Bachat Lamp Yojana

Learning's from CDM Programme of Activity (PoA)

CDM Subsidy to Fossils or Leapfrog to Technology

South Asian Media Briefing

Centre for Science

17 November 2011
## India Energy Efficiency Potential

Source: BEE/ National Productivity Council Study 2009

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Sector</th>
<th>Consumption $x\ 10^3$ (GWh)</th>
<th>Saving Potential $x10^3$ (GWh)</th>
<th>% Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Agriculture Pumping</td>
<td>92.33</td>
<td>27.79</td>
<td>30.09</td>
</tr>
<tr>
<td>2.</td>
<td>Domestic</td>
<td>120.92</td>
<td>24.16</td>
<td>19.98</td>
</tr>
<tr>
<td>3.</td>
<td>Industry (Including SMEs)</td>
<td>265.38</td>
<td>18.57</td>
<td>6.99</td>
</tr>
<tr>
<td>4.</td>
<td>Municipalities</td>
<td>12.45</td>
<td>2.88</td>
<td>23.13</td>
</tr>
<tr>
<td>5.</td>
<td>Commercial Buildings/ Establishments with connected load &gt; 500 KW</td>
<td>9.92</td>
<td>1.98</td>
<td>19.95</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>501.00</strong></td>
<td><strong>75.36</strong></td>
<td><strong>15.04</strong></td>
</tr>
</tbody>
</table>

Source: BEE/ National Productivity Council Study 2009
# CDM: Transaction Costs Barrier

<table>
<thead>
<tr>
<th>Comparison</th>
<th>CDM</th>
<th>Programme of Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved Monitoring &amp; Verification</td>
<td>Available</td>
<td>In 2007</td>
</tr>
<tr>
<td>Time</td>
<td>~12-24 months</td>
<td>.....</td>
</tr>
<tr>
<td>Cost</td>
<td>Atleast INR 30 lakhs, $0.67 million</td>
<td>?</td>
</tr>
<tr>
<td>Institutional Support / Trained man-power</td>
<td>Project developer sufficient</td>
<td></td>
</tr>
</tbody>
</table>

Assumption: $1 = INR 45
Overview

Bachat Lamp Yojana (BLY)

- Objectives & benefits
- Current Status
- Scheme Architecture
- Best Practices / Learning's
Bachat Lamp Yojana

**Driver**

- Reduce first price of CFLs using CDM revenue for domestic users and hasten Market Transformation

**Value Addition**

- Developed a **Public-Private partnership** business model and got it UNFCCC registered

- Developed capacity in BEE to operate as a Co-ordinating and Managing Entity

- Worlds largest multi-investor PoA

**Potential Benefit by 2020**

- 0.5 million light-points per project, > 400 projects possible to cover India

- Annual avoided capacity ~ 4000 MW
Current Status*

* As of November 2011

<table>
<thead>
<tr>
<th>State</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPAs Included</td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>35</td>
</tr>
<tr>
<td>By December 2011</td>
<td>50</td>
</tr>
<tr>
<td>Empanelled Investors</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>20</td>
</tr>
<tr>
<td>Active</td>
<td>5</td>
</tr>
<tr>
<td>Investment Outlay</td>
<td></td>
</tr>
<tr>
<td>Per CPA</td>
<td>INR 5 crore; $ 1.13 million</td>
</tr>
<tr>
<td>CFLs Distributed</td>
<td></td>
</tr>
<tr>
<td>In millions</td>
<td>24.4</td>
</tr>
<tr>
<td>In CPAs</td>
<td>28</td>
</tr>
</tbody>
</table>
BLY Scheme Architecture

Buyer in Annex I Country

Payment for CERs

Allocation of CERs

CERs sold

PoA - Manager

• Technically prepare PoA-DD
• Registration of PoA
• Coordinating & Managing entity

CDM EB

DNA

DOE

CFL INVESTOR

Fused CFL’s returned

Replaced ICL lamp

Contract for implementation

Safe disposal of returned CFL

Safe keeping of replaced ICL lamp for inspection

DISCOM

CFLs to replace ICL

Provide CPA-DD
Consumer database
Access to sample groups

HOUSEHOLD

Buying CFL

Replaced ICL lamp

Fused CFL’s returned

CFL = Compact Florescent Lamp
ICL = Incandescent lamp
DOE = Validators
BEE = Bureau of Energy Efficiency
DISCOM = Distribution Company
PoA Project Cycle Risks

**Preparation of a CDM-PoA-DD; CPA-DD**
- Investor / Implementer Credentials?
- Technology measure baseline?
- Coordinating and Managing entity

**Stakeholder Participation**
- Mandatory laws / Sectoral Policy e.g. on DSM?
- Programmes dovetailed with policy

**PoA Validation / CPA Inclusion**
- Methodology put on hold/withdrawn
- CPA Eligibility criteria ensured?

**Verification of CPA**
- Costs of CPA data collation?
- Deviation in CPAs?

**Issuance of CERs**
- Erroneous CER issuance liability
- Allocation of CERs

= Certified Emission Reduction Risk!
Best Practices to reduce PoA & CER Risk

‘K.I.S.S’
## # 1-- Reduced Transaction Kosts

### K.I.S.S

<table>
<thead>
<tr>
<th></th>
<th>CDM (normal)</th>
<th>CDM (Programme of Activities)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong></td>
<td>2 years; replication by starting anew</td>
<td>2 years (one time); replication 2 months</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>Atleast INR 30 lakhs, $ 0.66 million</td>
<td>INR 50 lakhs (one time), $ 1.1 million;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replication INR 10 lakhs, $ 0.22 million</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assumption: 1 $ = INR 45</td>
</tr>
</tbody>
</table>
Develop a strong institutional CME which can

- generate trust amongst stakeholders
- Wield (explicit or implicit) authority on key stakeholders
- Independent resource provision NOT linked to profits
- Ready access to professional know-how

BLY Example:

BEE performs the role of eye of a storm and yet is independent of investor and Utility who provide last mile connect

Tip: A strong eye holds the storm
# 3— Simplify Monitoring & Verification

**K.I.S.S**

Reduce Investor Risk

- Reduce data monitoring and assurance costs using e.g. Pre-defined factors, sampling plans
- Develop standard templates and provide public access

**BLY example**

- use of simple deemed saving methodology AMS IIJ instead of AMS IIC
- BEE developed all documents & templates and maintain it on its website

**Tip:** Focus on predictibility of returns and ease to investor!
# 4-- Consulting Stakeholders Pays

**K.I.S.S**

Consult Stakeholder(s)

- Provides 360° due diligence on project design
- Identify barriers to uptake and develop enablers
- Builds transparency of decision making
- Ensures buy-in

**BLY example**

- National stakeholder meeting facilitated by Greenpeace
- Periodic meetings held (till-date) with Investors / Utility to iron out gaps

**Tip:**

- Web-site based consultation reduces costs and is quick and convenient
- Budget adequate time to enable 2-3 consultations
If you have men who will only come if they know there is a good road, I don't want them.

I want men who will come if there is no road at all.

David Livingstone

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