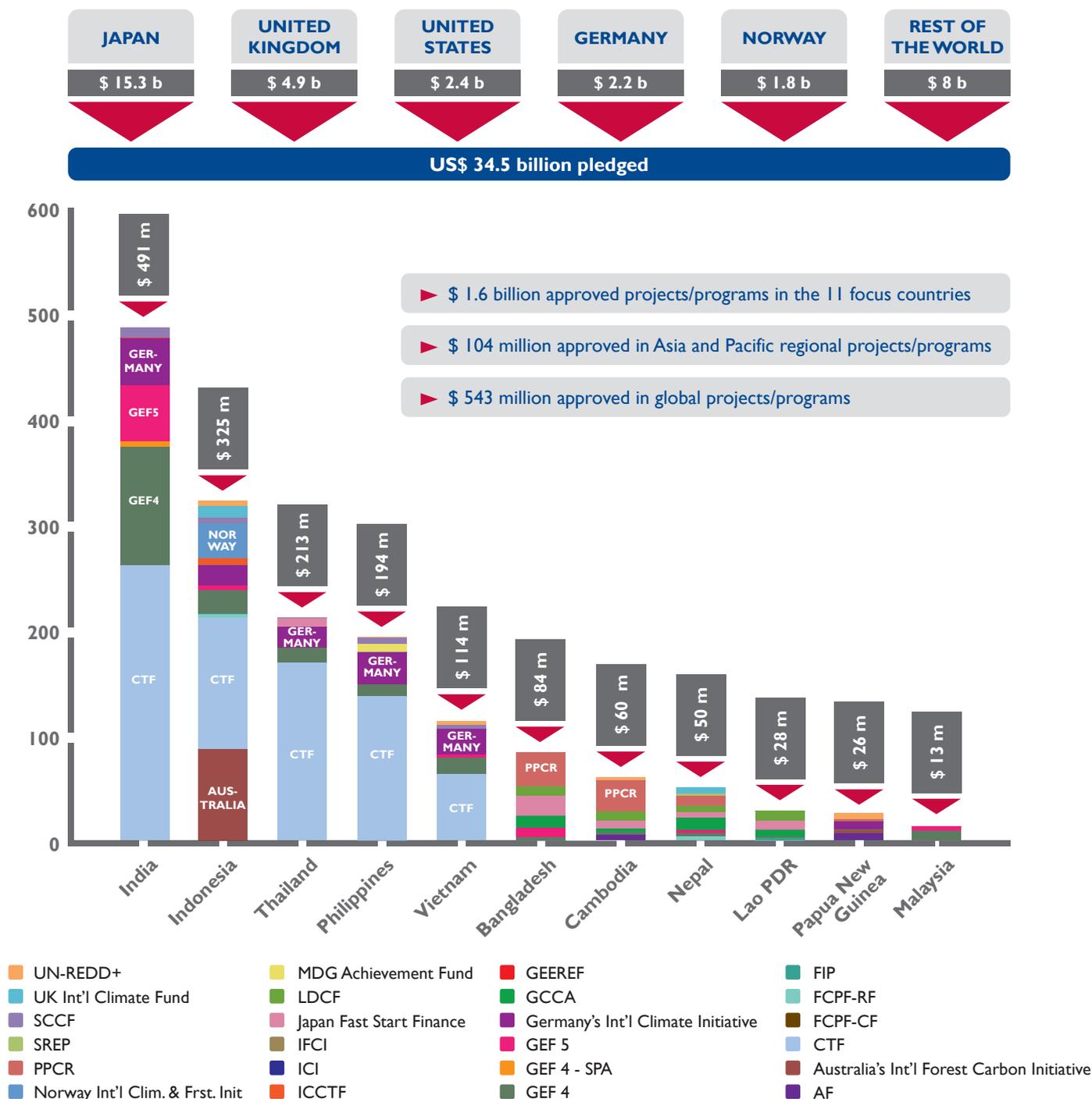
<sup>7</sup> The Independent Secretariat of the Green Climate Fund will be established in Songdo, South Korea, before the end of 2013 ([www.gcfund.net](http://www.gcfund.net)).

## HOW DEVELOPING ASIAN COUNTRIES CAN PREPARE TO ACCESS INTERNATIONAL GREEN GROWTH FINANCING

**Private sector investment dominates current climate investment.** The private sector already plays a larger role compared to the public sector in climate finance, having accounted for up to about three-quarters of total of public and private sector climate finance globally in 2011 and 2012

(Climate Policy Initiative, 2012). Nevertheless, private sector investment clearly needs to increase dramatically, and this can only be achieved by an innovative and successful partnership between the public and private spheres.

### International Climate Fund Flows



Source: Climate Funds Update, and Nexant research. Numbers are through December 2012, and include 25 international climate funds.



Globally, investments in renewable energy assets (which represent the majority of climate investments) totaled USD 148.6 billion in 2012.<sup>8</sup> Of this amount USD 8.2 billion, or 5.5 percent of the global total, was invested in the 11 countries in developing Asia, the vast majority of this from private sector sources.<sup>9</sup> Between 2009 and 2012, the focus countries received an average of 6.7 percent of total global private sector allocation in renewable energy. This allocation of private sector resources is highly disproportionate on both a per capita and a GHG emissions basis,<sup>10</sup> suggesting some asymmetry in the market and a market failure that public sector participants may be well placed to address.

**To date, 25 international public climate funds have approved USD 1.6 billion of projects and programs for the 11 focus countries. In the 11 countries, USD 8.2 billion was invested in renewable energy in 2012 alone, with most of this from private sector sources.**

India and Thailand have consistently been the largest recipients of private sector financing, consistently representing between 80-90 percent of total renewable energy investments in the 11 countries between 2009 and 2012. This has been driven largely by the favorable regulatory environment and investment climate (mostly for support of wind energy in India and solar energy in Thailand). The dramatic increase in private sector clean energy investment in India and Thailand can provide a positive example for other countries in developing Asia, specifically with respect to regulatory intervention, investment climate, and market readiness.

In contrast, with the exception of Bangladesh in 2011, Bangladesh, Cambodia, Nepal, and Papua New Guinea received insignificant amounts of private sector clean energy financing during the 2009–2012 period (Bloomberg New Energy Finance, 2013). This clearly points to an opportunity for the public sector to engage in capacity building with both governments and financial institutions to create a more conducive regulatory environment and investment climate for the private sector.

<sup>8</sup> The data for private sector investment in this report was provided by Bloomberg New Energy Finance and only includes renewable energy investments and does not include energy efficiency, smart grid, non-renewable energy carbon reduction projects. The data also only includes investments in clean energy over 1 MW in capacity.

<sup>9</sup> Between 2004-2012 Bloomberg estimates that the vast share of renewable energy financing in the 11 focus countries was provided by the private sector – e.g., 83 percent for Southeast Asia, 96 percent for India, and 73 percent for Nepal.

<sup>10</sup> GHG emissions from the 11 focus countries comprise nine percent of the global total (WRI, CAIT, 2012), and 28 percent of the global population lives in these countries (CIA World Factbook 2010–2011).

**USD 35 billion of donor contributions approved globally through 25 funds.** Donor countries have so far pledged USD 35 billion for climate-related activities globally, and a total of USD 26 billion has been deposited into 25 public sector climate funds (Climate Funds Update and Nexant research). A total of USD 9 billion worth of projects and programs has been approved already, and annual approval amounts during the fast-start<sup>11</sup> finance period (2010–2012) were estimated at more than six times 2008–2009 levels. These figures apply only to public sector funds identified to date, and they do not include leveraging of funds through public or private institutions, which can be many times greater.

**USD 1.6 billion donor funding approved for the 11 focus countries.** To date, 25 international public climate funds have approved USD 1.6 billion of projects and programs for the 11 focus countries. This suggests that there is a significant shortfall in financing available for LEDS and green growth, relative to the USD 90 billion required per year in the 11 focus countries. Approximately one-third, or USD 491 million, of these approvals has been allocated to India, including USD 263 million approved in 2012 from the Clean Technology Fund

(CTF).<sup>12</sup> Indonesia, with USD 325 million of approvals, also receives most of its funding (USD 125 million) from the CTF, with another USD 87 million coming from Australia's International Forest Carbon Initiative, and USD 20 million from Norway's International Climate and Forest Initiative.<sup>13</sup> Thailand and the Philippines are also experiencing some success in gaining access to these funds.

Aside from the public climate funds approved for projects and programs specific to the 11 focus countries, USD 104 million in funding has been approved for regional projects and programs, and a further USD 543 million approved for global projects and programs that benefit these countries only in part.

The CTF has contributed almost half of the total financing from the 25 funds to the 11 focus countries. Funds from the Global Environment Facility (GEF) contribute the next largest amount, making up another 18 percent of the approved sum. Other major contributions in the region come from Germany's International Climate Initiative (nine percent), Australia's International Forest Carbon Initiative (six percent), and the Pilot Program for Climate Resilience, or PPCR (five percent).



<sup>11</sup> 'Fast-start finance' refers to funds that result from a commitment made by developed countries during the United Nations Framework Convention on Climate Change (UNFCCC) 15th Conference of the Parties (Copenhagen, December 2009) to provide USD 30 billion of new and additional finance during 2010–2012 for mitigation and adaptation activities in developing countries.

<sup>12</sup> Three-quarters of private sector allocation in 2012, meanwhile, has gone to India.

<sup>13</sup> Norway has signed a Letter of Intent with Indonesia to form the Norway-Indonesia REDD+ Partnership, through which Norway would provide up to USD 1 billion of funding to reduce GHG emissions from deforestation and degradation of forests and peat lands ([http://unfccc.int/files/adaptation/application/pdf/norwegian\\_fast\\_start\\_finance\\_report\\_2012.pdf](http://unfccc.int/files/adaptation/application/pdf/norwegian_fast_start_finance_report_2012.pdf)).

# Summary of Findings

This report draws on a review of climate-related funds and financing mechanisms in the Asia region, along with interviews with development finance institutions, banks, and private sector fund managers. Based on this research, the report identifies a number of key issues and opportunities.

**Globally, estimates of existing public and private funds allocated for climate finance range from just over USD 200 billion to USD 364 billion annually. The private sector accounts for about three-quarters of the overall total and the share is expected to reach 90 percent over the next decade.**

**Private sector flows dominate climate finance.** The private sector has accounted for approximately three quarters of climate finance globally. Most of the currently available climate finance is allocated toward projects that mitigate climate change, as

opposed to financing adaptation measures. Most of the private sector climate change finance has been allocated toward mitigation, predominantly renewable energy, while funding for adaptation at present comes almost entirely from public sector sources. In order to meet the GHG emissions targets in the IEA 450 ppm scenario,<sup>14</sup> private sector climate financing will need to increase to USD 900 billion annually over the next decade, or by a factor of three times. More specifically, private sector clean energy finance for the II focus countries needs to increase from about USD 10 billion annually<sup>15</sup> to approximately USD 90 billion annually, or by a factor of nearly 10 times. In addition, the allocation of private sector renewable energy finance in the II countries has been concentrated in India (75 percent) and Thailand (15 percent), which collectively represented between 80–90 percent of the total during the period 2009–2012.<sup>16</sup> This uneven allocation of investment across the region also needs to be addressed.



<sup>14</sup> This is the scenario in the International Energy Agency's World Energy Outlook, in which global average temperature increases would be limited to 2°C.

<sup>15</sup> According to Bloomberg New Energy Finance, investment in renewable energy in India and Southeast Asia peaked at USD 15 billion in 2011 and was USD 8.2 billion in 2012, most of this from private sector sources. Renewable energy is used as a rough proxy for climate investments in India and Southeast Asia, as accurate figures for total climate finance are not available. Renewable energy investment accounts for by far the largest share of investment in climate finance.

<sup>16</sup> There is no reliable data on the amount of energy efficiency financing either globally or across the II focus countries.



**Engagement needed with private sector investors.** Given the fact that three-quarters of climate investments are currently from the private sector, that this amount is projected to increase to 90 percent, and that the public sector has only limited awareness of private sector investors, one priority should be to develop strategies for increasing access to finance using concessional financing and other public financing mechanisms to leverage the ‘viability gap’ and mitigate risk for marginal private sector climate investments.

**Decreasing role of carbon markets in leveraging investment.** During 2004–2012, a total of USD 229 billion in investments was allocated in the 11 focus countries to low-carbon

technologies (i.e., projects where Clean Development Mechanism (CDM) credits played a role). The amount of ‘carbon finance’ (i.e., certified emissions reductions, or CERs) involved in these projects was just USD 3.5 billion.<sup>17</sup> This demonstrates that carbon markets have served as an effective instrument to leverage private sector investment, but are woefully inadequate in the greater scheme of climate finance required. However, given the current status of the carbon markets and the long-term outlook for supply and demand of carbon credits, it is not anticipated that the carbon markets will make a significant contribution to the overall requirement for climate finance, and that both the public and private sectors will need to develop other innovative, market-driven financing mechanisms.<sup>18</sup>

<sup>17</sup> The estimated value of the CERs was based on an historic average price of USD 8 per ton for this portfolio, and for credits delivered up until the end of 2012. The USD 229 billion represents the total value of investment in these CDM projects.

<sup>18</sup> For example, India has developed the Perform, Achieve, and Trade (PAT) scheme for industrial facilities and a Renewable Energy Certificate (REC) system. Other countries in developing Asia are studying and considering adoption of such alternative market mechanisms.



**MRV frameworks and capacity are critical to access public finance.** Interviews by the research team with public sector fund managers across the region make it clear that, as efforts to address climate change increase, the ability to measure and manage GHG emissions will become a critical precondition for the allocation of public financing. As investments into climate-related projects and businesses increase, it is likely that new elements of competition will arise for climate funds disbursed by international financial institutions. On the other hand, MRV was not highlighted as a requirement for access to private sector funds.

To achieve the incremental USD 600-700 billion of climate finance per year required globally to mitigate GHG emissions, the public sector will need to leverage its resources to mobilize capital flows through the private sector.

**Donor financing of climate initiatives lacks a common MRV system.** For public sector climate-related funds and mechanisms supported by development finance, a range of MRV requirements are in place. For funds where carbon is not specifically

monetized, no single international standard or protocol serves for MRV. The methodology, and level of rigor, vary by funder, and reflect specific fund objectives and rationales for reporting GHG emission reductions.

**Multilateral development banks (MDBs) are developing an initiative to track GHG emissions and climate finance flows.** A group of MDBs have announced a harmonized approach to measuring and tracking their project-level GHG emissions, while also harmonizing the tracking of their climate financing commitments.<sup>19</sup> The ultimate objective of this initiative is to harmonize metrics for measuring and tracking climate-related finance activities across MDBs, aiming to improve monitoring of climate finance flows and their effectiveness.

**Alternative asset investments present a new opportunity.** Based on a review by Nexant, an estimated one percent or less of the alternative asset class globally is allocated to climate-related investments.<sup>20</sup> In Asia, about USD 31 billion of climate-related assets currently fall within the alternative asset class, including private equity. An increasingly greater allocation to this asset class creates a unique opportunity for the public sector to catalyze capital

<sup>19</sup> International Financial Institution Framework for a Harmonized Approach to Greenhouse Gas Accounting, issued at the Doha Climate Change Conference by the ADB, African Development Bank, Agence Française de Développement, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank, International Finance Corporation, Nordic Environment Finance Corporation, and the World Bank (Doha, November 2012).

<sup>20</sup> An alternative asset is any non-traditional asset with potential economic value that would not be found in a standard investment portfolio. Examples include hedge funds, venture capital related projects, infrastructure, and private equity.

flows for investments related to climate finance. The private equity and venture capital asset class is expected to serve as one of the main channels of increased climate finance to the II countries.

**Climate bonds are expected to make an increasing contribution.** In addition to private equity and venture capital, climate bonds<sup>21</sup> could serve as another mechanism to fund the gap outlined above for the private sector. The cumulative total of all climate-related bonds issued over the last decade is USD 751 billion, or an average of USD 75 billion per year (Climate Bond Initiative and HSBC, 2012). The issuance of climate bonds for the II focus countries to date has been limited, but this is expected to contribute substantially, and complement commercial banks, in providing the approximately USD 600 billion of debt-related climate finance required globally per year (and the

USD 90 billion required per year in the II focus countries) to address climate change.

**Commercial banks are establishing specialized climate finance facilities.** Most commercial banks lack designated business units or facilities for climate finance. Nevertheless, a number of banks have recently established such facilities with some success. These facilities typically use some form of partial risk guarantee, partial credit guarantee, interest rate subsidies, or term extension to motivate commercial banks to offer a specific climate finance product to their customers. The public sector might well underwrite these mechanisms to catalyze climate finance in the commercial banking sector. In addition to climate bonds, commercial banks will be the other major source of the USD 90 billion of debt required annually by the II focus countries to address climate change.

## Recommendations

The regional interviews carried out by the research team elicited numerous recommendations, both general and specific, for training and capacity building activities that could help address some of the barriers to climate finance. This input will serve as the basis for designing capacity building activities for both donors and recipients conducted under the framework of the LEAD program and the Asia LEDS Partnership. Key recommendations are presented below, and a more extensive list is included in the main report.

**Establish regulatory frameworks and MRV systems that support climate financing.** Governments need to establish strong MRV systems that allow tracking and monitoring of GHG emissions reductions. Governments can also take a number of other important actions in order to

enhance their ability to attract climate financing. These include establishing strong and stable policy and regulatory frameworks for clean energy and other climate related investments, and enhancing in-country business capacity through market development and technology transfer activities, including entrepreneur incubators, investment promotion, and training.

**Build the capacity to bridge the gap between project proposals and available financing.** There appears to be a disconnect between government officials, development professionals, and entrepreneurs who identify projects, and those who provide resources such as financing and technical assistance. Capacity building is needed for project proponents to help them develop successful proposals to multi-lateral bilateral financing institutions for financing mitigation programs or projects.

<sup>21</sup> Climate bonds are long-term debt securities issued to raise finance for climate change mitigation- or adaptation-related initiatives that are typically asset-backed or ring-fenced. They are issued by governments, MDBs, or corporations that guarantee repayment plus a fixed or variable rate of return over a defined period.



**Significant amounts of capacity building and technical assistance will be needed in order for project proponents to develop successful proposals to multilateral and bilateral financing institutions for financing mitigation programs or projects.**

**Develop processes to understanding linkages between public budgets and climate finance.**

Because climate financing is distributed across many government ministries and agencies, it is difficult to track and monitor at a national level. Climate public expenditure and institutional reviews (CPEIRs) can be conducted by cross-government steering groups led by finance and planning ministries, with technical input from environment ministries. CPEIRs provide analytical support, informing government decision-making and supporting the development of climate change strategy.

**Focus on national and sub-national coordination on finance.**

In developing Asia, national governments too commonly enter into international climate finance agreements for projects without first consulting extensively with local governments. Capacity building on preparing financing proposals, as proposed above, could be delivered in a manner that ensures the appropriate state and local agencies are included early in the proposal stage.

**Build awareness of, and capacity for, climate financing among private sector banks and investors.**

There is a need to make banks, fund managers, and investors aware of the opportunities for accessing grants, funds, loans, and guarantee mechanisms designed to support climate-friendly projects. Some of the remedial measures could include regulations to support energy efficiency and renewable energy finance; pricing analysis, such as to support tariff mechanisms; capacity building for vendors and project implementers to design and successfully implement projects; training energy auditors

in communicating with banks; organizing forums with energy efficiency companies to build finance literacy; and, more generally, building capacity within banks to understand energy efficiency and renewable energy businesses, and projects. This sort of capacity building is a necessary first step that should precede working specifically on the development of blended financial instruments.

**Blend concessional financing with private sector financing.**

A number of development financing institutions are developing targeted strategies to ‘blend’ donor funds with private finance, aiming to increase the amount of private sector investment. This can be done by raising awareness among private sector financiers, and in some cases through the formation of public-private partnerships (PPPs). Once private sector financial institutions are aware of the sources and criteria for key concessional funds, they can then steer developers toward the multilateral and bilateral agencies that operate these concessional funds.

**Develop a learning network for effective policy, regulatory, and market mechanisms.**

Capacity building for government officials is desperately needed in a number of areas, including policy frameworks, regulatory development and implementation, and removal of barriers to investment such as regulations that impede business licenses. Effective policy and regulatory mechanisms provide a market signal to private financiers that political, legal, and monetary risks are low, or at least manageable, thus reducing a barrier to private sector investment. There is also a need to build capacity among governments in the area of financial incentive mechanisms for climate finance. Such measures could include incentives for energy efficiency (e.g., demand-side management, rebate programs, tax incentives); renewable energy (e.g., renewable portfolio standards, feed-in tariffs); and forestry (e.g., payment for ecosystem services).

**Establish financing mechanisms for smaller-scale infrastructure.** A recurring theme in our regional interviews was the initial barriers faced by smaller-scale infrastructure investments that produce climate benefits. One recommendation was that a fund be established to provide seed

capital for small-scale infrastructure, one that would also provide technical assistance. Access to finance is probably the single greatest issue faced by recipients, whether public or private. Intervention in the form of capacity building among private financial institutions would address this barrier.

## Conclusions

The private sector, which accounts for about three-quarters of available climate finance funding, already plays a major role in climate financing. To meet the needs of transitioning to a low-carbon economy, however, private sector investment must increase dramatically. Only an innovative and successful partnership between the public and private spheres can achieve this outcome.

Between 2009 and 2012, private sector climate finance investments have grown at an average of 26 percent. But bridging the climate finance funding gap outlined above will require a major increase in private sector climate finance. Based on current trends, available investments will fail to meet this need. In fact, a quantum shift in climate finance is needed in both the public and private sectors. This climate finance gap will remain the single greatest issue over the next decade, and will require the public sector at the national, regional, and global levels to develop innovative ways of leveraging public sector funds to mobilize private sector capital. The role of the private sector, meanwhile, should be to allocate capital and scarce resources efficiently in the climate finance sector.

To date, 25 international public climate funds have approved USD 1.6 billion of projects and programs for the 11 focus countries. In these 11 countries, USD 8.2 billion was invested in renewable energy in 2012 alone (the largest area of climate finance), with most of this from private-sector sources.

The amount of climate finance required for India and Southeast Asia<sup>22</sup> is approximately USD 150 billion annually. This would suggest that the current amount of financing available for LEDS and green growth efforts in the focus countries is woefully low at present, and that this amount must increase by an order of magnitude in this region over the next decade (relative to a 3-times increase needed globally). In addition, the distribution of climate finance in the 11 focus countries has been extremely uneven, with India and Thailand receiving 80-90 percent of renewable energy investments.<sup>23</sup> Thus, in addition to the need for a dramatic increase in climate finance, a more even distribution of climate finance is required across the 11 focus countries, with a particular emphasis on Bangladesh, Cambodia, Nepal, and Papua New Guinea. To date, these countries have received only minimal amounts of climate financing.

To access climate funding and allocate investments effectively, the public and private sectors in these countries need to take systematic actions. Such action could include improved public awareness of the issues, training in tools such as GHG inventories and accounting, and development of strong MRV frameworks for both climate financing and the resulting GHG emission reductions.

Countries that prepare the fastest will be “first through the gate” to access current and upcoming climate financing, thereby positioning themselves for rapid economic and technological development at the same time as they limit their carbon emissions.

<sup>22</sup> This refers to the amount of investment needed to mitigate enough GHG emissions to meet the IEA’s 450 ppm scenario that would limit global average temperature rises to 2°C.

<sup>23</sup> Renewable energy is used as a rough proxy for climate investments in India and Southeast Asia, as accurate figures for total climate finance are not available. Renewable energy investment accounts for by far the largest share of investment in climate finance.

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# Abbreviations and Acronyms

ADB	Asian Development Bank
ADAPT	Asia-Pacific Climate Change Adaptation Project Preparation Facility for Asia and the Pacific
CAIT	Climate Analysis Indicators Tool
CDM	Clean Development Mechanism
CER	certified emission reduction
CPEIR	Climate Public Expenditure and Institutional Review
CTF	Clean Technology Fund
GEF	Global Environment Facility
GHG	greenhouse gas
LEAD	Low Emissions Asian Development (USAID program)
LEDS	low emission development strategies
MDB	multilateral development bank
MRV	measurement, reporting, and verification
PAT	perform, achieve, and trade
PPCR	Pilot Program for Climate Resilience
PPP	public-private partnership
REC	renewable energy certificate
REDD	Reducing Emissions from Deforestation and Degradation in Developing Countries
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USAID/RDMA	USAID Regional Development Mission for Asia
USD	United States dollar



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