



carbon finance

for sustainable development

2013 ANNUAL REPORT

mission statement

Our mission is to support putting a price on carbon by providing assistance on and piloting innovative cost-effective climate change mitigation approaches in World Bank client countries. Such approaches include international mechanisms, emissions trading schemes, carbon taxes, and results-based finance.

The report covers the carbon funds, facilities, and financial instruments managed by the World Bank between January 1, 2013 and December 31, 2013. An online version of this report is available at www.carbonfinance.org/publications.

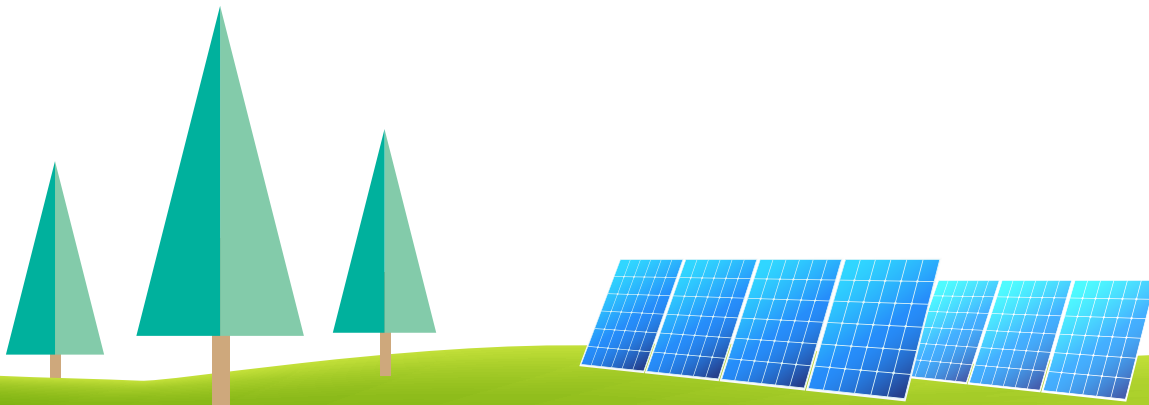
Note: All dollar amounts are in U.S. dollars (\$) unless otherwise indicated. The euro/U.S. dollar exchange rate used in this report is 1.37. The pound sterling/U.S. dollar exchange rate used in this report is 1.65. All greenhouse gas emission reductions are reported in metric tons (equivalent to 1,000 kilograms) of carbon dioxide equivalent (tCO₂e). This report is provided for informational purpose only. The carbon funds, facilities, and financial instruments reported on are not legal partnerships. No warranties or representations are made as to the accuracy, reliability, and completeness of any information herein.



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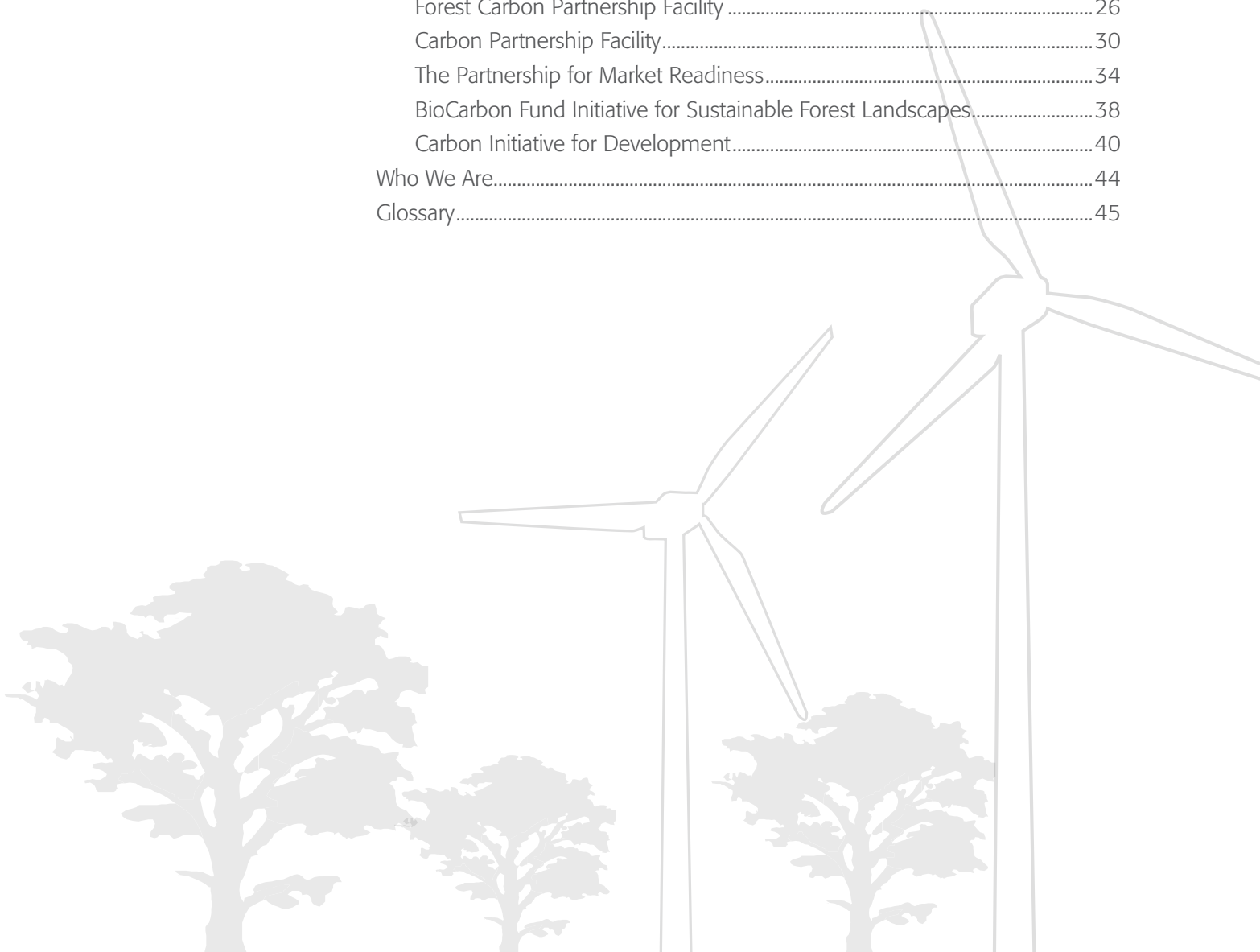


Acronyms

BioCF	BioCarbon Fund
CDCF+	The grant arm of the Community Development Carbon Fund (CDCF)
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CFU	Carbon Finance Unit (World Bank)
Ci-Dev	Carbon Initiative for Development
COP	Conference of the Parties
CPF	Carbon Partnership Facility
CSO	Civil Society Organization
DOE	Designated Operational Entities
EE	Energy Efficiency
ER	Emission Reduction
ERPA	Emission Reductions Purchase Agreement
ERU	Emission Reduction Unit, achieved through a Joint Implementation project
ETS	Emissions Trading Scheme
EU ETS	European Union Emissions Trading System
EUA	European Union Allowance
FCPF	Forest Carbon Partnership Facility
FCPF PC	Participants Committee of the FCPF
GHG	Greenhouse Gas
GIS	Green Investment Scheme
ha	Hectare
IDA	International Development Association, part of the International Bank for Reconstruction and Development
IETA	International Emissions Trading Association
IFC	International Finance Corporation
IP	Indigenous Peoples
ISFL	BioCarbon Fund Initiative for Sustainable Forest Landscapes
JI	Joint Implementation
LED	Light-Emitting Diode
LDC	Least Developed Country
LULUCF	Land Use, Land-Use Change, and Forestry
M&E	Monitoring & Evaluation
MRP	Market Readiness Proposal
MRV	Monitoring, Reporting, and Verification
MW	Megawatt
NAMA	Nationally Appropriate Mitigation Action
NGO	Non-Governmental Organization
PAF	Pilot Auction Facility for Methane and Climate Change Mitigation
PMR	Partnership for Market Readiness
PMR PA	Partnership Assembly for the PMR
PoA	Programme of Activities
ppm	parts per million
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD+	REDD plus conservation, sustainable management of forests, and enhancement of forest carbon stocks
R-PP	Readiness Preparation Proposal
tCERs	Temporary Certified Emission Reductions
tCO ₂ e	Tonnes of Carbon Dioxide Equivalent
UNFCCC	United Nations Framework Convention on Climate Change

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Simon Whitehouse
Acting Manager, Carbon Finance Unit
The World Bank

From the Carbon Finance Unit

In 2013, we saw the continuation of two emerging trends in the global carbon pricing landscape: while it was a challenging year for existing international mechanisms, with credits from the Clean Development Mechanism (CDM) worth no more than a few cents and the coverage of the Kyoto Protocol shrinking to 12 percent of global greenhouse gas (GHG) emissions, we saw an increasing number of domestic initiatives that are putting a price on carbon.

In 2013, the Carbon Finance Unit (CFU) continued to develop and deepen innovative financial instruments that support results-based mitigation. We are working on several approaches that support emission reductions (ERs), including technical assistance and readiness for market-based initiatives, scaling up from projects to programs, increasing access to energy for the poorest, and helping to protect forests and farmers by introducing smarter land management practices.

In 2013, our staff worked with 90 countries, including donors and recipients, to deliver results. We raised \$643 million for our "next generation" carbon market initiatives: the **Forest Carbon Partnership Facility (FCPF)**, the **Carbon Partnership Facility (CPF)**, the **Partnership for Market Readiness (PMR)**, the **BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL)**, and the **Carbon Initiative for Development (Ci-Dev)**. These carbon initiatives have a total fund allocation of \$1.5 billion, including \$0.5 billion committed for technical assistance.

Our Unit also continued to reap the results of over a decade's work with carbon funds that support the mechanisms under the Kyoto Protocol's first commitment period. By the end of 2013, the "Kyoto Funds" had delivered 89 percent of the ERs set forth in their purchase agreements, representing the equivalent of 187 million tonnes of carbon dioxide reductions, roughly equivalent to the annual emissions of Colombia.

Carbon finance has been a valuable instrument in helping to put a price on carbon. A strong price signal in major economies is essential to establish the right incentives to direct financial flows away from carbon-intensive growth to low-carbon investments. Pricing carbon must be part of

any package of effective and cost-efficient policies to support climate change mitigation.

While scaling up mitigation activities for maximum impact continues to be a challenge, carbon initiatives such as the CPF, FCPF, and the ISFL are pioneers in supporting large-scale interventions. The CPF is helping countries implement programmatic interventions that reduce emissions, such as capturing methane from landfills across Brazil. The FCPF and the ISFL focus on better land management at the landscape level, combining reforestation, REDD+, agriculture, and biomass energy activities into an integrated approach to achieve the "triple-win" of mitigating climate change, enhancing food security, and increasing the resilience of local communities and environments.

It is also a matter of putting the right price on carbon. Carbon markets are one way of achieving this. The **PMR** participants, countries like China, Mexico, and Chile, are implementing policy options and carbon pricing instruments that incentivize mitigation and green growth, including emissions trading schemes (ETS) and carbon taxes. The PMR also serves as an important forum to facilitate technical discussions to spur innovation and support implementation.

The World Bank Group is moving towards expanding the use of results-based payments and developing the next generation of innovative financial instruments. Carbon finance under the CDM provided important lessons and has helped spur broader use of market-based mechanisms. The **Ci-Dev** is taking CDM to the next level by providing access to energy and bringing payments as well as social and environmental benefits to the poorest countries.

Looking to the future, it is clear that several sources of climate finance will be necessary, and thinking outside the box will be instrumental. One possibility we are helping develop is using innovative financial instruments to engage the private sector, such as using auctions to finance projects that are "stranded" due to the low price of carbon.

The World Bank will continue to support innovation and offer technical assistance to developing countries as they explore their options and develop mechanisms that can bring mitigation to a scale commensurate with the challenges the world is facing. Putting a price on carbon has never been more important if we are to avert dangerous climate change.

.....A CHANGING CLIMATE NEEDS SMART SOLUTIONS.....


Climate change is a fundamental threat to economic development and the fight against poverty.




Annual greenhouse gas emissions equal roughly 50 gigatons of CO₂e




We just surpassed 400 ppm of carbon dioxide in the atmosphere



The global mean temperature has risen 0.8° since pre-industrial times




And sea levels have risen 15-20cm

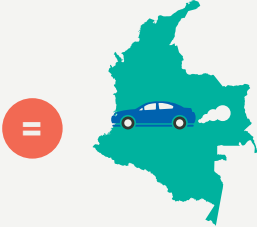


Deforestation causes 12-17% of global emissions annually

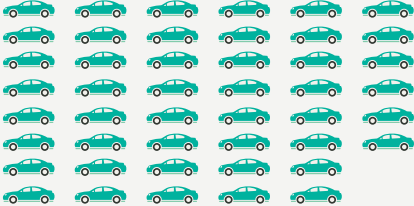
.....WORLD BANK CARBON FINANCE IS MAKING A DIFFERENCE.....



Our projects have reduced **187 million tons** of CO₂e since year 2000



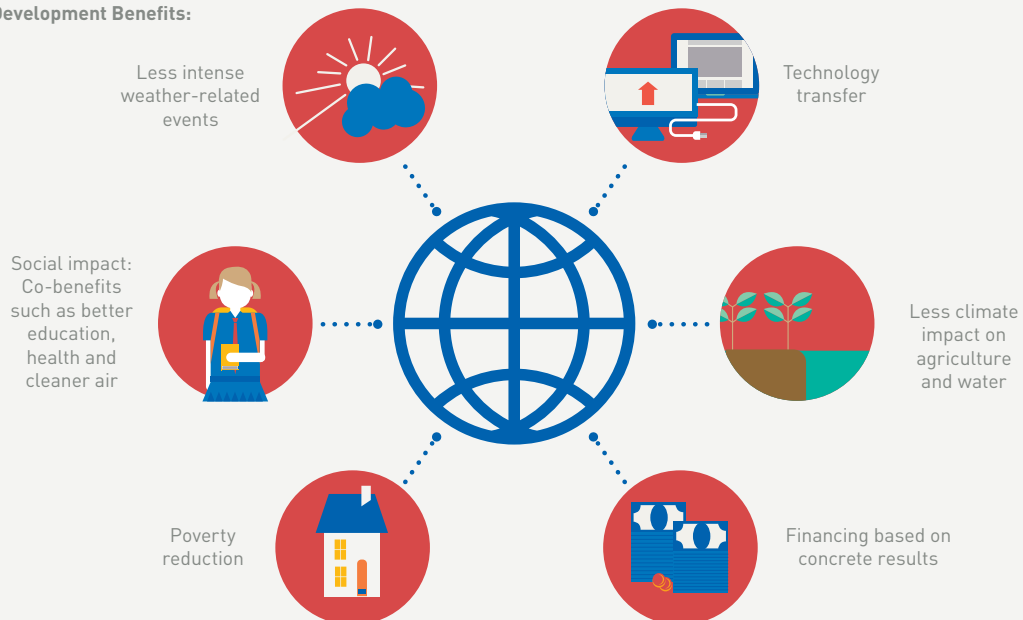
The annual CO₂ emissions of Colombia



OR
Emissions of 46 million vehicles in an entire year

=1 million

Development Benefits:



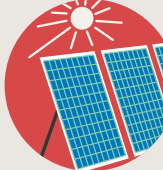
..... TACKLING A GLOBAL PROBLEM WITH GLOBAL PARTNERS



Our 145 projects around the world include:



NEPAL
Biogas distributed to
60,000 households
— South Asia —




BANGLADESH
Introduced over 1 million solar
panels to poor households
— South Asia —



BRAZIL
140,000 MWh created from over 2
million tons of garbage per year
— Latin America —



SENEGAL
Replaced light bulbs with 1.5
million new CFLs
— Africa —



MOLDOVA
Reforested 8,500
hectares of land
— Europe —



KENYA
60,000 farmers improving
their land
— Africa —

..... THE FUTURE



PUTTING A ROBUST PRICE ON CARBON

Kyoto Funds and Facilities

The World Bank launched the world's first global carbon fund, the Prototype Carbon Fund, in April 2000. In the following seven years, another nine funds were launched to pioneer a full range of flexibility mechanisms created for the Kyoto Protocol's first commitment period. By the end of 2013, these funds had delivered more than 89 percent of the ERs set forth in their purchase contracts.

Fund Capital	\$2.32 billion
Date Operational	April 2000
Participants	67
Private Capital Invested	49%



Prototype Carbon Fund



CDCF
The Community Development Carbon Fund



Danish Carbon Fund



Italian Carbon Fund



NCDMF
The Netherlands Clean Development Mechanism Facility



The BioCarbon Fund



NECF
The Netherlands European Carbon Facility



Spanish Carbon Fund



Umbrella Carbon Facility



Carbon Fund for Europe



Next Generation Carbon Market Initiatives

The World Bank has taken a leadership role in shaping the next generation of carbon instruments for the post-2012 period by developing new approaches to performance-based payments.

The World Bank's five most recent carbon instruments aim to scale up ERs, focus on readiness for market-based carbon initiatives, increase access to energy in least developed countries, and reduce emissions from deforestation and forest degradation. These carbon initiatives have a total fund allocation of \$1.5 billion, including \$0.5 billion committed for technical assistance. In 2013 alone, \$643 million was raised for these new carbon initiatives.



Carbon Partnership Facility

The First Tranche of the Carbon Partnership Facility (CPF) became operational in May 2010, and the CPF's Carbon Asset Development Fund became operational in January 2009. The CPF uses scaled-up, programmatic approaches to enable carbon finance to support partner country initiatives aimed at moving towards low-carbon economies. It targets areas that were not reached effectively by CDM in the past, such as energy efficiency (EE) and waste management.

Fund Capital	\$165 million
Date Operational	January 2009
Participants	10*

* Three buyer participants and seven seller participants.



BioCF Initiative for Sustainable Forest Landscapes

The BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) was launched in December 2011 and aims to create a portfolio of programs that promote sustainable agriculture, forestry, and smarter land-use practices in an integrated way. ISFL programs will cover a variety of geographies and transform large rural areas by protecting natural forests, restoring degraded lands, and enhancing agricultural productivity, thereby improving livelihoods and local environments, using results-based finance to incentivize changes at the landscape level.

In 2013, the ISFL supported the development of a program with the government of Ethiopia to pursue a low-carbon forested landscape program to reduce emissions and combat poverty.

Fund Capital	\$308 million
Date Operational	November 2013
Participants	3



Partnership for Market Readiness

The Partnership for Market Readiness (PMR) was launched in December 2010, and in 2013 reached a capitalization of \$127 million from 13 Contributing Participants, including a new addition, Spain. Peru became the PMR's 16th Implementing Country Participant and Kazakhstan became its first Technical Partner. Seven countries presented final Market Readiness Proposals (MRPs) and had funding allocated to them for their implementation.

Fund Capital	\$127 million
Date Operational	April 2011
Participants	29



The Carbon Initiative for Development

The Carbon Initiative for Development (Ci-Dev) was launched in December 2011 to build capacity and to develop tools and methodologies to help the world's poorest countries access carbon finance, mainly in the area of energy access. The Ci-Dev is set up to use performance payments to support projects that use clean and efficient technologies in low-income countries to reduce emissions.

Fund Capital	\$127 million
Date Operational	March 2013
Participants	3



Forest Carbon Partnership Facility

The Forest Carbon Partnership Facility (FCPF) was launched in 2008 and focuses on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, sustainable management of forests, and enhancement of forest carbon stocks (REDD+). The FCPF demonstrates how REDD+ can be applied at the country level and provides lessons learned from this early implementation phase.

The FCPF has created a framework and processes for REDD+ readiness, which helps countries get ready for future systems of financial incentives for REDD+. In 2013, 16 REDD Country Participants submitted formal Readiness Preparation Proposals to the facility, bringing the current total number to 39. Submitting such a proposal is the first step in building up capacity to be able to tap into incentives under REDD+. Moreover, two countries presented formal proposals to the Carbon Fund.

Fund Capital	\$824 million
Date Operational	June 2008
Participants	62*

* 18 financial contributors and 44 REDD participants. Eight additional countries were selected to join the FCPF in December 2013 and will sign Participation Agreements soon.





State and Trends of Carbon Pricing

Nearly 40 national and over 20 sub-national jurisdictions are putting a price on carbon. Together these carbon pricing mechanisms cover almost 6 GtCO₂e, or about 12 percent of the annual global GHG emissions.

As the world shakes off the constraints of a deep recession, increased focus on climate change policy has become possible again. Despite arduous international negotiations, several economies are planning or refining domestic climate action. These activities take careful note of past experiences, mirroring successes and dealing with weaknesses.

On the international level, the second commitment period of the Kyoto Protocol covers only 12 percent of global GHG emissions. With ratification by only nine countries to date, all eyes are on the United Nations Framework Convention on Climate Change (UNFCCC) 2015 Conference of the Parties (COP) in Paris, which offers an opportunity for convergence on international climate action. A consensual and robust global solution could revive private sector confidence to invest in carbon markets.

At the time when the international carbon market is uncertain, it is the continued traction at regional, national, and sub-national levels that shows some promise for the future. Domestic action has the potential to overcome the international regulatory gap by fostering targeted low-carbon investments at the regional and national level. Today, nearly 40 countries and over 20 sub-national jurisdictions are putting a price on carbon. Together, these carbon pricing mechanisms cover the equivalent of almost 6 GtCO₂, or about 12 percent of annual global GHG emissions.

Carbon Pricing Comes in Different Guises

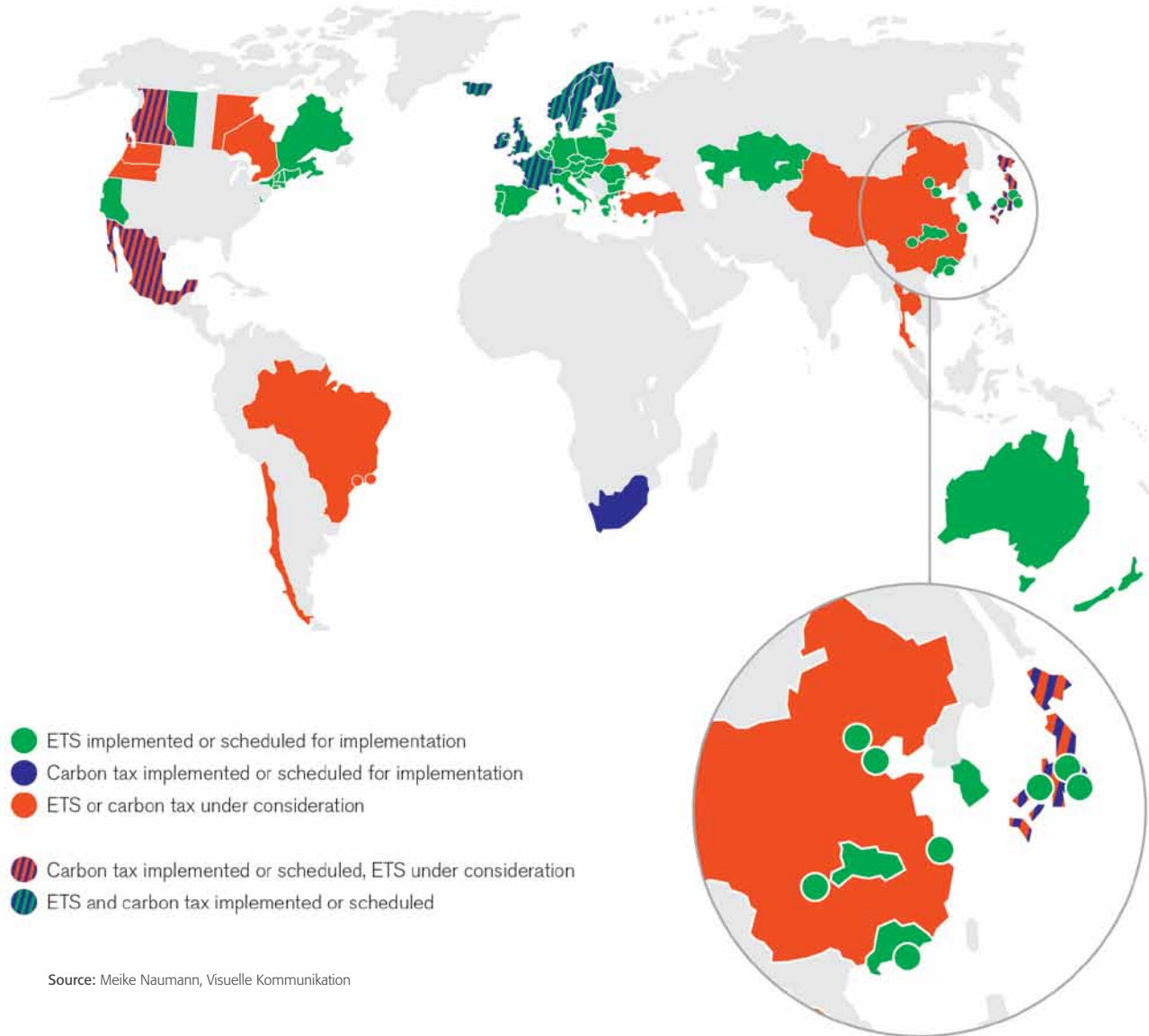
Scaling up GHG ERs and lowering the cost of mitigation is crucial to combating climate change. Given the size and urgency of the climate challenge, a full range of carbon pricing policies and instruments will be required. Carbon pricing instruments such as a carbon tax, ETS, and crediting mechanisms are of great relevance to internalizing the cost of climate change in the broadest possible range of economic decision-making and in setting economic incentives for clean development. Carbon pricing instruments are also needed to tackle the problem at scale and used to foster complementary private sector investments. In addition, in light of the limited public resources available, it is important to recognize that carbon pricing can generate fiscal dividends.

There are different carbon pricing approaches. A carbon tax, on the one hand, guarantees a carbon price in the economic system. An ETS, on the other hand, provides certainty about the environmental impact, through the cap, while the price remains flexible. Sudden and unexpected changes in economic parameters can be harmful, disrupting the basic functioning of the market, one of the issues currently being dealt with in the European Union Emissions Trading System (EU ETS).



State & Trends of Carbon Pricing 2014

Figure 1 Summary map of existing, emerging, and potential regional, national, and sub-national carbon pricing schemes (ETS and tax)



Source: Meike Naumann, Visuelle Kommunikation

In terms of stimulating mitigation activity, the choice between these instruments is less important than getting the design details right. Both instruments impact economic decision-making through setting a price on carbon and both instruments raise revenue. In particular, taxes raise revenues directly, as do auctions in an ETS. The careful use of these revenues can improve the effectiveness of the policy instrument.

addition, the increase in discussions between these two countries raises promising perspectives at global level.

Progress across the globe is steady. A total of eight new carbon markets opened their doors in 2013. With these additions, the world's ETS are valued at about US\$30 billion.¹ China now houses the second largest carbon market in the world, covering the equivalent of 1,115 MtCO₂, after the EU ETS with its 2,039 MtCO₂e cap in 2013.² Carbon taxation is also gaining ground. New carbon taxes were

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¹ This is for the national, regional, and sub-national emissions trading schemes where a cap has been defined. It does not include the Kyoto Protocol international emissions trading. Calculated as the 2013 cap multiplied by the allowance price on December 31, 2013, or the latest available data before this date.

² Excluding aviation.

Reach of Carbon Pricing Is Steadily Increasing

Carbon pricing systems are now in operation in sub-national jurisdictions of the United States and China.

Whilst overall progress at the national level in these countries may take some time, it is notable that the world's two largest emitters are now home to carbon pricing instruments. In

“The world’s two largest emitters are now home to carbon pricing instruments.”

introduced in Mexico and France in 2013. In North America, Oregon and Washington are searching for the right carbon pricing options, joining first-movers California, Québec, and British Columbia in concerted efforts to tackle climate change.

Two Steps Forward, One Step Back

While some nations are taking concrete steps forward on carbon pricing, recent developments in some countries are a setback. The Australian government plans to repeal its Carbon Pricing Mechanism legislation and three major emitters (Japan, Russia, and New Zealand) officially pulled out of the second commitment period of the Kyoto Protocol.

In addition, the infrastructure created by the market-based mechanisms under the Kyoto Protocol continues to be dismantled as many players, including financial institutions, private sector intermediaries, aggregators, and Designated Operational Entities (DOEs) have either exited the market or substantially reduced their activities. No sign of a short-term recovery in demand for international credits from the existing and emerging initiatives led to an intensified exodus of private sector players in the last two years. Fears abound that the demobilization of the CDM market infrastructure could substantially damage the institutional memory that has been created, and delay the market recovery, if and when positive policy signals are given.

Confidence in the EU ETS has been hit hard as the mechanism design has been unable to cope with the major economic downturn. Prices in the EU ETS remained in the depressed range of about US\$5-9 in the past year, contrasting with the US\$18 from three years ago. Without the demand from EU ETS installations, Kyoto credit prices also reached their historic lows in 2013 and 2014, with Certified Emission Reductions (CERs) worth US\$0.51. An imbalance between little residual demand for Kyoto credits between now and 2020 and an existing portfolio of projects that has the potential to generate significant credits leaves no prospect for recovery.

Cooperation Remains a Key Feature of Success

The international market has been struggling for some time. However, current domestic action has been buoyed by growing cooperation among regional, national, and sub-national stakeholders. Although unilateral political changes have challenged the EU-Australia link, cooperation between California and Québec demonstrates that carbon markets can grow through linking. In the future, a variety of cooperative approaches could strengthen carbon pricing—and wider climate change policy—further.

The difference in countries' domestic emissions—and consequently, in ER opportunities—across the globe underlines the need for some sort of international cooperation that takes into account the vast range of domestic realities, priorities, and possibilities.

Such cooperation can create the basis for ambition. In turn, ambition itself can drive cooperation, as a tool to control cost and provide flexibility in compliance. Careful cooperation takes time, and may take different forms. Piloting and scaling up carbon pricing on an international level and increasing climate finance through market-based instruments is an important first step. The next challenge would be to create a product that is greater than the sum of its parts by converting fragmented initiatives into internationally integrated carbon pricing approaches.

A photograph of a large, moss-covered tree trunk in a forest. The tree trunk is the central focus, showing a thick layer of green moss and some peeling bark. The background is filled with other trees and bare branches, suggesting an autumn or winter setting. The ground is covered with fallen leaves and more moss.

New Approaches in Carbon Finance

In the past year, four new approaches to innovate climate finance have been central to the work of the CFU. These approaches showcase innovation and continuous development and are presented in this section.

Sustainability on the Landscape Level

Climate change is to a large extent the result of the way landscapes are mismanaged. Unsustainable agricultural practices and land-use change currently account for about a third of global greenhouse gas emissions. New approaches are needed to turn the use of land from a source of emissions into a net carbon sink.

A landscape approach can help address both local and global challenges by contributing to sustainable economic development as well as climate change mitigation. It aims to increase food security through higher agricultural production and productivity, while enhancing resilience to climate change and contributing to global climate change mitigation objectives.

Sustainable landscapes are defined as geographical areas containing several agro-ecological systems with multiple land uses, which are managed to ensure sustainability of the landscape's natural resources. Achieving a sustainable landscape means to manage natural capital in an integrated manner, while recognizing the trade-offs inherent in different land-use decisions that may compete in a given landscape as well as considering the interdependency across these uses. Working at the landscape level ensures that different land uses—such as agriculture, energy, and forest protection—are duly considered, and that integrated solutions that serve multiple objectives are implemented at scale. The goal is to meet the social, economic, cultural, and spiritual needs of present and future generations.

Each sustainable landscape is unique and requires a dialogue among the affected stakeholders to agree on shared objectives, including a land-use plan. Establishing such a dialogue is not without challenges. Landscape interventions require an institutional infrastructure to coordinate activities and align interests of multiple stakeholders that agree on land uses that provide benefits and ensure delivery of services across multiple sectors. To foster longstanding commitment to the landscape-level goals, stakeholders' long-term financing needs to be managed at the global and local level.

Climate finance is a possible means to providing incentives for sustainable land management at scale. These incentives should encourage a change in behavior and the adoption of sustainable land management practices, rather than a continuation of business as usual. The incentives should also reach all actors who are—directly or indirectly—involved in land management.

Incentives can be defined broadly. They could include cash payments, technical assistance (for example, better inputs for agricultural productivity and extension services), access to ecosystem services, forest products, and land tenure. In landscapes where a shared vision includes the conservation of forests under pressure or the restoration of forests, the objectives for a sustainable landscape and a national REDD+ strategy may overlap significantly. Consequently, REDD+ financing mechanisms can serve as a tool to achieve sustainable landscapes.

Programs that integrate climate finance at scale, in particular REDD+ results-based finance, are beginning to emerge and the early experiences and lessons learned in the coming years will help to refine the concept of sustainable landscapes.

Pilot Auction Facility for Methane and Climate Change Mitigation

An international Study Group of experts evaluated new approaches for financing projects that reduce methane emissions, including pay-for-performance mechanisms. This group recognized the potential of these innovative mechanisms to deliver cost-effective, transparent financial instruments for climate change mitigation. In response, the World Bank is now actively discussing with a group of interested stakeholders possible ways to further refine the concept and raise resources.

Methane reduction activities alone could make up approximately half of the potential 0.5°C in avoided global warming needed by 2050, complementing the international community's critical measures to reduce CO₂ emissions. Full implementation of such technically feasible and cost-effective measures would not only slow down the rate of climate change over the next decades but also contribute to improvements in local air quality and food security. Additionally, captured methane can be burned for cooking or electricity generation, thereby improving access to clean energy.

A large and growing number of methane-abatement opportunities have been identified across established sectors in developing countries but in many cases these are not implemented due to financial and other barriers. Yet the additional funding required to unlock these investments is often small. The methane sectors studied could deliver as much as 8,200 Mt of CO₂ in ERs in developing countries at less than \$10 per ton in incremental cost financing.

The proposed facility intends to innovate the delivery of climate finance by providing put options that guarantee a price for carbon (giving owners the right to sell credits to the facility at a set price) and by allocating these put options to private sector investors, using auctions as a way to maximize cost effectiveness. With visible carbon prices, private sector actors will be in a position to invest in these methane-reducing projects.

The facility will disburse its resources after carbon ERs have been independently verified, thus rewarding good performance. Pay-for-performance mechanisms are attractive instruments for governments faced with growing funding needs and the demand for accountability of achievements. The combination of an auction process and payments based on results maximizes value for money.

The facility's impact should be felt quickly as it will initially target around 1,200 methane-reducing projects that are "stranded" due to the low price of carbon credits. Together these projects are capable of reducing the equivalent of 850 million tCO₂ by 2020, recognizing that at its capitalization target of \$100 million the facility will only have resources to fund a small sub-set of these projects. However, if successful, this approach could be scaled up rapidly and used to tackle other climate pollutants.

The facility has been presented and discussed in a number of climate finance fora. Particularly at the High Level meeting of the Climate and Clean Air Coalition in Oslo, ministers strongly supported the initiative and asked to launch a broad-based consultation to carry forward the piloting of a global pay-for-performance facility to stimulate the implementation of "shovel-ready" projects that reduce methane emissions.

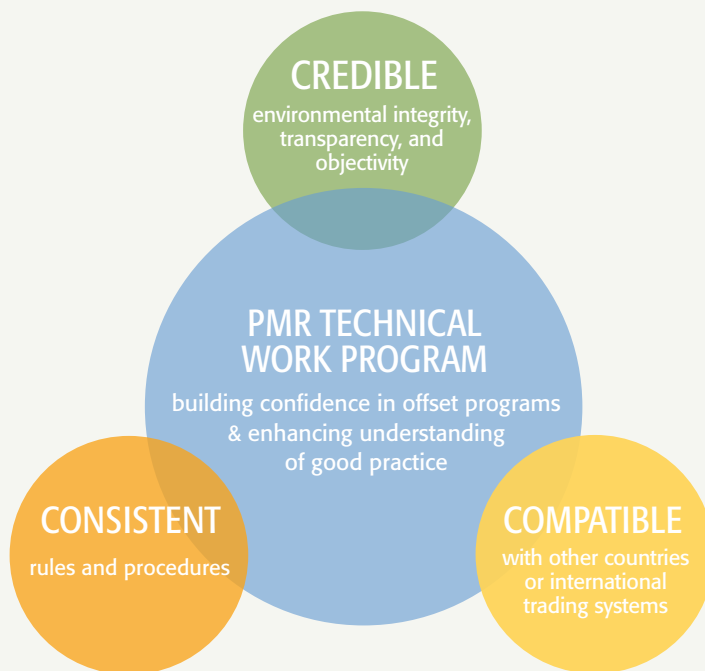
PMR Policy and Technical Work Program

The World Bank is actively helping to put a price on carbon. It is now widely recognized that this is essential to shifting economic development away from carbon-intensive means of production and toward low-carbon and resilient development.

Carbon markets are one way of achieving this. The Partnership for Market Readiness' (PMR) work on carbon markets builds on what the CFU has learned from past experiences to develop the next generation of carbon instruments. This includes supporting the collective innovation and piloting of carbon-pricing instruments for GHG ERs, such as domestic ETS and carbon taxes. The PMR also serves as a knowledge platform for technical discussions of such instruments to spur innovation and support implementation.

Many of the PMR Implementing Country Participants are in the process of building the infrastructure considered essential for mitigation actions in general and a carbon pricing scheme in particular. This includes the establishment of data management and monitoring, reporting, and verification (MRV) systems, GHG baselines, offset standards, and tracking/registry systems.

The PMR has a technical work program that helps countries develop carbon market infrastructure that conforms to the common principles of *credibility*, *consistency*, and *compatibility* (3C principles), and ensures that the experiences can be shared with others.



The PMR policy and technical program includes the following support:

- **Upstream policy analytical work**, including modeling work on carbon pricing instruments;
- **Facility-level GHG MRV, data management, and registries/tracking tools;**
- **Baseline setting;** and
- **Offset standards.**

The program works with countries to respond to real needs and to foster the exchange of information and knowledge through technical notes, workshops, and webinars.

Policy and Methodological Frameworks Necessary to Scale Up Climate Change Mitigation

Scaling up GHG emission reductions and lowering their cost is crucial to combating climate change effectively. This requires, among other things, the support of targeted policies, methodologies, and regulatory frameworks.

In this context and as part of the broader climate change agenda of the World Bank, the Policy and Methodology team of the CFU has focused on developing methodological concepts to quantify GHG ERs resulting from energy pricing reform policies, GHG accounting and carbon crediting approaches for low carbon livable cities, and the sustainable management of land and forest resources.

The team's analytical work on energy pricing reform, targeting taxation, and removal of subsidies on fossil fuels in developing countries is expected to facilitate the *ex-ante* estimation of ERs as well as enable *ex-post* MRV of the mitigation impacts of fiscal policies and measures. A proposed pilot initiative in Vietnam on the removal of coal subsidies and its impact on energy use is expected to show the influence of energy pricing reform on climate change mitigation in a developing country context.

Tackling urbanization is a key element of GHG mitigation since cities are major centers of population and economic activity. A low carbon development path for

cities has the potential to help cut global GHG emissions by 30 percent. The team's analytical work focuses on identifying approaches for developing the emission profiles of cities, the measurement and accounting of emissions and approaches aimed at reducing emissions.

The land sector is another major source of GHG emissions. Policies and measures for reducing deforestation and forest degradation, and promoting climate-smart agriculture have the potential to scale up mitigation, restore threatened biodiversity and ecosystem services, and contribute to improved livelihoods and adaptation benefits. The team developed a methodological framework for REDD and is currently working on a framework for promoting sustainable landscape management for scaling up climate mitigation action in the land sector.

Simpler policies, better regulation, and more private sector investment are necessary to achieve cost-effective climate change mitigation in developing countries. Piloting fossil fuel subsidy reform in Vietnam, low carbon city programs in Latin America and Asia, REDD+ and sustainable landscape management in Asia, Africa, and Latin America, and CDM procedure reforms that promote results-based climate financing, are all initiatives that highlight the significance of targeted policies and methodological frameworks necessary to scale up climate change mitigation actions.

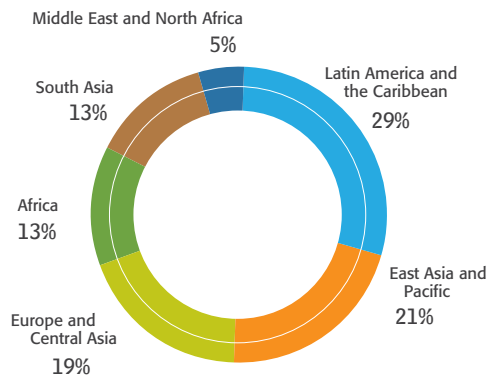
Update on the Kyoto Funds and Facilities: Bringing Results to Fruition

By the end of 2013, the projects supported by the World Bank carbon funds and facilities that focus on the first commitment period of the Kyoto Protocol (“Kyoto Funds”) had delivered 187 million tCO₂e.

In 2013, the Carbon Finance Unit delivered 21 million carbon credits to its Kyoto Fund participants, reaping the fruits of its pioneering work in the past decade. Of the total 229 million ERs that are under contract by the Kyoto Funds, 211 million were scheduled for delivery by December 2013, and 89 percent had been delivered by then.



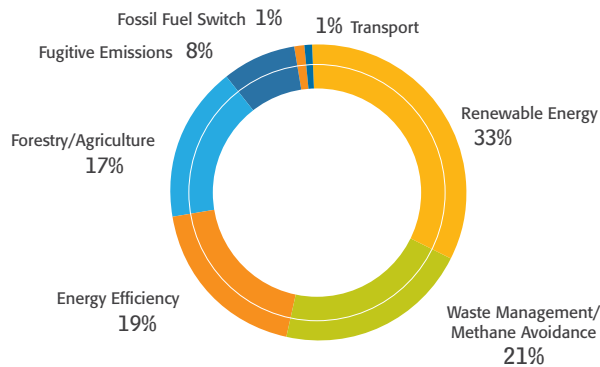
Regional Distribution (by project)



The chart depicts the regional distribution of the Carbon Finance Unit’s 145* carbon projects in 2013.

Sectoral Distribution (by project)

(Percentage share by number of projects)



The chart depicts the distribution of active projects by sector.

*Note: Number of projects includes both active Emission Reductions Purchase Agreements (ERPAs) and closed ERPAs that have fully delivered ERs per their contracts.



The Carbon Finance Unit's Global Network

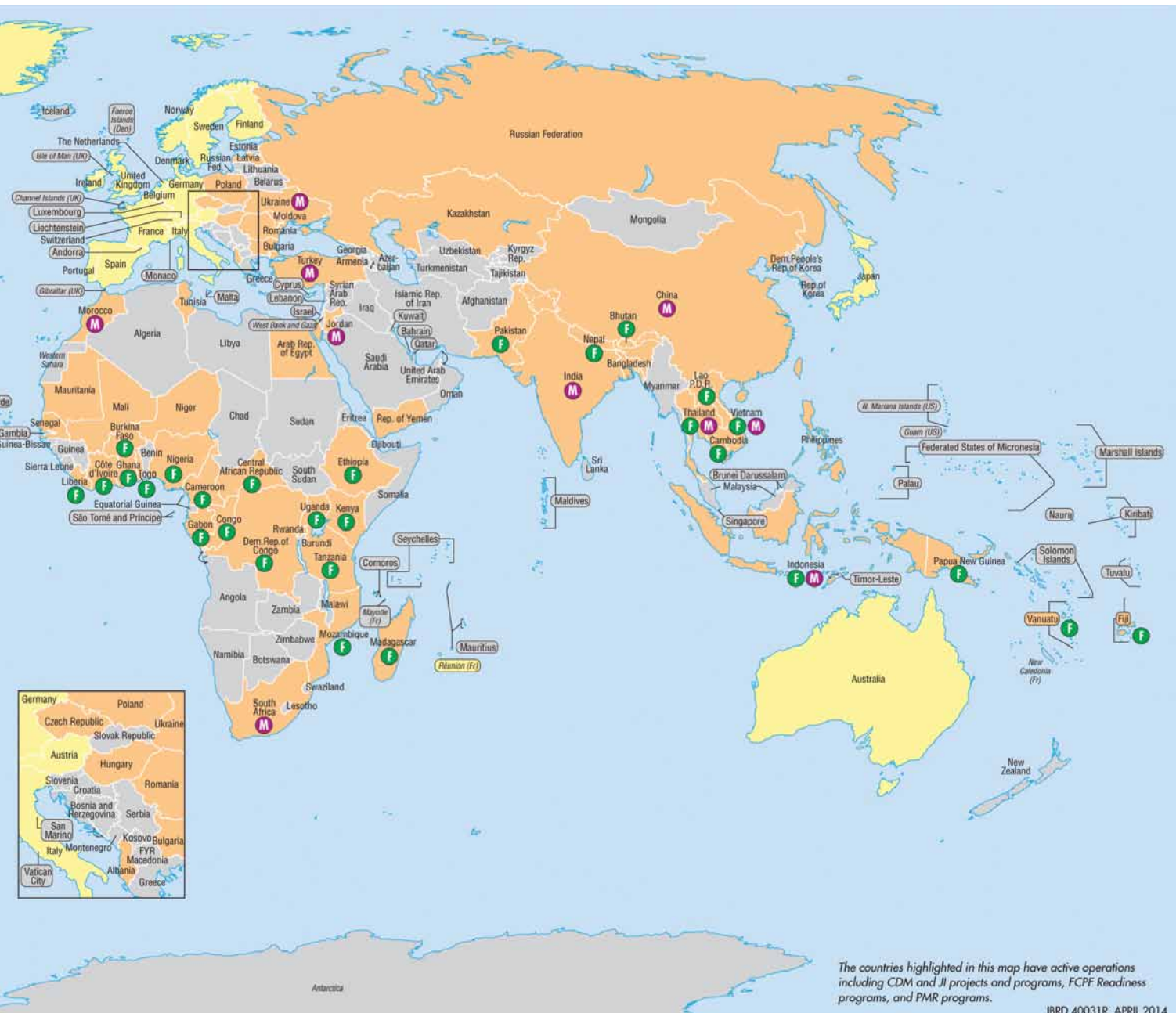


The CFU supports carbon finance operations and programs in over 70 countries. These comprise activities undertaken by the FCPF and the PMR as well as CDM and Joint Implementation (JI) projects and programs, as shown in the map to the right.

The CFU is supported by 24 governments and public sector entities that purchase ERs as carbon fund participants and/or contribute donor resources to readiness activities.

The CFU is also supported by 52 private sector firms and three foundations that, together with the public sector, purchase ERs via the carbon funds and facilities.





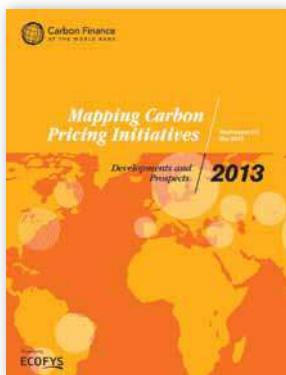
The countries highlighted in this map have active operations including CDM and JI projects and programs, FCPF Readiness programs, and PMR programs.

IBRD 40031R APRIL 2014

2013 Highlights



Energy Efficient Street Lighting Program in Thailand



Mapping Carbon Pricing Initiatives: Developments and Prospects 2013

- ▶ **January - Additional Funding for the FCPF**
Finland, Germany, and Norway announced new financial contributions to the FCPF totaling approximately \$180 million.
- ▶ **January - Innovative LED Streetlight Program in Thailand**
The UNFCCC registered the Energy Efficient Street Lighting Program in Thailand as a CDM Programme of Activities (PoA). Implemented and paid for by the Thai Provincial Electricity Authority, it will replace 250 Watt lamps with 110 Watt LEDs, resulting in energy savings of almost 65 percent.
- ▶ **March - FCPF Carbon Fund Reaches Milestone, Selecting Costa Rica for Pipeline**
At the 6th FCPF Carbon Fund meeting, Costa Rica's ER proposal was selected for the fund's pipeline, authorizing a future negotiation with Costa Rica for the purchase of a maximum of 12 million ERs.
- ▶ **April - Using Auctions to Finance Methane Abatement**
A new report by the Methane Finance Study Group was released on pay-for-performance mechanisms and innovative financial instruments such as auctions for methane abatement.
- ▶ **May - Domestic Carbon Pricing Initiatives Offer Hope for Future Market**
The World Bank published its annual carbon markets report, *Mapping Carbon Pricing Initiatives: Developments and Prospects 2013*. It describes key domestic carbon initiatives around the world.



10 Year anniversary of Carbon Expo

- May - 10th Anniversary of Carbon Expo**
 The Carbon Expo celebrated its 10th anniversary in Barcelona, with over 220 speakers and 1,000 participants from more than 100 countries discussing the climate change challenge.
- May - PMR Reached \$119 million**
 The PMR approved Turkey's MRP. With new funds from Spain and Switzerland, the PMR's total resources reached \$119 million.
- May - CDCF Making an Impact, Delivering Benefits for the Poor**
 The CDCF published a new report assessing the co-benefits of projects that go beyond ERs, such as improved health, education, and new jobs for poor local communities.
- July - Africa Carbon Forum Calls for Increasing Low-Carbon Investments on the Continent**
 The 5th Africa Carbon Forum was held in Abidjan, Côte d'Ivoire. The Ci-Dev team participated with a discussion on access to energy in Africa.



CDCF report on Co-Benefits



Costa Rica signs FCPF Carbon Fund Letter of Intent

► **September - Costa Rica First to Access FCPF Carbon Fund**

Costa Rica became the first country to sign a Letter of Intent with the FCPF to negotiate an agreement, worth up to \$63 million, covering large-scale payments for conserving forests, regenerating degraded lands, and scaling up agro-forestry systems.

► **November - BioCarbon Fund Launches \$280 million Initiative for Sustainable Forest Landscapes**

A major investment by Norway, the United Kingdom, and the United States supports efforts to promote sustainable forest landscapes. The ISFL helps scale up climate-smart agriculture, forest protection, and land rehabilitation at the landscape level.

► **November - First Project to Earn ERs in Kenya**

The Olkaria II Geothermal Expansion Project issued its first carbon credits. This makes it the first project in Kenya to earn certified GHG ERs under the CDM.

► **December - New Funding for Ci-Dev**

The United Kingdom, Sweden, and Climate Cent Foundation announced pledges of more than \$125 million to the Ci-Dev.

► **December - New funding for the FCPF**

Norway pledged \$100 million to the FCPF's Readiness Fund and eight more countries were selected into FCPF and allocated readiness grants of \$30.4 million.



Schooling paid for by carbon credit revenues at the Olkaria geothermal plant



- December - Vietnam Signs First ERPA for Renewable Energy Development

Vietnam and CPF signed the first ERPA to purchase carbon credits from the country's Renewable Energy Development Project.

- December - FCPF Methodological Framework Cleared

The FCPF partners and stakeholders agreed on a methodological framework for large-scale investments in tropical forest protection. This unblocked \$390 million in the FCPF's Carbon Fund.



Vietnam signs first ERPA Renewable Energy agreement



FCPF Carbon Fund approves Methodological Framework in Paris

Norway pledged \$100 million to the FCPF's Readiness Fund and eight more countries were selected into FCPF and allocated readiness grants of \$30.4 million.

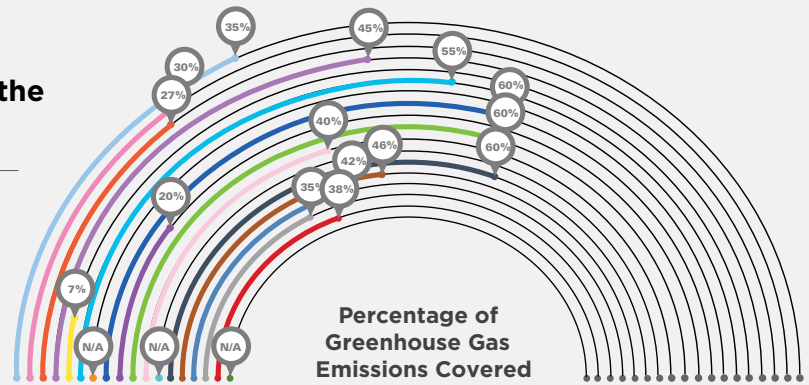
CARBON MARKETS

OF THE WORLD

Put a price on carbon emissions and you create powerful incentives to invest in climate-smart, low-emissions projects and back away from behaviors that are contributing to climate change.

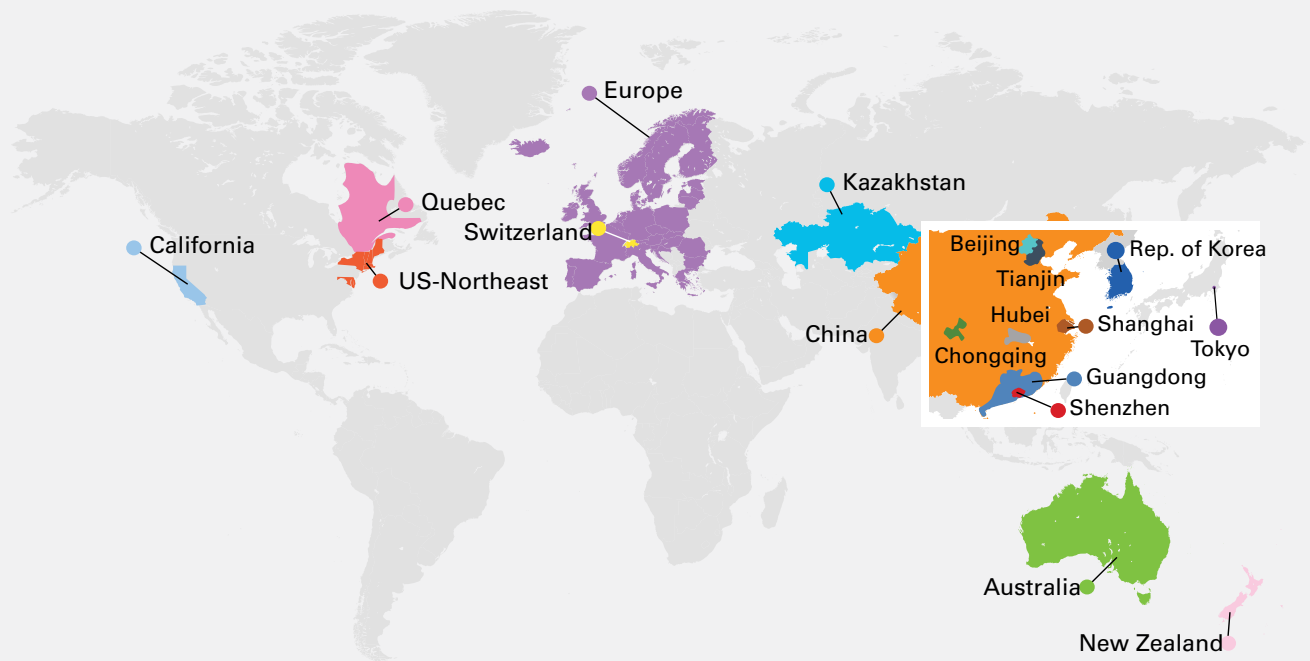
The Biggest Emitters Can Make the Biggest Difference

Dozens of countries, regions, and cities have carbon markets in operation or plan to launch them as cost-effective way to drive down greenhouse gas emissions. These are the markets existing now or coming soon and the percentage of greenhouse gas emissions each covers.

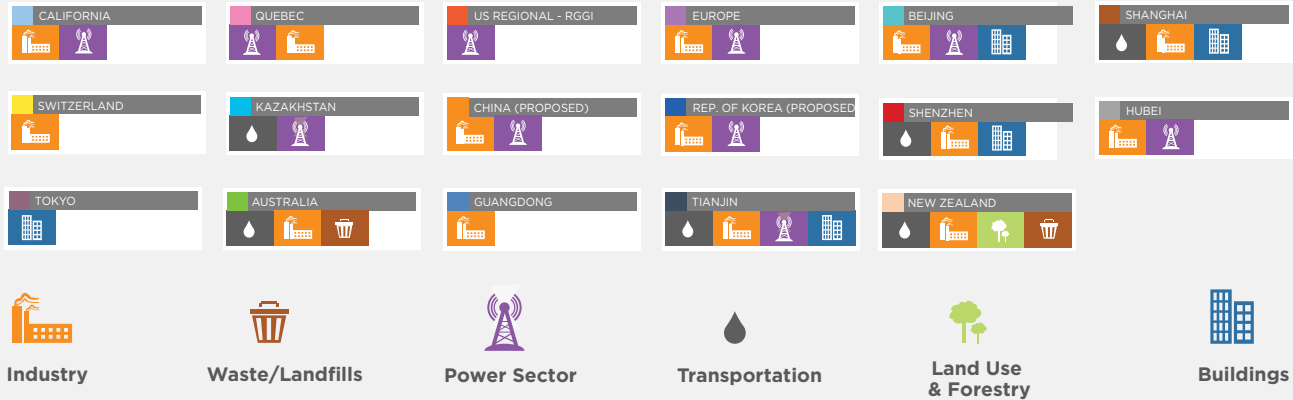


Key of Carbon Markets

- California
- Quebec
- US Northeast
- Europe
- Switzerland
- Kazakhstan
- Tianjin
- Shanghai
- Guangdong
- China
- Rep. of Korea
- Tokyo
- Australia
- New Zealand
- Beijing
- Hubei
- Shenzhen
- Chongqing



Sectors Covered

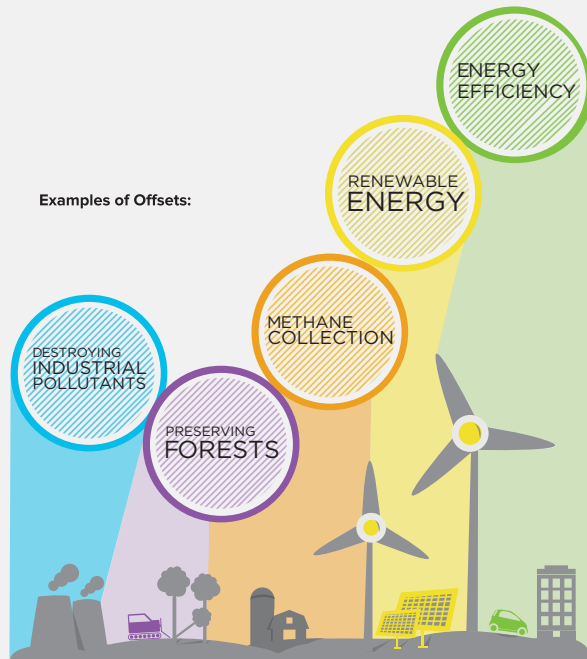


How They Work:

Carbon market rules vary. Cap-and-trade schemes set a cap on emissions and then distribute or sell permits which allow companies within targeted sectors to emit greenhouse gases up to that limit. Some trading schemes set high initial limits based on historic emissions and then lower them over time.

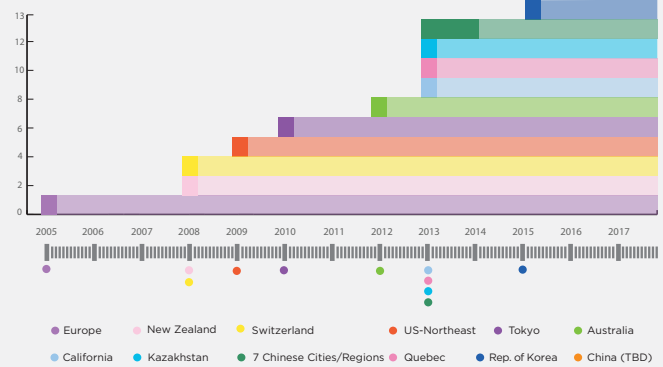
Greenhouse gas emitters that exceed the limit must then buy permits from other companies that have kept their emissions low or utilize offsets from emissions-reducing projects. Establishing a market encourages lowering emissions.

Examples of Offsets:



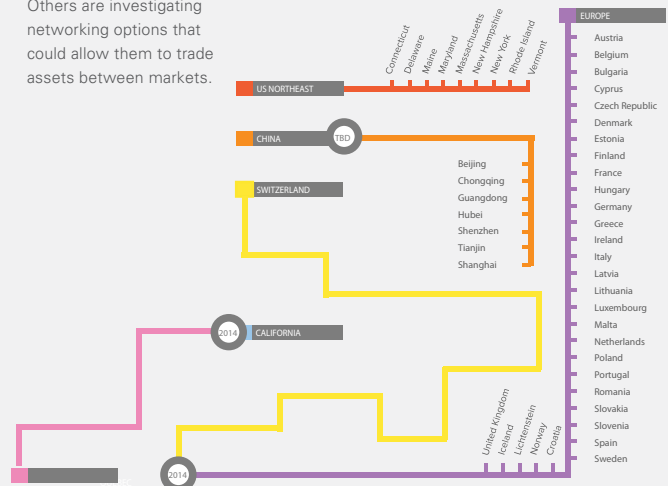
Launch Dates

Early adopters have paved the way for a new generation of carbon markets. Members of the Partnership for Market Readiness are among these leaders with markets planned or underway.



Connecting Carbon Markets

Some markets are already linked with one another. Others are investigating networking options that could allow them to trade assets between markets.



Sources:

Preparedness for Emissions Trading in the EBRD Region

Partnership for Market Readiness

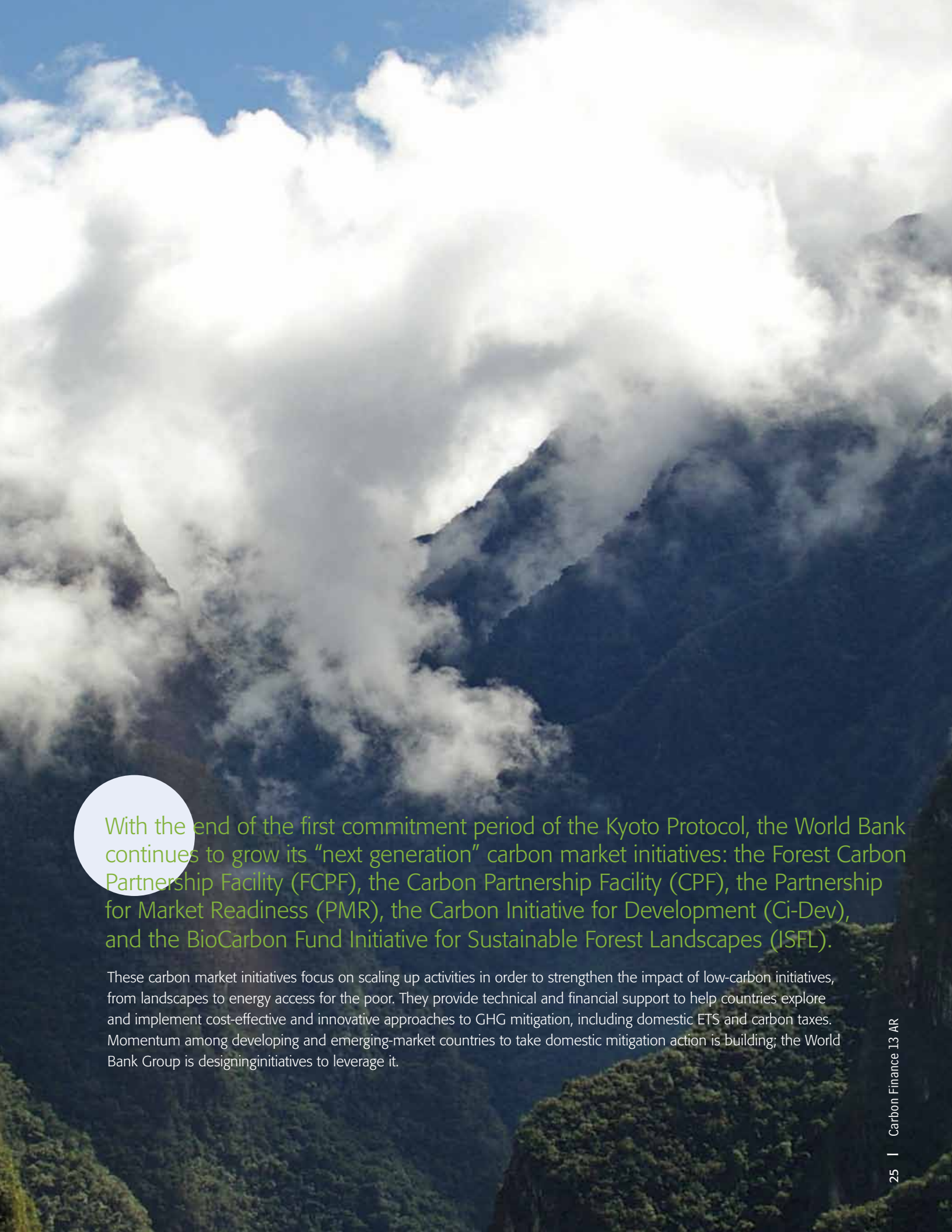
United Nations Conference on Sustainable Development

Regional Greenhouse Gas Initiatives

Infographic Design By **WebpageFX**



Next Generation Carbon Market Initiatives



With the end of the first commitment period of the Kyoto Protocol, the World Bank continues to grow its “next generation” carbon market initiatives: the Forest Carbon Partnership Facility (FCPF), the Carbon Partnership Facility (CPF), the Partnership for Market Readiness (PMR), the Carbon Initiative for Development (Ci-Dev), and the BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL).

These carbon market initiatives focus on scaling up activities in order to strengthen the impact of low-carbon initiatives, from landscapes to energy access for the poor. They provide technical and financial support to help countries explore and implement cost-effective and innovative approaches to GHG mitigation, including domestic ETS and carbon taxes. Momentum among developing and emerging-market countries to take domestic mitigation action is building; the World Bank Group is designing initiatives to leverage it.

A woman with a blue patterned headscarf and dress is smiling and holding a young tree sapling in a lush green forest. The background is filled with various types of green foliage, including large leaves and palm fronds. The lighting is bright and natural, suggesting a sunny day. The overall scene conveys a sense of environmental care and community involvement in reforestation.

Forest Carbon Partnership Facility

2013 was a year of tremendous progress for the Forest Carbon Partnership Facility (FCPF). FCPF made landmark progress, adopting a set of frameworks that govern the two funds of the facility and further guiding countries in their REDD+ activities. Notably, the FCPF welcomed the first country program into the pipeline of the Carbon Fund and signed a letter of intent with Costa Rica.

Achievements

In December 2013, the Carbon Fund approved the **Methodological Framework**, concluding a two-year process of consultations and reiterations. The resulting framework provides a global standard for REDD+ transactions at scale. These experiences could feed into the development of a REDD+ system under the UNFCCC.

With the Methodological Framework approved, the Carbon Fund is ready to pilot performance-based mechanisms for REDD+ and generate “real life,” practical insights and knowledge based on REDD+ country experience.

Under the Carbon Fund, ten program ideas have been presented, including eight new or updated ideas presented in 2013 alone. These ideas may shape a diverse and innovative portfolio of programs that are expected to deliver high-quality and sustainable ERs at scale, in combination with environmental and community benefits. In March 2013, Costa Rica was the first country to be accepted into the pipeline of the Carbon Fund, and in September 2013 it signed a letter of intent to negotiate an ERPA worth up to \$63 million.

The adoption of the Monitoring and Evaluation (M&E) Framework by the Participants Committee (PC) put in place an important structure to track the overall performance of the FCPF more systematically.

Another important highlight in 2013 was the approval of the Readiness Assessment Framework, which supports countries with measuring and communicating their relative progress on REDD+ readiness.

Readiness

2013 marked a rapid development in the readiness progress for REDD+ countries. Also, the global partnership was expanded to another eight REDD+ countries: Bhutan, Burkina Faso, Côte d’Ivoire, Dominican Republic, Fiji, Nigeria, Pakistan, and Togo, thus raising the partnership of the FCPF to 44 developing countries (17 in Africa, 16 in Latin America and the Caribbean, and 11 in Asia) and 18 financial contributors (comprising developed countries, private sector participants, and one NGO). 39 of the 44 FCPF countries have now had their Readiness Preparation Proposal (R-PP) assessed by the PC and reached a key first step to REDD+ readiness. Moreover, there has been a steady increase in the quality of R-PPs submitted: the set of R-PPs presented at PC14 and PC16 were the strongest sets submitted to date.

With significant new contributions from Norway, the UK, Germany, and Finland, a total of almost \$825 million has been raised for the FCPF to date—\$360 million for the Readiness Fund and \$465 million for the Carbon Fund. Initial targets have thus been exceeded.

In 2013, the FCPF also redoubled its commitment to engage and enhance the capacity of Indigenous Peoples (IP) and Civil Society Organizations (CSOs) working on social inclusion, and to broaden the scope of outreach to a critical mass of IP and CSOs. Further, a record number of 15 grants worth over \$1.2 million were approved to support capacity building of IP and southern CSOs last year. Transitioning into new delivery modalities, the six regional intermediary organizations that will administer the Capacity Building Program in 2014 and 2015 were selected.



Looking Forward

Moving into 2014, the FCPF is keen to shape a diverse portfolio of programs for the Carbon Fund that will generate high-quality and sustainable ERs at scale, deliver environmental and community benefits, and generate important lessons. The experiences to be gained while implementing these programs will surely offer important lessons for all 44 countries participating in the FCPF. They will also enable these countries to continue making great strides in reducing emissions from deforestation and forest degradation.

Considering that the countries participating in the FCPF are home to over 50 percent of all forest areas in the tropics and subtropics, the progress made with REDD+ readiness in the FCPF is bound to have a significant global impact on forest conservation and climate mitigation.

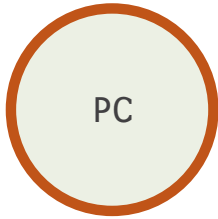


Readiness Fund Participants

EUROPEAN COMMISSION
GOVERNMENT OF AUSTRALIA
GOVERNMENT OF CANADA
GOVERNMENT OF DENMARK
GOVERNMENT OF FINLAND
GOVERNMENT OF FRANCE
GOVERNMENT OF GERMANY
GOVERNMENT OF ITALY
GOVERNMENT OF JAPAN
GOVERNMENT OF THE NETHERLANDS
GOVERNMENT OF NORWAY
GOVERNMENT OF SPAIN
GOVERNMENT OF SWITZERLAND
GOVERNMENT OF THE UNITED KINGDOM
GOVERNMENT OF THE UNITED STATES OF AMERICA

Carbon Fund Participants

GOVERNMENT OF AUSTRALIA
BP TECHNOLOGY VENTURES
GOVERNMENT OF CANADA
CDC CLIMAT
EUROPEAN COMMISSION
GOVERNMENT OF GERMANY
GOVERNMENT OF NORWAY
GOVERNMENT OF SWITZERLAND
THE NATURE CONSERVANCY
GOVERNMENT OF THE UNITED KINGDOM
GOVERNMENT OF THE UNITED STATES OF AMERICA



In **March 2013**, the FCPF PC hosted its **14th meeting in Washington DC**, where it approved the Readiness Assessment Framework and allocated funding for REDD+ readiness to six additional countries.

In **July 2013**, at its **15th meeting, in Lombok, Indonesia**, the PC advanced discussion on the General Conditions and Commercial Terms of a future ERPA for the Carbon Fund.

In **December 2013, in Geneva, at the 16th meeting of the PC**, the FCPF selected eight new REDD+ country participants into the Partnership: Bhutan, Burkina Faso, Côte d'Ivoire, the Dominican Republic, Fiji, Nigeria, Pakistan, and Togo.

Meetings Held in 2013



In **March 2013**, the FCPF held the **6th Carbon Fund meeting in Washington DC**, where Costa Rica's Emission Reduction Program Idea Note (ER-PIN) was selected as the first program into the Carbon Fund pipeline.

In **June 2013**, at the **7th meeting of the Carbon Fund, in Paris**, countries presented a number of new program ideas.

Also in **December 2013**, the **Carbon Fund held its 8th meeting, in Paris**, and adopted the Carbon Fund Methodological Framework.

What Is the FCPF?

The Forest Carbon Partnership Facility became operational in June 2008 and is a global partnership focused on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, sustainable management of forests, and enhancement of forest carbon stocks (REDD+). The FCPF complements the UNFCCC negotiations on REDD+ by demonstrating how REDD+ can be applied at the country level and by drawing lessons from this early implementation phase. The FCPF has created a framework and processes for REDD+ readiness, which helps countries get ready for future systems of financial incentives for REDD+.

About the Readiness Fund

With assistance from the Readiness Fund (currently holding about \$360 million committed by 15 public donors, each having provided at least \$5 million), each participating country prepares itself for REDD+ by developing the necessary policies and systems, in particular by adopting national strategies; developing reference emission levels; designing MRV systems; and setting up REDD+ national management arrangements, including proper safeguards. As of December 2013, a total of 39 countries had formally presented their R-PPs to the PC and been allocated grant funding for REDD+ readiness. Total funding of close to \$150 million has been allocated to these 39 countries and 14 have signed grants to implement their proposals.

About the Carbon Fund

The Carbon Fund, the second fund of the FCPF, became operational in May 2011 (currently holding about \$465 million committed by eleven public and private contributors, each having provided at least \$5 million). It will provide payments for verified ERs from REDD+ programs in about six to eight countries that have made considerable progress towards REDD+ readiness. Consistent with the UNFCCC decision on REDD+ adopted in Cancún, in December 2010, the readiness, investment and performance-based payment phases will not be considered purely sequential but instead be allowed to overlap to a large extent. Nevertheless, to ensure that carbon finance builds on readiness achievements, the FCPF Participants Committee must have assessed a country's Readiness Package before the country can enter into an ERPA with the Carbon Fund. The Carbon Fund will deliver ERs to the financial contributors of the fund pro rata to their share of capital.



Carbon Partnership Facility

The fundamental goal of the Carbon Partnership Facility (CPF) is to help our partner countries utilize carbon finance to implement scaled-up, systematic approaches to low-carbon growth. The focus is on finding ways to support their policies and initiatives to catalyze public and private investment in clean technologies.

The CPF has as its primary objective to innovate in scaling up carbon finance. The CPF has been established as a partnership, where both Buyer and Seller Participants, together with Donors and Host Country Partners, sit together at the table, learn from each other's experiences and challenges, and design practical solutions that are mutually beneficial.

It consists of the Carbon Asset Development Fund, which supports the preparation of the ER programs, and the Carbon Fund, which will purchase ERs generated by CPF programs. The CPF collaborates with governments and market participants on investment programs and sector-based interventions that are consistent with low-carbon economic growth and sustainable development priorities of developing countries.

The facility draws on the World Bank's financial and knowledge resources to integrate carbon finance into sustainable development plans by aligning carbon finance with World Bank country assistance programs, and often linking with lending operations. It facilitates the implementation of low-carbon programs across an array of sectors and technologies—energy generation and distribution, energy efficiency, and waste management—in situations where governments need policy measures or investments.

Scaled Up

Carbon finance mechanisms (for example, CDM) have thus far operated largely on a project-by-project basis. In contrast, the CPF utilizes scaled-up, programmatic approaches to enable carbon finance to systematically support partner-country initiatives for low-carbon growth.

These programs are developed along with Bank operations and other sources of funding to provide more comprehensive approaches to financing clean technologies.

Green Technology

The CPF also targets areas that have not been reached effectively by mechanisms in the past, such as energy efficiency, and will pilot urban approaches to carbon finance. City-wide programs have the potential to target a wide range of ER measures spanning energy efficiency in buildings and street lighting, solid waste and waste water management, as well as renewable energy and transportation.

CPF Status

The CPF became operational in May 2010. By the end of 2013, it had \$135.2 million in commitments to the Carbon Fund and an additional \$29.9 million in contributions to the Carbon Asset Development Fund.

The key objective of the first set of CPF programs is to scale up carbon finance through the CDM Programme of Activities' approach. The aim is to generate ERs that will provide benefits to both Buyer and Seller Participants.

The next phase of the CPF will be to innovate in the development and piloting of a new generation of scaled-up crediting modalities. The lessons learned from initial efforts on the first set of programs will set the stage for the World Bank to make further contributions to the design and implementation of new international carbon-crediting approaches envisaged under the UNFCCC.

CPF Participants

Buyer Participants

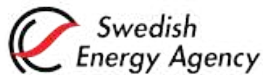


GOVERNMENT OF SPAIN



NORWEGIAN MINISTRY OF CLIMATE AND ENVIRONMENT

NORWEGIAN MINISTRY OF CLIMATE AND ENVIRONMENT



Swedish Energy Agency
SWEDISH ENERGY AGENCY



**Donors to the Carbon
Asset Development Fund**

GOVERNMENT OF SPAIN

GOVERNMENT OF NORWAY

GOVERNMENT OF ITALY

EUROPEAN COMMISSION

Host Country Partner

GOVERNMENT OF CHINA

Seller Participants

FONDS D'EQUIPEMENT COMMUNAL OF MOROCCO

CAIXA ECONÔMICA FEDERAL OF BRAZIL

MINISTRY OF INDUSTRY AND TRADE OF VIETNAM

PROVINCIAL ELECTRICITY AUTHORITY OF THAILAND

TANZANIA RURAL ENERGY AGENCY

MINISTRY OF FINANCE OF EGYPT

LAND BANK OF THE PHILIPPINES



Partnership for Market Readiness

The Partnership for Market Readiness (PMR) provides countries with an opportunity to explore and address the technical capacity gaps and issues they face in assessing and designing cost-effective approaches to GHG mitigation, to draw insights from existing and past experience, and to identify ways forward.

Established in 2011, the PMR focuses on designing, piloting, and building capacity for carbon pricing and other innovative instruments to scale up domestic GHG mitigation in emerging and developing economies. Also, the PMR provides countries with an opportunity to address the technical capacity gaps in assessing, designing, and adopting innovative and cost-effective approaches to GHG mitigation. Special attention is given to mitigation approaches that lead to a price on carbon—such as domestic ETSs and carbon taxes. The PMR also supports countries in moving forward with national action plans that lower carbon emissions while stimulating growth and competitiveness.

PMR Structure

The PMR brings together more than 30 countries, including most of the world's largest and fastest growing economies and leaders in climate action. The PMR serves as a platform for country-to-country exchanges that support the collective pioneering of cost-effective approaches to combat climate change.

PMR Participants include *Contributing Participants*, which provide financial support to the PMR trust fund, and *Implementing Country Participants*, which receive funding to finance assessment, ground work, design, and piloting of market-based approaches to mitigation. Both groups

contribute with insights based on their experience to combat climate change, making the PMR a key platform for technical discussions, knowledge sharing, and collective innovation on new market instruments.

In addition, in 2013, the PMR created a new category of participant—the *Technical Partner*—to include countries that have already made significant progress with the implementation of a carbon pricing instrument but require specific technical support either in the form of funding, expert advice, or both.

PMR Participants:

- **Contributing Country Participants:** Australia, Denmark, the European Commission, Finland, Germany, Japan, the Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom, and the United States. PMR funding at the end of 2013 stood at \$127 million.
- **Implementing Country Participants:** Brazil, Chile, China, Colombia, Costa Rica, India, Indonesia, Jordan, Mexico, Morocco, Peru, South Africa, Thailand, Turkey, Ukraine, and Vietnam.
- **Technical Partner:** Kazakhstan.
- **Observers:** New Zealand, South Korea, Italy, Singapore, and France regularly participate in the PMR as Observer Countries.

Scaling Up Domestic Climate Action and Carbon Pricing Instruments

Preparation-phase funding in the amount of \$350,000 has been allocated to each of the 16 Implementing Country Participants to identify capacity-building gaps and prepare a roadmap—the Market Readiness Proposal (MRP)—to implement readiness components or a market instrument.

As of December 2013, five Implementing Country Participants had completed a final MRP and one additional country had completed a draft. By the end of 2014, most Implementing Country Participants are expected to have completed the draft process.

The MRP is also the basis for the allocation of a grant in the amount of \$3, \$5, or \$8 million. These funds are used to implement the activities outlined in the MRP.

Supporting Country Participants

The PMR provides systematic support to Implementing Country Participants as they develop their MRPs. As countries are at different stages of development and market readiness, they each approach the planning and use of market instruments differently. To complement the work that countries are undertaking as they implement their MRP activities, the PMR has two tracks of support: i) *analytical support*, such as modeling work on carbon pricing instruments, and a ii) *technical work program*, which includes guidance on

GHG baseline setting, MRV, and offset standards.

In 2012, the PMR Secretariat formed the PMR Baselines Working Group to advise on the development of a guidance note on baseline setting for crediting mechanisms. In 2013, the Secretariat formed similar working groups to support the areas of MRV and carbon offsets.

- The *MRV Working Group* advises the PMR Secretariat on defining priorities and scope of the PMR's MRV-related work so that it responds to the needs of countries, as well as provides feedback and comments on PMR knowledge products. As part of the MRV work program, the Secretariat held the first in a series of three regional technical training sessions.
- The *Offset Working Group* brings together PMR Participant representatives, offset standard-setting organizations, and the PMR's pool of experts. This Group facilitates knowledge and information exchange on offset program design, development, and implementation. It also provides input to the PMR Secretariat on delivery of knowledge products, webinars, workshops, and e-learning modules that help Implementing Country Participants.

The technical work program also supports the development of technical notes on topics such as data management systems, baseline development, market linking, and carbon offset programs. Topic selection is driven by country interest. While created for the PMR Participants, all technical notes are publicly available.



Partnership Assembly Meetings

The Partnership Assembly (PA) is the PMR's governing body and consists of all Contributing Participants and Implementing Country Participants. Partnership Assembly meetings are held three times a year to provide strategic operational guidance, confirm the participation of new countries, and approve the allocation of PMR resources.

- **March 2013** (5th PA meeting in Washington, DC): Chile, China, Costa Rica, and Mexico presented final MRPs, and each received \$3 million in implementation funding, except for China, which received \$8 million. The PMR also welcomed Peru as a new Implementing Country Participant, bringing the total number of Implementing Country Participants to 16.
- **May 2013** (6th PA meeting in Barcelona, Spain): Spain joined the PMR as a Contributing Participant, with a contribution of \$5 million, and Switzerland increased its contribution by \$4 million. Turkey was allocated \$3 million to implement its MRP.
- **October 2013** (7th PA meeting in Marrakesh, Morocco): Germany confirmed an additional contribution of €5 million. The PMR allocated \$3 million to implement the MRP from Indonesia and \$1 million was allocated to Kazakhstan to support the implementation of its domestic ETS.

Technical Workshops

PMR technical workshops provide an important platform for countries to engage in technical discussions on market instruments—from baseline-setting to designing a domestic ETS to providing peer feedback on innovative policies. Workshops also harness momentum to spur action toward post-2012 GHG mitigation efforts using innovative and cost-effective instruments.

- **March 2013:** Policy mapping and effective instruments for GHG mitigation in the urban transport sector.
- **May 2013:** Building readiness for MRP implementation
- **October 2013:** Stakeholder engagement and communication

Technical Training

PMR technical training events complement the technical work program by disseminating knowledge among participants on a number of issues—for instance, on developing facility-level GHG reporting programs. Technical training sessions are designed as hands-on practical learning events featuring a number of case studies and group exercises to examine practical considerations relative to the topic.

- In **September 2013**, the PMR held the first in a series of three regional MRV technical training events. It was held in Beijing, China, for 60 participants from Asian countries on the subject of facility-level GHG MRV.

Public Events

Public events organized under the auspices of the PMR facilitate discussions on topics ranging from progressive domestic climate action to showcasing the experience and lessons learned from carbon pricing instruments. These events are a valuable forum for audience interaction beyond the PMR.

- In **March 2013**, the PMR organized a public event on carbon pricing, which featured an update on China's seven ETS pilots, South Africa's plans for a carbon tax, and South Korea's implementation of an ETS. Mr. René Castro, former Minister of Environment for Costa Rica, discussed the role of the domestic carbon market in achieving Costa Rica's carbon neutrality goal.



BioCarbon Fund Initiative for Sustainable Forest Landscapes

“The fate of the climate, forests, and agriculture are bound together. If agriculture and land-use change continue to produce up to 30 percent of global greenhouse gases, it will mean further disaster and disruption from climate change. That's why the new BioCarbon Fund Initiative for Sustainable Forest Landscapes is so important.”

Rachel Kyte
Group Vice President and Special Envoy
Climate Change

In November 2013, at the UN climate summit in Warsaw (COP19), the World Bank launched the BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) jointly with contributing participants Norway, the United Kingdom, and the United States. This new multilateral facility will use results-based finance to incentivize change at the landscape level.

The initiative builds on the awareness that agricultural expansion and land-use change must be managed to minimize forest loss as well as GHG emissions. The ISFL will help countries identify and promote climate-smart agricultural and low-carbon land-use practices in selected geographical areas where agriculture is a major cause of deforestation. Following a landscape approach, the initiative is creating a portfolio of jurisdictional programs, spread across diverse geographies, that will have a significant impact on rural areas. On the one hand by protecting forests, restoring degraded lands, and enhancing agricultural productivity, on the other hand by improving livelihoods and local environments.

Taking a Landscape Approach

Operating at the level of the jurisdictional landscape is considered one of the key design features of the ISFL. It is a prerequisite for allowing governments to consider the trade-offs and synergies between different uses of land that may compete in a jurisdiction—such as agriculture, energy, and forest protection—and successfully identify integrated solutions that serve multiple objectives. Adopting a landscape approach means implementing a development strategy at scale that is climate-smart, equitable, productive, and profitable, and strives towards a positive environmental, social, and economic impact.

Building Public-Private Partnerships

Another key design feature that sets the ISFL apart from previous climate and forest initiatives is the recognition of the important role the private sector plays in:

- Spurring innovation;
- Leveraging cutting-edge expertise and knowledge; and

- Mobilizing the capital necessary to scale up successful land-use practices and accelerate the greening of supply chains.

Global and local companies in the agricultural and food sectors increasingly recognize the value of prioritizing sustainability within their operations to secure long-term supply chains and reduce investment risks, as evidenced by public commitments to zero-deforestation supply chains.

The initiative is designed to work alongside a wide range of private actors—from multi-national corporations to large national entities and emerging small and medium enterprises and smallholders—incentivizing them to accelerate “forest-proof” sourcing of commodities and redirecting market forces toward more sustainable and equitable land management practices.

Financing Based on Results

The ISFL will provide countries with the following types of financing:

1. **Grant funding and technical assistance through the BioCF *plus* to support transformational change in developing countries**, leading to the implementation of their REDD+ strategies and the creation of enabling environments that change the way land-use decisions are made. Grants will be disbursed through BioCF *plus* based on performance milestones.
2. **Results-based payments for achieved ERs (BioCF)**. The main metric for results-based payments will be carbon ERs, but additional economic, environmental, and social indicators may also be monitored. Carbon payments (including some up-front payments) will be made through the BioCF. The ISFL aims to test carbon accounting at the landscape level within a comprehensive approach, in which payments will be based on performance in the forestry, agriculture, and possibly also energy sector.

Building on Experience

The ISFL builds on a decade’s experiences of pilot projects under the BioCarbon Fund. These earlier pilots generated a wealth of knowledge on how to quantify ERs from different land-use activities as well as important lessons on land-tenure issues, financing arrangements, and benefits-sharing schemes that are essential for the long-term success of the ISFL.

A woman in a white tank top is seen from the side, standing in a small, brightly lit shop. The shop has several shelves filled with various goods, including bottles, cans, and boxes. A single light bulb hangs from the ceiling, illuminating the scene. The shop is framed by a dark doorway, and the background is a textured wall. The overall atmosphere is warm and focused on the woman's activity.

Carbon Initiative for Development

The Carbon Initiative for Development (Ci-Dev) improves energy access in the poorest countries through carbon-linked performance payments. The projects will be innovative, bring high development benefits, and use technologies that primarily deliver results at the community and household level, such as household solar and micro-hydro power and biogas.

The Ci-Dev, launched in December 2011, will use performance payments based on emission reductions to support private sector projects that improve and increase energy access in low-income countries using clean and efficient technologies.

The Ci-Dev will also build capacity and develop tools and methodologies so that low-income countries, especially in Sub-Saharan Africa, receive a larger and fairer share of carbon finance.

The Ci-Dev consists of a Readiness Fund and a Carbon Fund. The “buyer” Carbon Fund will purchase the carbon credits created by the supported activities. The Readiness Fund will fund studies, support capacity-building efforts and provide grants to improve CDM procedures, and help poor countries realize their potential in carbon market participation.

Expanding Energy Access

Lack of energy remains a daunting challenge for the international community, with about 1.2 billion people still without access to electricity, 85 percent of whom live in rural areas. The Ci-Dev addresses this challenge by expanding energy access for households. About 2.8 billion people rely on the traditional use of biomass for cooking, which results in an estimated 1.5 million premature deaths each year due to indoor air pollution. Achieving universal access to electricity by 2030 would require an additional average annual investment of about \$35–40 billion.

At the same time, energy is the greatest contributor to GHG emissions worldwide. Poor countries are particularly vulnerable to climate change, making clean, affordable, and reliable energy

all the more important. While the CDM has supported more than 6,000 renewable energy projects worldwide, the poorest countries have benefited very little from this. Only 2.9 percent of all CDM projects are located in Africa. Simplified rules and streamlined procedures are needed for carbon finance to better support projects that benefit the poor, such as clean technologies and business models for households.

Applying Lessons Learned

The World Bank has gained extensive experience in using carbon finance to support low-income countries’ development priorities. One example is the Community Development Carbon Fund, a fund created in 2003 with a specific focus on the poorest countries and on small-scale projects, providing co-benefits to the most vulnerable communities. The lessons learned from such experiences will be applied in the implementation of the Ci-Dev.

Currently, the World Bank carbon funds are supporting 42 CDM projects in IDA countries. Close to half of these are in Africa, but most of them involve very small interventions. This experience shows that large-scale development of carbon finance in low-income and other poor countries requires significant, even radical, improvements in CDM regulations and in the development of new carbon finance mechanisms that consider the specific capacity and needs of poor countries. The international community has responded through the CDM’s Executive Board, by taking decisions that simplified the additionality demonstration requirements for micro-scale projects and allowed for the introduction of standardized baselines, among other things.



The Readiness Fund

The Ci-Dev Readiness Fund capitalization rose to \$29 million in 2013, with additional contributions pledged by the Swiss-based Climate Cent Foundation, and the Swedish Energy Agency. The Readiness Fund will focus on enhancing existing carbon finance mechanisms and developing new ones, building capacity to undertake carbon finance transactions in the poorest countries, and disseminating the lessons learned.

The Ci-Dev Readiness Fund will contribute to ongoing efforts to reform the CDM. Through its work on the ground, creating carbon assets for its various carbon funds, the World Bank has contributed significantly to capacity building and knowledge creation and dissemination of carbon finance initiatives—efforts that benefit the carbon finance community (“public good creation”). The Ci-Dev’s support is timely as the poorest countries have only recently started to develop the needed capacity for carbon finance and for attracting private sector interest. This progress is at risk in the current carbon market downturn.

In 2013, the Ci-Dev made a submission to the UNFCCC on the simplification of the CDM project cycle and another on alternative approaches to standardized baselines for demonstrating additionality and the establishment of baseline emission factors adapted to low-income countries.

The Ci-Dev launched a business model study to analyze the role that carbon finance can play in supporting energy access projects and identifying necessary reforms to promote energy access. In addition, a methodology mapping exercise was conducted to identify improvements that could be made to methodologies currently applied in energy access projects.

The Carbon Fund

The Carbon Fund capitalization rose to \$98 million in 2013, with additional contributions pledged by the Swiss-based Climate Cent Foundation, and the Swedish Energy Agency. The fund will support energy access projects by providing performance-based payments in the form of Certified Emission Reduction (CER) purchases. It will aim to demonstrate successful and viable business models by focusing on private-sector projects in technologies aimed at households, such as biogas, solar home systems, or micro-hydro power generation. Recognizing the current downturn in carbon markets, CER payments will be made at a price determined on a project-by-project basis in order to make technologies affordable to poor people and expand their adoption.

Project Pipeline Development

In 2013, the Ci-Dev began to identify possible projects, including off-grid energy access, renewable energy, and rural electrification projects. A number of proposals were received following a successful fund-raising and a public request for project ideas launched in December 2013.





Carbon Finance
AT THE WORLD BANK

Who We Are



Carbon Finance Glossary

Assigned Amount Unit (AAU)

A Kyoto Protocol unit equal to one metric ton of carbon dioxide equivalent. Each Annex I Party issues AAUs up to the level of its assigned amount, established pursuant to Article 3, paragraphs 7 and 8, of the Kyoto Protocol. Assigned amount units may be exchanged through emissions trading.

Adaptation

Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities; for example, the construction of flood walls to protect property from stronger storms and heavier precipitation, or the planting of agricultural crops and trees more suited to warmer temperatures and drier soil conditions.

Afforestation

Planting of new forests on lands that historically have not contained forests.

Annex I Parties

The countries listed in Annex I of the UNFCCC and in Annex B of the Kyoto Protocol.

Avoided Deforestation

Preventing deforestation by compensating countries for carbon dioxide reductions realized by maintaining their forests.

Biomass Fuel

These fuels are considered renewable as long as the vegetation producing them is maintained or replanted, such as firewood, alcohol fermented from sugar, and combustible oils extracted from soy beans. Their use in place of fossil fuels cuts greenhouse gas emissions because the plants that are their sources recapture carbon dioxide from the atmosphere.

Cap-and-Trade System

An environmental policy tool that institutes a mandatory cap on emissions while providing emitters with flexibility on how they may comply. Successful cap-and-trade programs reward innovation, efficiency, and early action and provide strict environmental accountability without inhibiting economic growth.

Carbon Asset

The potential of greenhouse gas emission reductions that a project is able to generate and sell.

Carbon Credits

A permit that allows the holder to emit the equivalent of one metric ton of CO₂. Credits are awarded to countries or groups that have reduced their emissions below an assigned quota. Credits can be exchanged between businesses or bought and sold in international carbon markets at the prevailing market price.

Carbon Finance

Resources provided to projects generating (or expected to generate) greenhouse gas emission reductions in the form of the purchase of such emission reductions.

Carbon Market

A market created to buy and sell carbon credits. Under a regulated limit on carbon emissions (a "cap" on emissions), permits or allowances are given or auctioned to carbon emitters. Entities emitting below their cap may trade their extra allowances (carbon credits) to those who need additional capacity, creating a market for buying and selling carbon credits.

Carbon Sequestration

The process of removing carbon from the atmosphere and depositing it in a reservoir.

CDM Executive Board

A 10-member panel that supervises the Kyoto Protocol's CDM under the authority and guidance of the Conference of the Parties. The CDM Executive Board is the ultimate point of contact for CDM Project Participants for the registration of projects and the issuance of CERs.

Certified Emission Reduction (CER)

A unit equal to one metric ton of carbon dioxide equivalent, which may be used by Annex I parties towards meeting their binding ER commitments under the Kyoto Protocol. CERs are issued for emission reductions from CDM project activities. Two special types of CERs (temporary CERs and long-term CERs) are issued for emission reductions from afforestation and reforestation CDM projects.

Clean Development Mechanism (CDM)

A mechanism provided by Article 12 of the Kyoto Protocol, through which developed countries may finance greenhouse gas emission reduction projects in developing countries, and receive credits for doing so, which they may apply toward meeting mandatory limits on their own emissions.

Clean Energy or Clean Technology

Although there appears to be no strict definition, clean energy is any energy that causes little or no harm to the environment. Wind energy, solar energy (...), hydrogen and fuel cells, wave and tidal energy, and biomass are all examples of clean energy.

Community Benefits

Community benefits are identifiable and quantifiable improvements in the quality of life of a local group of people who are identified by the trustee and the project entity as in the vicinity of or affected by a project.

Countries with Economies in Transition

Those Central and Eastern European countries and former republics of the Soviet Union in transition from state-controlled to market economies.

Designated National Authority (DNA)

An office, ministry or other official entity appointed by a Party to the Kyoto Protocol to review and give national approval to projects proposed under the CDM.

Emission Reduction (ER)

The measurable reduction of release of greenhouse gases into the atmosphere from a specified activity or over a specified area and a specified period of time.

Emission Reductions Purchase Agreement (ERPA)

Agreement that governs the purchase and sale of ERs.

European Union Emissions Trading System (EU ETS)

In January 2005, the European Union Emissions Trading System commenced operation as the largest multi-country, multi-sector greenhouse gas emissions trading scheme worldwide. The scheme is based on Directive 2003/87/EC, which entered into force on October 25, 2003.

Flexible Mechanisms

The procedures established under the Kyoto Protocol to increase the flexibility and reduce the costs of making

greenhouse gas emissions cuts; they are the Clean Development Mechanism, International Emissions Trading, and Joint Implementation.

Greenhouse Gases (GHGs)

The atmospheric gases responsible for causing global warming and climate change. Six gases are listed in Annex A of the Kyoto Protocol. The major greenhouse gases are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Less prevalent—but very powerful—are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆).

Green Investment Scheme (GIS)

A financing mechanism in which the proceeds from emissions trading under the Kyoto Protocol are reinvested in projects in the host country's economy with the objective of further reducing emissions.

HFC-23 (trifluoromethane)

Greenhouse gas that has 11,700 times the global warming potential of carbon dioxide and is a by-product in the manufacturing process of HCFC-22, used in air conditioning, refrigeration, and as a feedstock.

International Development Association (IDA)

One of the five institutions composing the World Bank Group, which focuses exclusively on the world's poorest countries.

Joint Implementation (JI)

A mechanism under the Kyoto Protocol through which a developed country can receive "emission reduction units" when it helps to finance projects that reduce net greenhouse gas emissions in another developed country (in practice, the recipient state is likely to be a country with an "economy in transition"). An Annex I Party must meet specific eligibility requirements to participate in Joint Implementation.

Kyoto Protocol

An international agreement standing on its own, and requiring separate ratification by governments, but linked to the UNFCCC. The Kyoto Protocol, among other things, sets binding targets for the reduction of greenhouse gas emissions by industrialized countries. It entered into force on February 16, 2005.

Land Use, Land-Use Change and Forestry (LULUCF)

A greenhouse gas inventory sector that covers emissions and removal of greenhouse gases resulting from direct human-

induced land use, land-use change, and forestry activities. Expanding forests reduce atmospheric carbon dioxide; deforestation releases additional carbon dioxide; various agricultural activities may add to atmospheric levels of methane and nitrous oxide.

Least Developed Countries (LDCs)

The world's poorest countries. Least developed countries are countries (i) listed in the World Bank's IDA list of countries; (ii) countries commonly referred to as "IDA blend," with a population of less than 75 million; or (iii) countries designated as least developed countries by the United Nations.

Mitigation

In the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other "sinks" to remove greater amounts of carbon dioxide from the atmosphere.

Programme of Activities (PoA)

Emission reductions that are achieved by multiple verifiable activities executed over time as a direct response to a government measure or private sector initiative. Programmes typically result in a multitude of greenhouse gas-reducing activities in multiple sites over the life of the programme.

Reforestation

Replanting of forests on land that was previously forested but subsequently converted to other use.

Small-scale Projects

Projects that are compatible with the definition of "Small-scale CDM Project Activities" set out in decision 17/CP.7 by the Conference of Parties to the UNFCCC.

Sustainable Development

Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Tonne of Carbon Dioxide Equivalent (tCO₂e)

The universal unit of measurement used to indicate the global warming potential of each of the six greenhouse gases. Carbon dioxide—a naturally occurring gas that is a byproduct of burning

fossil fuels and biomass, land-use changes, and other industrial processes—is the reference gas against which the other greenhouse gases are measured.

Tranche

The Spanish Carbon Fund, the BioCarbon Fund, and the Umbrella Carbon Fund consist of tranches. For example, the BioCarbon Fund's first tranche supports a wide variety of land use, land-use change, and forestry projects, some providing emission reductions potentially eligible for credit under the Kyoto Protocol, and some that explore options for carbon credits that achieve them by activities other than afforestation and reforestation and therefore not eligible for Kyoto credits in the first commitment period. Depending on the interests of contributors, various additional tranches may be opened, each one with a specific focus, which could be sectoral or geographic.

United Nations Framework Convention on Climate Change (UNFCCC)

The international legal framework adopted in June 1992 at the Rio Earth Summit to address climate change. It commits the Parties to the UNFCCC to stabilize human-induced greenhouse gas emissions at levels that would prevent dangerous man-made interference with the climate system. In December 1997, the Parties to the UNFCCC adopted the Kyoto Protocol. In February 2005, the Kyoto Protocol entered into force, thus becoming a legally binding instrument.

Voluntary Carbon Market

The unregulated market which allows individuals, companies, and organizations to purchase emission reduction credits to offset the emissions they produce.

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