



## Development and Climate Action

### Reinforcing Synergies

#### SYNOPSIS

Creating climate-resilient and low-carbon development paths has become a development imperative. The World Bank continues to face unprecedented demand from many countries for support in their efforts to address development and climate change challenges. The World Bank has responded with a broad range of assistance through a combination of financial and other resources.

#### Challenge

Climate change is a major threat to the achievement of the Millennium Development Goals (MDGs) in developing countries, and hard-earned development gains in all regions of the world. With climate change already happening and with more severe impacts to follow, it is recognized that development planning and financing strategies need to consider the risks associated with climate change. Given that the challenge of confronting climate change impacts cuts across all sectors, both the International Development Association (IDA) and the International Bank for Reconstruction and Development (IBRD) are appropriate platforms to help integrate climate change actions into country-level strategies.

Addressing the climate change challenge depends on developed countries taking the lead in the mitigation of climate change, while providing adaptation assistance and supporting nationally appropriate mitigation actions in developing countries. At the same time, middle-income countries in particular are increasingly seizing opportunities to advance economic development in less carbon-intensive ways that spur growth and reduce the impact of, and vulnerability to, climate change.

IDA countries are the most vulnerable to risks associated with droughts, floods, coastal storms, and changes in agricultural productivity. *The Economics of Adaptation to Climate Change* study estimates that the cost for IDA countries (including those that also have access to IBRD financing) will be around US\$24 billion-US\$26 billion per year over the next 10 years, rising to US\$40 billion by 2050. The steepest increases (more than twofold) will take place in Sub-Saharan Africa. Funding those projected costs on top of current needs will be one of the key challenges for IDA.

#### Approach

To meet the climate challenge, the World Bank supports country-led development strategies and priorities aimed at adaptation and mitigation action, while helping countries take advantage of new economic, capacity building, and financing opportunities that arise from the global climate change agenda.

IDA recognizes that climate change is an urgent challenge that poses significant risks to the well-being of all countries, particularly the poorest. It has agreed to promote climate resilient development by integrating knowledge, investment, and policy support and by leveraging finance from other sources.

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The climate change agenda has been integrated as a priority across the World Bank Group. All of the 17 country assistance and partnership strategies prepared in Fiscal Year (FY)2011 address climate change. There are increasing efforts to ensure synergies between adaptation and mitigation agendas when designing and planning climate actions and evaluating their impact. These include examples of interventions in forestry, which help sequester carbon and increase resilience; “climate smart” agriculture, where the focus is on a triple-win – carbon sequestration, food security and climate resilient livelihoods; and water efficiency measures in urban municipalities that reduce water and energy consumption and emissions from water pumping and distribution.

### Results

Some examples of results achieved with World Bank support are as follows:

- **Mexico:** The Mexico Efficient Lighting and Appliances Project, (approved FY11) is a catalyst for the transformation of the residential lighting and refrigeration subsectors, by supporting the planned replacement of 45 million inefficient incandescent light bulbs and 1.7 million old and inefficient refrigerators and air conditioners with more efficient models across a range of beneficiaries, mostly lower income groups. The Project provides financial incentives to consumers in the form of free compact fluorescent lamps for the replacement of inefficient incandescent bulbs, and instant discount vouchers and low-cost loans to reduce the cost of replacing inefficient appliances. It mobilizes financing from the World Bank and other sources, including the Clean Technology Fund, the Global Environmental Facility, the Government, NAFIN (a state-owned bank), and consumers. The total expected savings of the project over four years are 10,000 GWh. These are roughly equivalent to 17 percent% of one year’s residential electricity consumption in Mexico (based on 2009 data). Associated emissions reductions are estimated at 5.1 million tons of CO<sub>2</sub> equivalent. As of January 2012,
- over 14 million incandescent light bulbs and 1.4 million appliances have been replaced.
- **Morocco and Egypt:** The World Bank partnered with Morocco and Egypt on two innovative projects in FY07 that use a hybrid concentrated solar power technology to reduce dependency on fossil fuels and cut greenhouse gas emissions. Around 600 megawatts (MW) of hybrid gas-solar plants – including a total of 40MW of solar share – have been installed during the last three years. This is expected to result in avoidance of 20,000 tons of CO<sub>2</sub> emissions annually by the plant in Morocco and 40,000 tons of CO<sub>2</sub> emissions in Egypt, and less dependence on fossil fuels. Specialized renewable energy institutions have been established in both countries. The successful demonstration of concentrated solar power (CSP) projects in these countries has paved the way for further projects and donor commitments in this field in the region: for example, Morocco launched preparation of a 500MW solar plant in Ouarzazate, and has announced a plan targeting 2,000 MW of solar electricity production by 2020. Egypt also plans to build a 100MW solar plant in Kom Ombo.
- **Bangladesh:** In Bangladesh, IDA has been active for nearly a decade in the Rural Electrification and Renewable Energy Development project (FY02). The project helped connect 630,000 consumers to the power grid. In remote rural areas, where grid electricity is not economically viable, the project established Solar Home Systems as a practical and cost effective alternative for electrification. About 750,000 remote households and rural shops have been provided with Solar Home Systems. The project also supported deployment of 10 million energy efficient Compact Fluorescent Lamps in exchange for incandescent lamps to reduce peak demand.
- **Morocco:** In 2008, Morocco produced about five million tons of municipal solid waste per year, and it is expected to reach 6.2 million tons in 2020. An IBRD-funded program (FY08) has supported reforms in about 80 municipalities, representing more than 50 percent of the urban population in Morocco, to improve their

collection services and upgrade their landfills. The share of properly disposed solid waste had increased from 10 percent to 30 percent by FY10. The CO<sub>2</sub> avoidance from this tripled share of properly disposed waste is estimated at about 700,000-900,000 tons per year. The program provided training to 1,600 local managers and has also boosted the participation of the private sector. The private sector now provides cleaning and garbage collection services to about 60 percent of the urban population compared to 15 percent before the project. In addition, an innovative carbon finance program at the national level is being designed to help local authorities mobilize additional financial resources through sale of certified emission reductions generated by investment in landfill gas elimination or reuse projects. This has the potential of generating approximately US\$90 million in revenues over the next 10 years.

- **Ethiopia:** Making development climate-resilient has emerged as a major theme in supporting poverty reduction and economic growth in Sub-Saharan Africa. The objective of the IDA-financed Productive Safety Net Program in Ethiopia (FY05) was to deliver timely livelihood protection to the chronically food insecure households in rural Ethiopia. A drought risk component was introduced in the Bank's second phase of support (FY07) to provide immediate scaled-up financing in response to localized intermediate or severe drought. The projects are designed to increasingly provide cash rather than food support. The first step was to create labor-intensive public works so people could earn money and solve their own food insecurity aggravated by climate change. Next, at-risk households, including households with orphans, pregnant mothers, the elderly, and people living with HIV/AIDS were identified and given grants. In 2010, 7.8 million rural inhabitants received support under the program through paid work or grants. About 192 million paid workdays have been generated through community projects that address roots of food insecurity by rehabilitating severely degraded land and creating productive community assets, such as terraced fields, feeder roads and small scale irrigation systems.

## Bank Contribution

The World Bank Group's renewable energy portfolio increased from a total of US\$3.1 billion between FY2008-09 to US\$4.9 billion in FY 2010-11. Given the simultaneous expansion of the overall energy portfolio during the same period, the renewable energy proportion rose from 20 percent to 23 percent. Low-carbon growth country studies have been undertaken in partnership with seven IBRD countries – Brazil, China, India, Indonesia, Mexico, Poland and South Africa – in close collaboration with the respective governments, agencies and local stakeholders. By targeting specific needs and priority sectors of each country, the overall program covers energy efficiency in end-user applications, the power sector, transport, land-use, and bio-energy, and is complemented by policy and implementation advice. Such studies provide data and tools that can support client countries in formulating and implementing their national climate change action plans.

### IDA Results

Highlights of results in IDA-supported projects include:

- **Bangladesh:** 630,000 consumers connected to the grid; about 750,000 remote households and rural shops provided with Solar Home Systems; supported deployment of 10 million energy efficient Compact Fluorescent Lamps in exchange for incandescent lamps to reduce peak demand.
- **Ethiopia:** 7.8 million rural inhabitants received support under the Productive Safety Net Program that provides immediate and expanded financing in response to the onset of drought.

## Development and Climate Action

Development Policy Operations are emerging as a major vehicle for supporting clients' climate change policy and institutional developments needed to tackle climate change. The Bank had such operations in 15 countries during FY09-11. For instance, a Development Policy Loan for Poland (US\$1.11 billion) was approved in June 2011 to support the energy efficiency and renewable energy components of its new energy policy.

The demand for support is also increasing for countries as they are designing their Nationally Appropriate Mitigation Action, including policy and institutional reforms and investment programs, that can be presented for international funding, such as under the Green Climate Fund.

The World Bank Group has also made a commitment to reduce the impacts from its own daily operations through a comprehensive program to measure, manage, reduce and report on greenhouse gas (GHG) emissions. The fourth global inventory of its carbon emissions is currently being compiled. While the first priority is reducing greenhouse gas emissions where feasible, a zero-emission business is not possible given our activities that require business related travel to client countries and development partners. Thus, the WBG continues to maintain carbon neutrality for its global emissions associated with facilities and travel through the purchase of carbon credits and renewable energy certificates. The WBG has been the first multilateral development bank to disclose its corporate environmental metrics using leading industry reporting standards and venues such as the Carbon Disclosure Project (CDP).

### Partners

The World Bank Group has successfully demonstrated innovative ways to mobilize additional resources to finance climate action. The most notable success has been the US\$6.5 billion Climate Investment Funds (CIFs), which are playing a key role in meeting international objectives regarding climate change. CIFs currently support activities in 46 countries through 37 country and regional pilots. The CIFs are channeled through the World Bank and other multilateral development

banks. The Pilot Program for Climate Resilience (PPCR) and the Clean Technology Fund (CTF) under the CIFs deserve a special mention. The PPCR is designed to demonstrate ways to integrate climate risk and resilience into core development planning processes in low income countries. The PPCR operates in 9 countries and 2 regions. Approximately \$900 million in PPCR funding is expected to be channeled through the MDBs. Through the design and implementation of its Strategic Program for Climate Resilience (SPCR), each PPCR country adopts a programmatic approach, working across various sectors to mainstream climate resilience. As of January 2012, the PPCR Sub-Committee has endorsed 13 SPCRs, in which over 50 projects have been identified for a total of US\$ 700 million in investments. The remaining SPCRs are expected to be endorsed by the end 2012. The CTF provides incentives to countries to move forward with the demonstration, deployment, transfer, and replication of clean technologies that reduce greenhouse gas emissions. The CTF Trust Fund Committee has endorsed 13 CTF investment plans, which are projected to leverage an additional \$36 billion in co-financing on a \$4.5 billion CTF investment envelope. Two additional plans for India and Nigeria have also been endorsed for which additional funds need to be mobilized. In addition to the CIFs, the WBG has leveraged resources for climate action through the GEF, GFDRR, and the newly created Adaptation Fund.

For over a decade, the World Bank has supported carbon finance through the creation of 10 carbon funds and facilities capitalized at \$2.7 billion that support some 174 active projects that are expected to reduce emissions of greenhouse gases by an estimated 220 million metric tons of carbon dioxide equivalent over their lifetime. About 25 governments and government agencies, and 65 private companies from various sectors, have made financial contributions to these carbon funds and facilities.

The WBG is also pushing the frontiers of innovation in carbon markets and risk financing. The WBG has launched four post-2012 carbon initiatives – the Forest Carbon Partnership Facility (FCPF) aiming to reduce emissions from deforestation and forest degradation (REDD+), the

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Carbon Partnership Facility (CPF), the Partnership for Market Readiness and the Carbon Initiative for Development. These innovative instruments seek to support a variety of market-based mechanisms that reduce the emissions of greenhouse gases in developing countries.

Both the World Bank and IFC have raised funds through the capital markets through issuance of 'green bonds' where dedicated funding supports projects or programs that finance low-carbon or climate-resilient development activities in client countries.

Responding to client priorities, the World Bank has strengthened the operational links between climate adaptation and disaster risk management. The Global Facility for Disaster Risk Reduction and Recovery (GFDRR), a trust-funded global partnership hosted by the World Bank, serves as a disaster risk reduction knowledge hub and the Bank's rapid disaster response facility. GFDRR has served as a strong catalyst for promoting the integration of climate risk management into the Bank's development efforts. In addition, with an increase in intensity and damage caused by natural disasters the WBG is offering lines of catastrophe risk financing products and advisory services to countries (e.g. weather derivatives).

The World Bank has also engaged in major joint initiatives with the UN system, other multilateral development banks, the Organization for Economic Cooperation and Development (OECD), and other institutions. Examples of partnerships for climate action include:

- Development of the Climate Finance Options Knowledge Platform with the UN Development Programme (UNDP) as part of a coordinated UN response, launched in Cancun in November 2010 to support client countries in better informed decisions on mitigation and adaptation investments.
- Cooperation with the OECD Development Assistance Committee secretariat, other multilateral development banks and several non-governmental organizations in improving the reliability and transparency of monitoring and reporting on climate finance flows.

- SIDS DOCK Support Program, developed by the Alliance of Small Island States, supported by US\$14.5 million from Denmark and facilitated by UNDP and the World Bank, assists with the introduction of renewable energy and energy efficiency amongst small island developing states.

## Moving Forward

As the prospects for a near-term comprehensive global deal on climate change recede, the World Bank Group has advocated a 'building blocks' approach that enables progress on discrete elements that support the climate agenda. This has strengthened the imperative to demonstrate results on the ground, and increase emphasis on developing methodologies and tools to measure progress on climate actions and their impact and for knowledge exchange. With the prospect of a warmer world, the imperative to adapt to a changing climate further emphasizes the need to scale up support for climate-resilient low emissions development. Resilience to climate impacts and low emissions development are both key pillars of the increasing emphasis by the United Nations and Bretton Woods Institutions on the economic, environmental and social merits of Green Growth and could provide an opportunity to support actions with multiple benefits for climate and development. As part of the UN family, the World Bank will be increasingly working with other agencies on climate actions in the context of sustainable development.

Further attention will be given in IDA countries to help clients and partners understand and manage the adaptation-development linkages in different contexts. IBRD resources can be expected to be called for supporting transformational programs with lower emissions catalyzed by dedicated climate resources. It is also anticipated that there will be growing demand for IBRD capital for guarantees and insurance products to attract private sector investments in new technologies and in climate-vulnerable areas. Contributions to existing and emerging climate funds are expected to leverage considerable underlying financing from public and private sources.

### LEARN MORE

#### Websites

- Climate Change website: <http://climatechange.worldbank.org/>