

CDM Pipeline overview of methodologies

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There are 4 types of small scale projects

- Type I: Renewable energy < 15 MW
- Type II: Energy efficiency < 60 GWh
- Type II. other types GHG reduction < 60 ktCO₂/year

- The last type is for afforestation/reforestation projects: they must have a GHG reduction < 8 ktCO₂/year and must be made in low-income communities.

- Super small scale: Type I <5 MW, Type II <20 GWh are always additional in LDC & SIDS (see below)

- A small-scale panel under the EB evaluates new proposed small-scale methodologies

Small-scale projects are not always small

- An efficient refrigerator saves 200 kWh/year. To be below 60 GWh of savings there is room for 300.000 refrigerators.
- A Solar home system often use a 50W solar PV. To be below the 15 MW there is room for 300.000 solar PVs
- A private car running 20.000 km/year emitting 200 gCO₂/km emits 4tCO₂/year. To be below 60ktCO₂ there is room for about 16.000 hydrogen cars.

No additionaly check

Normally all CDM projects have to show that they are additional, e.g. that they would not exist without CDM.

At COP 15 it was decided to establish simplified modalities for demonstration additionality for all SIDS/LDC countries.

At the 54th meeting of the Executive Boards (EB) it was decided (see annex 15) the following project ALWAYS are additional in these countries:

- 1) Projects activities up to 5 MW that employ renewable energy as their primary technology. All technologies included in Type I small scale CDM are included.
- 2) Energy efficiency projects activities that achieve energy savings of <20GWh. All technologies included in Type II small scale CDM are included.
- 3) At COP16 it was decided that EB should also include Type III small scale project < 20ktCO₂e in this category before COP17.

Share of Proceeds

Normally a Share of the Proceeds from the issuance of CERs must be retained by the Execution board for two purposes:

- 1) To pay the administrative expenses (also called Registration fee) of the Executive Board (0.10 USD/CER/yr issued for the first 15,000 tCO₂ and 0.20 USD/CER/yr) the rest
- 2) To the Adaptation Fund (2% of the issuance)

At COP3 it was decided to exempt least developed countries (LDCs) from paying the registration fee.

It has also been decided that LDC countries are exempted from paying the fee to the Adaptation Fund

Since all Samoa, Solomon Islands, and Vanuatu are Least Developing Countries (LDCs) they do not have to pay these fees.

Loan scheme for project development

Normally it is hard for CDM project developers to find money for preparing the PDD and for validation and first issuance-

COP15 requested the EB to use the interest accrued from the Share of proceed to give loan to these activities.

Annex 3 from “Further guidance related to the CDM” from COP16 is the guideline and modality for this loan scheme, which says:

- 1) Countries with <10 registered project can get these loans
- 2) The loan can cover the costs of the development of the PDD
- 3) The Loan can cover the costs of validation and the first verification
- 4) The loan are to be repaid starting from the first issuance

The UNFCCC Secretariat is now selecting a public or a private institution to administer the loan scheme

How many approved CDM methodologies exist?

- Project developers have submitted 338 new methodologies (NM's) to the Executive Board. Now the number of active approved methodologies are 167:
- 73 large-scale approved methodologies exist (AM's)
- 17 large-scale consolidated methodologies exist (ACM's)
- 59 small-scale approved methodologies exist (AMS's)
- 9 large-scale afforestation methodologies exist (AR-AM)
- 2 large-scale consolidated methodologies exist (AR-ACM)
- 7 small-scale afforestation methodologies exist (AR-AMS)

All combinations used in registered small scale CDM projects are allowed for PoAs

Approved Methodology	Sectors covered	Number of projects	Number of PoAs
	Afforestation & Reforestation:		
AR-AM1	Afforestation and reforestation of degraded land	8	0
AR-AM2	Afforestation or reforestation of degraded land without displacement of pre-project activities	1	0
AR-AM3	Restoration of degraded lands through afforestation/reforestation	3	0
AR-AM4	Reforestation or afforestation of land currently under agricultural use	8	1
AR-AM5	Afforestation and reforestation project activities implemented for industrial and/or commercial uses	8	0
AR-AM6	Afforestation/Reforestation with Trees Supported by Shrubs on Degraded Land	0	0
AR-AM7	Afforestation and Reforestation of Land Currently Under Agricultural or Pastoral Use	0	0
AR-AM9	Afforestation or reforestation on degraded land allowing for silvopastoral activities	1	0
AR-AM10	Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas	1	0
AR-AM11	Afforestation and reforestation of land subject to polyculture farming	0	0
AR-AM12	Afforestation or reforestation of degraded or abandoned agricultural lands	0	0
AR-AMS1	Afforestation and reforestation project activities under the clean development mechanism implemented on grasslands	25	0
AR-AMS2	Afforestation and reforestation project activities under the CDM implemented on settlements	0	0
AR-AMS3	Afforestation and reforestation project activities implemented on wetlands	2	0
AR-AMS4	Agroforestry - afforestation and reforestation on crop lands	0	0
AR-AMS5	Afforestation and reforestation project activities under the clean development mechanism on lands having low inherent	0	0
AR-AMS6	Silvopastoral afforestation and reforestation activities	0	0
AR-AMS7	Simplified baseline and monitoring methodology for small-scale A/R project activities on grasslands or croplands	0	0

	Agriculture		
AMS-II.F.	Energy efficiency and fuel switching measures for agricultural facilities and activities	4	0
AMS-III.A.	Urea offset by inoculant application in soybean-corn rotations on acidic soils on existing cropland	0	0
	Biofuels:		
AM89	Production of diesel using a mixed feedstock of gasoil and vegetable oil	0	0
ACM17	Production of biodiesel for use as fuel	9	0
AMS-I.G.	Plant oil production and use for energy generation in stationary applications	0	0
AMS-I.H.	Biodiesel production and use for energy generation in stationary applications	0	0
AMS-III.T.	Plant oil production and use for transport applications	1	0
AMS-III.AK.	Biodiesel production and use for transport applications	1	0
	Biomass: (not applicable for non-renewable biomass, EB21)		
ACM3	Emission reduction through partial substitution of fossil fuels with alternative fuels in cement manufacture	32	0
ACM6	Grid-connected electricity from biomass residues (includes AM4 & AM15)	302	0
ACM18	Electricity generation from biomass residues (co-fired) in power-only plants	16	0
AM7	Analysis of the least-cost fuel option for seasonally-operating biomass cogeneration plants	0	0
AM36	Fuel switch from fossil fuels to biomass residues in boilers for heat generation	21	0
AM42	Grid-connected electricity generation using biomass from newly developed dedicated plantations	2	0
AM82	Use of charcoal from planted renewable biomass in the iron ore reduction process through the establishment of a new	1	0
AM85	Co-firing of biomass residues for electricity generation in grid connected power plants	0	0
AMS-I.E.	Switch from Non-Renewable Biomass for Thermal Applications by the User	12	4
AMS-II.G.	Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass	7	10

	Cement:		3	0
ACM5	Increasing the blend in cement production		59	0
ACM15	Consolidated baseline and monitoring methodology for project activities using alternative raw materials that do not		9	0
AMS-III.AD.	Emission reductions in hydraulic lime production		1	0
	CO2 capture:			
AM27	Substitution of CO2 from fossil or mineral origin by CO2 from renewable resources in production of inorganic		1	0
AM63	Recovered of CO2 from tail gas in industrial facilities to substitute the use of fossil fuels for production of CO2		2	0
	Coal bed/mine methane (including other mines)			
ACM8	Coal bed methane and coal mine methane capture and use for power (electrical or motive) and heat/or destruction by		93	1
AM64	Methodology for mine methane capture and destruction in underground, hard rock, precious and base metal mines		1	0
AMS-III.W.	Methane capture and destruction in non-hydrocarbon mining activities		0	0
	Energy distribution:			
AM45	Grid connection of isolated electricity systems		5	0
AM58	Introduction of a new primary district heating system		13	0
AM67	Installation of energy efficient transformers in a power distribution grid		0	0
AMS-II.A.	Supply side energy efficiency improvements - transmission and distribution		4	3
	Energy efficiency, Households:			
AM46	Distribution of efficient light bulbs to households		2	0
AM70	Manufacturing of energy efficient domestic refrigerators		1	0
AM71	Manufacturing and servicing of domestic refrigeration appliances using a low GWP refrigerant		0	0
AMS-I.I.	Biogas/biomass use for thermal application for households/small users		0	0
AMS-II.C	Demand-side energy efficiency programmes for specific technologies		27	8
AMS-II.E.	Energy efficiency and fuel switching measures for buildings		31	2
AMS-II.J.	Demand-side activities for efficient lighting technologies (deemed savings)		41	5
AMS-III.AE.	Energy efficiency and renewable energy measures in new residential buildings		0	1
AMS-III.AR.	Substituting fossil fuel based lighting with LED lighting systems		0	1
AMS-III.AS.	Switch from fossil fuel to biomass in existing manufacturing facilities for non-energy applications		0	0

	Energy efficiency, Industry:		
AM17	Steam system efficiency improvement by replacing steam traps and returning condensate	0	0
AM18	Baseline methodology for steam optimization systems	14	0
AM38	Improved electrical energy efficiency of an existing submerged electric arc	1	0
AM44	Energy efficiency improvement projects: boiler rehabilitation or replacement in industrial and district heating sectors	1	0
AM54	Energy efficiency improvement of a boiler by introducing oil/water emulsion technology	0	0
AM56	Efficiency improvement by boiler replacement or rehabilitation and optional fuel switch in fossil fuel-fired steam boiler	0	0
AM60	Power saving through replacement by efficient chillers	0	0
AM68	Improved energy efficiency by modifying ferroalloy production facility	0	0
AM88	Air separation using cryogenic energy recovered from the vaporization of LNG	0	0
AMS-II.C	Demand-side energy efficiency programmes for specific technologies	27	8
AMS-II.D.	Energy efficiency and fuel switching measures for industrial facilities	172	2
AMS-II.H.	Energy efficiency measures through centralization of utility provisions of an industrial facility technology	13	0
AMS-II.I.	Efficient utilization of waste energy in industrial facilities	0	0
AMS-III.J.	Avoidance of fossil fuel combustion for carbon dioxide production to be used as raw material for industrial processes	1	0
AMS-III.M.	Reduction in consumption of electricity by recovering soda from paper manufacturing process	4	0
AMS-III.V.	Decrease of coke consumption in blast furnace by installing dust/sludge recycling system in steel works	1	0
AMS-III.Z	Fuel switch, process improvement and energy efficiency in brick manufacture	8	1
AMS-III.AI	Emission reductions through recovery of spent sulphuric acid	0	0
AMS-III.AJ.	Recovery and recycling of materials from solid wastes	0	0
	Energy efficiency, own generation (of electricity)		
ACM12	GHG reductions for waste gas or waste heat or waste pressure based energy system	317	1
AM24	Waste gas recovery and utilization for power generation at cement plant	35	0
AM49	Gas based energy generation in an industrial facility	4	0
AM55	Recovery and utilization of waste gas in refinery facilities	5	0
AMS-III.Q.	Waste gas based energy systems (gas/heat/pressure)	112	0

	Energy efficiency, Service:		
AM20	Water pumping efficiency improvement	0	0
AM86	Installation of zero energy water purifier for safe drinking water application	0	0
AMS-II.C	Demand-side energy efficiency programmes for specific technologies	27	8
AMS-II.E.	Energy efficiency and fuel switching measures for buildings	31	2
AMS-II.J.	Demand-side activities for efficient lighting technologies (deemed savings)	41	5
AMS-II.K.	Installation of co-generation or tri-generation systems supplying energy to commercial buildings	0	0
	Energy efficiency, Supply side		
ACM7	Conversion from single cycle to combined cycle power generation	14	0
ACM13	New grid connected fossil fuel fired power plants using a less GHG intensive technology	34	0
AM14	Natural gas-based package cogeneration	12	0
AM48	New cogeneration facilities supplying electricity and/or steam to multiple customers and displacing grid/off-grid steam	2	0
AM52	Increased electricity generation from existing hydropower stations through Decision Support System optimization	3	0
AM61	Rehabilitation and/or energy efficiency improvement in existing power plants	3	0
AM62	Energy efficiency improvement of a power plant through retrofitting turbines	4	0
AM66	GHG emission reduction through waste heat utilization for pre-heating of raw material in sponge iron manufacturing	1	0
AM76	Implementation of fossil fuel trigeneration systems in existing industrial facilities	0	0
AM84	Installation of cogeneration system supplying electricity and chilled water to new and existing consumers	2	0
AMS-II.B.	Supply side energy efficiency improvements - generation	26	0
AMS-III.P.	Recovery and utilization of waste gas in refinery facilities	6	0
AMS-III.AC.	Electricity and/or heat generation using fuel cell	0	0
AMS-III.AL.	Conversion from single cycle to combined cycle power generation	1	0

	Fossil fuel switch:		
ACM9	Industrial fuel switching from coal or petroleum fuels to natural gas	13	0
ACM11	Fuel switching from coal and/or petroleum fuels to natural gas in existing power plants for electricity generation	5	0
AM29	Grid connected electricity generation plants using natural gas	73	0
AM50	Feed switch in integrated Ammonia-urea manufacturing industry	2	0
AM87	Construction of a new natural gas power plant supplying electricity to the grid or a single consumer	0	0
AMS-III.B.	Switching fossil fuels	80	1
AMS-III.AG.	Switching from high carbon intensive grid electricity to low carbon intensive fossil fuel	2	0
AMS-III.AH.	Shift from high carbon intensive fuel mix ratio to low carbon intensive fuel mix ratio	1	0
AMS-III.AM.	Fuel switch in a cogeneration/trigeneration system	0	0
AMS-III.AN.	Fossil fuel switch in existing manufacturing industries	0	1
	Fugitive emission from fuels:		
AM9	Recovery and utilization of gas from oil wells that would otherwise be flared or vented	32	0
AM23	Leak reduction from natural gas pipeline compressor or gate stations	10	0
AM37	Flare reduction and gas utilization at oil and gas processing facilities	6	0
AM41	Mitigation of Methane Emissions in the Wood Carbonization Activity for Charcoal Production	2	0
AM43	Leak reduction from a natural gas distribution grid by replacing old cast iron pipes with polyethylene pipes	1	0
AM74	Methodology for new grid connected power plants utilizing permeate or associated gas, previously flared and/or vented	1	0
AM77	Recovery of gas from oil wells that would otherwise be vented or flared and its delivery to specific end-users (as CNG)	0	0
AM81	Flare or vent reduction at coke plants through the conversion of their waste gas into dimethyl ether for use as a fuel	0	0
AMS-III.K.	Avoidance of methane release from charcoal production by shifting from pit method to mechanized charcoaling process	2	0
	HFCs		
AM1	Incineration of HFC23 waste streams from HCFC22 production	20	0
AMS-III.N.	Avoidance of HFC emissions in rigid Poly Urethane Foam (PUF) manufacturing	4	0
AMS-III.X.	Energy efficiency and HFC-134a recovery in residential refrigerators	1	0
AMS-III.AB.	Avoidance of HFC emissions in Standalone Commercial Refrigeration Cabinets	0	0

	Landfill		
ACM1	Landfill gas project activities	230	4
AM83	Avoidance of landfill gas emissions by in-situ aeration of landfills	1	0
AMS-III.G.	Landfill methane recovery	47	0
AMS-III.AF.	Avoidance of methane emissions through excavating and composting of partially decayed municipal solid waste (MSW)	0	0
	Methane avoidance (Solid, liquid, MSW waste combined)		
AMS-III.AO	Methane recovery through controlled anaerobic digestion	0	1
	Methane avoidance (Solid waste)		
ACM10	GHG emission reductions from manure management systems	15	0
AM25	Avoided emissions from organic waste through alternative waste treatment processes	78	0
AM39	Methane emissions reduction from organic waste water and bioorganic solid waste using co-composting	23	0
AM53	Biogenic methane injection to a natural gas distribution grid	1	1
AM57	Avoided emissions from biomass wastes through use as feed stock in pulp and paper production	1	0
AM69	Biogenic methane as a feedstock and fuel for town gas production	2	0
AM73	GHG emission reductions through multi-site manure collection and treatment in a central plant	3	0
AM75	Collection, processing and supply of biogas to end-users for production of heat	0	0
AMS-III.D.	Methane recovery in animal manure managements systems	271	5
AMS-III.E.	Avoidance of methane production from biomass decay through controlled combustion	72	0
AMS-III.F.	Avoidance of methane production from biomass decay through composting	80	5
AMS-III.L.	Avoidance of methane production from biomass decay through controlled pyrolysis	0	0
AMS-III.O.	Hydrogen production using methane extracted from biogas	1	0
AMS-III.R.	Methane recovery in agricultural activities at household/small farm level	18	3
	Methane avoidance (Liquid waste)		
ACM14	Mitigation of greenhouse gas emissions from treatment of industrial wastewater	28	0
AM80	Mitigation of greenhouse gases emissions with treatment of wastewater in aerobic wastewater treatment plants	2	0
AMS-III.H.	Methane recovery in wastewater treatment	253	1
AMS-III.I.	Avoidance of methane production in wastewater treatment through replacement of anaerobic lagoons by aerobic	12	0
AMS-III.Y.	Methane avoidance through separation of solids from wastewater or manure treatment systems	2	0

	N2O:		
AM21	Decomposition of N2O from existing adipic acid production plants	4	0
AM28	Catalytic N2O destruction in the tail gas of nitric acid or caprolactam production plants	20	0
AM34	Catalytic reduction of N2O inside the ammonia burner of nitric acid plants	57	0
AM51	Secondary catalytic N2O destruction in nitric acid plants	0	0
	PFCs		
AM30	PFC emission reduction from anode effect mitigation at primary aluminium smelting facilities	5	0
AM59	Reduction in GHGs emission from primary aluminium smelters	2	0
	SF6		
AM35	SF6 Emission Reductions in Electrical Grids	6	0
AM65	Replacement of SF6 with alternate cover gas in the magnesium industry	3	0
AM78	Reduction of SF6 emissions in LCD screen manufacturing operations	4	0
AM79	Prevention of SF6 venting following tests of Gas insulated electrical equipment	1	0
	Transport:		
ACM16	Mass Rapid Transit Projects	4	0
AM31	Baseline Methodology for Bus Rapid Transit Project	11	0
AM90	Modal shift in transportation of cargo from road transportation to water or rail transportation	0	0
AMS-III.C.	Emission reductions by low-greenhouse emission vehicles	13	1
AMS-III.S.	Introduction of low-emission vehicles to commercial vehicle fleets	0	0
AMS-III.U.	Cable Cars for Mass Rapid Transit System (MRTS)	1	0
AMS-III.AA.	Transportation Energy Efficiency Activities using Retrofit Technologies	0	0
AMS-III.AP.	Transport energy efficiency activities using post - fit Idling Stop device	0	0
AMS-III.AQ.	Introduction of Bio-CNG in transportation applications	0	0
	Zero emission renewables:		
ACM2	Grid-connected electricity generation for renewable sources (no biomass)	1982	2
AM19	Ren. Energy project replacing the electricity of one single fossil plant (excl. biomass)	0	0
AM26	Zero-emissions grid-connected electricity generation from renewable sources in Chile or in countries with merit order	8	0
AM72	Fossil Fuel Displacement by Geothermal Resources for Space Heating	1	0
AMS-I.A.	Electricity generation by the user	41	1
AMS-I.B.	Mechanical energy for the user	4	1
AMS-I.C.	Thermal energy production with or without electricity	474	16
AMS-I.D.	Renewable electricity generation for a grid	2001	4
AMS-I.F.	Renewable electricity generation for captive use and mini-grid	34	1