



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

6–7 September 2011 • Radisson Hotel, Kathmandu, Nepal

Development of standardized baseline for MSW composting by LGUs in developing countries

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Steps for Establishing Standardized Baseline

Define Aggregation Level

Municipality (<100TPD)

Define Additionality Criteria

Composting MSW by LGUs are additional in countries if GDP per capita of <USDXXX (or, LDCs), or no regulation requirement for LFG control

Identify Baseline Scenario

Managed (covered) or Unmanaged (open) dumping

Calculation of Emission Reduction

Simplified First Order Decay (FOD) model & monitoring system

Key questions:

- How to identify aggregation level of the geographic boundary and baseline scenario?
- How to identify applicability and to demonstrate additionality within such aggregated boundary?
- How to identify potential emission reduction and monitoring procedures? 2



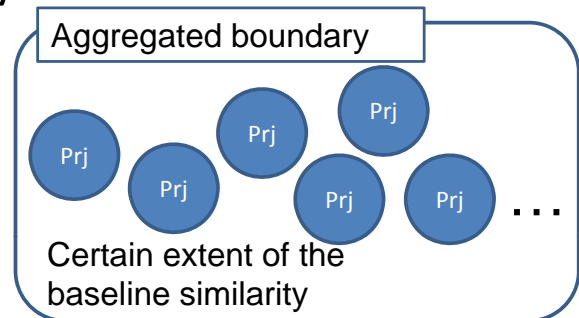
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Aggregation level and baseline scenario

- How far to aggregate = Proximity of the baseline scenario.
- Identify types of the major disposal practice which can be deemed as baseline scenario for a selected boundary.



- Within a boundary, not all the baseline conditions are the same (for the purpose of wider application).
- Typical waste disposal scenarios in developing countries are identified: **Managed/Unmanaged dumping**.
- Plus, depth of the site (<5m or not) is to be determined per project site as it differentiates baseline emission.

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Define additionality criteria & applicability

- As the target case is “Municipal solid waste composting project by LGUs”, AMS-III.F. is referred.
- According to the examples from the registered CDM projects, alternative scenarios are convergent into project implementation without CDM or continuation of current practice.

| Typical alternative scenarios in CDM AMS-III.F. | |
|---|---|
| 1 | Cases implemented without CDM revenue |
| 2 | Incineration (for energy generation) |
| 3 | Landfill with methane capturing (for flaring or power generation) |
| 4 | Conversion to pellets |
| 5 | Continuation of baseline practice (disposal of waste in landfill) |

- **Common barriers** are identified for those projects.
- Existence of such barriers and obstacles therefore continuation of the current practice is deemed **highly likely scenario**.
- Thus, composting project by LGUs would not occur as BAU and is deemed additional under certain conditions which set out **applicability criteria (= positive listing)**.

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Calculation of ER and monitoring

$$ER_y =$$

$$BE_{CH_4, SWDS, y} = \varphi * (1 - OX) * \frac{16}{12} * F * DOC_f * MCF * \sum_{x=1}^y \sum_j W_{j,x} * DOC_j * e^{-k_j(y-x)} * (1 - e^{-k_j}) * GWP_{CH_4}$$

$$PE_y = PE_{y,transp} + PE_{y,power} + PE_{y,comp}$$

- Simplified equation for ER calculation
- Simplified FOD model
- IPCC default values are thoroughly utilized
- PPs estimate their BE simply choosing conditions of the project site (i.e. managed or unmanaged, depth of the site, type of baseline waste disposal practice, climate and region) and inputting the amount of organic waste
- Ex-post monitoring on “the amount of organic waste type” and “PE (PE_{y,transp}, PE_{y,power}, and PE_{y,compost})”

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Conclusion

- PPs are benefited from simpler & objective procedures
- Positive listing is recommended for easier implementation of CDM projects
- Further, the CDM experience shows that sampling approach for estimating waste composition creates barriers for project implementation as the specific numbers of sampling is not defined in the tool (i.e. minimum 4 times). Definition of such measures can lead to easier implementation by PPs as well as verification by DOEs
- To solve a dilemma in keeping GHG emission real and credible while aggregating and generalizing baselines and project scenario, additionality determination, and emission reduction calculation, e.g. annual review on the baseline practice and gradual transition for de-centralized approach (i.e. country specific parameters) can be recommended
- This will require thorough data collection. As such, required capacity development and awareness rising in host countries are important

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