Pilot Auction Facility:
Exploring Opportunities for going beyond
the Piloting Phase

Results-Based Climate Finance Dialogue

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Content

1. Introduction to the PAF
2. Research interests
3. Assessment framework
4. Preliminary results
5. Discussion
Introducing the PAF

- **Innovative pay-for-performance scheme** that emerged from research by the Methane Finance Study Group.

- **Objective** is to demonstrate cost-efficient disbursement of climate finance

- Capitalization of $53 million, supported by Germany, Sweden, Switzerland, and the United States

- Two auctions completed. focused on **methane-reduction projects** at landfills, agriculture and wastewater sites from stalled CDM pipeline. Third auction likely includes N2O destruction.

- First auction allowed CERs, second auction allowed CER and VERs from VCS and GS

- PAF provides **price guarantees in the form of put options** which are auctioned off. Project developers pay a premium for the right to sell future CERs/VERs at a guaranteed price
Results first (reverse) auction
July 2015

Auction Clearing Price

$2.40 per tCO2e
Put option strike price

Volume of put options sold: 8.7 million tCO2e
Put option premium: $0.30/CER
Number of auction rounds: 11

28 Bidders
17 Countries

Winners:
- ABLY CARBON
- AMSTERDAM CAPITAL TRADING
- BATRE BAHIA
- BENG ENGENHARIA
- BIOGÁS RIogranderense
- BP ENERGY ASIA
- CARBON2020
- ECOURBIS AMBIENTAL
- ISCCP INVESTMENT PLATFORM
- RELLENGOS SANITARIOS
- S.P.M. FEED MILL
- TIMARPUR OKHLA

Source: http://www.pilotauctionfacility.org/content/auction-results
Results second (forward) auction May 2016

By comparison:
- Both auctions roughly same size (~$20 million)
- First auction sold ~2 million more put options
- Net benefit to winners almost identical ($2.10 vs. $2.09)
- Premium raised in second auction $8 million vs. $2.6 million in first auction.

Source: http://www.pilotauctionfacility.org/content/auction-results
Basic elements of the “PAF model”

1. **Price guarantee** for emission reductions

2. **Auction mechanism** for determining the value of the price guarantee

3. **Trading** of put options, allowing auction winners to sell put options to other firms if they can sell ERs at a higher price
Scaling up and replicating the PAF model: Research interests

- Are there opportunities for methane reduction beyond the project categories already targeted?

- Beyond methane, which other sectors are natural targets for the PAF model?

- Can the PAF model work for new investments (greenfields) as well as it has for “stranded assets”?

- How can the PAF better unlock potential through tailored offerings (e.g. regional auctions, use of risk mitigation instruments)?

- How can the model work in settings beyond a donor-funded model, e.g. to support the implementation of NDCs, private sector ambitions or other environmental agreements?
Assessment framework
## Opportunities in methane reduction: preliminary results

<table>
<thead>
<tr>
<th></th>
<th>Biomass waste</th>
<th>Rice cultivation</th>
<th>Palm oil waste water</th>
<th>Enteric fermentation</th>
<th>Coalmine methane</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price responsiveness</strong></td>
<td>Yes (No CDM experience)</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>MRV</strong></td>
<td>Possible</td>
<td>Challenging</td>
<td>Possible</td>
<td>Challenging</td>
<td>Possible</td>
</tr>
<tr>
<td><strong>Abatement potential</strong></td>
<td>-</td>
<td>7% total CH4 emissions</td>
<td>-</td>
<td>30% total CH4 emissions</td>
<td>8% total CH4 emissions</td>
</tr>
<tr>
<td><strong>Abatement cost</strong></td>
<td>-</td>
<td>Negative to $20</td>
<td>$10 to $20</td>
<td>-</td>
<td>$0 to $15</td>
</tr>
<tr>
<td><strong>Geography</strong></td>
<td>Scattered</td>
<td>China, India, Indonesia, Malaysia</td>
<td>Indonesia, Malaysia</td>
<td>Brazil, Argentina, USA, China</td>
<td>China</td>
</tr>
<tr>
<td><strong>SD risks</strong></td>
<td>Low</td>
<td>Low</td>
<td>Elevated</td>
<td>Elevated</td>
<td>Elevated</td>
</tr>
<tr>
<td><strong>Characteristic</strong></td>
<td>Heterogeneous</td>
<td>Heterogeneous</td>
<td>Homogeneous</td>
<td>Heterogeneous</td>
<td>Homogeneous</td>
</tr>
</tbody>
</table>
## Opportunities in other sectors: preliminary results

<table>
<thead>
<tr>
<th></th>
<th>Energy sector</th>
<th>Industrial Processes</th>
<th>Non-combustion emissions</th>
<th>Forestry and Land use</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price responsiveness</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Limited</td>
</tr>
<tr>
<td><strong>MRV</strong></td>
<td>Possible</td>
<td>Possible</td>
<td>Possible</td>
<td>Challenging</td>
<td>Challenging</td>
</tr>
<tr>
<td><strong>Abatement potential</strong></td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abatement cost</strong></td>
<td>Diverse</td>
<td>Medium</td>
<td>Low</td>
<td>For some activities &lt;5USD/tCO2</td>
<td>Diverse</td>
</tr>
<tr>
<td><strong>Geography</strong></td>
<td>No regional limitations</td>
<td>Strong regional variations</td>
<td>Strong regional variations</td>
<td>No regional limitations</td>
<td>No regional limitations</td>
</tr>
<tr>
<td><strong>SD risks</strong></td>
<td>Low</td>
<td>Low</td>
<td>Elevated</td>
<td>Elevated</td>
<td>Low</td>
</tr>
</tbody>
</table>

- Waste-heat recovery
- N2O, HFC23
New frontiers for the PAF model

New vs. existing projects
• The current PAF aims at rapidly reviving existing, stalled GHG mitigation activities that have already concluded CAPEX investments and require operational revenue (OPEX) support
• Could a scaled-up intervention target greenfield projects that are facing access-to-finance barriers to close the CAPEX gap?

Alternative MRV approaches and auction metrics (non-CO2)
• The current PAF leverages the MRV tool box of the CDM, VCS and Gold Standard
• For some sectors this has proven to be a barrier
• Could alternative standards that could be monitored and verified open up new sectors for results-based climate finance?
Options for scale-up and replication of the PAF model

<table>
<thead>
<tr>
<th>Existing Projects</th>
<th>Covered Under Existing Carbon Crediting Schemes</th>
<th>Not Covered Under Existing Carbon Crediting Schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Existing projects requiring OPEX support</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td>New projects requiring CAPEX support, using existing carbon crediting schemes</td>
<td></td>
</tr>
<tr>
<td>Option 3</td>
<td>New projects requiring CAPEX support, using new MRV schemes and performance metrics</td>
<td></td>
</tr>
</tbody>
</table>
Next steps of the research

• Understanding under which circumstances auctions can incentivize new investments (drawing on lessons from renewable energy auctions)

• Understanding whether sectors excluded from existing carbon crediting schemes may be price responsive if targeted through different metrics

• Prioritizing opportunities for blueprint development

• Identifying feasible designs models for implementation (funders, auction format, eligibility criteria etc.)
Thank you for your attention.