Potential for Carbon Finance in Agriculture and Forestry

Katoomba V, Tokyo
Forest Trends
November 5th, 2002
PROTOTYPE CARBON FUND
A PUBLIC | PRIVATE PARTNERSHIP

Ne
Negotiation

In
Innovation

Su
Sustainability

Catalyzing Markets for Climate Protection & Sustainable Development

C
Carbon

Kn
Knowledge

Ma
Markets

ANNUAL REPORT 2002
26 transactions at advanced stage

**Figure 2.1**

**DEVELOPMENT OF PROJECT IDEAS SUBMITTED TO PCF**
(as of August 30, 2002)

<table>
<thead>
<tr>
<th>Type Of Document</th>
<th>Number of Documents Submitted</th>
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<tbody>
<tr>
<td>PDD/Validation and agreed term sheet for ERPA</td>
<td>14</td>
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<td>PCNs taken forward</td>
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<td>PCNs cleared by FMC &amp; PC</td>
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<td>PCNs Under Development</td>
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<td>PINs Submitted</td>
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**Number of Documents Submitted**
Technology distribution of approved projects

TECHNOLOGY DISTRIBUTION OF APPROVED PROJECTS
Total of US$ 106 million

- Small Hydro: 17%
- Wind: 18%
- Waste Management: 25%
- Biomass: 17%
- LULUCF: 4%
- Energy Efficiency: 2%
- Geothermal: 17%
Sustainable Development
Deep Green Carbon

• Certifying local environmental and community development benefits with emissions reductions:

• Examples from PCF:
  – Colombia Jepirachi Wind Power Plant (19MW) providing:
    • potable water,
    • electricity for schools/clinics and
    • small fishing port for local indigenous peoples;
  – Plantar Project in Brazil (23,400ha fuelwood plantation):
    • Worker health improvement
    • ABRINQ certification of no child labor or exploitation
    • Biodiversity benefits
    • FSC certification of improved forest management
Important Findings

1. Learning-by-doing works
2. CDM/JI Carbon Asset Creation is complex with long ER delivery lead times
3. Regulatory uncertainty remains post-Marrakesh, especially in Land Use, Land Use Change and Forestry
4. Very small direct private CDM investment
5. Small projects/small countries lose out
The Carbon Market
Summary of carbon markets currently in operation

Project-based Emission Reduction purchases

“Pre-Compliance”

From voluntary

To Kyoto Pre-Compliance

Allowance Trading

Within National trading systems

UK

DK

Intra-Firm trading

BP

Shell

Retail
Major Market Findings

• **2002 is most active year.** Prices ranged from $1 (project-based) to $17 (UK allowance)

• **Market Activity since 1996**
  
  • Total Trades, all vintages = 200 MtCO2e
  
  • 157 MtCO2e 1996 to 2002
  
  • Expected 2002 contract volumes = 60-67 MtCo2e
  
  • OR over 5 times 2001 volume of 12 MtCo2e
  
  • 2002 volumes would be ~1/3 of all estimated market volume since 1996.

• **private sector bought most of ERs traded within OECD countries.**
Number of trades has increased

Source: Authors’ own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon
Buyers are more diverse

Source: Authors’ own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon
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Carbon Finance flows 2001-2002

Source: Authors’ own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon
In 2001-2002, private companies acting alone have purchased only 13% of their reductions in developing countries.

Source: Authors’ own calculation, based on transaction database assembled with Natsource, Co2e.com and PointCarbon
BioCarbon Fund:
Key Design Parameters

- **Size**: $100m target; $40-50m to close mid-2003
- **Share Price**: $2.5 million and up
- **Target Contract Price Range**: $2.5-$5/tCO2e
- **Term**: 17 years (3 yrs investment, 14 yrs maintenance)
- **Structure**: Two Windows – Kyoto and Non-Kyoto
- **Focus**: Sustainable Agriculture, Forestry and Land Management, Biodi Conservation, Poverty Reduction
- **Deal Attributes**: Certified ERs and Biodiversity
- **Parallel Grant Fund**: for project preparation and capacity building. Implementation Partnerships.
Potential Early Deal Flow

![Graph showing potential early deal flow with categories: Afforestation/Reforestation, Plantations, Forest Management. The x-axis represents Quantity (tCO2e), and the y-axis represents Price ($/tCO2e). Different markers indicate the cost price at various quantities.](image-url)
Bank’s Experience of Carbon Finance in Forestry

- **PCF Projects under implementation:**
  - Brazil Plantar Fuelwood and Restoration Forestry
  - Romania Danube Delta: Restoration Forestry and Conservation on degraded lands (7000ha)
- **PCF Projects approved by Shareholders**
  - Moldova Land and Forest Restoration (14,300ha)
- **Characteristics of LULUCF Deals to date:**
  - create Biodiversity Assets.
  - support sustainable livelihoods and rural development
  - Prices contracted in range of $3.25-3.50/tCO2
Early Insights on Opportunities

• Private/Public CF for sinks can support conservation, sustainable natural resource use and poverty reduction!
• Payment for Carbon as it is sequestered provides unique early cash flow key to:
  – Financial closure in private deals and
  – Leveraging State Forest Administration Budgets
• Biodiversity Assets can be certified which:
  – Increase carbon asset value: “green premium”
  – Sheds light on how a global biodiversity market can function
• Carbon Stocks in “avoided deforestation” can leverage up-front payment enabling land purchase
  – Non-kyoto and retail markets offer cash forward potential for high profile conservation assets
Brazil Biomass/Pig Iron Project

Cash Flows ($000)

Year

Loan Disbursement

PCF Payments

Loan Amortization

ER payments are used to amortize commercial loan.
Early Insights on Managing “Permanence” Risk

Bank/BioCF offers “mitigation equivalent” assets

Portfolio Level Permanence Risk Management

• Hedging high permanence risk assets with low permanence risk assets

• Using Mitigation Reductions to offset sequestration asset risks
  – within the portfolio using Biofuel project mitigation component reductions and
  – Buying options in Bank-managed mitigation reduction portfolios (e.g. CDCF)

• Blending JI, AAU-backed assets with CDM assets
Early Insights on Managing “Permanence” Risk

Project Level Permanence Risk Management

• Encouraging “mosaics” of low and high permanence risk assets within the project e.g. conservation and production landscapes

• Using Conservative estimates of ER potential to create within project hedge

• Negotiating seller liability clauses wherever feasible
Pre-requisites for Carbon Sink Asset Management

• Mutual Fund type structures to manage risks
• Institutions capable of long term asset maintenance – 20+ years
• Capability to build public-private partnerships to mitigate risk, especially with global insurance and banking industry
Annexes
Potential Early Deal Flow

- Proposals exist for both Windows
- Average price = $3.88/tCO2
- Deal flow exists below $4/tCO2
- Some attractive projects (cobenefits, permanence) > $4/tCO2
- Total ER volume = 117 MtCO2
- Many projects request upfront payment
- 7 early project candidates (high ranking)