

Tool for selecting CDM Methodologies & Technologies

This free of charge tool for selecting CDM methodologies & technologies offers a simple and handy overview and is ideal for a quick review and consultation for general audience, especially for *policy makers*, to further the decision making process within a national context, in terms of *sector prioritization, CDM potentials* and design of *national strategies* (e.g. in long term energy planning).

The screenshot shows the website's header with the UNEP RISO CD4CDM logo, a search bar, and a navigation menu (Home, Forums, Links, About, Contact, Introduction). Below the menu is a row of six images: birds in flight, wind turbines, a tree with smoke, a person working with solar panels, a person in a field, and a wind turbine in a snowy landscape.

Welcome to CDM Methodologies & Technologies
The CDM Methodologies & Technologies Selection Tool provides:

- Easy access to a complete overview of all methodology options based on the specific project characteristics – use the Methodology Selection Tool on the right.
- Easy access to general economic sector overviews, the relevant technologies applied in a given sector for emissions reduction – and statistics on CDM projects in the sector – use the technology selection tool on the right.
- A discussion forum that allows practitioners' exchange of experience on the practical application of methodologies for specific technologies – go to forums in the banner above or go to the dedicated forums directly from the methodology search results.

The site is updated with the latest statistics on a monthly basis using the UNEP/Riso CDM Pipeline (see the link to the left), thus ensuring that all methodological developments are recorded and presented. We invite you to explore the site and welcome any feedback on the tool.

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.AQ.1: "Methane recovery through controlled anaerobic digestion"
- AMS-III.AP.1: "Transport energy efficiency activities using post - fit Idling Stop device"
- AMS-III.AQ.1: "Introduction of Bio-CNG in transportation applications"
- AMS-III.AR.1: "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

Methodology Selection Tool
Go directly to specific methodologies:

- + Agriculture and Forests
- + Waste
- + Conventional Power Production
- + Heating Systems
- + Renewable Energy
- + Power Consumption
- + Industrial Production Processes
- + Transportation

Technology Selection Tool
Choose sector to see full site content:

- Agriculture and Forests
- Waste
- Conventional Power Production
- Heating Systems
- Renewable Energy
- Power Consumption
- Industrial Production Processes
- Transportation

Methodology Selection tool *and* Technology Selection tool

- The website is divided into a ***Methodology selection tool*** and a ***Technology selection tool***
- The two independent tools provide together concentrated information to all stakeholders and provide an overview of technologies, the applicable methodologies and a general perspective through concentrated statistics of all CDM project types in any given sector

Methodology Selection Tool

Go directly to specific methodologies:

- + Agriculture and Forests
- + Waste
- + Conventional Power Production
- + Heating Systems
- + Renewable Energy
- + Power Consumption
- + Industrial Production Processes
- + Transportation

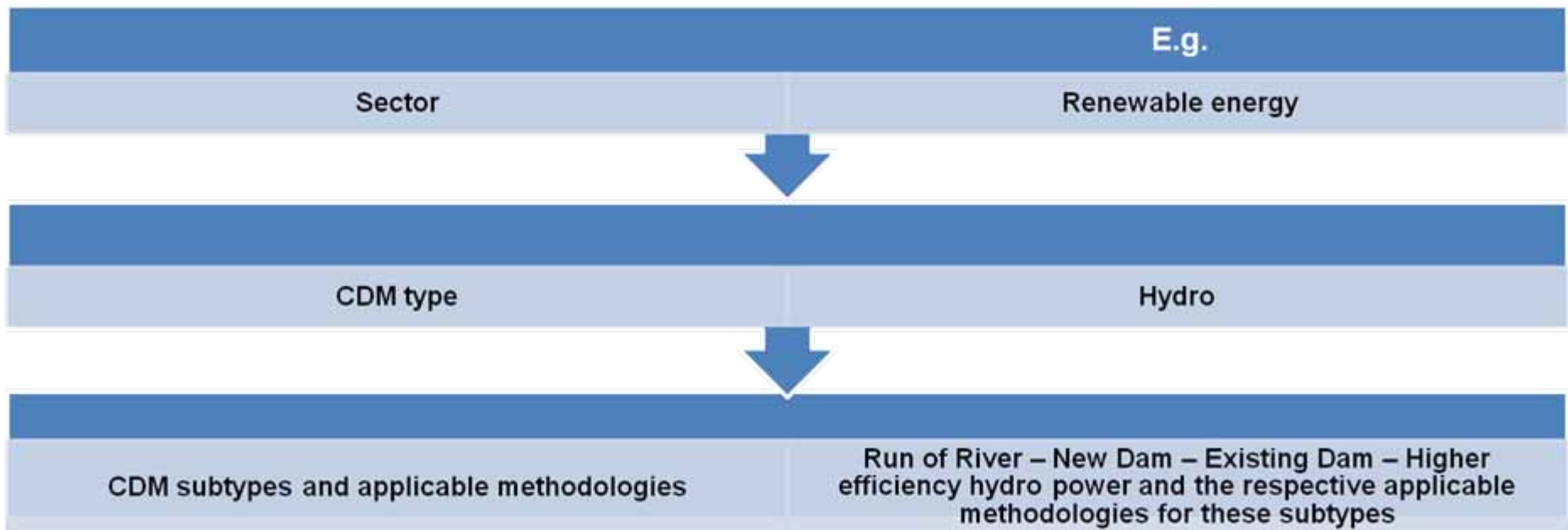
Technology Selection Tool

Choose sector to see full site content:

- ▶ Agriculture and Forests
- ▶ Waste
- ▶ Conventional Power Production
- ▶ Heating Systems
- ▶ Renewable Energy
- ▶ Power Consumption
- ▶ Industrial Production Processes
- ▶ Transportation

CDM Methodology Selection tool

Provides a complete overview of all methodology options for all existing project types. The tool guides the user to specific CDM subtypes and link them to the methodologies applicable for the respective project subtype through three steps:




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 AMS2 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.

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

 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 RISØ CENTRE CDM4CDM 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-emission 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 16% of global primary energy use and 20% 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, 80 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 doubt the oldest form of renewable energy – supply 20% of world electricity through dams or run-of-the-river projects.

Lastly, and much less mature, is the technology for utilization of tidal forces. In places with shallow waters, narrow funnels or inlets, the difference between high and low tide 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

Further Renewable Energy Choose sublevel

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

Case:
Project title: Santa Cruz I Hydro Power Plant

The CDM project is a run-of-river hydropower plant, located north east of Peru's capital city of Lima at 1,985 metres above sea level in the basin of the Blanco River (Santa Cruz) in the district of Colca. The plant will have an installed capacity of 5.9 megawatts and a projected yearly average generation of 35,027 megawatt hours. The objective of the Santa Cruz I Hydroelectric Power Plant is renewable electricity generation to be supplied to the Peruvian National Inter-connected Electric Grid.

Project CD₂ reduction over a crediting period of 7 years: 118,490 tCO₂e

UNFCCC project ref. no.: 2420

CDM Technology Selection tool

The technology selection tool guides the user to very specific descriptions of technologies currently applicable for CDM projects

WASTE

Proper handling of waste poses a great GHG emissions reduction potential. The potential for these reductions lies in two different areas of waste handling, namely either proper disposal of organic matter, that would otherwise emit primarily methane (CH₄) and the incineration of waste, that can serve to replace energy (both thermal and electric) that would have been produced using carbon intensive fossil fuels.

Methane emission reductions

Organic matter, for instance in the form of waste, emits great quantities of greenhouse gases, primarily

Explore Waste
Choose sublevel

- ▶ Agricultural Waste
- ▶ Liquid Waste
- ▶ Solid Waste



You are here: Home - Waste - Solid Waste -

SOLID WASTE

... important source for potential energy production. The inorganic fraction consists of combustible waste, depending on current recycling. The organic fraction is the source of methane and other emissions from the landfills, causing odour and risk of explosion. Collecting it has the potential to generate large amounts of Certified Emission Reductions either by utilising the methane for energy production or eliminating it through flaring. Otherwise, it may be eliminated altogether through composting.

Organic matter may also be gasified for the development of methane, which is combustible in gas engines or directly usable for cooking in households. In such cases, it typically replaces conventional sources of energy.

Technologies used in CDM projects concerning solid waste are presented under the following headings:

- Composting
- Gasification Options
- Incineration Options
- Landfills

Explore Solid Waste
Choose sublevel

- ▶ Composting
- ▶ Gasification Options
- ▶ Incineration Options
- ▶ Landfills

Case:
Composting of solid biomass waste separated from the Palm Oil Mill Effluent through the use of AVC Sludge Dewatering System



You are here: Home - Waste - Solid Waste - Composting

COMPOSTING

Municipal solid waste contains large fractions of organic waste, particularly in developing countries where reuse of inorganic fractions is widespread. The organic fraction of the waste is the source of methane and other emissions from the landfills, causing odour and risk of explosion. Methane is a highly polluting Greenhouse Gas (GHG), with a global warming potential 21 times that of carbon dioxide. Therefore, it has the potential to generate large amounts of Certified Emission Reductions if the methane emissions can be eliminated e.g. through composting. In the process other sources of waste may be included, such as sludge from wastewater treatment or waste from the food industry. The palm oil industry has established a number of composting projects under the Clean Development Mechanism. Composting is also appropriate for liquid wastes and manure.

Description of technology

Composting

Composting can be used to avoid the production of methane by changing how organic waste is stored and decomposed, from anaerobic to aerobic conditions. Composting is essentially a technology where different kinds of waste and other materials are combined under aerobic conditions, whereby the waste gradually decomposes. In some cases the waste can be recycled or used in other parts of an industrial production line. Most commonly, however, it is used as fertilizer in agricultural production. The key to success is to find the correct combination of dry and wet waste combined with plenty of air to support the aerobic process where methane is produced.

Municipal Waste - Landfills

Household composting, well known to most people, is simply an open bin where organic waste is shredded and piled with worms and soil, which gradually turns into humus. On a larger scale, waste is established that need to be turned regularly with simple equipment to avoid heat generation and methane emissions. Composting is most efficient if the waste is free from inorganic fractions and removal of inorganic material can improve the process. Optimised treatment of municipal waste requires separation of usable raw materials such as metals and glass, composting of organic fractions and incineration of inorganic matter.

Composting is commonly used in the agricultural sector where agricultural waste – both plant material and animal manure – are being composted, thereby creating humus, which can be used as fertilizer.

Palm Oil Mill Effluent (POME)

... production avoidance is in the production of palm oil, which results in four types of biomass waste: empty fruit bunches, fibres, palm kernel shells and Palm Oil Mill Effluent (POME) – a liquid waste with a high content of Chemical Oxygen Demand (COD). In order to avoid methane production, high concentrations of oxygen are needed to create aerobic conditions. The most common way of treating POME has been to store it in open lagoons (ponds), where the waste sinks to the bottom and releases methane into the air. The water will gradually be released into a river, to keep a constant level in the pond. Composting POME is rather simple: the empty fruit bunches are collected and added together with the liquid POME, along with plenty of air, which initiates the composting process. The compost is ready in 10-12 weeks, depending on temperature, oxygen level, etc.

Sub-types

UNEP/Risoe's CDM Pipeline includes composting projects under the sub-types:

- Composting
- Industrial Solid Waste
- Landfill Composting



Tool for selecting CDM Methodologies & Technologies

You are here: Home - Waste - Solid Waste - Composting

Combining the two tools the www.cdm-meth.org offers comprehensive information that establishes linkages between CDM project types, technologies and methodologies. This information is targeted to both practitioners with little CDM experience and experts that need an overview

UNEP RISØ CDM4CDM
Tool for Selecting CDM Methodologies & Technologies

Home Forums Links

You are here: Home - Waste - Solid Waste - Composting

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Municipal Waste - Landfills

The most basic form of composting, well known to most people, is simply an open bin where organic household waste is combined with worms and soil, which gradually turns into humus. On a larger scale, waste is shredded and piles are established that need to be turned regularly with simple equipment to avoid heat generation and methane emissions. Composting is most efficient if the waste is free from inorganic fractions and removal of inorganic material can improve the process. Optimised treatment of municipal waste requires separation of usable raw materials such as metals and glass, composting of organic fractions and incineration of inorganic matter.

Composting is commonly used in the agricultural sector where agricultural waste – both plant material and, to a limited extent, animal material – are being composted, thereby creating humus, which can be used as fertilizer.

Palm Oil Mill Effluent (POME)

A common example of methane production avoidance is in the production of palm oil, which results in four types of biomass waste: empty fruit bunches, fibres, palm kernel shells and Palm Oil Mill Effluent (POME) – a liquid waste with a high content of Chemical Oxygen Demand (COD). In order to avoid methane production, high concentrations of oxygen are needed to create aerobic conditions. The most common way of treating POME has been to store it in open lagoons (ponds), where the waste sinks to the bottom and releases methane into the air. The water will gradually be released into a river, to keep a constant level in the pond. Composting POME is rather simple: the empty fruit bunches are collected and added together with the liquid POME, along with plenty of air, which initiates the composting process. The compost is ready in 10-12 weeks, depending on temperature, oxygen level, etc.

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Composting	16 AM29 9 10 AM5 5	10 AM30.F 16					59	0	0%
Industrial solid waste	10 AM25 1	10 AM31.D 1					2	0	0%
	10 AM5 9	10 AM30.F 8					31	0	0%
Palm oil waste	10 AM5 1	10 AM30.H 9 10 AM30.E 1 10 AM31.D 4 10 AM31.C 1 10 AM31.A 1					11	0	0%

Explanations: 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 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 this 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)

www.cdm-meth.org

Based on statistics from the UNEPrisoe CDMpipeline
www.cdmpipeline.org