Committed to Reducing Carbon Emissions

The World Bank’s carbon finance initiatives described in this pamphlet are part of a larger global effort to combat climate change. Many countries, states, cities, local governments and responsible companies have taken action to reduce carbon emissions.

At the international level, the Kyoto Protocol, which entered into force in February 2005, commits industrialized country signatories to reduce their carbon emissions by an average of 5.2 percent below their 1990 levels in the period 2008-2012. Two of the flexible mechanisms incorporated into the Protocol—the Clean Development Mechanism (CDM) and Joint Implementation (JI)—enable industrialized countries to meet some of their obligations through projects generating emission reductions in developing countries and economies in transition.

Public/Private Partnerships

The World Bank’s carbon finance operations leverage new public and private investment into such projects, significantly contributing to other World Bank Group efforts to mainstream climate mitigation and adaptation concerns in developing countries and economies in transition. As part of its carbon finance initiatives, the World Bank has also established a number of technical assistance facilities for capacity building and project preparation.

Carbon Emission Reductions as a Tool for Development

The World Bank’s carbon finance products help grow the market by extending and expanding carbon finance to both developing countries and economies in transition—linking private sector buyers of carbon emission reductions with climate-friendly projects seeking financing. These carbon finance products are helping to create an environment in which the private sector can more easily choose to use their resources in support of climate-friendly and environmentally and socially responsible projects.
The World Bank’s Umbrella Carbon Facility was established in December 2005. The Facility aggregates multiple sources of funding, including from five of the Bank’s Existing carbon funds. Purchases of emission reductions are being made on behalf of governments and private companies that have contributed to the Facility as they strive to meet their commitments under the Kyoto Protocol or other international regulatory systems such as the European Union’s Emissions Trading Scheme. More than 75% of the money in the UCF’s first tranche represents private capital.

The first tranche of the UCF comprises two HFC-23 (Trifluoromethane) destruction projects located at the HCFC22 (Chlorodifluoromethane) manufacturing facilities of Jiangsu Meilan Chemical CO. Ltd. and Changshu 3F Zhonghao New Chemicals Material CO. Ltd., in the Jiangsu Province of the People’s Republic of China.

HFC-23, a by-product in the manufacturing process of HCFC22, is one of the most potent greenhouse gases with a global warming potential that is 11,700 times that of carbon dioxide. The two companies jointly reduce emissions of about 19 million tons of carbon dioxide equivalent annually.

As more buyers emerge and the market becomes more liquid, the role of the Bank on the side of buyers becomes less relevant in some sectors. In the HFC-23 destruction transactions in China, the World Bank helped these two chemical companies sell large volumes of greenhouse gas emission reductions to the market and supported development of appropriate policies by the government.

Working for Sustainable Development

China created a Clean Development Mechanism Fund (CDMF), through which revenues accruing to the government as a result of the sale of emission reduction will be used to support sustainable development activities. The government retains 65% of all HFC-23 revenues for investing in projects and activities related to the climate change. China’s CDMF is expected to finance climate change mitigation projects in priority sectors such as energy efficiency, renewable energy, coal mine methane recovery and use.
The Prototype Carbon Fund (PCF)

The mission of the Prototype Carbon Fund was to pioneer the market for project-based greenhouse gas emission reductions within the framework of the Kyoto Protocol and to contribute to sustainable development. Operational since April 2000 as the first public/private partnership aimed at mitigating climate change to be established globally, the PCF has achieved these goals. Thanks to the innovative lead of the PCF, project-based mechanisms used to generate potential credits for reductions in emissions of greenhouse gases (the Clean Development Mechanism and Joint Implementation) have now been solidly established.

The PCF provides funds to projects designed to produce high quality greenhouse gas emission reductions, which PCF participants may be able to use in compliance with their greenhouse gas reduction obligations. Six governments and 16 companies, all from industrialized countries, have contributed US$209 million in funds to the PCF, which currently has a portfolio covering a variety of technologies including renewable energy, energy efficiency, solid waste management and industrial gas emissions abatement.

Fulfilling its Mandate

The PCF closed its project portfolio by signing its last emission reductions purchase agreement at the beginning of January 2007. The PCF portfolio consists of 24 projects with a total contract value of $176 million.

Twenty-three out of the twenty-four PCF projects are operational and have started generating emission reductions. Addressing operational issues and converting these emission reductions into Kyoto-compliant assets is now the main focus of PCF activities. As of December 31, 2009, eight of the PCF’s CDM projects have issued Certified Emission Reductions (CERs). In early 2010, the PCF achieved its first transfer of Kyoto assets from its projects in Annex I countries (AAUs and ERUs). The ‘learning-by-doing’ continues.
Netherlands Clean Development Mechanism Facility

The Netherlands Clean Development Mechanism Facility (NCDMF) was established in May 2002 in an agreement between the World Bank and the Netherlands, as a facility to purchase greenhouse gas emission reductions. The agreement, signed with the Ministry of Housing, Spatial Planning and the Environment of the Netherlands (VROM), supports projects in developing countries in exchange for emission reductions under the Clean Development Mechanism (CDM) established by the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC).

The NCDMF is on target to deliver millions of tons of carbon dioxide equivalent (tCO2e). The NCDMF purchases greenhouse gas emission reductions from renewable energy, energy efficiency and fuel switching activities, but not for afforestation and reforestation.

Opportunities for Both Developed and Developing Countries

For developed countries, such as the Netherlands, the establishment of a Clean Development Mechanism facility increases the range of options for complying with their Kyoto Protocol emission reduction requirements, while at the same time promoting sustainable development, capacity building, fostering of knowledge and carbon market creation.

Contact info:
Netherlands Clean Development Mechanism Facility
Carbon Finance Unit, ENV
The World Bank, 1818 H Street, NW, Washington, DC 20433, USA
phone 202.473.9189  fax 202.522.7432
helpdesk@carbonfinance.org  [www.wbcarbonfinance.org/ncdmf]
Danish Carbon Fund (DCF)

The Danish Carbon Fund became operational in January 2005 to purchase emission reductions from projects under the Kyoto Protocol’s Clean Development Mechanism (CDM).

It is comprised of one public sector participant—the Danish Ministry of Climate and Energy—and four private sector participants including DONG Energy, Aalborg Portland A/S, Nordjysk Elhandel A/S, and Maersk Olie og Gas A/S.

The original capitalization of the DCF was €58 million; however, in 2008 the DCF agreed to increase its capitalization up to €90 million. The Fund has signed Emission Reduction Purchase Agreements (ERPAs) for eight projects, including the DCF’s participation in the World Bank’s Umbrella Carbon Facility, with a cumulative value of close to €54 million. The DCF has a solid pipeline to fill the portfolio. The final portfolio of the DCF is expected to include about fifteen projects in addition to the DCF’s participation of €2.99 million in the World Bank managed Community Development Carbon Fund.

The Danish Carbon Fund is positively contributing to broadening the coverage of the CDM, having signed ERPAs in Kenya, Nigeria, Mexico, China, Russia and Pakistan. The DCF purchases emission reductions from a wide range of sectors, including waste management, energy efficiency, renewable energy, oil and gas and HFC-23 reduction.

Building Knowledge and Capacity

The DCF will build knowledge and understanding of the flexible mechanisms of the Kyoto Protocol and implementation of projects among the participants through their engagement in the activities of the fund. The DCF will also help build Danish private and public sector capacity to meet Danish climate obligations arising from the Kyoto Protocol.

Contact info:

Danish Carbon Fund
Carbon Finance Unit, ENV
The World Bank, 1818 H Street, NW, Washington, DC 20433, USA
phone 202.473.9189 fax 202.522.7432
helpdesk@carbonfinance.org [www.danishcarbonfund.org]
Spanish Carbon Fund

The Spanish Carbon Fund (SCF) was created in 2005 in an agreement between the Ministry of Environment and Rural and Marine Affairs and the Ministry of Economy and Finance of Spain and the World Bank. This fund was established to purchase greenhouse gas emission reductions from projects developed under the Kyoto Protocol to mitigate climate change while promoting the use of cleaner technologies and sustainable development in developing countries and countries with economies in transition.

The SCF is a public/private partnership administered by the World Bank. In addition to the Spanish government, eleven private entities also participate in the fund. The SCF purchases emission reductions generated by the projects included in the portfolio eligible to be considered for registration under the Kyoto Protocol’s Clean Development Mechanism (CDM) and Joint Implementation (JI), as well as the Emissions Trading Scheme (ETS) of the European Union. The capitalization of the first tranche of SCF stands at €220 million.

In 2008, a second tranche of the SCF was launched after an agreement was signed between the Spanish Ministry of Environment and Rural and Marine Affairs and the World Bank, with capital pledged of €70 Million.

The SCF’s Objectives

Spain has decided to achieve its greenhouse gas emission reduction target through a combination of implementation of domestic reduction measures and use of the flexible mechanisms defined by the Kyoto Protocol. The SCF is one of the initiatives implemented by the Spanish Government to achieve this goal. The main objectives of the Spanish Carbon Fund are:

- To purchase greenhouse gas emission reductions to contribute to Spain’s emission reduction target at a competitive cost.
- To promote renewable energy and energy efficiency projects in developing countries and countries with economies in transition.
- To acquire knowledge and experience on carbon finance and to share that experience with the fund participants and stakeholders.

Through the projects included in its portfolio, the Spanish Carbon Fund will contribute to improving the knowledge and the governance schemes of the projects’ host countries, complementing other development programs and projects managed and coordinated by the World Bank.

The SCF’s Portfolio

The SCF is designed to include projects from Africa, East Asia and Pacific, Eastern Europe, Latin America, North Africa and Middle East, and South Asia. The projects include renewable energy, energy efficiency, solid waste management, HFC-23 destruction, transportation, hydropower, and the oil and gas sector.
The Community Development Carbon Fund (CDCF)

The CDCF was created in March 2003 as a special carbon fund of the World Bank that would focus on projects of the community level in the poorest countries, and which could improve the livelihoods of local communities as well as generate emission reductions.

The CDCF is unique in that its projects measurably contribute to local community welfare through direct or indirect co-benefits. When the project does not generate direct community benefits integral to the project itself, such as village electrification, improved air quality or increased employment and income, an additional community benefits plan is prepared and financed by a premium attached to each ER sold. The CDCF also strives to expand the reach of the carbon market by developing small-scale methodologies for CDM projects and providing learning by doing experience for local intermediaries (banks, public entities, NGOs, etc.).

The CDCF is a public / private partnership of nine governments and sixteen private firms and has a capitalization of $128.6 million. As of December 31, 2009, it had contracted 33 projects for a total nominal volume of 9,073,535 Emission Reductions.

Community Benefits and Community Dialogue

The unique feature of all CDCF projects is that they provide significant and measurable development benefits to vulnerable communities living in the immediate project vicinity or with a historical cultural or economic affiliation to the project. CDCF projects are opportunities for small communities in poor countries to obtain clean water, improve health conditions, create jobs for women, as much as they are an investment in clean technologies that help reduce greenhouse gas emissions and mitigate climate change.

The fund emphasizes community dialogue and consensus building, to agree to the benefits to be provided.

Focus on Least Developed Countries and Africa

In Keeping with the CDCF’s objective to bring the benefits of carbon finance to the poorest countries, one third of the portfolio is located in Least Developed Countries. Africa has 9 projects active or under development.
BioCarbon Fund

Combating rural poverty and stabilizing rural economies are among the biggest challenges facing developing countries. By expanding markets for emission reductions in agriculture, forestry, and other land uses, there will be an unprecedented opportunity for poor small-holder farmers in the developing world—they can earn carbon credits by sequestering or conserving carbon in a way that increases rural incomes and puts their natural resource use on a sustainable footing.

The BioCarbon Fund (BioCF) has contributed to the establishment of forest carbon by pioneering methodologies and tools for greenhouse gas accounting. In addition, as pioneers of CDM forestry rules, BioCF projects revealed technical obstacles to their application, encouraging the CDM to conduct public clarifications and develop guidelines and tools to facilitate the application of forest carbon rules and methodologies.

Without the BioCF, rural areas in the poorest countries would have little opportunity to contribute to, and benefit from, the global imperative to reduce greenhouse gases in the atmosphere. However, the share of such projects in the global carbon market continues to be limited by the current rules and regulations under the Kyoto Protocol. The BioCF is committed to continue opening up this market by disseminating lessons learned from its work in this sector.

Windows of Opportunity

The BioCarbon Fund consists of two Tranches with two parallel Windows, with a total capital of $90.4 million. Window 1 of both Tranches focuses on the purchase of emission reductions from land use, land-use change and forestry (LULUCF) activities eligible for crediting under the Kyoto Protocol. Currently, LULUCF is limited to afforestation and reforestation activities, thereby excluding other forestry activities that might help sequester carbon. Window 2 has been designed to test how agriculture, forestry and other land use activities currently excluded under the Kyoto Protocol might be used as climate mitigation options that meet the standards of the BioCarbon Fund. This includes reducing emissions from deforestation and forest degradation (REDD) and carbon sequestration through the adoption of sustainable agricultural land management practices, activities which are being pursued through the voluntary carbon market. The two-window approach ensures the BioCarbon Fund not only facilitates the growth of the current carbon markets related to forestry but that it also stays on the cutting edge of how to expand the role of agriculture, forestry and land use in the carbon markets.

Contact info:

BioCarbon Fund
Carbon Finance Unit, ENV
The World Bank, 1818 H Street, NW, Washington, DC 20433, USA
phone 202.473.9189 fax 202.522.7432
helpdesk@carbonfinance.org [www.biocarbonfund.org]
The Italian Carbon Fund (ICF) was created in 2004 to purchase greenhouse gas emission reductions from projects in developing countries and countries with economies in transition that may be recognized under such mechanisms as the Kyoto Protocol’s CDM and JI.

The ICF has a current capitalization from the Government of Italy and six private entities of more than US$155 million.

A Diversified Approach

The ICF project portfolio includes support for various regions, namely East Asia and Pacific, South Asia, and North Africa and the Middle East. Examples of technologies under the ICF project portfolio include HFC-23 destruction, energy efficiency, hydropower, urban landfill gas, and gas recovery. Italy has a large obligation to reduce its greenhouse gas emissions. The ICF provides one alternative for obtaining emission reductions while at the same time helping developing countries achieve sustainable development by leveraging substantial investments—including investment from the private sector in modern energy services and technologies. As with other carbon funds facilitated by the World Bank, the income from payments by participants in the fund is used for project identification and preparation activities such as capacity-building, outreach and research—leading to the creation of supportive project approval systems in host countries.

Contact info:

Italian Carbon Fund
Carbon Finance Unit, ENV
The World Bank, 1818 H Street, NW, Washington, DC 20433, USA
phone 202.473.9189 fax 202.522.7432
helpdesk@carbonfinance.org [www.italiancarbonfund.org]
Netherlands European Carbon Facility

The Netherlands, acting through its Ministry of Economic Affairs, the World Bank and The International Finance Corporation (IFC) in August 2004, signed an agreement appointing the World Bank and the IFC as Trustees of the Netherlands European Carbon Facility (NECF), in order to purchase greenhouse gas emission reductions for the benefit of the Netherlands. The NECF purchases emission reductions exclusively from JI projects located in countries with economies in transition.

Working for Joint Implementation

The Facility will stimulate private capital flows for sustainable development and enhance participants’ knowledge of Joint Implementation and carbon finance as a tool to reduce the costs of implementing Kyoto obligations. The Facility is related to the World Bank’s work in the areas of environment (markets for global public goods, mitigation of climate change, sustainable livelihoods), energy (renewable energy, energy efficiency, modernization) and urban infrastructure (waste management, district heating systems).

The NECF supports action undertaken by the World Bank in a number of Central and Eastern European countries as part of the Bank’s Country Assistance Strategies (CAS), including development and dissemination of clean energy technologies, innovative financing mechanisms, internalization of environmental costs, use of environmental impact assessment procedures, and dissemination of best practice on environmentally sound technologies.

Contact info:

Netherlands European Carbon Facility
Carbon Finance Unit, ENV
The World Bank, 1818 H Street, NW, Washington, DC 20433, USA
phone 202.473.9189  fax 202.522.7432
helpdesk@carbonfinance.org  [www.wbcarbonfinance.org/necf]
The Carbon Fund for Europe (CFE)

The Carbon Fund for Europe was established in March 2007 as a trust fund administered by the World Bank, in cooperation with the European Investment Bank (EIB). Through this partnership the EIB brings its intimate knowledge of the European economy while the World Bank brings its expertise and experience in the carbon market. The fund, capitalized at €50 million, purchases project-based credits eligible under the Kyoto Protocol’s Clean Development Mechanism (CDM) and Joint Implementation (JI) as well as under the European Union Emissions Trading Scheme (EU ETS). The CFE may purchase carbon credits generated by a project beyond 2012, up to a limit of 40 percent. The fund can also purchase assigned amount units (AAUs) from Green Investment Scheme projects up to a maximum of 20 percent of its capitalization.

The CFE is specifically directed towards the European Union Member States and private sector. It favors larger projects with relatively short lead-times in order to maximize the generation of credits that could be used under the EUETS Phase 2 compliance period. The CFE is comprised of four public sector participants and one private sector participant—all of which are compliance buyers under the Kyoto Protocol and the European Emission Trading System (EUETS) targets. These include: Ireland, Luxembourg, Portugal, the Flemish Region and Statkraft Carbon Invest S.A. (Norway). The CFE is fully funded and no additional participation is envisioned.

Building on a dynamic pipeline of projects in a diverse set of technologies, the fund will continue supporting the advancement of developing countries toward sustainable development by fostering investment in clean technology projects, complementing private sector development in emerging carbon markets, and seeking ways to support essential private carbon market development.

Contact info:

The World Bank
Carbon Finance Unit, ENV
phone 202.473.9189 fax 202.522.7432
helpdesk@carbonfinance.org
[www.wbcarbonfinance.org/cfe]

European Investment Bank
Matthias Zöllner, EIB Coordinator, CFE
phone (+352) 43 79 1
zoellner@eib.org
[www.eib.org]
The Way FORWARD
The Forest Carbon Partnership Facility

The Forest Carbon Partnership Facility, which became operational in June 2008, assists developing countries by providing value to standing forests. It is a global partnership focused on the reduction of emissions from deforestation and forest degradation, forest carbon stock conservation, sustainable management of forests and enhancement of forest carbon stocks (commonly known as ‘REDD-plus’). REDD-plus is part of the international climate change agenda recognizing the role of tropical and subtropical forests in climate change mitigation and the need for a large-scale system of incentives designed to reward countries for adopting forestry policies that reduce or mitigate carbon emissions.

The FCPF has the dual objectives of building capacity for REDD-plus and testing a program of performance-based incentive payments in some pilot countries, on a relatively small scale, in order to set the stage for a much larger system of positive incentives and financing flows in the future. Two separate mechanisms, the Readiness Mechanism and the Carbon Finance Mechanism have been set up to support these objectives. Together, these two mechanisms seek to learn lessons from first-of-a-kind operations and develop a realistic and cost-effective substantial new instrument for tackling deforestation, to help safeguard the earth’s climate, reduce poverty, manage freshwater resources, and protect biodiversity.

In 2009 the number of REDD Country Participants in the FCPF grew to a total of 37 (14 in Africa, 15 in Latin America and the Caribbean, and 8 in Asia and the Pacific). Furthermore, 14 governments and organizations have committed financial resources to the Readiness Fund or the Carbon Fund.

The World Bank supports the FCPF by acting as trustee for the Readiness Fund and the Carbon Fund, serving as Secretariat to the FCPF, and implementing the FCPF, providing technical support to the REDD Country Participants and conducting due diligence on such matters as fiduciary policies and environmental and social safeguards.
The Carbon Partnership Facility (CPF)

The Carbon Partnership Facility is one of the World Bank’s major new carbon finance instruments. It is designed to develop emission reductions and support their purchase on a larger scale by providing carbon finance to long-term investments focused on delivering post-2012 emission reduction assets. To scale up carbon finance, the CPF will collaborate 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. It will utilize programmatic approaches to enable carbon finance to systematically support partner country initiatives to catalyze low-carbon investments.

The Carbon Partnership Facility will bring together industrial country buyers and developing country sellers of emission reductions, as well as developing and donor country governments, into a partnership with shared decision-making. It consists of a Carbon Asset Development Fund, which supports the preparation of the emission reduction programs (for example through client executed grants), and the CPF Carbon Fund, which will purchase the emission reductions generated by CPF programs.

The CPF will be a pioneer in broadening the use of the CDM. In the current Kyoto period, the CDM has operated largely on a project-by-project basis. The CPF will utilize the Programme of Activities approach to support scaled-up investment programs in support of developing countries’ low carbon growth objectives. It will also target areas that have not been reached effectively by CDM in the past, such as urban transport and energy efficiency, and will pilot city-wide carbon finance programs.

This new carbon finance instrument will facilitate the implementation of low carbon programs across an array of sectors and technologies—energy efficiency, waste management, energy generation and distribution, and transportation—in situations where governments need policy measures or investments.

Carbon finance through the CPF’s programmatic approach, and potentially through sector-based market mechanisms, can make an important contribution to developing country government initiatives to transform emissions-intensive sectors. The CPF aims to pave the way forward to that goal.

Contact info:
Carbon Partnership Facility
Carbon Finance Unit, ENV
The World Bank, 1818 H Street, NW, Washington, DC 20433, USA
Phone 202.473.9189  fax 202.522.7432
helpdesk@carbonfinance.org  [www.wbcarbonfinance.org/cpf]
Technical Assistance Facilities

Consistent with its mission to catalyze the emergence and growth of market mechanisms for climate change mitigation and sustainable development, the World Bank, in parallel with its carbon funds, has established a number of technical assistance facilities for capacity building and project preparation.

CF-Assist

The Carbon Finance Assist (CF-Assist) program, established by the World Bank in fiscal year 2004, became fully operational during 2005. CF-Assist is aimed at assisting developing countries and economies in transition to strengthen their institutions, and build local expertise to enable them to develop projects for the carbon markets. The key activities under the program are: building capacity through developing carbon finance projects in priority sectors, enhancing institutional strength of government institutions and other stakeholders in terms of approval and monitoring capabilities, providing targeted analysis to overcome market and information barriers and facilitating market development through global and regional events.

In order to build better linkages to the Bank’s knowledge management activities and bring improved focus on capacity building for overall carbon market development, the management of CF-Assist was transferred to the World Bank Institute (WBI) from the beginning of fiscal year 2007.

CDCFplus

CDCFplus was established in 2003 in parallel with the Community Development Carbon Fund (CDCF) to build capacity in host countries, enhance the CDCF deal flow and facilitate project preparation. CDCFplus provides support, either with financial resources or technical expertise, to CDCF projects, with a priority given to projects located in CDCF priority countries. CDCFplus helps LDCs and poorer communities develop the local capacity and expertise required to prepare, manage and monitor carbon projects. In particular CDCFplus can help identify and train local intermediaries to prepare and implement small-scale carbon projects; develop simplified baseline and monitoring methodologies consistent with the procedures for small-scale CDM project activities; respond to specific requests from project owners for technical assistance to bring the project to validation stage (e.g., technology feasibility studies, project-specific baseline studies, additional research and analysis) or provide technical training for effective monitoring. CDCFplus financial resources accrue from direct contributions and from the investment income of up-front contributions of CDCF Participants.

BioCFplus

The BioCFplus program is modeled on CDCFplus to provide project-specific support to carbon sequestration projects in developing countries and economies in transition. The focus of this facility is on defraying project preparation costs. BioCFplus resources will also be used to disseminate lessons learned and reach out to various constituents regarding the pioneering role of the BioCarbon Fund and to highlight the development benefits of carbon sequestration projects.
In addition to the World Bank's commitment to reduce carbon emissions through energy conservation projects, the Bank announced on World Environment Day (June 5, 2006), that the World Bank is carbon neutral for emissions for its Washington, DC facilities, Spring and Annual Meetings, daily staff commutes in the Washington area, and all business travel from its headquarters. The World Bank purchased renewable energy certificates that cover 100 percent of its electricity usage in Bank-owned buildings and three international offices. Additionally, the World Bank invested in two projects that help meet development needs while also contributing to the mitigation of global climate change. Both projects are designed to sequester carbon.

Carbon-Neutral Headquarters

It will take effort at every level to combat climate change. Like many others, the World Bank is working at both an individual and corporate level through voluntary action to reduce its carbon footprint.

James Warren Evans
Director
Environment Department
The World Bank
May 2010