Carbon Finance at the World Bank

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Quito, Ecuador
WB’s CF Objectives

1. Ensure CF contributes substantially to sustainable development, beyond global environmental efforts

- Supporting developing countries in enabling them to receive the maximum capital transfers for sustainable development from carbon finance
- Ensuring all carbon projects promoted by the Bank have additional sustainable development benefits beyond the reduction of carbon emissions by applying the Bank’s environmental and social safeguards and adding sustainable development value
WB’s CF Objectives

2. Assist in building, sustaining, and expanding the international markets for emission reductions, and its institutional and administrative structure

- Supporting the regulatory framework – developing new tools, collaboration with the regulator
- Expanding the capacity of other financial and development institutions through cooperation with other development banks
- Participating with the private sector in international associations and providing opportunities for purchases by the private sector
- Increasing market liquidity by creating projects with large volumes with a portion available to the private sector
3. Strengthen the capacity of developing countries to benefit from the emerging market for emission reduction credits

- $12m Bank-administered multi-donor trust fund for capacity building and technical assistance established in FY05
- Assists interested developing countries and economies in transition to develop CDM projects
- 3 to 5 year program to develop sound structures, where local institutions gain the capacity to prepare and review projects for approval
- Market facilitation through Carbon Expo, GHG Forum, etc.
Board reviews PCF proposal and Bank’s role
July, 1999. Board approves PCF
PCF becomes operational, April 2000

OPC clears final Carbon Finance Strategy, April 2002

Board no-objections to Italian, Spanish carbon funds, March 2004
Vision developed for 10-year horizon for role of Bank, June 2004

March, 2003, Board approves CDCF

Feb 1997 Approval of $3.5m PCF development funds
July, 1999. Board approves PCF
Board reviews PCF proposal and Bank’s role

Growth in WB CF Business
**World Bank CF Products ($1.8B)**

**Prototype Carbon Fund**: $180m, multi-shareholder

**Community Development Carbon Fund**: Multi-shareholder. Tranche I $128.6m

**Bio Carbon Fund**: Tranche I $53.8m; multi-shareholder

**Netherlands**: $170m – Government

**Italian Carbon Fund**: Multi-participant - $45m

**Netherlands**: $40m - EITs only (JI with IFC)

**Spanish Government**: $220m - will be open to private sector

**Danish Carbon Fund** multi-participant $75m

**Umbrella Carbon Facility** $930m Tranche I
How Carbon Funds Work

Industrialized Governments and Companies

Bank Managed Carbon Fund

Developing Countries and Communities

CO₂ Equivalent Emission Reductions

Technology Finance

Technology Finance
Pay market prices corrected for risk, purchase either VERs or CERs

Always contribute beyond the purchase of the CDM emission reductions

Build capacity of clients through support and training

Give full information – maintain transparency and integrity

Bring the full instruments (loans, grants, TA) of WB Group to support clients
Key Features of WB Carbon Finance

- Both public and private capital – new and additional sources for sustainable development financing

- Payment on Delivery – payments are made upon annual independent verification that emissions reductions have occurred.
  - Unlike most buyers in the market, Participants in Bank Funds agree to take Kyoto regulatory risk: Hence, our carbon fund contracts are “bankable”, allowing more projects to get financing than if regulatory risk remained open.

- Payment stream is in hard currency, reducing financing risk for foreign lenders
Main Buyers: EU Govts & Firms
(% of volume purchased From Jan’04 to Apr’05)

- Other EU: 32%
- Japan: 21%
- Gov. Netherlands: 16%
- UK: 12%
- USA: 4%
- Australia: 3%
- Canada: 5%
- New Zealand: 7%
Supply from Middle-Income Countries

% of volume (Jan ‘04 to April ‘05)

- OECD: 14%
- Transition Economies: 6%
- Africa: 0%
- Rest of Latin America: 22%
- Brazil: 13%
- Rest of Asia: 14%
- India: 31%
2005 Total Distribution (CDM/JI)

- HFC 66%
- CMM 7%
- Waste 3%
- RETs 6%
- Unknown 11%
- Other 7%

Source: Point Carbon 2006
Prices Depend on Risks
(Weighted average prices per tCO$_2$e – Jan’04-Apr’05)
Technological Distribution of WB Portfolio

($629m)

- HFC-23 Destruction, 32%
- Waste Management, 18%
- Energy Efficiency, 10%
- Land Use, Land-Use Change and Forestry, 7%
- Coal Mine Methane, 10%
- N₂O Removal, 2%
- Transportation, <1%
- Renewables, 22%
- Hydro, 14%
- Wind, 3%
- Biomass, 2%
- Biogas, 1%
- Geothermal, 1%
- Bagasse, <1%
Geographic Distribution of WB Portfolio
($629m)

- East Asia & Pacific: 52%
- Latin America & Caribbean: 19%
- South Asia: 10%
- Africa: 7%
- Europe & Central Asia: 9%
- Middle East & North Africa: 3%
<table>
<thead>
<tr>
<th>Project Name</th>
<th>Sector</th>
<th>IIRR</th>
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<tbody>
<tr>
<td>Brazil: Nova Gerar</td>
<td>Landfill</td>
<td>13.7%</td>
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<tr>
<td>South Africa: Durban</td>
<td></td>
<td>37.4%</td>
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<tr>
<td>Argentina: Olavarria</td>
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<td>18.5%</td>
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<td>China: Jincheng</td>
<td>CMM</td>
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<td>Bulgaria: Svilosa</td>
<td>Biomass</td>
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<tr>
<td>Hungary: Pannonpower</td>
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<td>Brazil: Plantar</td>
<td>Forestry</td>
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<td>Romania: Afforestation</td>
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<td>Ecuador: Abanico</td>
<td>Hydro</td>
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<td>Peru: Poechos</td>
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<td>Columbia: Jepirachi</td>
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<td>Philippines: Northwind</td>
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<tr>
<td>Bulgaria: Heating</td>
<td>District Heating</td>
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Asset Creation Process and Costs based on Bank experience

Preparation and review of the Project
- Upstream Due Diligence, carbon risk assessment and documentation: $25K

Carbon Asset Due Diligence
- For new methodologies
  - Baseline: $30K
  - Monitoring Plan: $25K

Validation process
- Contract, Processing and documentation: 25k

Project Appraisal and Negotiation
- Consultation and Project Appraisal: $60K
- Negotiations and Legal documentation: $100K

Total through Negotiations

All expenses:
- $265 K for regular size projects
- $150 K for small scale projects

Periodic verification & certification
- Verification: $10-25 K
- Supervision: $10-20K

Construction and start up
- Initial verification at start-up: $25K

Project completion
Strategic Issues in CDM Market Development

Potentially Competing Interests

- CDM needs to deliver high volumes to keep cost of Kyoto compliance affordable
- Developing country government preferences in 2\textsuperscript{nd} Commitment Period negotiations may be that CDM helps modernize and de-carbonize infrastructure
- “Sustainability” concerns constrain asset choice in many OECD governments, and some corporations

Market Inflection Points to Watch

- Post-2012 market signal by EU and/or KP Parties on long lead time assets
- Second phase ETS review of sequestration/LULUCF assets
WB’s Continuing Role

- WB projects go beyond ER transactions
- WB assumes greater risks vis-à-vis other players
- WB conducts regular internal review of CF policies and strategies to fit with overall goals
  - Geographical expansion
  - Technology choices
  - Capacity building (CF-Assist)
- WB continues to play an active role in CC debate with all stakeholders
www.carbonfinance.org