



CDM methodology and technologies

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Outline

- Methodology vs CDM project development
- Existing CDM methodologies and their application
- The UNEP Risoe CDM Methodology Tool



Methodology vs project development

- A PDD must be written based on an approved methodology or if there is no approved methodology, the project developer can propose a new methodology
- The availability of an applicable approved methodology can significantly influence the time taken and costs of developing a CDM projects
- New comers are often advised to limit their project development types with existing approved methodologies
- Some donors or organisations offer support to the development of methodologies of high relevance to them



What is a CDM methodology

- Extensive elaborations on
 - Formulas
 - Definition of project boundaries
 - Monitoring requirements
 - Leakage
- Compulsory to use
- Project type specific
- Approval by the Executive Board needed
- Different sets for large scale and small scale projects



Where does an CDM methodology comes from?

- Large scale CDM methodologies are proposed by a CDM project developer using an approved new methodology template and approved by the CDM EB
- Small scale methodologies are mainly directly drafted by the small-scale working group and approved by the CDM EB



An approved CDM Methodology

- **Definition:** Methodologies are standardised procedures how to measure and calculate emission reductions in a CDM projects. Each CDM methodology consists of two parts:
- **A baseline methodology, which is** the emissions that would have been created in the most plausible alternative scenario to the implementation of the project activity (called the baseline scenario)
- **A monitoring methodology, which** refers to the method used by project participants for the collection and archiving of all relevant data necessary for the implementation of the monitoring plan



Main contents

An approved methodology contains information on:

- Source, Approach
- Applicability
- Summary
- Identification of baseline scenario
- Additionality
- Project boundary
- Emission reduction formulas
- Leakage
- Monitoring methodology



Methodologies can change

The CDM EB often decides the following methodology changes:

- Revising some methodologies
- Consolidating methodologies (combine several methodologies into one with broader use)
- Replacing and withdrawing some methodologies

Such changes can be for clarification, simplification, consistency etc purposes

To submit a CDM project, the PDD must use the latest version of an active approved methodology!



180 Active approved CDM methodologies

By the end of May 2011, there are in total 180 active CDM methodologies, including:

- 73 large-scale approved methodologies (AM)
- 17 large-scale consolidated methodologies (ACM)
- 70 small-scale approved methodologies (AMS)
- 11 large-scale forest methodologies (AR-AM)
- 2 consolidated forest methodologies (AR-ACM)
- 7 small-scale forest methodologies (AR-AMS)



A lot can be learned from existing CDM projects!

- DOE and EB checks whether projects follow CDM rules and regulations, and properly apply approved methodologies
- Wherever a project is, the same international CDM rules apply
- Looking at and copying how other similar projects, especially registered projects, address similar issues can save a lot of time and efforts
- By May 2011, over 7600 projects have been submitted to the UNFCCC, of which 3145 have been registered and 1057 have received CER issuance.
- 88 countries have CDM projects submitted



The URC CDM Methodology Tool

- Often CDM project developers and national CDM approval authorities need to find out:
 - ✓ Is there an approved methodology for the intended project type?
 - ✓ What technologies are covered by the approved methodologies?
 - ✓ How many projects in validation and registered projects apply the methodology/technology? How to find the PDD and other documents of similar projects?
- The information about the projects submitted to the UNFCCC are publication available. But it is hard to navigate through <http://cdm.unfccc.int> to locate the right information



Technology and Methodology selection tool

- Developed by UNEP Risoe Centre in 2010 under the ACP MEA project
- Can be used for free, available at: www.cdm-meth.org, also available in a brochure
- Use:
 - ✓ offering a simple and handy overview for selecting CDM methodologies & technologies
 - ✓ Providing a quick review and consultation for general audience, especially for policy makers and project developers

The screenshot shows the homepage of the 'Tool for Selecting CDM Methodologies & Technologies'. The header includes the UNEP RISOE CENTRE CD4CDM logo, a search bar, and navigation links for Home, Forum, Links, About, Contact, and Introduction. Below the header is a banner with six images representing different energy and environmental sectors. The main content area is divided into two columns. The left column features a 'Welcome to CDM Methodologies & Technologies' section, followed by a 'Methodology updates - January 2011' section listing newly approved methodologies. The right column contains two tool-specific sections: 'Methodology Selection Tool' and 'Technology Selection Tool', both providing direct links to their respective selection processes.



The CDM Methodologies Tool

- The methodologies and technologies are group in 8 main types
 - ✓ Agriculture and forest
 - ✓ Waste
 - ✓ Heating systems
 - ✓ Renewable energy
 - ✓ Conventional power production
 - ✓ Power consumption
 - ✓ Transportation
 - ✓ Industrial processes
- Each type consists of sub-types, for each sub-type, there are methodologies and technologies



Example: Waste

- Agriculture waste
 - ✓ Waste from forestry industry
 - ✓ Waste from other agricultural industries
 - ✓ Waste from palm oil
 - ✓ Waste from rice industry
 - ✓ Waste from sugar industry
- Liquid waste
 - ✓ Manure
 - ✓ Waste oil
 - ✓ Wastewater
- Solid waste
 - ✓ Composting
 - ✓ Gasification options
 - ✓ Incineration options
 - ✓ landfills

For each sub-sector, there are brief technology description, sub-types, methodologies, and CDM data



CDM Methodology Selection tool

Provides information of each subtype on:

- Methodologies applied in unregistered projects
- Methodologies applied in registered projects
- Methodologies applied in projects with CERs issued
- No. of CDM projects
- Number of projects with CERs issued
- Average issuance success.

Methodologies and CDM data									
Sub-type	Methodologies applied in unregistered projects		Methodologies applied in registered projects		Methodologies applied in projects with CERs issued		No. of CDM projects	No. of CDM projects with CERs issued	Average issuance success
	Large-Scale	Small-Scale	Large-Scale	Small-Scale	Large-Scale	Small-Scale			
Existing dam	0 ACM2 25	0 AMS-I.D. 29	0 ACM2 11	0 AMS-I.D. 18	0 ACM2 7	0 AMS-I.D. 9	101	16	91%
Higher efficiency hydro power	0 AMS2 1						1	0	0%
New dam	0 ACM2 124	0 AMS-I.D. 67	0 ACM2 107	0 AMS-I.D. 40	0 ACM2 34	0 AMS-I.D. 13	381	47	79%
Run of river	0 AM26 2 0 ACM2 219 0 ACM12 1 0 ACM11 1	0 AMS-I.D. 305 0 AMS-I.A. 2	0 ACM2 137	0 AMS-I.D. 229 0 AMS-I.A. 2	0 ACM2 50	0 AMS-I.D. 88 0 AMS-I.A. 1	1033	139	95%

Explanation: Point at the name of the methodology to see the name. Click to see the official description.

10 shows the number of posts in the debate. Click to visit the debate.

23 shows the number of projects in the category



CDM Technology Selection tool

Provides an entry point to identify relevant technologies for CDM projects from overall defined economic sectors.

- offers a short description of applied or applicable technologies in CDM projects
- examples of application of the technologies in a CDM context.

UNEP RISO CENTRE CD4CDM Tool for Selecting CDM Methodologies & Technologies

Search this site:

Home Forums Links About Contact Introduction

You are here! Home - Renewable Energy

RENEWABLE ENERGY

Renewable energy is likely the most intuitive response to the climate challenge due to the technologies' zero-emissions qualities. It is a very diverse group of technologies including biomass, solar energy, wind, hydro, geothermal and tidal energy.

Biomass is a hugely diverse group of projects. It encompasses biofuels, energy production from biomass waste, gasification and utilization of liquid wastes such as manure. It accounts for approximately 20% of global primary energy use and 30% of the primary energy use in developing countries.

Harnessing the sun's energy is less diverse and succeeds in two distinct ways. Solar thermal energy exploits solar energy for heat production, either at low temperatures commonly used in households, or high temperatures for steam and power production. Photovoltaic (PV) is generating electric power by using solar cells to directly convert energy from the sun into electricity.

The installation of wind turbines continues to accelerate, while turbines are growing in size and increasingly moving to sea in off-shore installations. Currently, 90 countries use wind for power production reaching close to 2% of the world's electricity.

Geothermal energy is increasing rapidly, though still at a significantly lower level than wind energy, while hydro projects – beyond double the oldest form of renewable energy – supply 20% of world electricity through dam or run-of-the-river projects.

Lately, and much less mature, is the technology for utilization of tidal forces. In places with shallow waters, narrow fjords or inlets, the difference between high and low tides can be as much as 20 metres. Such places have tremendous forces that can be exploited for energy production.

CDM projects are found in all of the following categories:

- Biomass
- Hydro
- Wind
- Solar
- Geothermal
- Tidal

Case:
Project title: Santa Cruz I Hydro Power Plant

The CDM project is a run-of-river hydro power plant, located north east of Peru's capital city of Lima at 1,925 meters above sea level in the basin of the Blanco River (Santa Cruz) in the district of Cacha. The plant will have an installed capacity of 5.9 megawatts and a projected yearly average generation of 25,827 megawatt hours. The objective of the Santa Cruz I Hydroelectric Power Plant is renewable electricity generation to be applied to the Peruvian National Inter-connected Electric Grid.

Project CO₂ reduction over a crediting period of 7 years: 116,490 tCO₂e

UNFCCC project ref. no.: 2439



Tool for selecting CDM Methodologies & Technologies

- Combining the two tools, www.cdm-meth.org offers comprehensive information that establishes linkages between CDM project types, technologies and methodologies.
- Also available in one document, '*CDM Technology & Methodology Overview 2010*', at www.acp-cd4cdm.org
- The information is very helpful to both practitioners with little CDM experience and experts that need an overview



CDM Methodology debate forum and Methodology updates

- The debate forum provides a platform for exchange of methodology related experiences that allow project developers and others to improve their understanding and be aware of barriers
- The Methodology updates gives an overview of the most recent approved methodologies and other relevant news about methodologies.

SEND YOUR OWN POST
fill out the form below, if you want to add a message to this forum. You will shortly after receive an email, where you confirm your email address.
See the rules of the forum

Fields marked with (*) are required.

Your name: (*) Andrew W. Country: Ghana
Occupation: Project Developer Your email address: testmail@risoe.dtu.dk
Title of your message: (*) Experiences with AM25 and landfill gas
Content of your message (hyperlinks will be shown as text): (*) I am project developer looking for existing methodologies for landfill gas capture/flaring projects? Has anyone experiences with AM25 and landfill gas projects and would this methodology still be appropriate if I want to flare the methane?
 I want to be kept informed about new posts via email (optional)
 I accept the terms and conditions

Methodology updates - January 2011

New methodologies:

One new A/R methodology has been approved:

- AR-AM12: "Afforestation or reforestation of degraded or abandoned agricultural lands"

Four new small scale methodologies have been approved:

- AMS-III.AO.: "Methane recovery through controlled anaerobic digestion"
- AMS-III.AP.: "Transport energy efficiency activities using post-fit Idling Stop device"
- AMS-III.AQ.: "Introduction of Bio-CNG in transportation applications"
- AMS-III.AR.: "Substituting fossil fuel based lighting with LED lighting systems"

Other news:

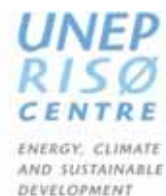
- Any combination of small scale methodologies used in registered project are allowed in PoAs as long as there are no cross effects (see Annex 23 to EB58).
- AM0001 (applicable to project activities that destroy HFC-23) is put on hold with immediate effect.

(Source: www.cdmpipeline.org)



Further information

- Information about all projects that have been submitted to the UNFCCC, methodologies, decisions and rules regarding CDM, UNFCCC CDM website: <http://cdm.unfccc.int>
- UNFCCC Methodology booklet, published in 2010, offer a brief introduction of each approved methodology: <http://cdm.unfccc.int/Projects/projsearch.html>
- Monthly update of methodologies and technologies for CDM, plus validation and registered projects applying the methodology: www.cdm-meth.org
- Monthly overview on CDM project implementation status and trends worldwide and exact project applying each methodology, UNEP Risoe CDM Pipeline, www.cdmpipeline.org



Project website

www.acp-cd4cdm.org

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