Training Workshop

Overview of the New Methodologies Submitted to the Executive Board of CDM

Paata Janelidze
janelidze@caucasus.net

Table of Contents

1. Summary Tables

Summary Table of Submitted Baseline and Monitoring Methodologies

Number of submitted methodologies (as for 9th March 2005) Among them:	95
Final Decision is made	74
Approved methodologies (A)	*21*
Not approved methodologies (C)	*28*
Withdrawn methodologies	1
Preliminary decision is made	5
Consolidated methodologies	2

Sectoral scopes related approved methodologies

N	Sectoral scope	Approved methodologies		
		PA	SSC	Consolid
1	Energy industries (renewable - / non-renewable sources)	7	6	1
2	Energy distribution	-	1	-
3	Energy demand	3	3	-
4	Manufacturing industries	3	3	-
5	Chemical industries	1	-	-
6	Construction	-	-	-
7	Transport	-	1	-

Sectoral scopes related approved methodologies (2)

N	Sectoral scope	Approved methodologies		
		PA	SSC	Consolid
8	Mining/mineral production	-	-	-
9	Metal production	-	-	-
10	Fugitive emissions from fuels (solid, oil and gas)	1	1	-
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	1	-	-

Sectoral scopes related approved methodologies (3)

N	Sectoral scope	Approved methodologies		
		PA	SSC	Consolid
12	Solvent use	-	-	-
13	Waste handling and disposal	8	2	1
14	Afforestation and reforestation	-	-	-
15	Agriculture	2	1	-

2. Criteria for Assessment of New Baseline Methodologies

Criteria for Assessment of New Baseline Methodologies Related to the Additionality

Basis for determining the baseline scenario

- Does the documentation explain how the baseline scenario is to be chosen and identified?
- Does the documentation explain how, through the use of the methodology, it can be demonstrated that a project activity is additional and therefore not the baseline scenario?
- Is the basis for determining the baseline scenario and for assessing additionality is appropriate and adequate?

3. Examples of Approved Baseline Methodologies

Methodology for small grid-connected zero-emissions renewable electricity generation (AM0005)

- Methodology is based on the El Gallo Hydroelectric Project, Mexico
- Methodology is developed by the Prototype Carbon Fund
- This methodology is applicable to project activities under the following conditions:

✓ The project will provide electricity to the electric grid, displacing power that would otherwise be provided by other generating sources through the operation and expansion of the electric sector.

✓ The project is in an electric sector that is not dominated by generating sources with zero- or low-operating costs;

✓ Applies only to small electricity capacity additions, i.e. less than or equal to 60 MW

AM0005 (2)

- **The baseline scenario** is that the electricity grid generates electricity by operation of the connected power plants and adjust power development plan to compensate the generated electricity by the project. No alternative energy conservation programs would be implemented.
- **The project activity** is a small grid-connected zero-emissions renewable electricity generation plant that would not be implemented otherwise.

AM0005 (3)

- The methodology ensures additionality and identifies the baseline scenario by using both of the
- following steps:

✓ Step 1: Analyze prohibitive barriers to the proposed project

- Step 1-a Identify the relevant barriers to the proposed project activity.
- Step 1-b Explain how only the approval and registration of the proposed project as a CDM activity would enable the project to overcome the identified barriers and thus be undertaken.

✓ Step 2: Analyse other activities similar to the proposed project

AM005 (4)

Emission Reduction

- The project activity mainly reduces carbon dioxide (CO2) through substitution of the grid electricity generated by fossil fuel power plant by renewable electricity.
- The emission reductions *ERy* by the project activity during a given year *y* is

  $$ERy = EGy * EFy$$

  where *EGy* is the electricity supplied to the grid, *EFy* is the GHG emission factor of the grid. , which is represented as a combination of the Operating Margin and the Build Margin. By default, they are weighted equally (*w*OM = *w*BM = 0.5).

Baseline Methodology for Water Pumping Efficiency Improvements (AM0020)

- Methodology is based on the the Energy Efficiency Improvements in Municipal Water Utilities project, Karnataka, India
- Methodology is developed by “Quality Tonnes”
- This methodology is applicable to project activities that:

✓ Seek to reduce GHG emissions by explicitly reducing the amount of energy required to deliver a unit of water to end-users in municipal water utilities;

✓ Improve energy efficiency in the overall water pumping, including reducing technical losses and leaks as well as the energy efficiency of the pumping scheme, which consume electricity from the electricity grid, where:

AM0020 (2)

- ✓ The efficiency (water and energy) of existing schemes is being improved; or
- ✓ A new scheme is being developed to completely replace the old scheme which will no longer be used. This methodology will apply to the new scheme only up to the measured delivery capacity (annual amount of delivered water) of the old scheme;
- This methodology is NOT applicable to project activities cases where entirely new schemes are built to augment existing capacity. This will ensure that only emissions reductions up to the existing capacity of the system will be considered.

AM0020 (3)

- **Project activity:** Efficiency improvement in water pumping using electrical pumps using electricity from the grid.
- **Additionality:** To demonstrate that the proposed project activity is additional project participants shall use the “Tool for the demonstration and assessment of additionality”. Project participants shall, among others, undertake formal analyses to check that there are no performance related contracts already in place, quality-control or inspection and maintenance procedures or government policies that would mean that the energy efficiency equipment and procedures designed to improve system would have happened without the intervention of the CDM project.

AM0020 (4)

- Baseline emissionsy = M3y * PPER * EFy

✓ M3y = Total post-project water volume delivered in year y (m3)

✓ PPER = Pre-project efficiency ratio (kWh/m3)

✓ EFy = Carbon emission factor for the electricity grid in year y (kg CO2/kWh). EFy is calculated using the approach outlined in the consolidated methodology for grid-connected electricity generation from renewable sources (ACM0002) as a combined margin (*CM*), consisting of the combination of operating margin (*OM*) and build margin (*BM*) factors

AM0020 (5)

- Project emissionsy = kWhy* EFy,
- ✓ kWhy = Total post-project amount of electricity required to move water (kWh) to its destination in year y
- ✓ EFy is the carbon emission factor for grid electricity of year y
- **Emission Reductions:**
- Annual emission reductions arising from the project activity ERy = Baseline emissionsy – Project emissionsy =

  (M3y * PPER * EF y) - (kWhy* EFy)

Baseline Methodology for Decomposition of N2O from Existing Adipic Acid Production Plants (AM0021)

- Methodology is based on the N2O Emission Reduction Project in Onsan, Republic of Korea
- Baseline study, monitoring and verification plan and project design document were prepared by MM Pascal Chalvon Demersay / Rhodia Energy and Patrick Rossiny / Rhodia Group / Rhoditech and with the expertise of Mr Axel Michaelowa from Perspective Climate Change / Hamburg / Germany on behalf of Rhodia Polyamide Co. Ltd.

AM0021 (2)

- This methodology is applicable to projects, which decompose N2O from adipic acid production plants under the following conditions:
- ✓ Either catalytic or thermal decomposition of the N2O by-product of adipic acid production at existing production plants.
- ✓ The methodology is spatially generic, being applicable across regions where the data (both related to baseline and project activity as well) exist to undertake the assessments.
- ✓ The methodology is applicable only for installed capacity (measured in tonnes of adipic acid per year) that exists by the end of the year 2004

AM0021 (3)

- **Baseline:** The baseline scenario is defined as the continuation of N2O emissions to the atmosphere at the rate currently observed, absent regulations to restrict N2O. The baseline emissions are calculated on an *expost* basis from the amount of adipic acid production. To exclude the possibility of manipulating the production process to increase the emissions rate, the current emissions rate is capped by a conservative value for N2O emissions from an adipic acid plant (lowest IPCC value, i.e. 0.27 t N2O per tonne of adipic acid produced).

AM0021 (4)

- **Project emissions:** The emissions due to project activity in a year y (PEy) are the emissions due to the by-pass of the decomposition facility (Q_N2O_by-passing), the emissions of N2O non-decomposed in the decomposition facility (ND_N2Oy) and the emissions due to the natural gas use.
- **Leakage:** Leak emissions comprise the emissions associated with the energy sources used to generate any steam and electricity used by the decomposition plant.

AM0021 (5)

- **Emission Reductions:** The greenhouse gas emission reduction (ERy) achieved by the project activity in a year y is the baseline emissions of the adipic acid plant less the greenhouse gas emissions generated by the decomposition process (PEy) less leakage due to the decomposition process (Ly).

  ERy = BEy - PEy - Ly

AM0021 (6)

- **Additionality:** The additionality test consists in confirming and providing evidence to support each of the following three conditions:

✓ ***Condition 1.*** There is currently no existing regulation that will require, as of the beginning of the crediting period, that facilities must undertake N2O abatement.

✓ ***Condition 2.*** The project activity is not common practice in relevant sector and region.

✓ ***Condition 3.*** The project activity would not be commercially viable even taking into account the market value of any by-products of the decomposition plant.

THANK YOU