



Carbon Finance
AT THE WORLD BANK



carbon finance
for sustainable development

2012 ANNUAL REPORT

mission statement

Our mission is to support the global carbon market through catalytic initiatives that unlock private capital to mitigate climate change while supporting sustainable development and assisting the poorest communities in developing nations.

The report covers the carbon funds, facilities and financial instruments managed by the World Bank during the period from January 1, 2012 through December 31, 2012. 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 U.S. dollar/euro exchange rate used in this report is 1.32. All greenhouse gas emission reductions are reported in metric tonnes (equivalent to 1,000 kilograms) of carbon dioxide equivalent (tCO₂e). This report is provided for informational purposes 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, or completeness of any information herein.

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Acronyms

| | |
|--------------------|--|
| AAU | Assigned Amount Unit |
| BioCF | BioCarbon Fund |
| CDCF+ | The grant arm of the Community Development Carbon Fund (CDCF) |
| CDM | Clean Development Mechanism |
| CER | Certified Emission Reduction |
| Ci-Dev | Carbon Initiative for Development |
| CFU | Carbon Finance Unit (World Bank) |
| COP | Conference of the Parties |
| CPF | Carbon Partnership Facility |
| ER | Emission Reduction |
| ERPA | Emission Reduction Purchase Agreement |
| ERU | Emission Reduction Units, achieved through a Joint Implementation project |
| ESCO | Energy service company |
| EU ETS | European Union Emissions Trading Scheme |
| EUA | European Union Allowance |
| FCPF | Forest Carbon Partnership Facility |
| GEF | Global Environment Facility |
| GHG | Greenhouse Gas |
| GIS | Green Investment Scheme |
| ha | Hectare |
| IDA | International Development Association, part of the IBRD |
| IETA | International Emissions Trading Association |
| IFC | International Finance Corporation |
| IPCC | Intergovernmental Panel on Climate Change |
| JI | Joint Implementation |
| LDC | Least Developed Country |
| LULUCF | Land Use, Land-Use Change, and Forestry |
| MW | Megawatt |
| MRP | Market Readiness Proposal |
| MRV | Monitoring, reporting and verification |
| NAMA | Nationally Appropriate Mitigation Action |
| NGO | Non-Governmental Organization |
| PA | Purchase Agreement |
| PDD | Project Design Document |
| PoA | Programme of Activities |
| PMR | Partnership for Market Readiness |
| 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 | Metric Tonnes of Carbon Emission Reductions |
| tCO ₂ e | Metric Tonnes of Carbon Dioxide Equivalent |
| UN | United Nations |
| UNFCCC | United Nations Framework Convention on Climate Change |
| WBI | World Bank Institute |

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Joëlle Chassard

Manager, Carbon Finance Unit
The World Bank

From the Carbon Finance Unit

2012 was an eventful year for us at the Carbon Finance Unit as well as for many others in the carbon market. Being the final year of the Kyoto Protocol's first commitment period, our staff worked hard to get our last group of CDM projects registered and to ensure as large a volume of issuances as possible to fulfill our commitments to the participants in our carbon funds and facilities. With 160 active projects in our portfolio, we delivered 61 million carbon credits last year—almost double the volume of the previous year—reaching a cumulative delivery of 167 million tons of CO₂e by the end of 2012. We are pleased to note that we delivered 92% of the volume contracted for delivery by December 2012 and were able to close 16 purchase contracts as they had fully delivered the emission reductions expected. We expect to fulfill more contracts in 2013 as our first generation of carbon funds progressively reaches full delivery.

We continue to grow our post-2012 carbon initiatives—the **Forest Carbon Partnership Facility (FCPF)**, the **Carbon Partnership Facility (CPF)**, the **Partnership for Market Readiness (PMR)**, the **BioCarbon Fund Tranche 3 (BioCF T3)** and the **Carbon Initiative for Development (Ci-Dev)**. The ambitious work of the FCPF continues to be recognized and the Facility received additional contributions from Norway, Germany and Finland in 2012, reaching a total capitalization of \$650 million. Also, the FCPF Carbon Fund passed a major milestone, as Costa Rica formally submitted the first Emission Reductions program idea which details how they intend to reduce emissions in order to receive results-based payments.

2012 was particularly significant for our BioCarbon Fund portfolio where, after years of preparation, the first certified emission reductions were issued. Our reforestation project in Brazil was the first to issue forestry credits worldwide and our natural regeneration project in Ethiopia was the first to issue forestry credits in Africa. Our LULUCF projects span the world:

our portfolio has now had forestry credits issued in Africa, Europe and Central Asia, Latin America, South Asia, and East Asia and the Pacific; out of seven forestry projects issuing credits worldwide, the World Bank has fostered the development of six. Also through the BioCF T3, we are working to implement a landscape-wide approach to carbon finance which would break down the silos that exist today under the CDM, by combining forestry protection, reforestation, multiple land use activities and biomass components in one single project or program. Our work also includes supporting the UNFCCC process and streamlining CDM rules to make them friendlier to land-use activities, in particular regarding the issue of permanence.

Scaling up mitigation activities for maximum impact continues to be a challenge and we focus on this at many levels—both in more advanced developing countries, through the work of the PMR and the CPF, as well as in least developed countries, through the Ci-Dev. The CPF signed its first purchase agreement for a large-scale solid waste management program with Brazil's Caixa Econômica Federal last year, serving as an example on what can be done on a greater scale. In fact, out of our 26 new registrations completed last year, nine were Programmes of Activities, three of which were large-scale.

Also, through initiatives like the PMR, our work is aimed at scaling up our efforts to the national level. The PMR provides a platform for more than 30 nations to come together to discuss a variety of approaches to achieve their mitigation objectives. By creating a forum for open dialogue, we hope to lay the ground for a global carbon market eventually. We also welcomed the establishment by the International Emissions Trading Association of the Business PMR that engages the private sector and complements the PMR process.

After twelve years of supporting carbon projects, programs, policies and now nationwide systems, we strive to bring this experience into the broader sustainable development agenda. The World Bank is moving towards expanding the use of results-based payments and "climate-proofing" its portfolio, including mainstreaming carbon accounting, and for these activities the lessons learned from carbon finance are invaluable.



PCF

At the close of 2012, 100% of the Prototype Carbon Fund (PCF) projects have started generating emissions reductions and 85% of the PCF's projects have successfully issued carbon credits.

| | |
|--------------------------|------------------|
| Fund Capital | \$219.18 million |
| Date Operational | April 2000 |
| Participants | 21 |
| Private Capital Invested | 61% |



NCDMF

The Netherlands Clean Development Mechanism Facility (NCDMF) has a mature portfolio that includes the first project ever registered under the Kyoto Protocol's CDM. All the projects in the NCDMF portfolio are registered.

| | |
|--------------------------|----------|
| Fund Capital | * |
| Date Operational | May 2002 |
| Participants | 1 |
| Private Capital Invested | 0 |

* Not disclosed.



CDCF

The Community Development Carbon Fund (CDCF) now has 25 ERPA's in its portfolio. Sixty-two percent of the portfolio is committed to projects in the world's poorest countries (LDCs).

| | |
|--------------------------|----------------------|
| Fund Capital | \$118 million |
| Date Operational | March 2003 |
| Participants | 24 (due to a merger) |
| Private Capital Invested | 45% |



Danish Carbon Fund

The Danish Carbon Fund (DCF) consists of seven ERPA's in South Asia, East Asia, Africa, Eastern Europe, and Latin America.

| | |
|--------------------------|--------------|
| Fund Capital | €68 million |
| Date Operational | January 2005 |
| Participants | 5 |
| Private Capital Invested | 71% |



Spanish Carbon Fund

Divided into two tranches since 2008, the Spanish Carbon Fund Tranche 1 (SCF T1) consists of 18 signed ERPA's. In addition to acquiring project-based emission reductions, Tranche 2 (SCF T2) participates in Green Investment Schemes (GIS).

| | |
|--------------------------|--------------|
| TRANCHE 1 | |
| Fund Capital | €220 million |
| Date Operational | March 2005 |
| Participants | 12 |
| Private Capital Invested | 23% |

| | |
|--------------------------|-------------|
| TRANCHE 2 | |
| Fund Capital | €70 million |
| Date Operational | April 2008 |
| Participants | 1 |
| Private Capital Invested | 0% |



Umbrella Carbon Facility

Consisting of 11 private sector participants plus five carbon funds administered by the World Bank, the Umbrella Carbon Facility (UCF) holds a capital of €799.1 million, 78 percent of which represents private investment. In 2012, the facility delivered 21.98 million tCO₂e in CERs, bringing the total amount of emission reductions delivered since inception to 104.88 million tCO₂e in CERs. Tranche 2 of the UCF was opened to participation in 2010 and fully capitalized in 2011 at €105 million.

| | |
|--------------------------|-----------------|
| TRANCHE 1 | |
| Fund Capital | €799.1 million* |
| Date Operational | August 2006 |
| Participants | 16 |
| Private Capital Invested | 75% |

| | |
|--------------------------|--------------|
| TRANCHE 2 | |
| Fund Capital | €105 million |
| Date Operational | January 2011 |
| Participants | 4 |
| Private Capital Invested | 92% |

* Includes total €224.54 million participation of PCF, NCDMF, ICF, DCF and SCF.



Carbon Fund for Europe

The Carbon Fund for Europe (CFE) now has six portfolio projects, of which two are CDM, three are GIS and one is JI. All projects are CDM registered or JI determined.

| | |
|--------------------------|----------------|
| Fund Capital | €32.05 million |
| Date Operational | March 2007 |
| Participants | 5 |
| Private Capital Invested | 20% |



Italian Carbon Fund

With a capitalization of \$155.6 million, the Italian Carbon Fund (ICF) has signed seven ERPA's. The portfolio includes projects operating under the Kyoto Protocol's CDM and JI mechanisms.

| | |
|--------------------------|-----------------|
| Fund Capital | \$155.6 million |
| Date Operational | March 2004 |
| Participants | 7 |
| Private Capital Invested | 30% |



BioCF

The BioCarbon Fund (BioCF) has signed 23 contracts to purchase emission reductions from land-based activities. By the end of 2012, 18 afforestation and reforestation projects were registered under the Kyoto Protocol's CDM, 2 innovative projects on REDD+ and on sustainable land management were pursued under the Verified Carbon Standard (VCS), and the remaining 3 projects were in advanced stages of preparation.

| | |
|--------------------------|----------------|
| TRANCHE 1 | |
| Fund Capital | \$53.8 million |
| Date Operational | May 2004 |
| Participants | 14 |
| Private Capital Invested | 51% |

| | |
|--------------------------|----------------|
| TRANCHE 2 | |
| Fund Capital | \$29.5 million |
| Date Operational | March 2007 |
| Participants | 5 |
| Private Capital Invested | 17% |



NECF

The Netherlands European Carbon Facility (NECF) is co-managed with the International Finance Corporation (IFC) and supports carbon market operations in Ukraine, Russia, and Poland.

| | |
|--------------------------|-------------|
| Fund Capital | * |
| Date Operational | August 2004 |
| Participants | 1 |
| Private Capital Invested | 0 |

* Not disclosed.



Forest Carbon Partnership Facility

Operational since June 2008, the capital for the Forest Carbon Partnership Facility currently stands at \$648 million. In 2012, 26 of 36 REDD Country Participants had submitted formal Readiness Preparation Proposals to the Facility, which is the first step in allowing them to build capacity to tap into incentives under REDD+.

| | |
|--------------------------|---------------|
| Fund Capital | \$648 million |
| Date Operational | June 2008 |
| Participants | 54* |
| Private Capital Invested | 2% |

*18 financial contributors and 36 REDD country participants.



Carbon Partnership Facility

The First Tranche of the Carbon Partnership Facility (CPF) became operational in May 2010. The CPF's Carbon Asset Development Fund became operational in January 2009.

| | |
|--------------------------|--------------|
| Fund Capital | €108 million |
| Date Operational | January 2009 |
| Participants | 10* |
| Private Capital Invested | 31% |

*3 buyer participants and 7 seller participants.



Partnership for Market Readiness

In its second year of operation, the PMR reached a capitalization of \$105 million in October 2012 from 12 donor countries, including new participants Finland and Sweden. Peru also joined the PMR as an implementing country participant, receiving a preparation grant of \$350,000, bringing the total number of implementing participants to 16. Four countries presented draft Market Readiness Proposals (MRP) based on preparation grants received in 2011.

| | |
|------------------|---------------|
| Fund Capital | \$105 million |
| Date Operational | April 2011 |
| Participants | 28 |



Mapping Carbon Pricing Initiatives

The uncertainty surrounding the existing carbon markets in the last years has prevented valuable resources to be channeled to low-carbon investments, particularly from the private sector. Following the economic downturn and slow economic recovery in major economies, industrial output plummeted and the demand for carbon assets used for compliance fell. With limited support, prices reached historical lows. At the same time, several national and sub-national carbon pricing initiatives are emerging. It is not surprising that several of these new carbon pricing initiatives also include design features to prevent similar developments in the future, including mechanisms to stabilize the carbon price.

Prices in major existing carbon markets are at a historic low. The carbon market has endured challenging years since the global economic crisis of 2008-2009. The economic downturn led to a significant reduction in the level of industrial activity and greenhouse gas (GHG) emissions in participating economies. Under conditions of lower growth the demand for carbon assets from compliance buyers fell. The imbalance created by reduced demand and an unchanged supply (put in place in a more favorable economic environment) in the main carbon markets have led to a surplus of allowances and credits in the market, causing carbon prices to plummet since

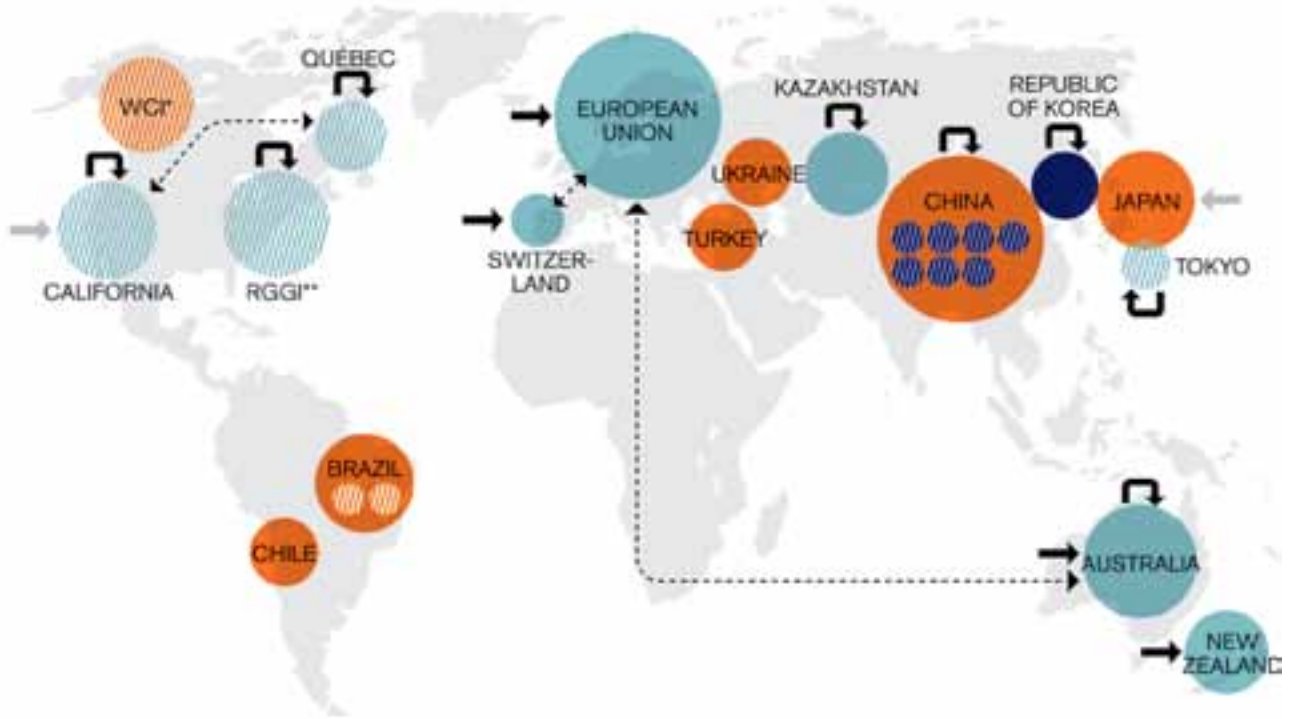
mid-2011. Kyoto offsets are currently traded at a few Euro cents, while EU Allowance (EUA) prices fell from about €30 in mid-2008 to historic lows below €4 in early 2013, substantially less than what is needed for a transition to a sustainable, low-carbon world.

The prospect of a coordinated international approach to carbon pricing will remain uncertain for several years. Decisions taken at Doha 2012 ensured that the existing carbon mechanisms under the Kyoto Protocol would continue. However, it was mainly European countries who made carbon pledges, and these were restricted to levels already known. Outside the Kyoto Protocol, no decisions are expected on new international emission reduction targets or new carbon market mechanisms before 2015, making implementation impossible before 2020. This leaves a considerable period of time with limited guidance on carbon pricing at the international level.

Regional, national and sub-national carbon pricing initiatives are proliferating. Despite weak international carbon markets, both developed and developing countries are mainstreaming carbon pricing initiatives in national climate change and development strategies. Several regional emissions trading schemes (ETS) and carbon taxes are already in place, while new carbon pricing mechanisms are under development, in some cases including new national offset standards (see Figure 1). Yet other countries are hosting pilot projects under new market mechanisms and for domestic trading schemes. The underlying endorsement to carbon pricing alongside other policy instruments to reduce greenhouse gas emissions cannot be left unnoticed.

Carbon pricing needs to be flexible and aligned with national priorities in order to work. The recent implementation of a variety of carbon pricing schemes

Map of existing, emerging and potential emissions trading schemes.



Status of implementation

- Implemented (in force with established rules)
- Implementation scheduled (mandate agreed, start date communicated, rules in preparation)
- Under consideration*** (government gave public signal towards the development of an ETS)

Offsetting

- CDM and JI credits
- Bilateral offsets
- ↻ Domestic offsets

Linking

- ↔ Planned link

Legend:

- National
- Sub-national or regional

* WCI - Western Climate Initiative. Participating jurisdictions are British Columbia, California, Manitoba, Ontario and Québec

** RGGI - Regional Greenhouse Gas Initiative

*** Schemes under consideration are at different stages in the process. See Section 3 for more details.

Note 1: The size of the circles is not representative of the size of the schemes.

Note 2: Mexico's Congress passed a General Law on Climate Change, which provides the federal government with the authority to create programs, policies, and actions to mitigate emissions, including an ETS.

Note 3: Costa Rica is working on the design of a domestic carbon market that would contribute to meeting the country's carbon neutrality goal

around the world illustrates that in order to be successful, such initiatives have to be in line with national priorities, in particular economic priorities. New schemes benefit from the lessons learned under earlier schemes. Most of the carbon pricing mechanisms in place or being planned involve a staged approach, allowing for the gradual introduction of a scheme with consecutive compliance periods or using piloting approaches. In addition, many emissions trading schemes include the distribution of

The *Mapping Carbon Pricing Initiatives Report* replaces the *State and Trends of the Carbon Market* series of previous years. This report maps existing and emerging carbon pricing initiatives around the world. It does not provide a quantitative, transaction-based analysis of the international carbon market since current market conditions invalidate any attempt to undertake such an analysis. The development of national and sub-national carbon pricing initiatives in an increasing number of countries calls for a different focus.



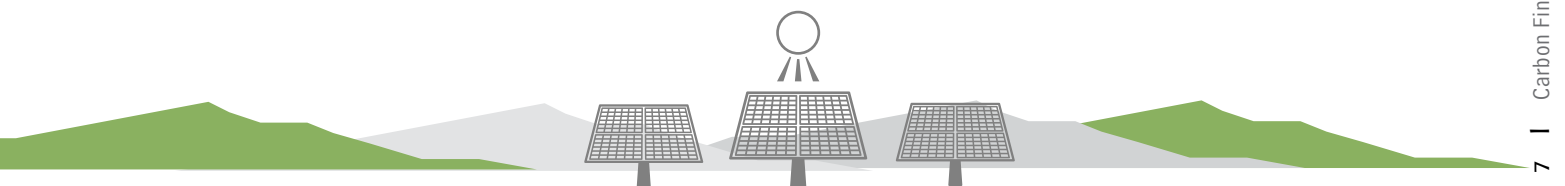
Regional, national and sub-national initiatives are developing at a greater pace than ever before.

free permits, which are reduced over time. These approaches make the acceptance of schemes by compliance entities and stakeholders easier. Schemes that allow learning can also adjust themselves better to changes in the economy and national priorities.

New approaches emerge to ensure ambition and price stabilization. Several schemes are exploring ways of raising the level of mitigation ambition over time in a predictable way. The Kyoto Protocol fixes the new targets as a “floor of ambition” and sets a date for countries to increase their ambition. Schemes are introduced through pilots or in phases to then apply the lessons learned (including those on supply and demand balance). Price stabilization mechanisms can be used to prevent prices from falling too low, such as through a price floor, or to prevent prices from becoming too high, using a cost containment reserve or other mechanisms. Provisions on borrowing and “banking” allowances between commitment periods were introduced as instruments to stabilize prices in the first cap-and-trade schemes, but proved to be insufficient. Australia’s Carbon Pricing Mechanism includes a rolling target setting approach that can adjust to new economic and environmental considerations. The United Kingdom (UK) carbon price floor is intended to supplement currently low EU ETS prices, in order to stimulate investment in low-carbon infrastructure and help the country meet its long-term target

Today, countries with carbon pricing mechanisms in place emit roughly 10 GtCO₂e/y, equivalent to 21% of the 50 GtCO₂e emitted globally. If these are joined by emerging economies looking to implement carbon pricing mechanisms (including China, Brazil and Chile), carbon pricing mechanisms could reach countries emitting 24 GtCO₂e per year, or almost half of total global emissions. A mix of existing and emerging emissions trading schemes and carbon taxes could put a carbon price on at least 3.3 GtCO₂e/y, or 7% of global emissions.

to reduce GHG emissions of 80% by 2050. The Regional Greenhouse Gas Initiative (RGGI) and Québec’s cap-and-trade system and California’s cap-and-trade program include cost containment reserves to safeguard market players against too high prices. Several schemes allow the use of offsets as price stabilization mechanisms.



Summary of Operations



The Carbon Finance Unit's projects have delivered more than 90 percent of the emission reductions that are set forth in its contracts for delivery in 2012.

Last year, the Carbon Finance Unit continued to realize the achievements of its work in the past decade, with the delivery of 61 million carbon credits, compared to 31 million in 2011, an impressive 96% increase in the delivery of generated emission reductions. It is noteworthy that the Unit's projects have delivered more than 90 percent of the emission reductions that are set forth in its contracts for delivery in 2012. Out of the total 249 million emission reductions that are under contract, 181 million were scheduled for delivery by December 2012. By December 31, 2012 the Unit delivered 167 million tCO₂e¹ (92%) to its fund and facility participants.

In 2012, the Unit's carbon funds and facilities signed five new Emission Reductions Purchase Agreements (ERPAs), bringing the total number of active ERPAs to 160.² Also noteworthy is that 16 projects have fully delivered the number of contracted emission reductions expected, fulfilling the purchase contract with the project entity and allowing the Unit to "close" these ERPAs.

Furthermore, in 2012, 19 projects and 9 Programmes of Activities (PoAs) were registered with the UNFCCC after passing validation, with the majority in the energy and waste sectors. It is particularly encouraging that PoAs are being implemented, allowing for emission reductions to be scaled up. The **SGCC In-advance Distribution Transformer Replacement CDM PoA** in China was the first in the Unit's portfolio to complete verification successfully under the CDM.

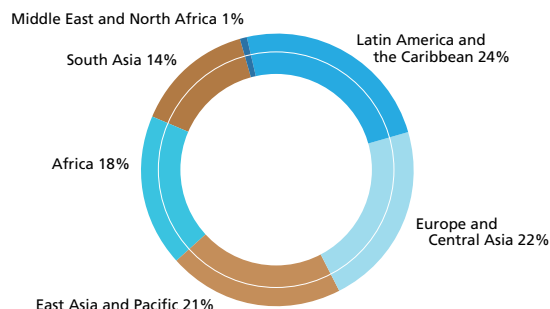
The Unit continued its cutting-edge work on policy and methodology issues and had two important methodologies approved by the UNFCCC: the **AMS-I.L.: Electrification of rural communities using renewable energy and AMS-III.B: Electrification of communities through grid extension or construction of new mini-grids**. In addition, work on CDM reform continues with the publication of two reports: "CDM reform: Improving the efficiency and outreach of the Clean Development Mechanism through standardization"

and "Alternative approaches to addressing the risk of non-permanence in afforestation and reforestation projects under the CDM".

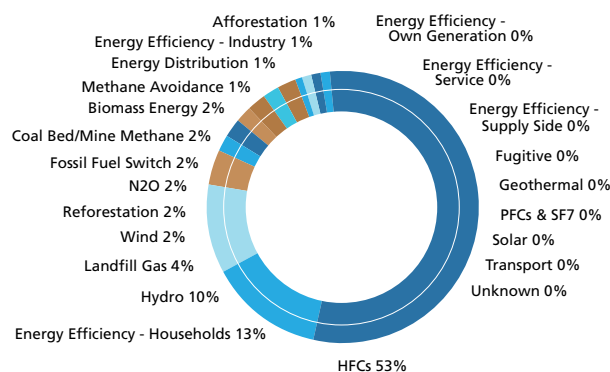
| | Projects | Value | Volume (tCO ₂ e) |
|---------------------------------|----------|----------------|-----------------------------|
| ERPAs Signed or Fully Delivered | 160 | \$1.90 billion | 249 million |

Distribution by Region and Sector

Regional Distribution (by project)



Sectoral Distribution (by volume)



The Latin America and Caribbean region and the Europe and Central Asia region hold the largest percentage (24% and 22% respectively) of the Carbon Finance Unit's portfolio in 2012 by number of active ERPAs, followed by the East Asia and Pacific region (21%). While the volume of emission reductions in Africa remains low at 10.5 Mt, the percentage of active ERPAs in the portfolio in the Africa region is 18%³ (28 active ERPAs), substantially higher than the general percentage of projects in Africa registered under the Clean Development Mechanism, which remains low at approximately 4%.

As in past years, HFC-23 destruction projects represented the largest share of the Carbon Finance Unit's portfolio by volume of emission reductions (53%), though accounted for by only two projects. The growth in ERPA volume in 2012 was a result of the signature of some high volume Green Investment Scheme transactions for carbon funds focused on the first Kyoto commitment period, as well as the signing of the first ERPA, for a landfill gas PoA in Brazil, by the Carbon Partnership Facility.

¹ These include all categories of carbon credits, including but not limited to, CERs, AAUs and ERUs.

² This figure includes cases where a project entity signs an ERPA with multiple funds. All such ERPAs are counted.

³ Africa is defined as North Africa and sub-Saharan Africa.

The Carbon Finance Unit's Global Network

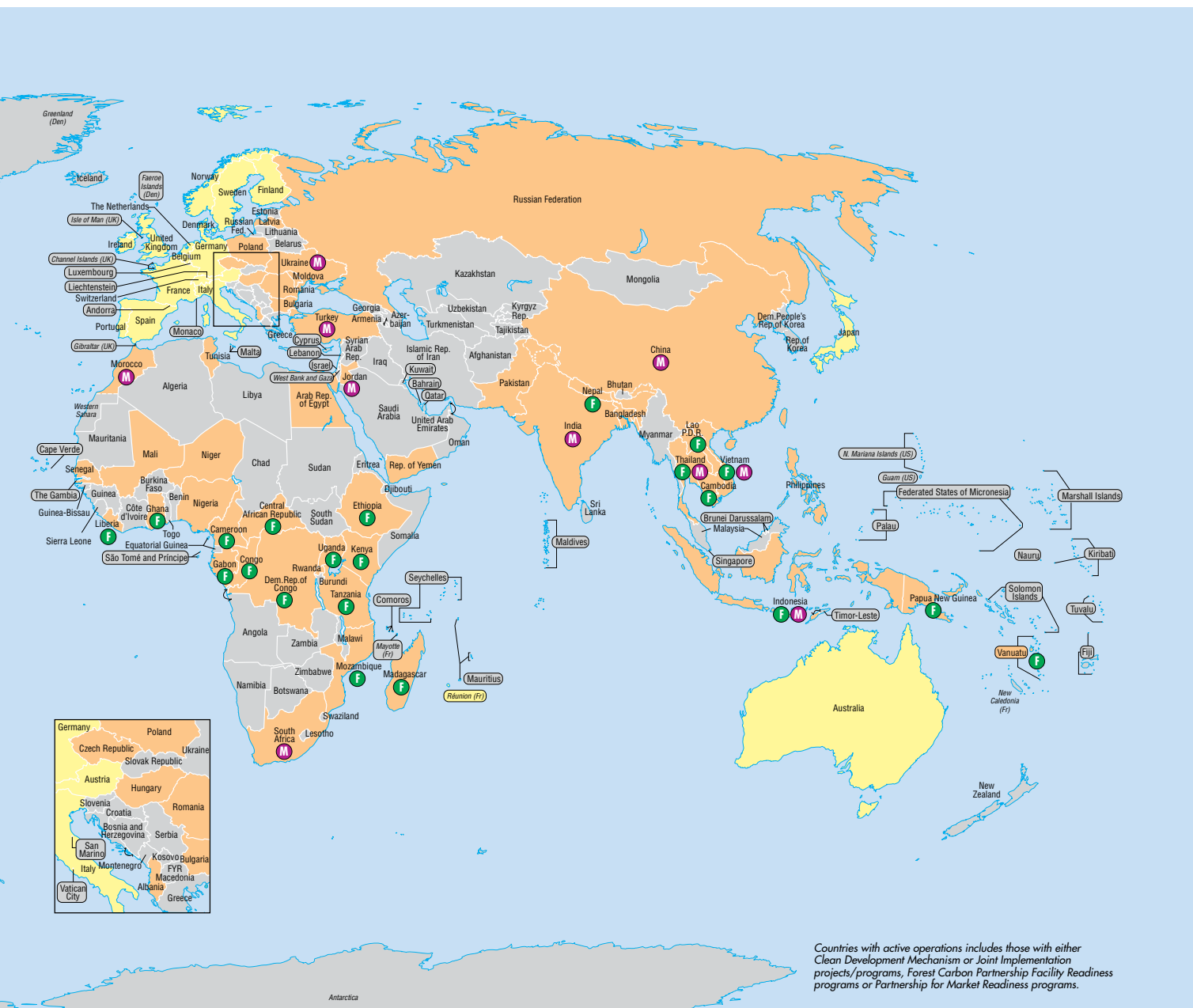
The Carbon Finance Unit supports carbon credit operations and programs in 65 developing countries. This includes activities of the Forest Carbon Partnership Facility (FCPF) and the Partnership for Market Readiness (PMR), as detailed in this map.

The Unit is supported by 24 governments and public sector entities who either purchase emission reductions as carbon fund participants and/or contribute donor resources to readiness activities. The Unit is also supported by 55 private sector firms and 2 foundations who, together with the public sector, purchase emission reductions via the carbon funds.

In 2012, the Unit signed five new emission reductions purchase agreements, bringing the total number of active carbon projects and programs worldwide to 160. These delivered 61 million carbon credits last year. By December 31, 2012, the Unit had delivered 167 million tonnes of CO₂e cumulatively (92% of its goal) to participants of its funds and facilities.

Also in 2012, 19 projects and 9 Programmes of Activities were registered with the UNFCCC after passing validation, mainly in the energy and waste sectors.







2012 Highlights



The first-ever sustainable agricultural land management project encourages 60,000 smallholder farmers in Kenya to adopt improved farming techniques for a triple win: increased yields and incomes, resilience to climate change, and sequestering carbon in the soil.



Staff at Huayacoloro Project plant.

- **January** - The **first-ever sustainable agricultural land management (SALM) practices methodology** was approved by the Verified Carbon Standard, to encourage 60,000 smallholder farmers in Kenya to adopt improved farming techniques. This first “soil carbon” pilot, supported by the BioCarbon Fund, shows the world that a triple win can be achieved: increased yields and incomes, resilience to climate change, and sequestering carbon in the soil.
- **January** - Carbon credits were issued to **the Huayacoloro power plant** which turns dumped resources into clean electricity in Peru. The plant captures methane from millions of tons of trash, producing 4.8 megawatts of clean electricity. Because methane emissions are avoided and the clean energy displaces the use of fossil fuels, the project earns carbon credits. The total avoided CO₂e emissions are expected to reach a million tons by 2014, generating millions of dollars used for maintenance of the plant.
- **March** - A new, small scale CDM methodology that was developed by the World Bank, funded by the CDCF+ and is known as **“AMS-I.L.: Electrification of rural communities using renewable energy,”** was approved by the UNFCCC. It will be used for rural electrification projects using off-grid technologies, promoting the use of energy efficient lighting.
- **April** - More than 4 million tCERs were issued to the **Plantar reforestation project in Brazil**, making it the first forestry project worldwide to issue credits under the Kyoto Protocol’s CDM. This project is growing 11,600 hectares of sustainably managed tree plantations on degraded



lands, which sequesters carbon dioxide and provides a source of carbon-neutral charcoal. The project also supports the protection of native *cerrado* forests and biodiversity, helping the iron and steel sectors become more sustainable.

- **April** - The **4th Africa Carbon Forum** in Addis Ababa, Ethiopia, focused on climate change and carbon finance, with the aim to share knowledge on carbon markets and green technologies in Africa. It covered the future of the CDM, climate-smart agriculture, public-private partnerships, and project funding on the continent.
- **May** - The **State and Trends of the Carbon Market 2012** report was released. The total value of the carbon market grew by 11 percent in 2011, to \$176 billion, and the total volume of transactions reached a new high of 10.3 billion tons of CO₂e. Despite economic turbulence, growing long-term oversupply in the EU ETS, and plummeting carbon prices, five new jurisdictions introduced carbon-pricing initiatives, including market-based mechanisms, in developed and developing countries (Australia, California, Quebec, Mexico, and Korea).
- **May/June** - **Carbon Expo** was held in Cologne, Germany, supporting post-2012 carbon markets through innovative financial instruments.
- **May** - Two reports were released at Carbon Expo. The first, **"REDD+ and Community Forestry: Lessons from an Exchange of Brazilian Experiences with Africa,"** is the result of a South-South exchange, which brought key decision-makers from Africa to Brazil to learn first-hand from Brazil's community forest management experience.



Planter reforestation project in Brazil, the first forestry project worldwide to issue credits under CDM.



Ministerial Roundtable on The Green Race, at Carbon Expo in May.



Access to electricity allows for a more productive use of evening hours.



Installation of 65,000 solar home systems in Bangladesh also generates carbon credits.

The second publication, **“CDM reform: Improving the efficiency and outreach of the Clean Development Mechanism through standardization,”** looked at options to extend standardization to CDM procedures in order to improve efficiency.

- **May** - Another new small scale CDM methodology developed by the World Bank and funded by the CDCF+, called **“AMS-III.BB.: Electrification of communities through grid extension or construction of new mini-grids”** was approved by the UNFCCC. It supports grid extension and mini/isolated grids with simplified monitoring requirements, facilitating project implementation.
- **June** - A side event was held during a UNFCCC meeting in Bonn, Germany, on **“How best to incentivize low-emission development in developing countries”** which included discussions on climate-smart planning, CDM reform, and piloting new market mechanisms—all in all, encouraging the World Bank to continue its efforts to support new carbon market initiatives.
- **June** - The **Bangladesh Solar Home Program**, the world’s largest off-grid renewable energy program, was registered. This CDCF-supported PoA will install over 65,000 solar home systems per month in rural households in Bangladesh.
- **July** - The UNFCCC registered a PoA for piggeries under the **Methane Recovery from Waste Management Project**, which allows farms across the Philippines to generate carbon credits. The project provides carbon finance to operators of piggeries to encourage them to install sound



waste management systems, properly dispose of pig manure and reduce emissions by capturing methane to generate carbon credits. The Spanish Carbon Fund is buying these carbon credits, thus providing the piggeries with an additional revenue stream.

- **July** - The **“Punjab State Electricity Board: High Voltage Distribution System for Agricultural Consumers in the Rural Areas of the Punjab”** is the first PoA eligible to claim carbon credits for significantly reducing the technical losses in electricity distribution in the agriculture sector. This is the first *Utility Scale Loss Reduction Programme* to be registered as a CDM PoA, a good example for countries where electricity is usually distributed in low voltage, resulting in high technical and commercial losses.
- **August** - A **10 MW wind farm built in Maldonado** was registered with the UNFCCC, becoming the second wind power project in Uruguay to earn carbon credits. It will generate around 180,000 carbon credits during its first 7 year crediting period, to be purchased by the Spanish Carbon Fund. It creates an important revenue stream for the project, which helps catalyze investment in wind power.
- **August** - The **Indian Allain Duhangan run-of-the-river hydro project** saw its first issuance of 169,798 carbon credits, playing an important role in debt financing. This is the largest hydropower plant to issue carbon credits worldwide. The renewable energy will help green India's power grid and reduce GHG emissions. The project received two prizes at the 2012 Asian Power Awards.



The Marcela Farms in the Philippines captures methane from manure and turns it into electricity and uses treated sludge as fertilizer for a banana plantation.

Uruguay's wind power project will generate around 180,000 carbon credits during its first 7 year crediting period, creating an important revenue stream for the project.



Discussions at regional CDM capacity-building workshop in Senegal, on CDM reforms and new financing models.



Caixa Solid Waste Management in Brazil.

- **September** - A discussion was held on **results-based finance** in Paris, where it was agreed that beyond offsetting, carbon crediting is a powerful instrument to implement MRV, improve project operations, and provide project incentives.
- **October** -The UNFCCC announced the first-ever landfill gas PoA, the **Philippine Methane Recovery from Waste PoA**. This PoA improves waste disposal management and helps combat climate change by allowing local government, communities and the private sector in the Philippines access carbon finance by reducing methane emissions as garbage dumps are converted to sanitary landfills.
- **October** - The **Caixa Solid Waste Management Program in Brazil** reached a major milestone as it became the first PoA in the Carbon Partnership Facility's Carbon Fund portfolio to be registered.
- **October** - Rosneft received an **award for its Associated Gas Recovery Project on the Komsomolskoye oil field** in Russia. The project reduces flaring by 1.3 million cubic meters of gas annually, translating into a reduction of one million tons of carbon dioxide per year, in addition to reducing the emission of soot, carbon monoxide, sulfur dioxide, nitrogen dioxide, and nitrogen oxide by 72 percent.
- **October** - Senegal's first PoA was registered, using the World Bank-developed simplified methodology for LDCs. The **Lighting Energy Efficiency in Rural Electrification PoA** is remarkable because it scales up the distribution of energy efficient light bulbs, supporting the sustainable electrification rural communities.



- **October** - The issuance of 851,911 tCERs to the **Moldova Soil Conservation Project** was the largest issuance of carbon credits for a reforestation project in the Emerging Europe and Central Asia countries. This was only the second land use and land-use change project to be registered with the UNFCCC, and the first to issue carbon credits in Moldova.
- **October** - Validation by Rainforest Alliance started for the **Ankeniheny–Zahamena Corridor REDD project**, which protects over 370,000 hectares of highly threatened rainforest in Madagascar, the animals that live in it, and generates benefits to local communities. By reducing emissions from deforestation, the project will generate carbon credits, which will finance activities that address the causes of deforestation, including more efficient agriculture practices. This project is using a new methodology developed by the BioCarbon Fund and approved by the Verified Carbon Standard. The BioCarbon Fund will purchase nearly 500,000 carbon credits from the project.
- **October** - A **regional Francophone CDM capacity-building workshop** was held in Dakar, Senegal, to enhance participants' skills and knowledge of CDM reforms and new finance models for CDM projects ahead of climate negotiations and CDM reform discussions at COP 18 in Doha.
- **October** - The **Humbo Assisted Natural Regeneration project** was awarded 73,000 tCERs for the regeneration of 2,728 hectares of biodiversity-rich land. This was the first project in Africa to earn forestry carbon credits under the CDM.



Soil conservation project issues first carbon credits in Moldova.



The CAZ REDD Project in Madagascar protects 370,000 hectares of rainforest and the lemurs that live in it.



The AEL Project is the first energy efficiency street lighting project registered in India.



The Guangxi project in China is the first reforestation project to be registered worldwide. It issued forestry carbon credits in 2012.

- **November** - Poland signed a contract with the Spanish Carbon Fund and the Carbon Fund for Europe, respectively, to purchase Assigned Amount Units under the **Polish Green Investment Scheme**, for a total amount of €21 million. The program reduces greenhouse gas emissions through energy efficiency projects.
- **November** - The publication **“Alternative approaches to addressing the risk of non-permanence in afforestation and reforestation projects under the CDM”** discusses how carbon crediting for forestry projects can be improved in terms of efficiency and market attractiveness.
- **December** - The **India AEL Street Lighting Energy Efficiency Project** was registered with the UNFCCC, saving around 45.5 GWh of electricity per year across nine municipalities, equivalent to reducing about 38,000 tCO₂e annually. This street lighting project, supported by the CDCF, is the first registered CDM energy efficiency project implemented through an ESCO approach in the municipal sector.
- **December** - In **China, the Facilitating Reforestation for Guangxi Watershed Management in Pearl River Basin Project** was the first reforestation project to be registered in the world under the UNFCCC. In December, it issued 131,964 tCERs for reforesting 3,000 hectares of previously barren land, the first time tCERs were issued in China.
- **December** - Finland, Germany, and Norway each announced **new financial contributions totaling \$180 million to the Forest Carbon Partnership Facility**. The



new contributions to the FCPF bring its capitalization to almost \$650 million. They guarantee continued support for efforts by developing countries to reduce the loss of forest

cover and the associated GHG emissions while preparing for results-based payments.



The first-ever landfill gas PoA worldwide collects methane from waste in the Philippines.




Next Generation Carbon Initiatives



With the end of the Kyoto Protocol's first commitment period, the World Bank looks toward the future and continues to grow its post-2012 carbon initiatives – the **Forest Carbon Partnership Facility (FCPF)**, the **Carbon Partnership Facility (CPF)**, the **Partnership for Market Readiness (PMR)**, the **BioCarbon Fund Tranche 3 (BioCF T3)** and the **Carbon Initiative for Development (Ci-Dev)**.

These “next generation” carbon initiatives are described in the following sections. They 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 greenhouse gas mitigation, including domestic emissions trading schemes, new carbon crediting instruments, and carbon taxes. Momentum among developing and emerging-market countries to take domestic mitigation action is building; the World Bank is designing initiatives to leverage it.



A scenic landscape of a tropical forest with misty valleys and mountains under a cloudy sky. The foreground is filled with lush green trees and vegetation. In the middle ground, a valley is filled with mist, and a small settlement is visible on a hillside. The background shows more mountains under a sky with scattered clouds.

BioCarbon Fund (BioCF) Tranche 3

The BioCarbon Fund Tranche 3, with associated project management, will work at a landscape level transforming large rural areas by restoring degraded lands, enhancing agricultural productivity, improving livelihoods and local environments.

Financing Sustainable Landscapes

Over the past decade, the BioCarbon Fund (BioCF) Tranches 1 and 2 have committed over \$90 million to 25 projects that have restored 150,000 hectares of degraded lands and reduced deforestation in over 350,000 hectares of land. These projects have pioneered land-based carbon accounting methodologies and sustainable land management practices to biologically sequester carbon. Tranches 1 and 2 invested in afforestation, reforestation, sustainable agriculture, and project-level REDD. Through the successful completion of these projects, the BioCF has contributed to the establishment of the carbon market for land-use offsets.

Building on its successful track record, the BioCF is currently developing a new, third tranche, which aims to scale up climate-smart land use and deliver landscape-level transformations. For Tranche 3, the BioCF will treat reforestation, REDD+, agriculture, and energy in an integrated approach to mitigate climate change, enhance food security, and increase the resilience of local communities and environments to climate change. In essence, the BioCarbon Fund Tranche 3 will be:

- **Implemented at the scale of the landscape level** to transform large rural areas by restoring degraded lands, enhancing agricultural productivity, improving livelihoods and local environments.
- **Based on an integrated approach** that is breaking down the current narrow sectoral silos, to include various land management practices and energy activities that have an impact on the land. New sustainable land management practices will be pioneered, including on agricultural land, grasslands, pastures, rice paddies, and in wetlands. An integrated landscape approach will also be explored for the purpose of carbon accounting.

- Building on **opportunities for innovative public-private partnerships** and incentivizing sustainable investments on land; for example, by encouraging upstream investments in land productivity and supply chains by private companies and by providing results-based public financing for carbon benefits that will be achieved.
- Designed based on **lessons learned from existing carbon markets**; for example drawing on positive lessons from monitoring and evaluation frameworks, but abandoning limitations experienced by small project-scale approaches.

Because of the implementation scale, the facility that is proposed for the BioCarbon Fund Tranche 3 will apply **new financial and implementation structures that encourage appropriate entities to become involved in implementation**, be they private sector, public sector, communities, NGOs, or other entities. It will **provide a platform for cooperation between the public and private sectors**, as well as technical assistance for implementers and communities involved. Innovative project financing will be explored, including options such as direct financing by companies or capital markets.

Conversations with both the public and private sectors as well as developing countries have highlighted areas where the World Bank could use its comparative advantage and act as a facilitator: social and environmental safeguards; policy dialogue; land tenure solutions; assistance with bringing more smallholders into supply chains; and assistance with MRV for the CO₂ and development metrics, as well as for finance and risk reduction (political, financial, and project implementation).

The World Bank is currently designing the structure of the BioCarbon Fund Tranche 3 in consultation with a broad group of stakeholders. It is expected that the tranche will be operational in 2013.





Forest Carbon Partnership Facility





www.forestcarbonpartnership.org

The focus of the FCPF has shifted to measuring progress toward REDD+ Readiness and developing program ideas for the Carbon Fund.

In its fourth year of implementation, the Forest Carbon Partnership Facility (FCPF) focused on putting in place the operational framework for countries to progress from the Readiness Fund to the Carbon Fund. The Facility made significant progress in defining REDD+ readiness as well as performance-based payments, building on both policy guidance from the UNFCCC and practical experience from countries implementing REDD+ readiness activities on the ground.

2012 also marked a year of increased efforts to reach out to stakeholders, in particular forest-dependent Indigenous Peoples and local communities. The Facility broadened the number of Delivery Partners, which allows it to better extend technical assistance services to REDD+ Country Participants.

Achievements

2012 was an important year for the FCPF as implementation on the ground gained significant momentum and commitments to and disbursements from the FCPF Readiness Fund accelerated. With more and more REDD Country Participants progressing from Readiness Preparation Proposal (R-PP) formulation to R-PP implementation, the attention of the FCPF shifted to measuring progress toward REDD+ readiness. Guidance was given on the process and format for midterm reporting. **The Democratic Republic of Congo (DRC) was the first REDD Country Participant to achieve this important milestone in October 2012** when the Participants Committee allocated the additional funding to support the readiness process in DRC. Additional funding is granted to countries that can demonstrate significant progress towards readiness.

Substantial progress was made on the **design of the Readiness Package (R-Package)**, a document to be generated by a REDD+ country well advanced in its readiness preparation. Progress was also registered in defining the nuts and bolts for **performance-based payments under the Carbon Fund**.

The rules of procedure were agreed upon and a working group prepared guiding principles for the methodological framework and pricing approach. As the Carbon Fund prepares to select the first Emission Reductions Programs in FY13, the corresponding template was developed and the selection criteria for building a pipeline of program ideas were agreed upon.

The word “partnership” in the FCPF conveys the idea of a multi-stakeholder forum, and the FCPF has indeed brought together both grassroots and policy-level audiences. Reaffirming **its commitment to meaningfully engage Indigenous Peoples**, the FCPF pledged to support a series of regional meetings following the first global dialogue in Panama in September 2011. A Pan-African dialogue and similar regional meetings in Latin America and Asia were held in 2012. The FCPF also scaled up funding for the Capacity Building Program for Indigenous Peoples, Local Communities, and Southern Civil Society Organizations to \$5.5 million over 4 years and increased the amount of grant funding to REDD Country Participants to enhance their capacity for dispute resolution.

Four years into operations, the FCPF has made great strides in building the capacity of its many participants. While the early years of the Facility focused on developing the necessary process and procedural foundations, in 2012 the emphasis was squarely on support to countries. Over the course of the last year a number of major knowledge pieces were developed on topics such as **lessons from payments for environmental services for REDD+, benefit sharing, national REDD+ registries, the design of reference levels, community participation in monitoring systems, the role of community forestry under REDD+, and the analysis of drivers that underpin deforestation dynamics in the Congo Basin**. In addition, efforts were stepped up to disseminate knowledge and encourage feedback from the broader REDD+ community through South-South exchanges. To enhance country presence and multiply the impact of FCPF funds on the ground, the FCPF coordinated closely with partners, including the UN-REDD

Programme, the Forest Investment Program, and bilateral and multilateral agencies.

Future

Moving forward into 2013, the FCPF will place special attention on the emerging pipeline for the Carbon Fund while continuing to support the readiness process for REDD Country Participants. The FCPF will further strengthen its role in capturing the experiences of REDD Country Participants more systematically, disseminating knowledge, and facilitating South-South knowledge exchanges with the aim of accelerating learning across countries. Now that Transfer Agreements with the United Nations Development Programme (UNDP) and the Inter-American Development Bank (IDB) as new Delivery Partners are in place, the FCPF is able to extend technical assistance services to a number of participating countries, thus helping them to make progress toward REDD+ readiness.

Governance

The FCPF currently has thirty-six REDD Country Participants (13 in Africa, 15 in Latin America and the Caribbean, and eight in Asia-Pacific).

The FCPF consist of **the Participants Assembly**, which is comprised of all the countries and organizations participating in the FCPF and meets annually. It elects **the Participants Committee**, which is made up of an equal number of forest (REDD+) countries (14) and financial contributors (14), and is also comprised of observers representing indigenous peoples, civil society, international organizations, the UN-REDD Programme, the UNFCCC Secretariat and the private sector. The Committee is the main decision-making body of the FCPF. It reviews country submissions, decides on grant resource allocation, approves budgets inter alia.

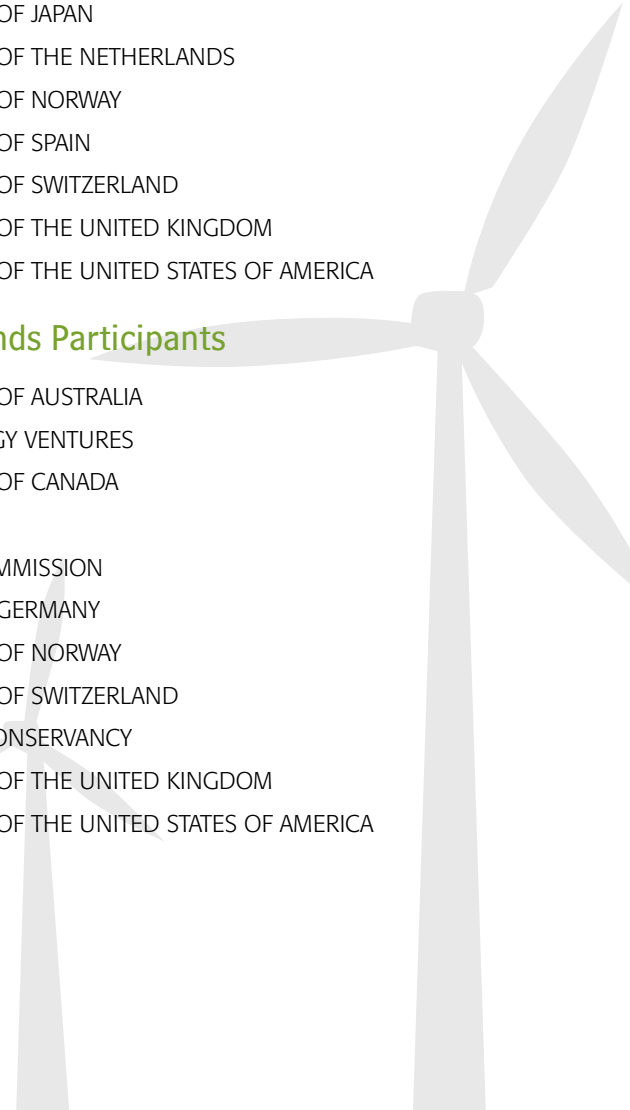
The World Bank assumes the functions of trustee and secretariat. The World Bank, the Inter-American Development Bank and United Nations Development Programme are Delivery Partners under the Readiness Fund and responsible for providing REDD+ readiness support services to distinct countries.

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 Funds Participants

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



What Is the FCPF

The Forest Carbon Partnership Facility (FCPF), which became operational in June 2008, 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 with funding of about \$258 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 measurement, reporting and verification (MRV) systems; and setting up REDD+ national management arrangements, including the proper safeguards. As of December 2012, a total of 31 countries have already prepared their Readiness Preparation Proposals, of which 26 were for formal assessment. Total funding in excess of \$100 million has been allocated to these 26 countries and nine have received grants to implement these proposals.

About the Carbon Fund

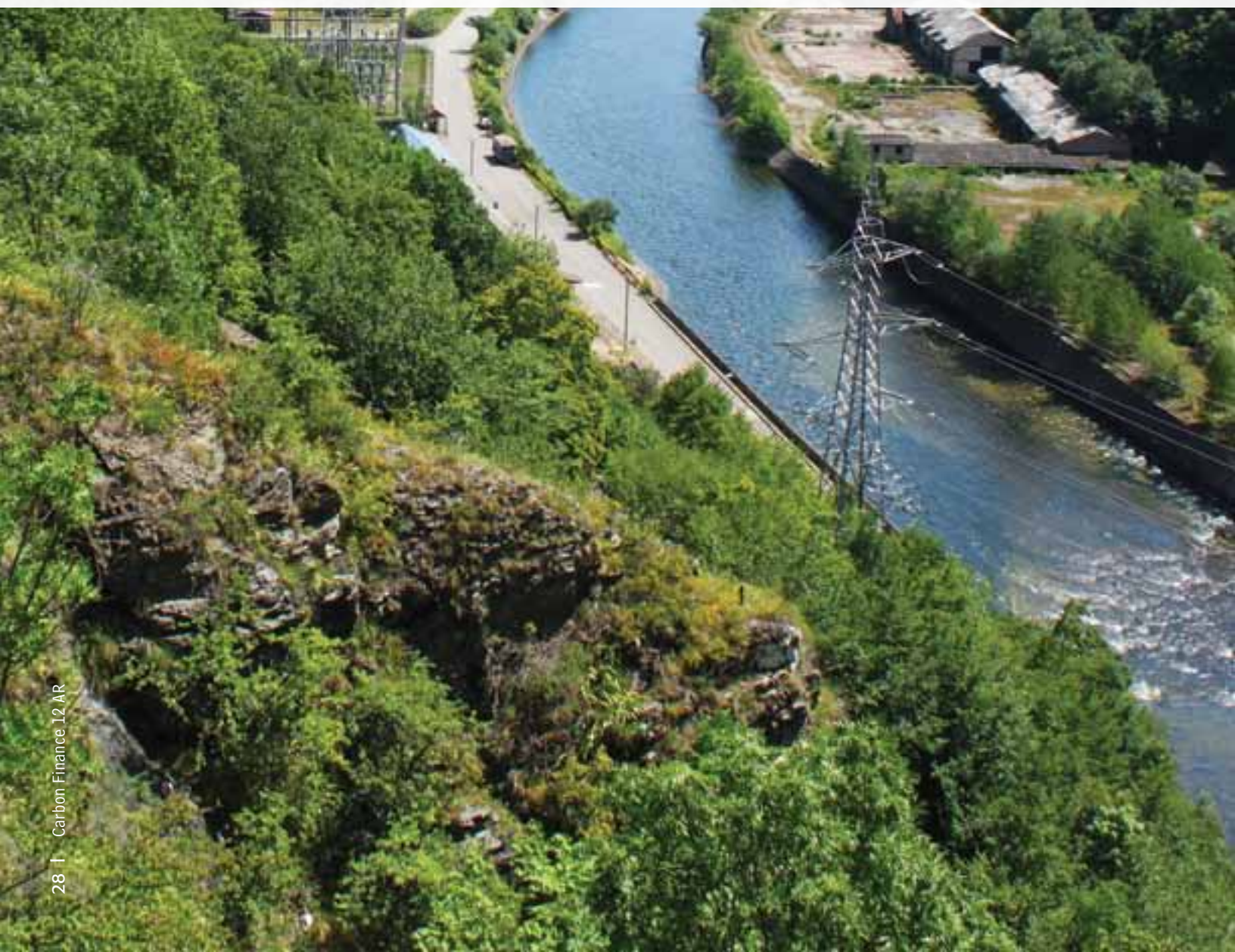
The Carbon Fund, the second fund of the FCPF, became operational in May 2011 (currently with funding of about \$390 million committed by 11 public and private contributors, each having provided at least \$5 million). It will provide payments for verified emission reductions from REDD+ programs in about five countries that have made considerable progress towards REDD+ readiness. Consistent with the UNFCCC decision on REDD+ adopted in Cancun in December 2010, the readiness, investment and performance based payment phases are not purely sequential but will instead 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 Emission Reductions Payment Agreement with the Carbon Fund. The Carbon Fund will deliver emission reductions to the financial contributors of the fund pro rata to their share of capital.

Meetings in 2012

- In March, the 11th Participants Committee Meeting was held in Asunción, Paraguay, and the R-PPs of Guatemala and Mozambique were approved. Also in Asunción, the Carbon Fund held its 3rd Meeting.
- In June, the Participants Committee held its 12th meeting in Santa Marta, Colombia, where Nicaragua's R-PP was approved. Also in Santa Marta, the Carbon Fund held its 4th Meeting.
- In October, the FCPF held its 5th Participants Assembly Meeting and its 13th Participants Committee Meeting in Brazzaville, Congo, where the R-PPs of El Salvador and Cameroon were approved.
- Also in October, the Carbon Fund held its 5th Meeting in Paris, where Costa Rica's Emission Reductions Program Idea Note (ER PIN) was reviewed and grant money was approved.



The Carbon Partnership Facility



The fundamental goal of the CPF is to help our partner countries utilize carbon finance to implement systematic approaches to low-carbon growth.

The Carbon Partnership Facility (CPF) is one of the World Bank's newer carbon finance instruments, with the primary objective of scaling up carbon finance. The CPF is designing emission reduction programs for investments that will deliver carbon assets after 2012, in the second Kyoto Protocol commitment period. It consists of the **Carbon Asset Development Fund**, which supports the preparation of the emission reduction programs, and the **Carbon Fund**, which will purchase emission reductions 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 the sustainable development priorities of developing countries.

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 solutions that will work on the ground and be mutually beneficial.

The Facility draws on the World Bank's financial and knowledge resources to strategically integrate carbon finance with 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.

In the first Kyoto period, carbon finance mechanisms (e.g., CDM) operated largely on a project-by-project basis. The CPF utilizes scaled-up, programmatic approaches to enable carbon finance to systematically support partner country

initiatives for low-carbon growth. The team is working on a more programmatic basis with governments and agencies to develop large-scale carbon finance programs. These programs are aligned with Bank operations and other sources of funding to provide more comprehensive approaches to financing clean technologies. 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.

The fundamental goal of the CPF is to help our partner countries utilize carbon finance to implement systematic approaches to low-carbon growth. To do this, our focus has to be on finding ways to support their policies and initiatives to catalyze public and private investment in clean technologies.

CPF Status

The First Tranche of the Carbon Partnership Facility became operational on May 15, 2010. By the end of 2012, it had €97.0 million in commitments to the Carbon Fund and an additional €11 million in contributions to the Carbon Asset Development Fund.

The key objective of the First Tranche is to test the CPF model. The goal is to scale up carbon finance through the CDM Programme of Activities approach to support partner country initiatives. The aim is to generate emission reductions 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 new scaled up crediting modalities. The lessons learned from initial efforts on the First Tranche programs will set the stage for the World Bank to make further constructive contributions to the design and implementation of new carbon market mechanisms envisaged under the UNFCCC.



2012 Participants

Buyer Participants



GOVERNMENT OF SPAIN



MINISTRY OF FINANCE
GOVERNMENT OF NORWAY



Seller Participants

- FONDS D'EQUIPEMENT COMMUNAL OF MOROCCO
- CAIXA ECONÔMICA FEDERAL OF BRAZIL
- MINISTRY OF INDUSTRY AND TRADE OF VIETNAM
- GREATER AMMAN MUNICIPALITY
- PROVINCIAL ELECTRICITY AUTHORITY OF THAILAND
- HEBEI GREEN AGRICULTURE COMPANY
- TANZANIA RURAL 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





The Partnership for Market Readiness

Shaping the Next Generation of Carbon Markets

Launched in December 2010, the Partnership for Market Readiness (PMR) is one of the World Bank's newer carbon market initiatives focused on building capacity, designing and piloting effective market-based approaches to achieve domestic mitigation objectives in emerging and developing economies. The PMR brings together more than 30 countries—including most of the world's largest and fastest growing economies and leaders in climate action—and provides a platform to explore and implement cost effective and innovative approaches to greenhouse gas mitigation, including domestic emissions trading schemes, new carbon crediting instruments, and carbon taxes. The partnership is a key forum for countries to share experience, pool knowledge, and build

The PMR provides countries with an opportunity to explore the technical capacity gaps and issues they face in assessing and designing market-based approaches to meet mitigation objectives, to draw insights from existing and past experiences and to identify ways forward.

common approaches that create a foundation for a globally networked carbon market.

PMR Participants include Contributing Participants that provide financial support to the PMR trust fund, and Implementing Country Participants that receive funding to finance the assessment, ground work, design and—possibly—the piloting of market-based approaches to mitigation. Both groups contribute insights on their existing experience using market approaches to combat climate change. Together they make up the PMR Partnership Assembly, the decision-making body of the PMR.

Participants include:

- **Contributing Country Participants:** Australia, Denmark, the European Commission, Finland, Germany, Japan, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States. PMR funding at the end of 2012 was \$105 million.
- **Implementing Country Participants:** Brazil, Chile, China, Colombia, Costa Rica, India, Indonesia, Jordan, Mexico, Morocco, Peru, South Africa, Thailand, Turkey, Ukraine and Vietnam.
- **Observers:** New Zealand, South Korea, Italy and Singapore regularly participate in the PMR as Observer Countries.

All 16 Implementing Country Participants have been allocated preparation phase funding of \$350,000 to identify capacity-building gaps and to prepare a roadmap, including a funding proposal, for implementing readiness components or a market instrument. This roadmap is known as the Market Readiness Proposal (MRP).

Most Implementing Country Participants will have completed a draft MRP by end-2013. The MRP will be the basis for an allocation of a larger grant in the amount of \$3, \$5 or \$8 million. These funds will be used to implement the activities outlined in the MRP.

The PMR provides systematic support as Implementing Country Participants develop their MRPs. As countries are at different stages of development and market readiness, each approaches the planning and use of market instruments in a different way. As a result, PMR support is country-led.

Through its technical work program, including a workshop series, the PMR provides countries with an opportunity to explore the technical capacity gaps and issues they face in assessing and designing market-based approaches to meet mitigation objectives, to draw insights from existing and past experiences and to identify ways forward. Out of these

workshops, the Secretariat and participants have identified six technical areas where the PMR can focus its support:

- Policy mapping;
- Baseline setting;
- GHG data management and registries;
- Monitoring, reporting and verification (MRV);
- Modeling of carbon pricing instruments; and
- Standard setting for domestic carbon markets.

In 2012, the PMR Secretariat formed the PMR Baselines Working Group to support and advice in the production of a guidance note to participants on baseline setting for crediting mechanisms. The Secretariat also hosted workshops on domestic emissions trading systems, baseline setting, GHG registry set up, modeling for carbon pricing instruments, and data reporting and management.

Meetings and workshops in 2012:

- In March, the PMR held an **Extraordinary Meeting of its Partnership Assembly** in Shenzhen, China, and a **technical workshop on domestic emissions trading systems (ETS)**. Representatives from all existing and most proposed ETS programs participated, including representatives from China's seven pilot trading systems.
- In May, the PMR held its **Third Partnership Assembly Meeting** in Cologne, Germany. Preparation funding of \$350,000 each was allocated to Brazil, India, Jordan, South Africa and Vietnam for the development of a Market Readiness Proposal. The PMR also hosted a technical workshop on baseline setting and registry set up.
- In October, the PMR held its **Fourth Partnership Assembly Meeting** in Sydney, Australia, where the number of Implementing Country Participants increased from 15 to 16 as Peru joined the PMR, and where the PMR reached its funding goal of \$105 million. Chile, China, Costa Rica and Mexico presented draft Market Readiness Proposals, the first PMR countries to do so. The PMR also hosted a technical workshop on greenhouse gas data reporting and modeling tools for carbon pricing instruments.



The Carbon Initiative for Development



The Ci-Dev improves energy access in the poorest countries through carbon-linked performance payments.

The Carbon Initiative for Development (Ci-Dev), launched in December 2011, will use emission reduction-based performance payments to support private-sector driven projects that improve and increase energy access in Least Developed Countries (LDCs) using clean and efficient technologies. The projects will have high development benefits, be innovative and use technologies that deliver primarily community and household level results, such as biogas, household solar and micro-hydro power. The Ci-Dev will also build capacity and develop tools and methodologies so that LDCs, especially in Sub-Saharan Africa, receive a greater and fairer share of carbon finance that results in high developmental benefits and that avoids carbon emissions.

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 provide grants to help LDCs build capacity and realize their potential in carbon market participation.

The Challenge

Energy poverty remains a daunting challenge for the international community with about 1.4 billion people that still do not have access to electricity, 85% of whom are in rural areas. About 2.7 billion people are relying on the traditional use of biomass for cooking, which results in an estimated 1.45 million premature deaths each year due to indoor air pollution. Achieving universal access to electricity by 2030 would require an additional annual average investment of \$36 billion.

At the same time, energy is the greatest contributor of greenhouse gas emissions worldwide. Poor countries are among the most vulnerable to climate change, underlying the importance of clean energy for increasing energy access and the role carbon finance can play by serving as a catalyst.

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 developing countries and on small-scale projects providing co-benefits to the poorest communities. The lessons learned from such experiences will be applied to the implementation of the Ci-Dev.

Currently, the World Bank carbon funds are supporting 59 CDM projects in IDA⁴ countries. Close to half of these are in Africa, but most of them are very small interventions. This experience shows that large-scale development of carbon finance in LDCs and other poor countries requires significant, or even radical, improvements in the CDM regulations and the development of new carbon finance mechanisms that take into consideration the capacity and needs of poor countries. The international community is acting on this need with recent decisions from the CDM’s Executive Board, for instance related to simplified additionality demonstration for micro-scale projects and the introduction of standardized baselines.

The Readiness Fund

The Ci-Dev Readiness Fund, currently capitalized at \$22 million, will focus on enhancing existing and developing new carbon finance mechanisms, building capacity to undertake carbon finance transactions in the poorest countries, and disseminating the lessons learned.

⁴ IDA is the World Bank’s International Development Association, which provides concessional financing to some of the world poorest countries.



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 made significant contributions to capacity building and to knowledge creation and dissemination of carbon finance initiatives—efforts which benefit the carbon finance community (“public good creation”). The Ci-Dev’s support is very timely as the poorest countries have only recently started to develop the needed capacity for carbon finance, and have begun to attract private sector interest. This progress is at risk of being lost with the current carbon market downturn. The technical work of the Readiness Fund will include:

- Supporting poor countries’ Designated National Authorities in developing standardized baselines in such key areas as rural electrification and household energy access.
- Ensure the crediting of low-carbon projects in energy poor countries by establishing “suppressed demand” accounting standards.
- Contributing proposals to further improve and extend the scope of the CDM towards new market mechanisms for use by the poorest countries.
- Supporting carbon finance projects to gain registration with the CDM and in the subsequent verifications.

Resources will also be available to provide up-front financial support to projects that require it.

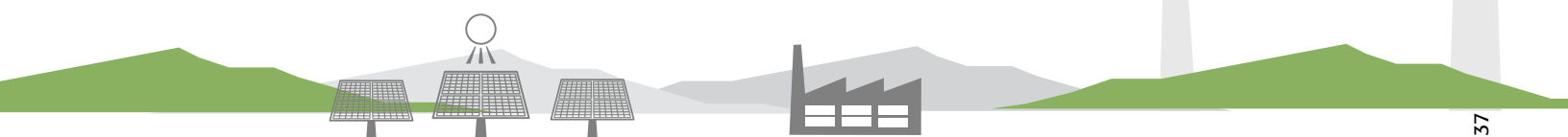
The Carbon Fund

The Carbon Fund will support energy access projects by providing performance-based payments in the form of CER purchases. Focusing on private-sector led projects in technologies aimed at households, such as biogas, solar home systems, or micro-hydro power generation, it will aim at demonstrating successful and viable business models. Recognizing the current downturn in carbon markets, CER payments will be made at a price that will be determined on a project-by-project basis in order to make technologies and measures more affordable to poor people and improve their adoption. A first contribution to the Carbon Fund is expected by mid-2013.

Potential for Operations

The following operations have been identified by the World Bank as potential projects where piloting and testing of the approaches could be applied:

- Off-grid energy access and biogas in Ethiopia
- Renewable energy access in Mali
- Household biogas in Nepal
- Rural electrification in the Democratic Republic of Congo





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

Fuels produced from dry organic matter or combustible oils produced by plants. 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 tonne 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 tonne of carbon dioxide equivalent, which may be used by Annex I parties towards meeting their binding emission reduction 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 (in all its forms—photovoltaic, geothermal, solar thermal, etc.), 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 which governs the purchase and sale of emission reductions.

European Union Emissions Trading Scheme (EU ETS)

In January 2005, the European Union Emissions Trading Scheme 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

Three 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), 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.

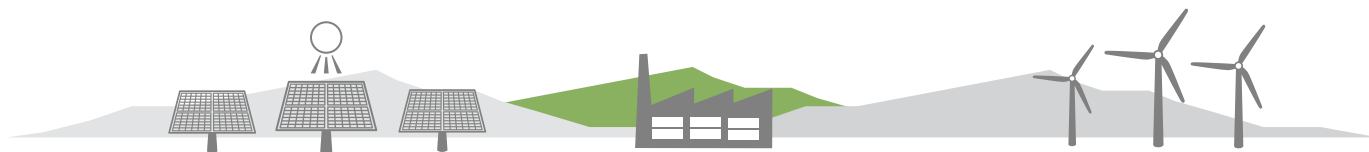
Voluntary Carbon Market

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

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