



## 1.0 introduction

One of the difficult challenges facing the global community is how to cost-effectively reduce greenhouse gas emissions to avert the worst impacts of climate change. Under the Kyoto Protocol, which was adopted under the UNFCCC, industrialized countries must reduce their carbon emissions by an average of 5.2 percent below their 1990 levels by the end of 2012.

To meet these commitments in the most cost-effective manner, the Protocol contains provisions allowing industrialized countries some flexibility to meet their obligations through projects generating emission reductions in developing countries and transition economies. Two provisions are particularly important:

- Article 6 of the Kyoto Protocol allows for the “Joint Implementation” (JI) of projects by industrialized countries, including those with economies in transition. Under this provision, an entity in one such country finances or purchases emission reductions from a project in another.
- Article 12 of the Kyoto Protocol provides for a similar project-based mechanism, the so-called “Clean Development Mechanism” (CDM), under which an entity in an industrialized country finances or purchases emission reductions from a project in a developing country. The purpose is to assist developing countries with sustainable development through the transfer of cleaner technology and financial resources for specific projects, while at the same time contributing to the objectives of the Convention by lowering carbon emissions.

Established in 2000 (*see Milestones, page 12*), the World Bank’s Prototype Carbon Fund is a response to these opportunities, the challenge of the potential adverse impacts of climate change for developing countries, and the need to understand and test the processes and procedures for creating a market in project-based emission reductions under JI and the CDM.

There appear to be many opportunities to reduce emissions of greenhouse gases in developing countries at a cost of between \$1 and \$4 per ton of CO<sub>2</sub> equivalent. This compares with a marginal abatement cost that rises quickly to \$15 per ton of CO<sub>2</sub>e in industrialized



economies, and already exceeds this level in the most energy-efficient economies. It is the difference in cost to industrialized and developing countries that provides the opportunity for mutually beneficial trading relationships.

In terms of adverse impacts, the Intergovernmental Panel on Climate Change (IPCC) estimated in 1995 that—should the global level of CO<sub>2</sub> concentrations double—the cost of climate change could be as high as 5 to 9 percent of GDP in developing countries. This is several times higher than the share of the GDP that would be borne by industrialized countries. Among the Bank's member countries, the IPCC also concluded that the poorest would be at the greatest disadvantage.

The Bank's Board of Executive Directors has expressed the view that the PCF can contribute practical learning experience as negotiations continue on the final rules and procedures of the market for project-based emissions reductions.

### **STRATEGIC OBJECTIVES**

From the outset, the PCF had three primary strategic objectives:

- 1.** Show how project-based greenhouse gas emission reduction (ER) transactions can promote and contribute to sustainable development and lower the cost of compliance with the Kyoto Protocol.
- 2.** Provide the Parties to the UNFCCC, the private sector, and other interested parties with an opportunity to learn by doing in the development of policies, rules, and business processes for the achievement of emission reductions under JI and the CDM.
- 3.** Demonstrate how the World Bank can work in partnership with the public and private sector to mobilize new resources for its borrowing member countries while addressing global environmental problems through market-based mechanisms.

### **PCF'S STRUCTURE**

PCF contributors comprise both companies and governments. The PCF aims to demonstrate how insights and experience from both sectors can be pooled to mobilize additional resources for sustainable development and address global environmental concerns through the marketplace.

The contributions from both companies and governments will be used to purchase ERs fully consistent with the Kyoto Protocol and the emerging framework for JI and the CDM. Contributors, or “participants” in the PCF, will receive a pro rata share of the emissions reductions, verified and certified in accordance with carbon purchase agreements reached with the respective project sponsors (*see list of the PCF participants, page 13*).

The fact that not only governments, but also 17 private companies are subscribers to the PCF demonstrates to host countries and other stakeholders that there is a significant private sector interest in the emerging market for emission reductions under JI and CDM. After all, to effectively address climate change, implementation of the Kyoto mechanisms must be dominated by the private sector.

Governments are involved to learn from the PCF's experience in supporting sustainable development within the regulatory framework being developed by the Parties to the UNFCCC. At the same time, governments are interested in the emission reductions generated by JI and CDM projects in order to comply with their reduction commitments under Article 3 of the Kyoto Protocol.

Countries hosting PCF projects participate actively in PCF as a formal element of its governance, providing advice and receiving technical assistance in preparing to participate in CDM and JI. Membership in the Host Country Committee has grown steadily to over 30 by mid-2001 (*see map*).

PCF expects to place all its funds by 2004, and is scheduled to terminate in 2012.

## PCF milestones

### **July 1997**

World Bank President James D. Wolfensohn received positive feedback from a number of industrialized and developing countries to his suggestion to establish a carbon investment fund.

### **July 20, 1999**

Executive Directors of the International Bank for Reconstruction and Development (IBRD) approved the establishment of the Prototype Carbon Fund.

### **January 18, 2000**

PCF was launched and sought private and public subscriptions.

### **April 10, 2000**

At its first closing, six countries and 15 private sector entities agreed to pay \$10 million and \$5 million respectively to participate in the PCF.

### **May 15, 2000**

World Bank's Board increased the Fund's maximum size to \$180 million and approved advancing the date of a second closing.

### **October 31, 2000**

At its second closing, two more private sector entities joined, bringing the capital of the fund to \$145 million.



# PCF participants



## **Companies**

British Petroleum-Amoco, United Kingdom

Chubu Electric Power Co., Japan

Chugoku Electric Power Co., Japan

Deutsche Bank, Germany

Electrabel, Belgium

Fortum, Finland

Gaz de France, France

Kyushu Electric Power Co., Japan

Mitsubishi Corp., Japan

Mitsui & Co. Ltd., Japan

Norsk Hydro, Norway

RaboBank, The Netherlands

RWE, Germany

Shikoku Electric Power Co., Japan

Statoil, Norway

Tohoku Electric Power Co., Japan

Tokyo Electric Power Co., Japan

## **Governments**

Government of Canada

Government of Finland

Japan Bank for International Cooperation

Government of The Netherlands

Government of Norway

Government of Sweden

