DEVELOPMENT • CLIMATE • AND FINANCE

Making the Most of Public Finance for Climate Action

The World Bank Group at Work

May 2010

ISSUES BRIEF #2

Through a range of examples, this *Issues Brief* illustrates how public finance can catalyze climate action by piloting innovative ways to leverage both climate and development finance, such as combining resources and instruments to maximize synergies, exploring new opportunities to expand the scope for market mechanisms, and strengthening the capacity to facilitate access to resources and their effective use.

THE WORLD BANK

THE CATALYTIC ROLE OF PUBLIC FINANCE

The cost of tackling climate change in developing countries could reach some hundreds of billions of dollars annually over the coming decades—much beyond current climate financing, which, at about $10 billion per year, covers only perhaps 5 percent of anticipated needs (see Box 1).[1] Combating climate change will require tremendous efforts and ingenuity to mobilize resources at scale, coordinate their delivery through a combination of policy and finance instruments, and maximize their leverage on much larger amounts of public and private investments to catalyze climate-smart development. At the same time, it is important that the resources of climate finance be mobilized and delivered so as to complement (and not erode) development policy and finance, in order to sustain and further development gains in a changing climate. In this regard, the political commitment by developed countries in Copenhagen in December 2009 to provide new and additional resources approaching $30 billion for the period 2010–12 and to mobilize $100 billion per year by 2020 (including through carbon markets) is an encouraging step. These resources must be delivered in full.

1. All amounts in U.S. dollars unless indicated otherwise.

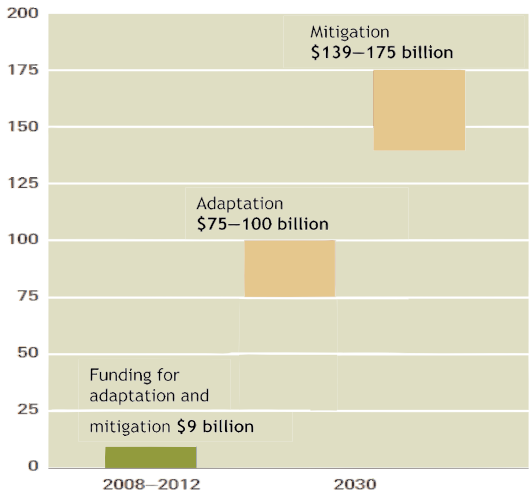
BOX 1 A HUGE FINANCING GAP FOR CLIMATE ACTION IN DEVELOPING COUNTRIES

Mitigation costs in developing countries consistent with a +2° Celsius climate stabilization target will grow over the coming decades and could reach $139–175 billion a year by 2030, with associated financing needs of $265–565 billion per year. In addition, about $75–100 billion could be required annually over the next 40 years to support adaptation to the inevitable impacts of climate change in developing countries.

The bulk of available and emerging resources dedicated to climate action relates to mitigation (at about $8 billion per annum), mainly through transactions under the Clean Development Mechanism (CDM) on the carbon market and through the recently launched Climate Investment Funds (CIF). Resources for adaptation are just being mobilized in modest proportions (at about $1 billion per annum), mostly through bilateral and multilateral donor funds and through the Adaptation Fund.

Source: World Bank Group.

Additional investment needs in developing countries, by 2030



Given the size of the resource gap and the diversity of needs, both public finance (from domestic and international sources) and market instruments (particularly carbon markets) will play an important role. Both will help address the additional costs and risks of climate action, making low-carbon and climate-resilient options more attractive and complementing and leveraging other resources to accelerate a climate-smart transformation of development paths. Public finance will also help build momentum for climate action by piloting innovation and generating experience and by creating an enabling environment and building capacity (including for more-effective and wider use of market instruments). All these actions should be decisive for attracting growing volumes of climate finance and increasing their impact.

In response to a rapidly rising demand from developing country clients to address development and climate change as interlinked challenges, the World Bank Group (WBG) has scaled up its engagement, drawing on its experience in economy-wide support to sustainable development and a growing menu of climate-change dedicated resources, including through its long-term partnership with the Global Environment Facility (GEF) and 10 years of innovation in carbon finance (see Table 1). For instance, recognizing adaptation as an emerging priority while funding is currently lacking, the WBG has intensified its efforts in facilitating access to and mobilizing resources to increase the resilience of development operations to chronic climate risks. In order to support a broad range of activities (such as drought-resilient practices or flood and storm protection

TABLE 1 MAIN RESOURCES DEDICATED TO CLIMATE ACTION THAT ARE ACCESSIBLE TO THE WBG

Name	Scope	Description	Leverage ratio[1]
Adaptation Fund $300–600 million by 2012[2]	A	Funding comes mainly from a 2% share of proceeds on issuance of certified emission reductions. The International Bank for Reconstruction and Development has been accredited as a Multilateral Implementing Entity, enabling it to assist client countries access grant-financed adaptation resources.	n.a.
Carbon Funds and Facilities $2.5 billion[3]	M	12 funds and facilities, of which two recent facilities focus on post-2012: the Forest Partnership Facility (FCPF), to build capacity for reducing emissions from deforestation and forest degradation and to pilot performance-based transactions, and the Carbon Partnership Facility (CPF), to support programmatic and sector-wide interventions.	1:3.6
Climate Investment Funds CTF: $4.4 billion SCF: $1.9 billion	M	The Clean Technology Fund (CTF): to finance scaled-up demonstration, deployment, and transfer of low-carbon technologies.	1:8.3
	A&M	The Strategic Climate Fund (SCF): Pilot Program for Climate Resilience to help build climate resilience into core development; Forest Investment Program; Scaling Up Renewable Energy Program in Low Income Countries.	n.a.
Global Environment Facility $1 billion (2007–10)	M (A)	Largest and oldest source of grant and concessional finance for mitigation. There is a funding allocation ($50 million until 2010) within the GEF-4 Trust Fund to support pilot and demonstration projects that address local adaptation needs and generate global environmental benefits in all GEF focal areas.	1:6.3
UNFCCC GEF-administered Special Funds $270 million	A	Least Developed Countries Fund: helps in the preparation and financing of implementation of national adaptation programs of action to address the most urgent adaptation needs in the least developed countries.	1:1.9
		Special Climate Change Fund: supports adaptation and mitigation projects in all developing countries, with a large emphasis on adaptation.	1:6.7
Global Facility for Disaster Reduction and Recovery	A	Partnership within the U.N. International Strategy for Disaster Reduction, focuses on building capacities to enhance disaster resilience and adaptive capacities in a changing climate; $27 million since 2006, with a primary focus on adaptation.	n.a.
Trust Funds and Partnerships	A&M	Grant financing for knowledge products, capacity building, and upstream project work/pilots, such as the Energy Sector Management Assistance Program (ESMAP).	n.a.

Note: A=adaptation; M=mitigation; 1) Global leverage ratio, not restricted to WBG activities. 2) Estimate of available funding by 2012, depending on CDM projects performance and carbon price (does not include possible voluntary contributions). 3) Does not include capitalization of CPF ($160 million) and FCPF (€107 million).

Source: World Bank Group.

in coastal cities), the WBG has used a variety of resources in different combinations, including the GEF, the Least Developed Countries Fund, the Special Climate Change Fund, bilateral co-financing, and the Pilot Program for Climate Resilience (PPCR)—the most recent and largest initiative, with about $950 million in grants and concessional resources.

Though still short of meeting the needs, such resources—alone or in combination—are playing a critical role in facilitating progress. They help match the diverse needs of climate action (investment costs but also upstream analytical work, capacity and institutional building, and so on), complement and reinforce development investments, and generate a body of knowledge and experience on mobilizing and leveraging climate finance. This Issues Brief highlights some recent examples of how public finance administered by the WBG can catalyze climate action and strengthen sustainable development through piloting innovative ways to leverage the scarce resources of both climate and development finance.

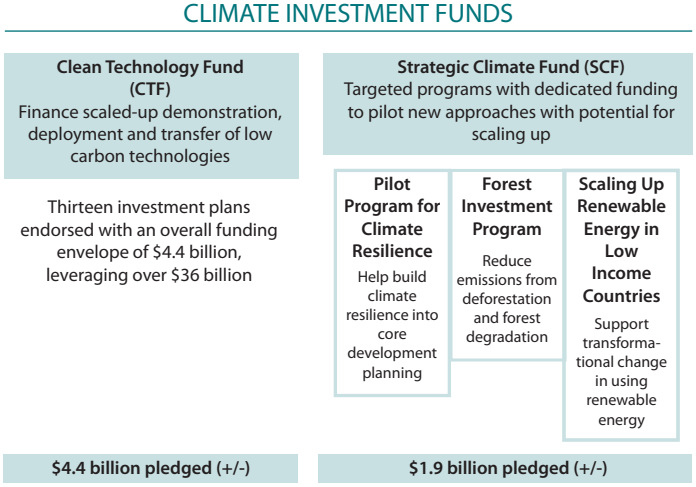
SCALING UP FINANCING AND FACILITATING CLIMATE-SMART TRANSFORMATION

The establishment of the Climate Investment Funds has been a major resource mobilization exercise for the development and climate community (see Box 2). With $6.3 billion for innovative climate financing in developing countries for renewable energy and other low-carbon technologies, climate resilience, and forestry, the CIF represent a large share of current (and otherwise fragmented) available resources. Through substantial concessional funding for climate solutions, the CIF will explore ways to unlock financing and catalyze climate-smart development beyond their own initial participation, thereby leveraging climate-smart funding at a scale never previously achieved. The operationalization of the CIF has been achieved at a good pace with significant stakeholder engagement, stimulating low-carbon or climate-resilient work in over 20 countries in the year since its launch.

BOX 2 THE CIF VENTURE — SCALING UP PARTNERSHIPS FOR CLIMATE ACTION

The Climate Investment Funds (CIF) are a pair of innovative financing instruments to catalyze low-carbon and climate-resilient development in developing countries through scaled-up financing administered by the multilateral development banks (MDBs).

The CIF blend funding for climate solutions with financing from MDBs, contributor governments, and the private sector, substantially leveraging additional funds.



The CIF are designed as an interim measure to strengthen the global knowledge base for low-carbon and climate-resilient growth. Operating at scale, their activities will explore new approaches for transformation, with potential for replication. They will provide practical lessons in support of the U.N. Framework Convention on Climate Change (UNFCCC) deliberations.

With a sunset clause, the CIF will conclude activities once a new financial architecture has become effective under the UNFCCC.

Source: World Bank Group.

Thirteen Investment Plans (IPs) have been endorsed under the Clean Technology Fund for a global envelope of about $40 billion (see Table 2), leveraging on average 8.3 times CTF funding through MDBs and bilateral financing as well as climate finance instruments (such as carbon finance) and private sector engagement (on average at 30 percent). While six CTF-co-financed projects have now been approved (with more under preparation), the design process of the IPs already brings useful insights on administration and leveraging of climate (and development) finance.

Fully aligned with existing development strategies and programs of participating countries, the IPs have achieved a high degree of country ownership. Government partners in the CTF first identified within their development programs those that are ambitious, that seek to transform sectors, and that have significant mitigation potential. The MDBs and governments then assessed whether there were barriers to implementation that would justify the deployment of the CTF's financing. This process has demonstrated how many emerging economies already have ambitious programs that would take them on a low-carbon development pathway while some governments assumed full ownership of the process of preparing Investment Plans, prioritizing investments, and determining program strategies. In addition, the IPs are emerging as a platform to coordinate assistance and financing from several sources (MDBs, bilateral agencies, domestic, and climate finance such as GEF or carbon finance) and to scale up partnerships to support developing countries.

The IPs consider scaled-up financing to accelerate penetration and deepen the market for low-carbon technologies. In doing so, the CTF experience is also generating important lessons on how to design transformational programs: interventions must be of sufficient scale to be flagships in their sectors, must be targeted to shape the

TABLE 2 CTF—13 INVESTMENT PLANS WITH AN OVERALL FUNDING ENVELOPE OF $4.4 BILLION LEVERAGING OVER $36 BILLION

Country/ Region	CTF ($ million)	Total ($ million)	Ratio CTF to other funding	Highlights
Colombia	150	2,995	1:18	energy efficiency, sustainable transport
Egypt	300	1,921	1:5	urban transport, wind power
Indonesia	400	3,110	1:7	geothermal power, financial intermediation for energy efficiency and renewable energy
Kazakhstan	200	1,269	1:5	energy efficiency (district heating refurbishment), gas flaring reduction with power generation, renewable energy
Mexico	500	6,197	1:12	energy efficiency (lighting and appliances), renewable energy, urban transport
Middle East and North Africa	750	5,604	1:7	CSP expansion programs in Algeria, Egypt, Jordan, Morocco, and Tunisia
Morocco	150	1,950	1:12	energy efficiency (industry), urban transport, wind power
Philippines	250	2,780	1:10	energy efficiency, renewable energy (including solar), urban transport
South Africa	500	2,350	1:4	energy efficiency (through financial intermediation), solar (both CSP and solar water heaters) and wind power
Thailand	300	4,263	1:13	energy efficiency, renewable energy, urban transformation (transport and city-wide energy efficiency improvements)
Turkey	250	2,100	1:7	energy efficiency, renewable energy
Ukraine	350	2,605	1:6	energy efficiency (including smart grids), renewable energy, zero-emissions power from gas network
Vietnam	250	3,445	1:13	energy efficiency (industry and commercial), transmission and distribution, renewable energy, urban transport

Source: World Bank Group.

course of market development and technology diffusion, and must achieve significant development goals besides mitigation. The concentrated solar power (CSP) program in the Middle East and North Africa, for instance, targets 1 gigawatt of new CSP capacity in five countries, which would nearly triple current global capacity and create economies of scale that would benefit the global deployment of the technology. Another example, a multicity urban transport program in Mexico, is transformational because, with its objective of creating 18 bus rapid transit systems, it deploys sufficient low-carbon hybrid buses to influence the market for such vehicles and brings large-scale local environmental and mobility benefits in addition to global mitigation ones. Finally, all IPs have significant private sector engagement through direct financing, financial intermediation, and the creation of the enabling environment for private investments. This contributes to the impressive leverage ratio of CTF financing and creates the framework for real sustainability of the IPs.

CONTINUING INNOVATION IN CARBON FINANCE FOR LARGER IMPACT ON SUSTAINABLE DEVELOPMENT

The Clean Development Mechanism has been an important catalyst of low-carbon investment in developing countries, complementing and leveraging other financial resources. Over 2002–08, about 1.9 billion certified emission reductions have been transacted for approximately $23 billion, benefiting some $106 billion in (mostly private) low-carbon investment. Additional revenues from carbon finance enhance the overall financial viability of low-carbon projects, and as performance-based payments they create positive incentives for good management and operational practices to sustain emission reductions over time.

From the pioneer Prototype Carbon Fund in 2000 (with initial buyer-contributed capital of $160 million), the World Bank's carbon finance operations have grown to 10 funds and facilities with a current capitalization in excess of $2.5 billion by 2010. Over this period, they catalyzed and fostered the development of a global market for carbon assets under the Kyoto Protocol. Through learning-by-doing and diversification, and through resource mobilization via its carbon funds, the World Bank has continued to test innovative approaches and explore new

opportunities, for instance by developing or contributing to new methodologies (that open new potential for market innovation). The World Bank has also continuously sought to strengthen the capacity of developing countries to benefit from carbon asset transactions and to ensure that carbon finance contributes to sustainable development. Examples of capacity building activities include strengthening national institutions, fostering market development through knowledge and business development platforms, and supporting strategic assessments and analytical work at the national and sectoral level.

As it enters its second decade of carbon finance, the World Bank is continuing innovation to scale up the impact of carbon finance on development, broaden its scope, and maximize its leverage through activities in five key areas.

Supporting a wider geographical and sectoral distribution of the carbon market, including in sectors currently bypassed under existing regimes, in particular with the **Forest Carbon Partnership Facility,** which has the goal of assisting developing countries in reducing emissions from deforestation and forest degradation (REDD) as well as through sustainable forest management (REDD-Plus). Thirty-seven tropical and subtropical countries have been selected into the Partnership. The FCPF will also pilot performance-based transactions with a few countries that have prepared themselves for implementing REDD-Plus and reducing emissions against their reference scenario (see Box 3). The FCPF already provides a critical space for partners to share experience and build the necessary understanding to advance the UNFCCC decision-making process.

Assisting developing countries and economies in transition to implement programmatic and sector-wide carbon finance interventions with significant and durable impact on emissions trajectories, through the **Carbon Partnership**

BOX 3 PIONEERING NEW CARBON PARTNERSHIPS

Forest Carbon Partnership Facility (FCPF)

Reducing emissions from deforestation and forest degradation

Assist developing countries in reducing emissions from deforestation and forest degradation:

- Readiness Fund to support capacity building, including elaborating a REDD strategy, developing a reference scenario and setting up a monitoring system
- Carbon Fund to pilot payments for verified emission reductions

Balanced Participants Committee: 10 developing countries, 10 financial contributors, observers (indigenous peoples, private sector, civil society organizations and intergovernmental organizations)

* * *

Operational in June 2008:

- $110 million in the Readiness Fund (target $185 million)
- $50 million in Carbon Fund (target $200 million)

Rapid progress in implementation

- 37 countries selected
- Readiness Proposal Plans assessed for Ghana, Guyana, Indonesia, Panama, and Suriname
- Active discussion with other mechanisms (UNREDD, Forest Investment Program)

Carbon Partnership Facility (CPF)

Programmatic and sector-wide carbon finance interventions

Scale up impact of carbon finance on mitigation actions and poverty reduction through programs of investment and sector-based approaches

Promote introduction of new methodologies and advanced technologies

* * *

Launched in December 2009, at COP15 (Copenhagen):

- €7 million in Carbon Asset Development Fund, for programs preparation (operational)
- €100 million in the Carbon Fund (to become operational by end of FY10)

Substantial progress in developing a pipeline of operations, in combination with other sources of finance (IBRD, GEF, CTF):

- Three Seller Participation Agreements signed: Brazil and Morocco (waste management), Vietnam (renewable energy)
- More than 10 other programs under preparation in all regions to cover energy efficiency (appliances, CFLs, possibly LEDs, buildings), renewable energy (biogas, CSP, geothermal), transport, waste management, and city-wide approach for urban transformation

Source: World Bank Group.

Facility. Launched at COP 15, the CPF is developing a pipeline of operations that explore a broad range of mitigation opportunities, with notably a ground-breaking city-wide approach to carbon finance for urban transformation. Also, as it can consider purchasing carbon credits up to 2022, the CPF contributes to overcoming the current lack of carbon market continuity beyond 2012 and to enhancing long-term carbon finance revenue streams for low-carbon programs (see Box 3).

Offering risk-management products specific to carbon finance. Risks and uncertainties can deter potential carbon asset buyers and investors in underlying projects, thereby dampening carbon finance potential. These consist of, for instance, regulatory risks linked to performance as well as to projects and programs eligibility and procedures. There is a need to expand the application of risk management tools that have been so far largely available to buyers' benefit (notably derivatives), to help maximize the value of carbon credits and enhance the impact of carbon finance on low-carbon investment (see Box 4).

Structuring financing to turn carbon into finance. Carbon finance does not address the need for upfront financing of low-carbon investment, as most often payment for credits occurs on delivery, once the project is operational. Although some advance payments have been seen in the market (10–20 percent of the value of carbon transaction), there have been few attempts by financial institutions to monetize forward carbon revenue streams to provide (in part or in full) the investment capital required, given the risks to underlying projects, lack of familiarity with carbon finance, and post-2012 uncertainty. The WBG has been exploring structures to convert anticipated carbon revenues into finance flows or piloting innovative structures, such as revolving funds where accruing carbon finance revenues can support a next tranche of investments (see Box 5).

Engaging domestic financial institutions. Building on its global presence in financial markets, the IFC launched a carbon finance advisory product to raise awareness and build capacity around carbon finance at local banks and to facilitate more investment in smaller emissions-reducing projects (possibly under the CDM Program of Activities). The first recipient is the Industrial Bank of China. The product offers a number of knowledge and capacity building materials and tools for carbon finance potential appraisal and transaction (including for project financing). It will be developed through an iterative process with clients, involving building a pipeline of projects and conducting pilot transactions (including wholesaling). The IFC is also actively offering training to financial institutions interested in expanding their activities in the realm of carbon finance, including, recently, to institutions in Armenia and Georgia.

COMBINING INSTRUMENTS TO SIMPLIFY ACCESS, INCREASE LEVERAGE, AND MAXIMIZE SYNERGIES

The scarcity of both development and climate finance against the multitude of urgent needs in developing countries is propelling the WBG to leverage its menu of financing instruments, including innovative use of and combination with climate-change-dedicated instruments. An effective combination of instruments can reduce transaction costs in an increasingly diversified landscape of climate finance and maximize synergies between instruments, each addressing specific barriers, risks, or needs. As the largest GEF partner on climate change, the WBG has a long experience of blending GEF resources with its

BOX 4 INTERNATIONAL FINANCE CORPORATION CARBON DELIVERY GUARANTEE

By offering a carbon delivery guarantee (CDG) product, the International Finance Corporation (IFC) assures the delivery of carbon credits from projects in developing countries to buyers based in industrialized countries. Acting as an intermediary, the IFC sells carbon credits with guaranteed delivery, enabling these credits to fetch a price higher than through a direct transaction between buyer and seller, as the CDG eliminates delivery risk to the buyer. The seller benefits from the IFC's credit rating and profits from this higher price (minus a transaction fee). The IFC provided its carbon delivery guarantee to Himadri Chemicals in India, helping to maximize the value of carbon credits generated from its waste- heat-to-power project. The IFC signed its first CDG agreements in early 2008, in South Africa (with Omnia Fertilizer, one of the country's leading fertilizer producers) and in India (with Rain CII Carbon, now the largest merchant of calcined coke in the world).

Source: World Bank Group.

BOX 5 BUILDING ON SYNERGIES BETWEEN GEF, MONTREAL PROTOCOL FUNDING, AND CARBON FINANCE TO SCALE UP CLIMATE ACTION

The India Chiller Energy Efficiency Project seeks to improve the energy efficiency of building chillers (a major source of power demand) and to accelerate the phase-out of ozone-depleting substances by helping to overcome the limited availability of upfront resources necessary to replace and upgrade older chillers based on chlorofluorocarbons (CFCs) by more efficient non-CFC-using ones. Despite a potential 40 percent improvement in energy consumption, most building owners/managers have not embraced early timely replacement of outdated chillers, given higher upfront capital requirement, perceived technology risks, and high opportunity costs.

The objective of this project is to replace 370 chillers (out of a total market size of about 1,200 chillers) over three years, with an average incentive of 20 percent, leading to an estimated (direct and indirect) 13 $MtCO_2e$ reduction in greenhouse gas emissions over 20 years. It draws on an innovative combination of resources from the GEF and the Montreal Protocol Multilateral Fund (providing an upfront subsidy for early adopters of new chiller technology) and carbon revenues (contributing to a revolving fund to support replacement of additional chillers), complemented by public and private capital. This project illustrates how a limited upfront provision (less than 10 percent) of highly concessional resources (mostly from GEF) can potentially mobilize much larger amount of resources (total cost of replacement estimated at $90 million) to achieve a greater transformational impact (with more than 25 percent of chillers targeted) by building on synergies and maximizing the effectiveness of resources use through increasing their leverage. A similar project operates in the Philippines, and Indonesia has also expressed interest in this approach.

Source: World Bank Group.

regular instruments. More innovation has taken place over the past few years. Box 5 details a recent example (already being replicated) of an innovative combination of several dedicated environmental sources of funding to support programs with multiple benefits, thereby maximizing effective use of resources, their leverage on public and private domestic investments, and their impact on climate action.

Smart resource combination can ease access to more attractive financing packages—a key step, together with increased availability of additional resources, in accelerating climate-smart development. Persisting fragmentation of climate resources will necessitate intensifying efforts to consolidate the offering of financing packages as well as to strengthen institutional and technical capacity to navigate an increasingly complex field.

Another promising area for innovative application and combination of instruments to advance climate action relates to risk mitigation. Risk-mitigation instruments are key to increasing investors' and lenders' confidence, as they mitigate (perceived) performance and repayment risk, linked for instance to currency, interest rate, or commodity price risk (for example, high volatility and uncertainty of carbon price), technology risk (for example, implementation of pilot project for technology demonstration and diffusion in a challenging environment), or non-commercial risk.

Typically, risk is addressed through guarantees, first-loss instruments, or subordinated debt or equity. Guarantees are appropriate in capital markets with adequate medium- to long-term liquidity where the major obstacle is the unwillingness or inability of financial institutions to engage given perceived risks (such as the lack of a track record or the perceived low credit-rating of the off-taker). Depending on how they are structured (from pari passu arrangements to various degrees of subordination), risk-mitigation instruments can achieve higher leverage. Box 6 highlights several examples.

BUILDING AN ENABLING ENVIRONMENT

It takes more than finance to maximize the impact of climate funds: technology, markets, institutional capacities, and regulatory frameworks are key to attract climate finance, facilitate mobilization of public and private resources, and enhance sustainability of development

BOX 6 RISK-MITIGATION STRUCTURES AT WORK FOR CLIMATE ACTION

A $400 million International Development Association (IDA) Partial Risk Guarantee (PRG) along with a $200 million IDA credit for **Nigeria Electricity and Gas Improvement Project** helps reduce GHG emissions through substitution of captive (off-grid) generation with cleaner grid-based generation. PRGs can be used to mitigate the risk of default on the payment obligations of governments or public entities under commercial contracts that are entered into for the supply of a commodity as a way of underpinning the government's efforts toward the development of a market for that commodity or if the supply of such a commodity is critical for the development of a sector. In the case of Nigeria, the guarantee backstops the payment obligations of the Power Holding Company of Nigeria, a public power utility, to the international oil companies supplying gas to the power sector, thereby mitigating the risk from supplying gas to the Nigerian market (instead of exporting it entirely from the Niger delta region). Increasing the use of gas in Nigeria in turn reduces the use of inefficient back-up diesel generators. In this case, 10 percent of PRG will leverage 90 percent of gas payments.

The **African Rift Geothermal Energy Development Program**, a five-year $18-million region-wide multicountry facility to tap geothermal resources, provides regional technical assistance ($5 million from GEF with approximately the same amount in co-financing, administered by the UN Environment Programme) and offers a partial insurance to project promoters/investors against the short-term, upfront risk of geological exploration through the Risk Mitigation Fund ($13 million from GEF, administered by the World Bank). The Risk Mitigation Fund proposes contingent grants. As opposed to a direct grant, this arrangement may support a greater number of projects, as non-allocated resources (if projects are successful) can be reused for new projects on a revolving basis. Projects are under preparation in Djibouti, Eritrea, Ethiopia, Kenya, Tanzania, and Uganda.

With support from GEF, Finland, and Norway, the IFC initiated the **China Utility-based Energy Efficiency Finance Program** in 2006. This is an innovative market-based solution where key players in China's economy (commercial banks, utilities, suppliers of energy-efficient equipment, and energy management companies) work together under a new financing model to promote energy efficiency. The IFC provides a combined package of risk-sharing facility, technical assistance, and advisory services to multiple partners. In particular, the IFC cooperates with Chinese commercial banks, offering them a risk-sharing facility, under which the IFC bears a certain portion of the loss (beyond a first-loss tranche covered by GEF) for all the loans within the energy efficiency financing portfolio. The IFC helps these banks establish business by bringing market players on energy efficiency project financing, assisting in project audit and review, and fostering the long-term and sustainable development of energy financing for their clients. So far three banks are partnering, and the total leverage of GEF funding has exceeded 13.

Source: World Bank Group.

outcomes. Public support will be critical to build an enabling environment, by providing appropriate economic and regulatory incentives and by strengthening capacity and raising awareness of public, private, and financial sectors. Such readiness actions will help create the demand for financing from a strong pipeline of bankable climate- and development-smart projects and programs and will enhance the availability of both public and private financing for climate action. To generate experience for both public and private development practitioners, readiness efforts to expand capacity and mobilize early movers should not be separated from pilot investment activities: financing climate action is still a learning-by-doing process.

REGULATION AND INCENTIVES

Building the confidence of the private sector and households in credible, predictable, and long-term climate policies is certainly a first step in setting up a regulatory framework conducive to climate action. This will encompass, for instance, setting standards (such as norms and labels for energy efficiency improvements) to target non-financial barriers, such as low awareness and behavioral inertia, that otherwise prevent the full realization of some important mitigation potentials or taking actions that limit exposure and vulnerability to climate variability and change (like land zoning or building codes). Other key issues to be addressed relate, for instance, to regulation of the financial sector (especially market operations) or property rights (on

productive assets, including land, and intellectual property), which is critical to attracting foreign capital and favoring innovation and technology transfer. This will also include aligning incentives for climate-friendly investment, such as rationalizing energy, agriculture, and water pricing or offering additional incentives (such as tax benefits on investment or subsidized loans) to help a long-term, predictable, consistent, and adequate carbon price to emerge. Overall, this will comprise actions that contribute to building an investment climate with environmental and social responsibility.

Growing client demand is positioning Development Policy Loans (DPLs) as a major vehicle for supporting clients' climate change policy and programmatic initiatives, with reduced transaction costs and simplified access. Over the last two years, 10 DPLs with a climate change angle (mitigation or adaptation) have been approved, representing scaled-up financing of more than $3 billion, while more are in preparation. With new climate finance instruments and mounting experience in this field, DPLs are emerging as potential integrating platforms. A series of programmatic energy sector DPLs in Turkey illustrates a successful leveraging of CTF resources to promote the inclusion of sustainable development principles, including climate change considerations, in sectoral policies and programs, while the Morocco Solid Waste Program's ambition is to combine additional resources of carbon finance to improve the financial viability of solid waste management policy reforms and investment programs.

RAISING AWARENESS AND BUILDING CAPACITY

Public, private, and financial institutions need awareness raising and capacity building efforts in order to assess and act on climate risks and new business opportunities. This includes actions targeting the strategic assessment of costs and benefits of low-carbon and climate-resilient options in the context of development priorities—such as country studies in Bangladesh, Bolivia, Ethiopia, Ghana, Vietnam, Mozambique, and Samoa as part of the Economics of Adaptation to Climate Change research program or the low-carbon growth studies in Brazil, China, India, Indonesia, Mexico, Poland, and South Africa—complemented by policy and implementation advice (CF-Assist, readiness activities under the FCPF, or methodology work and emission reductions program identification and development under the CPF). This also includes public outreach to educate, build awareness, and promote change in consumer preferences and behavior as well as actions to further engage the business community and financial institutions, such as generating information and toolkits necessary for private investment, building capacity for new lines of business where they may be initially unable or unwilling to engage, or deepening markets and promoting innovation for use of market solutions (see Box 7). Experience and knowledge exchange is also critical to maximize the impact of capacity building efforts and broaden the readiness base, as is already happening under the Pilot Program for Climate Resilience, where participating countries are building a community of practice to share lessons and experiences and to promote South-South learning among PPCR countries.

CONCLUSION

While expanding rapidly, WBG operations at the nexus of development and climate change remain at a relatively modest scale compared with the needs of developing

BOX 7 FINANCIAL INNOVATION AS PART OF BROADER DISASTER-RISK MANAGEMENT STRATEGIES

1st Weather derivative in Malawi: Malawi suffers from chronic droughts that cut agricultural yield, depress farmer incomes and create contingent liabilities for governments. The weather derivative is an option on a rainfall index, linking rainfall and maize production, with a maximum payout of $5 million. Over the 2008/09 season, about 2,600 farmers were covered ($2.5 million insured).

MultiCat Program: the first catastrophe bond issuance platform to help governments and other public entities in developing countries gain access to affordable insurance coverage against natural disasters through the capital markets. In developing MultiCat, the World Bank worked closely with the Government of Mexico (building on a Global Facility for Disaster Risk Reduction grant), one of the most experienced sovereign issuers in the catastrophe bond market, leading to an inaugural issuance ($290 million) in October 2009.

Source: World Bank Group.

countries. Yet these operations reached a large enough scale to bring useful insights that it is hoped could inspire climate and development practitioners. Progress to date demonstrates the catalytic role of public finance—how it can leverage both climate and development finance for climate action through piloting innovative approaches that combine resources to maximize synergies, explore new opportunities to expand the scope for market mechanisms, and strengthen the capacity to facilitate access and the effective use of resources.

Progress to date also emphasizes some challenges linked to fragmentation of resources as well as predictability and scale of climate finance flows, both amplifying capacity constraints. Reducing the transaction costs of getting access to several sources of finance, maximizing complementarities, and navigating a complex and evolving financing landscape will require a major effort to make sure developing countries can take full advantage of resources and opportunities to support their ongoing and upcoming climate-related actions. In this context, it is encouraging to observe the integration of instruments around platforms (e.g., the CTF IPs or DPLs), resulting in scaled-up resources and their more effective use through strategic alignment, detection of synergies, and full realization of the benefits of development programs. It will also be vital to share further lessons of successful innovation for wider replication, adjusting to national or sectoral circumstances. The Climate Finance Options platform currently being developed by the U.N. Development Programme and the WBG, in close collaboration with the UNFCCC Secretariat, is such an example: it seeks to provide comprehensive information, knowledge, and guidance on enabling policies, examples of a successful combination of instruments, and information on available resources.

Authors: Ari Huhtala, Sr. Environmental Specialist; and Philippe Ambrosi, Environmental Economist

The World Bank Group
1818 H Street, NW
Washington, D.C. 20433 USA

Tel: 202-473-1000
Fax: 202-477-6391
Internet:
www.worldbank.org/climatechange
Help desk: climatehelp@worldbank.org