Third Workshop on Enhancing the Regional Distribution of CDM Projects in Asia and the Pacific

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CDM in Waste Sector: Issues and challenges

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Most CDM in LDS are waste sector

### # of registered projects from LDCs
- Methane avoidance, 1, 3%
- Cement, 1, 3%
- Other renewable energies, 2, 6%
- Energy efficiency, 3, 9%
- Biomass, 3, 9%
- Methane recovery & utilization, 5, 15%

### # of projects issued CERs from LDCs
- Waste gas/heat utilization, 1, 3%
- Wind power, 1, 3%
- Biogas, 8, 25%
- Hydro power, 8, 24%
- Biomass, 1, 17%
- Methane recovery & utilization, 1, 17%
- Waste gas/heat utilization, 1, 17%
- Biogas, 2, 33%
- Hydro power, 1, 16%

Source: IGES CDM Project Database
Monitoring has not been successful in waste sector

Issued ratio of monitoring report

<table>
<thead>
<tr>
<th>Source: IGES CDM Monitoring and Issuance Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>78%</td>
</tr>
</tbody>
</table>

- Biomass
- Hydro Power
- Wind Power
- Methane recovery & utilization
- Methane avoidance
- Biogas

AMS.I.D
AMS.III.G
AMS.III.F.
AMS.III.D.
AMS.III.H.

Not Issued
Issued CER
There is no difference in monitoring period; time is not a matter

Average days of monitoring period

- Biomass: 572
- Hydro Power: 316
- Wind Power: 323
- Methane recovery & utilization: 289
- Methane avoidance: 294
- Biogas: 332

Source: IGES CDM Monitoring and Issuance Database
### More reviews in monitoring report

#### Average number of review comments per monitoring report

<table>
<thead>
<tr>
<th>Project Code</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS.I.D</td>
<td>0.133</td>
</tr>
<tr>
<td>AMS.III.F</td>
<td>0.714</td>
</tr>
<tr>
<td>AMS.III.H</td>
<td>0.392</td>
</tr>
<tr>
<td>AMS.III.D</td>
<td>0.459</td>
</tr>
</tbody>
</table>

#### Typical contents of review comment

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
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<tbody>
<tr>
<td>Calibration of <em>meter</em>, Explanation of measured <em>data</em></td>
</tr>
<tr>
<td>Measurement on <em>waste</em>, identification of <em>baseline</em></td>
</tr>
<tr>
<td>Biogas analysis, Measurement on <em>COD</em>, quantity of <em>wastewater</em>, <em>electricity</em></td>
</tr>
<tr>
<td>Biogas analysis, Survey on <em>swine</em>, <em>Electricity</em> consumption</td>
</tr>
</tbody>
</table>

### Common issues: Monitoring plan

(data explanation, operation of meters)

Source: IGES CDM Review and Rejected Project Data Analysis
Waste projects have more process for monitoring

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Monitored by meter</th>
<th>Monitored by survey</th>
</tr>
</thead>
</table>
| AMS-I.D. (RE) | • CO2 emission factor  
• Quantity of net electricity supplied | - |
| AMS-III.G. (Methane recovery) | • Landfill gas (LG) volume and content  
• Temperature and pressure of the LG | - |
| AMS-III.F. (Composting) | - | • Quantity of waste composted  
• Waste delivered to the facility  
• Weight fraction of the waste delivered to the composting |
| AMS-III.D. AMS-III.H. (Biogas) | • Biogas (BG) volume and content  
• Temperature and pressure of the BG  
• Flare efficiency | • Manure  
• Number of animal and days | • Volume of Waste water  
• COD |
Framework of the issues in waste sector

- More process for monitoring (direct and survey) hinders the CERs issuance rate
- Project implementers are not familiar with monitoring parameters required by the CDM
- They find it difficult to ensure the quality of data

Proposals

- Need to reduce the monitoring burden by providing the datasets or default values from regulatory side
- Develop specific guidelines and manuals for monitoring and data quality