# **World Bank Carbon Finance Funds**

Introduction	3
The BioCarbon Fund	3
The Prototype Carbon Fund	4
Why did the Bank develop these Instruments?	
How do these Funds Operate?	
How does the CFB involve the private sector?	5
How does the CFB approach negotiations with government and project entities?	6
Which roles do Host Country criteria for sustainable development and project selection play?	6
How are the transaction costs of the projects covered?	6
What are the eligibility criteria for the different CFB funds and facilities?	7
The BioCarbon Fund	7
Who are the participants in the BioCarbon Fund?	8
What return will the Contributors earn?	8
How is the BioCarbon Fund managed?	
How does the BioCarbon Fund operate financially?	8
A Typical BioCarbon Fund Project	9
The Prototype Carbon Fund	9
Who are the participants in the Prototype Carbon Fund?	10
What return will the Contributors earn?	10
How is the Prototype Carbon Fund managed?	10
What is required for this mechanism to work?	11
What basic elements are needed?	12
Emphasis on financial returns	12
Quantification of market and non-market benefits	12
Focus on fast-growing plantations	12
Elimination of red tape	12
Selection Criteria	
Bibliography	13

## Introduction

Climate change, and accompanying disrupted weather patterns-caused by the greenhouse effect through atmospheric loading of greenhouse gases (carbon dioxide, methane, etc) could wreak havoc on the planet, particularly large parts of the developing world. The cost-effective reduction of greenhouse gas emissions to avert the most severe impacts of climate change remains one of the widely accepted priorities for global action.

In this context, the World Bank's carbon finance initiatives are part of a larger global effort to combat climate change, and go hand in hand with the Bank's mission to reduce poverty and improve living standards in the developing world. The threat that climate change poses to long-term development and the ability of the poor to escape from poverty is of particular concern to the World Bank, which recognizes that the impacts of climate change could unravel many of the development gains of the last few decades.

The Bank is therefore making every effort to ensure that developing countries and economies in transition can benefit from international efforts to address climate change, including the emerging carbon market for greenhouse gas emission reductions. The Bank's mission in this context is to catalyze a global carbon market through the purchase of high quality emission reductions in climate-friendly projects in developing countries and economies in transition. As such, carbon finance is the first large-scale initiative that seeks to catalyze private sector investments to address a global environmental issue.

Through its work the Bank has identified weaknesses in the emerging carbon market and has taken several initiatives to rectify constraints affecting the ability of its borrowing country clients to benefit from the emerging global market, and to strengthen implementation and ensure the long-term viability of the Kyoto Protocol. The World Bank's carbon finance products include:

- The Prototype Carbon Fund (PCF)
- The Community Development Carbon Fund (CDCF)
- The Netherlands Clean Development Mechanism Facility (NCDMF)
- The BioCarbon Fund (BioCF)
- The Italian Carbon Fund

Of these, the BioCarbon Fund and the Prototype Carbon Fund both provide funds for afforestation and reforestation projects that are eligible for carbon credits under Kyoto. The two funds are public/private initiatives, established as trust funds that are administered by the World Bank. Descriptions of these funds are as follows:

#### The BioCarbon Fund

Approved by the World Bank Executive Board of Directors and officially opened for participant contributions on Wednesday, November 26, 2003, the BioCarbon Fund provides carbon finance for projects that sequester or conserve greenhouse gases in forests, agro- and other ecosystems. The Fund, a public/private initiative administered by the World Bank, aims to deliver cost-effective emission reductions, while promoting biodiversity conservation and poverty alleviation. It started operations on May 14, 2004 with a capital of \$15 million.

The Fund can contribute to the following types of activities: sequestration, which enhances the capture of carbon or nitrogen in biomass; and conservation, which prevents or reduces the release of carbon (as

methane or carbon dioxide) or nitrogen already fixed. Many projects would likely combine sequestration and conservation. Particular activities across the two windows may include the following:

- Afforestation and reforestation (including forest ecosystem restoration) in landscape mosaics;
- Agroforestry;
- Restoration or conservation forestry (connecting fragments and corridors);
- Agricultural management practices (e.g., reduced till);
- Grazing land management (dryland, large areas);
- Forest management (including reduced-impact logging, ecologically friendly thinning, fire prevention and suppression, etc.);
- Land degradation prevention; and
- Watershed management.

## The Prototype Carbon Fund

A partnership between 17 companies and 6 governments, managed by the World Bank, the PCF became operational in April 2000. As the first carbon fund, its mission has been to pioneer the market for project-based greenhouse gas emission reductions while promoting sustainable development and offering a learning-by-doing opportunity to its stakeholders.

The PCF invests contributions made by companies and governments in projects designed to produce Emission Reductions fully consistent with the Kyoto Protocol and the emerging framework for Joint Implementation (JI) and the Clean Development Mechanism (CDM). Contributors, or "Participants" in the PCF, will receive a pro rata share of the Emission Reductions, verified and certified in accordance with agreements reached with the respective countries "hosting" the projects.

# Why did the Bank develop these Instruments?

Most developing countries can only deliver small projects. The high transaction costs and high risks involved in delivering carbon from these projects means that most of the smaller and poorer of the Bank's client countries are otherwise unable to benefit from carbon finance as a catalyst for investment in clean technologies. In addition, the market is currently bypassing opportunities to generate emission reduction credits by removing carbon dioxide from the atmosphere through sustainable land management, agriculture, and forestry. And finally, the private sector has avoided developing countries and economies in transition as places to acquire emission reduction credits to fulfil their commitments under OECD emissions trading regimes.

The World Bank's carbon finance products are therefore helping to catalyze this market by extending carbon finance to both developing countries and economies in transition, by linking buyers of carbon credits with climate-friendly projects that are seeking financing. The Bank is actively engaged in expanding these opportunities in discussions with other potential OECD carbon buyers-both public and private.

# How do these Funds Operate?

The World Bank Carbon Finance Business (CFB) builds first on the UNFCCC, in particular the Clean Development Mechanism (CDM) and Joint Implementation (JI) articles of the Kyoto Protocol and the

related guidelines and modalities as these become known. This includes concern for sustainable development and access of developing countries to the CDM. Second, the CFB builds on the World Bank's experience with energy, environmental and development projects, e.g. through the Bank's GEF portfolio. Since the World Bank is the funds' trustee and as per agreement with Participants, the CFB applies World Bank standards and safeguards to all projects and to the CFB relationship with Bank client countries. In particular, CFB takes the concern for fairness in the GHG market seriously and makes every effort to create a level playing field for the development and negotiation of CDM and JI projects. The CFB strives to be an 'honest broker' in the emerging and yet uncertain and fragile market. Participants and the World Bank believe that the carbon market can only be developed on the basis of a partnership with a broad knowledge sharing.

Beyond these principles and based on them, the CFB develops business models and procedures for implementing its own project pipeline and for use by the nascent CDM and JI market. Developing these models and procedures is a discovery process. The CFB therefore strives for a rich experience and is not bound to one model or set of procedures, but experiments with a variety of models and continuously improves on them based on lessons learned and in partnership with Participants and Host Countries. The CFB should therefore not be expected to have a uniform approach to a CDM or JI project, but tries to ensure consistency across its project portfolio.

The CFB develops a variety of approaches to establishing baselines and additionality of projects and Emission Reductions (ERs). The baseline study and monitoring and verification protocols can be used as models for similar cases. The CFB has developed an approach to validation, monitoring and verification of projects and ERs, and adjusts these models to specific project contexts. A Preliminary Validation Protocol has been developed as guidance for validators and is available on the Carbon Finance website (http://carbonfinance.org) along with other operational documents.

The CFB legal team develops model contracts for CFB projects, in particular an Emission Reduction Purchase Agreement with the project owner and a Host Country Agreement. For communicating with its constituents, including Host Country Government representatives, Participants, the public, and other stakeholders, the CFB uses its website as a repository and resource of all information on business models and procedures, legal and operational documents, and day to day information.

How does the CFB involve the private sector?

The involvement of the private sector in CFB deals is critically important not just for CFB activities but for the development of the JI/CDM frame as a whole. Most CFB shareholders are private sector companies who, supported by government Participants, would like to work with the private sector in Host Countries.

The CFB is therefore actively looking for and promoting projects with the private sector and would like to negotiate ER Purchase Agreements with those businesses always in line with a Host Country Agreement negotiated with the respective government. Moreover, the CFB considers a partnership between the private sector and the Host Country government essential for a successful project and for the successful participation of the respective country in the GHG market.

Whereas the importance of involving the Private Sector in Host Countries is recognized, there are some "natural" hurdles that do not facilitate the task, such as the lack of CDM experts in small countries. Recognizing this weakness, the CFB co-operates with the Focal Points providing material and suggesting them to invite the private sector to be in contact directly with the CFB. The dialogue with the private sector generates valuable input and promotes ideas on the CDM and it assists with project preparation. The process itself is complicated, so it is advisable to create a sense of co-operation between all the involved

organizations. For instance, an agreement could be signed between the CFB, the Focal Point and/or the project owner, to share the project development experience and know how with other institutions in the country. Since carbon finance is usually a small component of the total financial package, other project financiers such as commercial banks should be included in the dialogue.

The Bank has also found that the private sector has up to now not considered developing countries and economies in transition as favourable places from which to acquire ERs to meet their commitments. To help crowd in the private sector, the World Bank's carbon finance products help grow the market by extending carbon finance to both developing countries and economies in transition, linking private sector buyers of carbon credits with climate-friendly projects seeking financing. These carbon finance products, which manage risks and reduce costs, are helping to create an environment in which the private sector can more easily support climate-friendly and environmentally and socially responsible projects.

For example, agreements have been signed recently with the Infrastructure Development Finance Corporation of India and the EIC/A2R private equity fund in LAC to act as intermediaries for Bank carbon finance. The Bank will train staff to create and manage carbon assets, buy the first set of assets and enable them to go directly to OECD buyers, brokers, and financial intermediaries to tap carbon finance. In response to requests from brokers, traders, and private shareholders in Bank carbon funds, the Bank is routinely creating carbon assets surplus to its needs, but maintaining these assets long term to expand market supply and build early market confidence. Efforts are underway also with private banks to develop risk-hedging tools and to "green" hot air to increase access to assigned amount units of economies in transition for OECD buyers.

How does the CFB approach negotiations with government and project entities?

The CFB negotiates transactions to ensure appropriate sharing of risks and equitable sharing of benefits arising out of the CFB transaction. The objective is to achieve such a sharing of risks and benefits through a fair and informed process. To achieve this objective, the CFB project cycle includes a mandatory consultative process with the project sponsor and the Host Country. This may take the form of a prenegotiations workshop where the project sponsor or the Host Country involves external advisors and stakeholders that they have identified. The CFB provides any technical and financial support that may be considered appropriate by the project sponsor and/or the Host Country to ensure that the negotiations process is well prepared and fair.

Which roles do Host Country criteria for sustainable development and project selection play?

Host country criteria for sustainable development and project selection are a powerful tool to give preference to, and facilitate the implementation of, projects that have a high priority from the national development or environmental policy point of view. To have transparent criteria for projects is also important for JI/CDM investments, because it reduces costs for investors searching for projects.

The CFB will always ask the Host Country to sign a Letter of Endorsement for each CFB project approving that the proposed project is consistent with Host Country development priorities, and criteria for sustainable development and project selection.

How are the transaction costs of the projects covered?

The CFB assumes the up-front cost of the preparation of a baseline study, monitoring plan and Project Design Document (which make up the validation package submitted to an Operational Entity for validation). These documents may be prepared either by the project proponent, or an independent consultant; however,

in either case, the methodologies to be used need to be discussed with and agreed by the CFB at the beginning of the work. Typical costs of the validation package have run anywhere between \$15 to \$55K, depending on the complexity of the work. These costs are capitalized in the total ER purchase in the Emission Reductions Purchase Agreements and deducted from the annual payments for ERs that are made by the CFB to the project sponsor. Hence, ultimately, the sponsor pays for the costs of project preparation. Note that costs incurred for the preparation of these materials are coming down due to the growth of project experience and the repetition in project types and baselines, monitoring and other project cycle issues.

Ideally, a project that is submitted for carbon finance by any of the funds administered by the World Bank should already have its technical and financial feasibility studies.

What are the eligibility criteria for the different CFB funds and facilities?

In general terms, to be eligible for carbon finance support, projects must:

- Comply with all international rules and procedures governing and associated with the mechanisms established under the Kyoto Protocol;
- Be consistent with all relevant national criteria;
- Comply with the operational policies and procedures of the World Bank Group, including Safeguard Policies;
- Be consistent with the World Bank's Country Assistance Strategy;
- Provide national and local environmental benefits;
- Improve the quality of life of the poor through the enhancement of independently certifiable benefits on local livelihoods;
- Be consistent with general strategic directions and advice provided by the Participants; and
- Comply with the CFB's Strategic Objectives and Operating Principles.

Particular operational details for the BioCarbon Fund and Prototype Carbon Fund are indicated in the following sections. In essence, these two funds operate in a similar fashion, in that they are both public/private initiatives that are established as trust funds, which are then administered by sectoral specialists of the World Bank. Both funds can be used to support projects involving afforestation and reforestation, although the BioCarbon Fund is more specifically targeted to do so. To date, only two projects under the PCF have directly targeted afforestation, and it is likely that future projects of this kind will be implemented under the BioCF.

#### The BioCarbon Fund

The BioCarbon Fund has two windows: the larger one provides emission reductions potentially eligible for credit under the Kyoto Protocol. In the CDM these are limited to afforestation and reforestation activities in the first commitment period. In JI they cover the whole range of land use, land-use change and forestry activities. The types of projects may include:

- Small reforestation projects to restore landscape stability by reducing erosion and providing windbreaks;
- Reforestation that serves to conserve and protect unique and endangered forest ecosystems by connecting forest fragments with corridors to create viable long term habitats;
- Agroforestry projects such as shade coffee, intercropping of trees with other crops and the establishment
  of trees to help restore degraded grazing lands;

- Small, community promoted plantations for timber, biofuel and other forest products that fit within a broader landscape design;
- Improved forest management to enhance carbon storage in countries with economies in transition.

A smaller second window explores options for carbon credits that, while meeting the triple goals of the BioCarbon Fund, achieve them by activities other than afforestation and reforestation and therefore will not be eligible for Kyoto credits in the first commitment period. These projects produce emission reductions that may be creditable under emerging carbon management programs.

Who are the participants in the BioCarbon Fund?

### The major players are:

- Private companies, NGOs and governments who contribute the capital for the BioCarbon Fund in exchange for credits for emission reductions and strategy and knowledge vis-à-vis the carbon market (here called the "Contributors"). As of May 17, 2004, the governments of Canada and Italy, Okinawa Electric and Tokyo Electric and Eco-Carbone have pledged \$12.5 million to the Fund;
- Bilateral Aid Agencies and Foundations that contribute grant resources to the parallel technical assistance facility to help with project preparation for complex projects and local capacity building for project implementation and CDM administration;
- Project proponents who may be community groups, private companies, public agencies or NGOs who carry out the project and receive funds from the BioCarbon Fund in exchange for emission reductions;
- Host countries who must approve each project within their boundaries;
- The BioCarbon Fund Management Unit (FMU) who manage the activity of the Fund; and
- Various technical panels and advisory boards representing contributors, host countries and experts who advise the Carbon Finance Business of the World Bank.

What return will the Contributors earn?

The BioCarbon Fund does not offer a financial return to the extent that the emission reductions delivery is a physical, not a financial indicator. Each Participant may calculate its own return on investment by comparing the price at which it would acquire alternative emission reductions or sell emission reductions to the cost of the emission reductions acquired through the BioCarbon Fund.

*How is the BioCarbon Fund managed?* 

Contributors meet at least annually to review the operations of the Fund and to provide the Trustee with general policy and strategic guidance on the operations of the Fund. A Participants' Committee, which includes nominees from the contributors, is appointed and meets more frequently to provide advice on the portfolio and other operational matters. A Host Country Committee provides advice to the FMU on matters related to portfolio selection, sharing of the project benefits, dissemination of information, capacity building, etc.

How does the BioCarbon Fund operate financially?

The private and public Participants contribute moneys to the Fund and in exchange acquire a pro rata share of the emission reductions and gain access to all of the Fund's acquired knowledge base. The minimum contribution is US\$2.5 million, with an annual drawdown schedule. Contracted prices for ERs are expected

to be in the range of US\$3 to \$4 per tonne Carbon Dioxide equivalent (CO<sub>2</sub>e). The target size of the Fund is US\$100 million, but it will start operating at a viable minimum of about US\$30 million if necessary.

## A Typical BioCarbon Fund Project

A typical project is proposed by an entity associated with the host country such as a private company, an NGO or community group, a government agency or an international partner.

The project will be expected to deliver between 400,000 and 800,000 tonnes of CO<sub>2</sub>e (carbon dioxide equivalent) over a period of 10 to 15 years. The BioCarbon Fund will pay on delivery of the carbon credits at a negotiated price usually within the range of US\$3 to US\$4 per tonne CO2e. This means that a typical project will receive about US\$2 million in payments. Some up-front payment may be possible in some projects subject to an appropriate discount. Usually the finance from the BioCarbon Fund is only a portion of the total finance for the project with the rest usually raised by the project proponents

The first contact between the BioCarbon Fund and project proponents is through a Project Idea Note (PIN). This is a short form (about 6 pages) that provides the basic information about the project. At this stage it is purely the exchange of an idea and there are no legal obligations on either party to proceed further.

If both parties agree to take the proposal further, then a more detailed and formal series of documents must be drawn up. These lead to a Project Design Document (PDD) for the Executive Board of the CDM (or the equivalent for JI) and an Emission Reductions Purchase Agreement (ERPA). See the Prototype Carbon Fund web site for more information about these steps. The cost of formally identifying baselines, establishing additionality, setting up monitoring programs and arranging independent verification by an Operational Entity (as required by the Executive Board of the CDM) is borne initially by the BioCarbon Fund but charged back to the project once it is approved. Experience with the Prototype Carbon Fund suggests that these will amount to about US\$100,000 per project.

Depending on the availability and provisions of rules on small-scale LULUCF projects, presumably by CoP10, the BioCarbon Fund may elect to contract the purchase of ERs from such projects on a demonstration basis.

Some projects may involve Official Development Assistance (ODA) resources. ODA monies cannot be used to purchase ERs. However, often infrastructure and technical capacity derived from ODA will be crucial in enabling the local proponents to bring the project into being.

## The Prototype Carbon Fund

The Prototype Carbon Fund (PCF) was created as a response to the need to understand and test the procedures for creating a market in project-based emission reductions under the Kyoto Protocol's flexible mechanisms. The PCF has played a pioneering role in developing the market for greenhouse gas emission reductions, while promoting sustainable development, and offering a learning by doing opportunity to its stakeholders, and has paved the way for the additional carbon funds established by the World Bank.

The Prototype Carbon Fund (PFC) uses funds made available by companies and governments in projects designed to produce high quality greenhouse gas emission reductions, which PCF Participants may be able to use in compliance with their expected greenhouse gas reduction obligations. The PCF's primary focus is on renewable and alternative energy technologies, such as wind, small-hydro, biomass, and waste-to-energy

conversion, and energy efficiency investments that would not be profitable without financial support from the PCF.

To date, 29 projects with ER purchases totalling approximately US\$167 million have progressed to advanced stages. Twelve have been contracted. These include a West Nile hydropower project in Uganda, sustainable fuelwood and charcoal production for the pig iron industry in Minas Gerais, Brazil, afforestation on degraded agricultural land in Romania, a wind farm in Costa Rica, an energy efficiency project in the Czech Republic, and solid waste management in Latvia. The 26 MW Chile Chacabuquito run-of-river hydroelectric project, commissioned on July 2, 2002, was the first PCF project to generate emission reductions.

Who are the participants in the Prototype Carbon Fund?

Six governments and 17 companies —including power and oil companies from Japan and Europe, and leading global banks, all from industrialized countries, are contributing US\$180 million in funds to the PCF, which currently has 41 projects under preparation.

What return will the Contributors earn?

The PCF uses funds made available by companies and governments in projects designed to produce high quality greenhouse gas emission reductions, which PCF Participants may be able to use in compliance with their expected greenhouse gas reduction obligations. To date the primary focus of the majority of projects has been on renewable energy technologies—such as wind, small hydro, and bio-mass energy technology — that would not be viable without financial support from the PCF.

How is the Prototype Carbon Fund managed?

Companies and governments can supplement their commitments at home by purchasing potentially lower-cost emission reductions in developing countries and countries with economies in transition. As a result, projects in these countries will get a new source of financing for sustainable development in the energy, industrial and waste management sectors, land rehabilitation, and in the introduction of clean and renewable technologies. Industrialized countries can meet part of their Kyoto obligation, while the threat of climate change is reduced at a lower overall cost.

The PCF evaluates and selects project ideas based on established PCF project selection criteria and based on project size, costs and timing of carbon emission reductions. Other important considerations for PCF projects include acceptability of the ERs under the UNFCCC/Kyoto Protocol regime, endorsement of the project by the Host Country, environmental and social acceptability of the project, and capacity of the project sponsor and/or operator to deliver ERs.

The Bank Group's Board of Directors approved the establishment of the PCF so that it might contribute practical learning experience as negotiations continue on the final rules and procedures of the market for project-based Emission Reductions. To accomplish this, PCF operations began early in 2000. As a pilot activity, the PCF does not endeavour to compete in the Emission Reductions market; it is restricted to US\$180 million and is scheduled to terminate in 2012.

As mentioned previously, only two afforestation projects have been funded by the PCF to date, and it is likely that the BioCF will fund future afforestation/reforestation projects.

## What is required for this mechanism to work?

The BioCarbon Fund contains many elements that may be instructive for the development of a Carbon-based Fund targetting afforestation in other countries, but there are other elements of the Fund that would likely not work.

The BioCF, for example, is able to reduce risk by aggregating the contributions of the participants to a scale that could only be achieved by a large public entity, a large financial corporation or a large organization such as the World Bank. This structure also allows the Fund to achieve other economies of scale through the concentration of forestry specialists whose expertise is made available to Fund recipients. Another benefit enjoyed by BioCF contributors, for example, is access to the Fund's acquired knowledge base.

The Fund has also developed methodologies to integrate the CDM, as well as issues such as additionality and leakage, along with the development of baseline studies and monitoring and verification protocols. The procedures developed here could provide guidance for the development of an afforestation fund in other countries.

The primary driver behind the BioCF, however, is to provide carbon finance for the reduction of greenhouse gas concentrations through carbon sequestration. As such, this Fund is primarily used to finance forest or agro-system projects that maximize the amount of carbon that will be sequestered. Other policy goals that are considered priorities by Fund managers include erosion control, poverty alleviation, sustainable land management and biodiversity. Conversely, the Fund does not put much weight on the establishment of productive plantations for the purpose of maximizing financial returns and plantation productivity when choosing Fund recipients. Although such returns are considered a desirable outcome, they are given very little weight in project selection, design and implementation.

Fund recipients, therefore, are chosen foremost on the basis of their need for the project, rather than the returns that might be earned by fund contributors. Indeed, a portion of the funding for BioCF projects is contributed as grants in the form of bilateral and multilateral aid, which are utilized to help cover the administration involved in the implementation of the Fund, along with the large initial costs of plantation establishment. Other Fund contributors, which include private companies, governments and NGOs, receive a pro rata share of Emission Reductions in exchange for the monies that they have contributed to the Fund. In reality then, the non-grant contributions by these participants may be no larger than the value of the ERs received, with the remaining costs covered through grants.

Conversely, any fund that is developed to finance afforestation projects in other countries will not necessarily contain a grant portion, and therefore will need to rely on future plantation productivity in terms of financial returns as an incentive for both investor and landowner participation. Emission Reductions and other market and non-market benefits may provide additional incentives for participation, but are unlikely to constitute sufficient incentives in and of themselves, particularly when alternative land-use options are taken into account.

Other elements of the BioCF that would likely not work elsewhere include the way it quantifies both market and non-market benefits, the Fund's focus on native species, the amount of red tape involved in the Fund's implementation and the selection criteria applied to potential projects. Each of these are covered in the next section.

## What basic elements are needed?

In order for the World Bank's BioCarbon Fund to work elsewhere, a number of elements of the fund would have to change. This section outlines some of the main elements.

## Emphasis on financial returns

In other countries, private sector investment is likely to be a desirable source of funding for any fund that invests in afforestation projects. Private sector participation in such a fund is only likely to be gained through a dollar-based benefit-cost analysis that shows the financial returns to be gained from participation. Such an analysis, therefore, will need to be an integral part of any nationally based afforestation fund.

#### Quantification of market and non-market benefits

The BioCF evaluates potential afforestation projects using a ranking system that gives points to priority areas such as biodiversity and poverty alleviation. In this way, grant donors are able to rank individual projects according to certain criteria, and thus justify fund participation on the basis of national or organization priorities. Such a ranking system, however, is unlikely to attract participation in a nationally managed afforestation fund due to the vagaries of the gains to be made.

Such a fund, however, may be able to attract donations or investments by domestic governments by quantifying, in local currency terms, any secondary market and non-market benefits that are attributable to afforestation projects. Protection of ecosystems, biodiversity or erosion control, for example, provides very real benefits that governments (municipal, regional or federal), or indeed individuals or conservation organizations, may be willing to invest in. Similarly, the dollar quantification of many secondary market benefits, such as tourism and hunting receipts, may also interest various levels of government in participating in such a fund.

#### *Focus on fast-growing plantations*

The current focus of the BioCF favours the establishment, or re-establishment, of native species in afforestation projects. This approach may not always be a cost effective way to get trees in the ground. For example, current research by the CFS indicates that plantations based on clonal trials of fast-growing species are likely to be the only types of plantations that will provide the returns needed to incent both private landowners and investors in Canada to participate. Similarly, any fund established in other countries, will probably need to be flexible in terms of the tree species under consideration.

#### Elimination of red tape

One of the requirements for participation in any World Bank project, including those covered under the BioCF, involves rigorous scrutiny of all project components. All projects implemented must comply with the operational policies and procedures of the World Bank Group, including Safeguard Policies, and be consistent with the World Bank's Country Assistance Strategy (CAS). All projects are also subject to the requirements of the Environmental Assessment process, along with other benchmarks in terms of issues such as poverty alleviation, participation of women, and the protection of cultural properties. Moreover, the BioCF has drawn the particular attention of agencies such as the World Wildlife Fund, which impose further review and monitoring requirements on afforestation projects covered under the Fund.

Such rigorous review can be expensive in terms of time and transaction costs, which in turn represent strong disincentives for participation. Indeed, interviews with Canadian landowners and institutional investors have indicated that these groups have strong feelings about the amount of red tape that they are willing to put up with.

So while some controls are necessary and desirable, care must be taken not to overburden the process with excessive review and red tape. Project requirements, for example, should not exceed profit margins, and contracts for participation must be clear and concisely worded.

Selection Criteria

Projects selected by the BioCF are chosen on the basis of certain selection criteria that would not necessarily be applicable to a carbon fund established by a nation. The BioCF, for example, would likely not support a project that would provide aid for a rich landowner or company that simply wishes to earn extra income from idle land. Similarly, requirements for project scale may also need to be reconsidered.

Specific criteria, then, would need to be developed for any Canadian fund, which would need to take into account regional conditions in proposed project areas.

## **Bibliography**

http://carbonfinance.org/biocarbon/home.cfm

http://carbonfinance.org/pcf/Home\_Main.cfm

World Bank, 1999, World Bank Environmental Safeguard Policies, OP and BP 4.01

World Bank, 2002, Romania: Afforestation of Degraded Agricultural Land Project - Project Design Document

World Bank, 2004, PCF Operational Cycle