

CDM-EB84-AA-A13

Reclassification of existing regulatory documents in accordance with the revised CDM Executive Board decision and documentation framework (second batch)

Version 01.0



United Nations
Framework Convention on
Climate Change

COVER NOTE

1. Procedural background

1. The Executive Board of the clean development mechanism (CDM) (hereinafter referred to as the Board), at its seventy-seventh meeting, adopted the revised “CDM Executive Board decision and documentation framework” and agreed that this document would not enter into force unless and until all existing relevant CDM documents have been reviewed and reclassified, as applicable. At the same meeting, the Board requested the secretariat to undertake this review and to bring all documents that require reclassification to the Board for approval, with the aim of completing all necessary reclassification by 1 January 2015.
2. At its eighty-first meeting, the Board agreed to postpone the effective date of the work to align existing regulatory documents with the revised “CDM Executive Board decision and documentation framework”, to 1 June 2015. The Board also requested the secretariat to facilitate the alignment work, so that the Board can adopt the revision of the affected documents before 1 June 2015.
3. At its eighty-third meeting, the Board adopted a first batch of four revised regulatory documents due to the reclassification of their document types from “guidelines” or “guidance” to “methodological tool”.

2. Purpose

4. This document proposes reclassification of a second and last batch of regulatory documents in accordance with the revised “CDM Executive Board decision and documentation framework”.

3. Key issues and proposed solutions

5. Among the existing regulatory documents, methodological guidelines have been identified as not always being aligned with the definition of “guidelines” provided in the revised “CDM Executive Board decision and documentation framework”, where a guideline “contains supplemental information such as acceptable recommended methods for satisfying requirements”, and therefore is neither mandatory to use, nor should contain mandatory requirements.
6. The secretariat found that existing methodological guidelines have been developed for a variety of purposes: some of them specify mandatory requirements and others describe a recommended approach or practice.
7. With regard to mandatory requirements, some of the existing methodological guidelines are used to document more detailed specifications or requirements to deal with a particular aspect of a standard or tool and therefore, if referred to by the standard or tool, the content becomes mandatory for the project participants, coordinating/managing entities or designated operational entities to follow strictly.

8. For such guidelines, the definition of “tool” would better capture the nature of the requirements and criteria set therein. Therefore, the secretariat proposes to reclassify the document type of such guidelines as “methodological tool”, which, in accordance with the revised “CDM Executive Board decision and documentation framework”, is defined as “a standardized, stepwise approach to determine or establish parameters, or identify information, and/or assess or demonstrate requirements relating to, or for application in CDM project activities or programme of activities”.
9. The secretariat has completed the review of the second and last batch of existing methodological guidelines. Based on this review, a list of such guidelines that would need to be reclassified in accordance with the revised “CDM Executive Board decision and documentation framework”, and a summary of consequential changes to their content are contained in appendix 1.
10. Since the revision of methodological guidelines for the purpose of reclassification of document type would not alter the requirements contained therein, the revised draft documents contained in appendices 2–5 have been prepared without consultation with the Methodologies Panel or the Small-Scale Working Group.

4. Impacts

11. Reclassified regulatory documents would benefit all stakeholders, as well as the Board and the secretariat, due to improved effectiveness and integrity of the CDM regulatory framework through improved consistency, clarity and comprehensiveness.
12. The reclassification of these documents would not result in any change to the current regulatory practice adopted by the Board and the secretariat, therefore would not have any impact on project participants, coordinating/managing entities and designated operational entities.
13. The reclassification of these documents would not impact the project activities and programmes of activities that have already been registered.

5. Subsequent work and timelines

14. Upon adoption by the Board, the reclassified and revised regulatory documents will become effective immediately. The secretariat will:
 - (a) Publish them on the UNFCCC CDM website and inform stakeholders of their reclassification and publication;
 - (b) Editorially revise the regulatory documents and methodologies that contain the references to the old documents at the next substantive revision of these documents.

6. Recommendations to the Board

15. The Board may wish to adopt the reclassified regulatory documents as listed in appendix 1 and their revisions provided in appendices 2–5.
16. The Board may wish to confirm the date of entry into force of the revised “CDM Executive Board decision and documentation framework” as 1 June 2015.

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Appendix 1. List of regulatory documents proposed for reclassification

1. The table below lists the second batch of regulatory documents proposed for reclassification of their document type.

Table 1. Regulatory documents proposed for reclassification (second batch)

Title of document	Current version	Current document type	Brief description	Proposed document type for reclassification	Summary of revisions of the content
1. Guidelines on additionality of first-of-its-kind project activities	Ver01.1 EB 39 Annex 08	Guideline	Provides mandatory requirements and criteria to determine whether a project activity is the first of its kind. Project's compliance is assessed against the requirements and criteria therein.	Methodological tool	The document is reformatted in line with the new document style, while keeping the original text unchanged.
2. Guidelines on common practice	Ver02.0 EB 69 Annex 08	Guideline	Provides mandatory requirements and criteria to conduct common practice analysis. Project's compliance is assessed against the requirements and criteria therein.	Methodological tool	The document is reformatted in line with the new document style, while keeping the original text unchanged.
3. Guidelines on apportioning emissions from production processes between main product and co- and by-products	Ver02.0 EB 56 Annex 09	Guideline	Provides mandatory requirements and criteria for apportioning emissions from a production process between the main product, the co-products, the by-products and the residues (waste) where the main product is produced and/or consumed/used in a CDM project activity. It is referred to in AM0089 and ACM0017.	Methodological tool	The document is reformatted in line with the new document style, while keeping the original text unchanged.

Title of document	Current version	Current document type	Brief description	Proposed document type for reclassification	Summary of revisions of the content
4. Guidance on accounting eligible HFC-23	Ver01.1 EB 39 Annex 08	No document type defined*	Provides mandatory requirements and criteria for the calculation of the maximum amount of HFC-23 that is eligible for crediting in a year y. It is used in conjunction with AM0001, but not referred to in the methodology.	Methodological tool	The document is reformatted in line with the new document style, while keeping the original text unchanged.
5. Guidance on eligibility of hydroelectric power plants with reservoirs as CDM project activities	EB 32 Para 27	No document type defined*	Single paragraph from meeting report providing guidance on eligibility of hydroelectric power plants with a power density less than 4 W/m ² . Already captured in ACM002, AMS-I.A, AMS-I.D, AMS-I.F	Remove from Rules and Reference section on the UNFCCC CDM website	
6. Further clarification of the application of para. 93 of the 25 meeting of the Board	EB 34 Para 20	No document type defined*	It clarifies requirements for GSC publication in case of a change of baseline and monitoring methodology during validation. Already captured by paragraphs 29 and 30 of PCP version 09.0.	Remove from Rules and Reference section on the UNFCCC CDM website	

* The document was adopted before the initial adoption of the “CDM Executive Board decision and documentation framework” at EB 47, and is published under “Guidelines” in the “Rules and Reference” section on the UNFCCC CDM website.

Appendix 2. Draft methodological tool. Additionality of first-of-its-kind project activities

CDM-EB-AA-A13

Reclassification of existing regulatory documents in accordance with the revised CDM Executive Board decision and documentation framework (second batch)
Version 01.0

Methodological tool

Additionality of first-of-its-kind project activities

Version 03.0



United Nations
Framework Convention on
Climate Change

1. Introduction

1. This methodological tool provides a general approach for the demonstration of additionality of first-of-its-kind project activities.

2. Scope, applicability, and entry into force

2.1. Scope

2. This methodological tool describes the first-of-its-kind approach for demonstration of additionality of project activities.

2.2. Applicability

3. This methodological tool is applicable to project activities that wish to use the first-of-its-kind approach to demonstrate additionality.

2.3. Entry into force

4. Immediately upon adoption of the methodological tool at the eighty-fourth meeting of the Board (29 May 2015).

3. Normative references

5. Project participants shall follow the applicable provisions for the demonstration of additionality in the CDM Project Standard.
6. This methodological tool refers to the following documents:
 - (a) Methodological tool: "Tool for the demonstration and assessment of additionality";
 - (b) Methodological tool: "Combined tool to identify the baseline scenario and demonstrate additionality";
 - (c) "Non-binding best practice examples to demonstrate additionality for SSC project activities" (EB 35 Annex 34).

4. Definitions

7. The definitions contained in the Glossary of CDM terms shall apply.
8. Applicable geographical area - should be the entire host country. If the project participants opt to limit the applicable geographical area to a specific geographical area (such as province, region, etc.) within the host country, then they shall provide justification on the essential distinction between the identified specific geographical area and rest of the host country.

9. Measure¹ - (for emission reduction activities) is a broad class of greenhouse gas emission reduction activities possessing common features. Four types of measures are currently covered in the framework:
 - (a) Fuel and feedstock switch (example: switch from naphtha to natural gas for energy generation, or switch from limestone to gypsum in cement clinker production);
 - (b) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies (example: energy efficiency improvements, power generation based on renewable energy);
 - (c) Methane destruction (example: landfill gas flaring);
 - (d) Methane formation avoidance (example: use of biomass that would have been left to decay in a solid waste disposal site resulting in the formation and emission of methane, for energy generation).
10. Output - is goods/services produced by the project activity including, among other things, heat, steam, electricity, methane, and biogas unless otherwise specified in the applied methodology.
11. Different technologies - are technologies that deliver the same output and differ by at least one of the following (as appropriate in the context of the measure applied in the proposed clean development mechanism (CDM) project activity and applicable geographical area):
 - (a) Energy source/fuel (example: energy generation by different energy sources such as wind and hydro and different types of fuels such as biomass and natural gas);
 - (b) Feed stock (example: production of fuel ethanol from different feed stocks such as sugar cane and starch, production of cement with varying percentage of alternative fuels or less carbon-intensive fuels);
 - (c) Size of installation (power capacity)/energy savings:
 - (i) Micro (as defined in paragraph 24 of decision 2/CMP.5 and paragraph 39 of decision 3/CMP.6);
 - (ii) Small (as defined in paragraph 28 of decision 1/CMP.2);
 - (iii) Large.

5. Methodology procedure

5.1. Identification of a first-of-its-kind project activity

12. A proposed project activity is the first of its kind in the applicable geographical area if:
 - (a) The project is the first in the applicable geographical area that applies a technology that is different from technologies² that are implemented by any other

¹ Identified measures do not cover the industrial gases, transport and afforestation/reforestation projects.

project, which are able to deliver the same output and have started commercial operation in the applicable geographical area before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of the proposed project activity, whichever is earlier;

- (b) The project implements one or more of the measures;
- (c) The project participants selected a crediting period for the project activity that is “a maximum of 10 years with no option of renewal”.

5.2. Additionality of the first-of-its-kind project activity

13. A proposed project activity that has been identified as a first-of-its-kind project activity is additional.

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	11 May 2015	Publication within annex 13 to the annotated agenda of EB84. Revision to reclassify this document from a Guideline to a Tool.
02.0	13 September 2012	EB69, Annex 7 Revision to improve the clarity of the definitions and the requirements on the reference time to identify the other technologies. Due to the overall modification of the document, no highlights of the changes are provided.
01.0	29 September 2011	EB63, Annex 11
Decision Class: Regulatory Document Type: Tool Business Function: Methodology Keywords: additionality, first-of-its-kind barrier, project activities		

² While identifying other technologies, project participants may also use publically available information, for example from government departments, industry associations, international associations on the market penetration of different technologies etc.

Appendix 3. Draft methodological tool. Common practice

CDM-EB-AA-A13

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Version 01.0

Methodological tool

Common practice

Version 03.0



United Nations
Framework Convention on
Climate Change

1. Introduction

1. This methodological tool provides a step-wise approach for the conduction of the common practice analysis as referred to in methodological tool “Tool for the demonstration and assessment of additionality”.

2. Scope, applicability, and entry into force

2.1. Scope

2. This methodological tool complements the methodological tool “Tool for the demonstration and assessment of additionality” and provides a step-wise approach for the analysis of the extent to which a proposed project type (e.g. technology or practice) has already diffused in the relevant sector and region.

2.2. Applicability

3. This methodological tool is applicable to project activities that apply the methodological tool “Tool for the demonstration and assessment of additionality” or the methodological tool: “Combined tool to identify the baseline scenario and demonstrate additionality” for the demonstration of the additionality.

2.3. Entry into force

4. Immediately upon adoption of the methodological tool at the eighty-fourth meeting of the Board (29 May 2015).

3. Normative references

5. Project participants shall follow the applicable provisions for the demonstration of additionality in the CDM Project Standard.
6. This methodological tool refers to the following documents:
 - (a) Methodological tool: “Tool for the demonstration and assessment of additionality”;
 - (b) Methodological tool: “Combined tool to identify the baseline scenario and demonstrate additionality”.

4. Definitions

7. The definitions contained in the Glossary of CDM terms shall apply.
8. Applicable geographical area - should be the entire host country. If the project participants opt to limit the applicable geographical area to a specific geographical area (such as province, region, etc.) within the host country, then they shall provide justification on the essential distinction between the identified specific geographical area and rest of the host country.

9. Measure¹ - (for emission reduction activities) is a broad class of greenhouse gas emission reduction activities possessing common features. Four types of measures are currently covered in the framework:
- (a) Fuel and feedstock switch (example: switch from naphtha to natural gas for energy generation, or switch from limestone to gypsum in cement clinker production);
 - (b) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies (example: energy efficiency improvements, power generation based on renewable energy);
 - (c) Methane destruction (example: landfill gas flaring);
 - (d) Methane formation avoidance (example: use of biomass that would have been left to decay in a solid waste disposal site resulting in the formation and emission of methane, for energy generation).
10. Output - is goods/services produced by the project activity including, among other things, heat, steam, electricity, methane, and biogas unless otherwise specified in the applied methodology;
11. Different technologies - are technologies that deliver the same output and differ by at least one of the following (as appropriate in the context of the measure applied in the proposed clean development mechanism (CDM) project activity and applicable geographical area):
- (a) Energy source/fuel (example: energy generation by different energy sources such as wind and hydro and different types of fuels such as biomass and natural gas);
 - (b) Feed stock (example: production of fuel ethanol from different feed stocks such as sugar cane and starch, production of cement with varying percentage of alternative fuels or less carbon-intensive fuels);
 - (c) Size of installation (power capacity)/energy savings:
 - (i) Micro (as defined in paragraph 24 of decision 2/CMP.5 and paragraph 39 of decision 3/CMP.6);
 - (ii) Small (as defined in paragraph 28 of decision 1/CMP.2);
 - (iii) Large.
 - (d) Investment climate on the date of the investment decision, inter alia:
 - (i) Access to technology;
 - (ii) Subsidies or other financial flows;
 - (iii) Promotional policies;
 - (iv) Legal regulations.

¹ Identified measures do not cover the industrial gases, transport and afforestation/reforestation projects.

(e) Other features, inter alia:

(i) Nature of the investment (example: unit cost of capacity or output² is considered different if the costs differ by at least 20 %).

5. Stepwise approach for common practise

12. Step 1: calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.
13. Step 2: identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:
 - (a) The projects are located in the applicable geographical area;
 - (b) The projects apply the same measure as the proposed project activity;
 - (c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;
 - (d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;
 - (e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
 - (f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.³
14. Step 3: within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all} .
15. Step 4: within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number N_{diff} .
16. Step 5: calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

² In general, capacity values should be considered in the common practice assessment. The use of output values should be justified and consistently applied in the assessment.

³ While identifying similar projects, project participants may also use publicly available information, for example from government departments, industry associations, international associations on the market penetration of different technologies, etc.

17. The proposed project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and $N_{all}N_{diff}$ is greater than 3.

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	11 May 2015	Publication within annex 13 to the annotated agenda of EB84. Revision to reclassify this document from a Guideline to a Tool.
02.0	13 September 2012	EB69, Annex 8 Revision to improve the clarity of the definitions, the requirements on the reference time to identify the similar projects, and the conditions to identify similar projects, and to exclude project activities submitted for registration and project activities undergoing validation. Due to the overall modification of the document, no highlights of the changes are provided.
01.0	29 September 2011	EB63, Annex 12
Decision Class: Regulatory Document Type: Tool Business Function: Methodology Keywords: additionality, common practice analysis, project activities		

Appendix 4. Draft methodological tool. Apportioning emissions from production processes between main product and co- and by-products

Methodological tool

Apportioning emissions from production processes between main product and co- and by-product

Version 03.0



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1. Introduction

1. These guidelines are This methodological tool is for situations where a product, which is a main product/co-product/by-product/residue (waste), is produced and/or consumed/used under a CDM project activity.

2. Scope, applicability, and entry into force

2.1. Scope

2. The purpose of these guidelines this methodological tool is to provide criteria for apportioning emissions from a production process between the main product, the co-products, the by-products and the residues (waste) where the main product is produced and/or consumed/used in a CDM project activity.
3. For example, the production of renewable biomass/biofuels often involves generation of co-products, by-products or residues (waste). In such cases, a procedure to apportion emissions, associated with the production of renewable biomass/biofuels, between the renewable biomass/biofuels, the co-products, and the by-products needs to be provided.

2.2. Applicability

4. The Executive Board has restricted the applicability of this document to the approved methodologies ACM0017 and AM0089 until further revisions are done by the Methodologies Panel (EB 50, paragraph 22, and EB 56, paragraph 27).
5. This methodological tool is applicable to proposed and registered project activities that apply the approved methodologies AM0089 and ACM0017, and that do not make reference to the "Guidelines on apportioning emissions from production processes between main product and co- and by-products".

2.3. Entry into force

6. Immediately upon adoption of the methodological tool at the eighty-fourth meeting of the Board (29 May 2015).

3. Normative references

7. This methodological tool refers to the following approved methodologies:
 - (a) AM0089 "Production of diesel using a mixed feedstock of gasoil and vegetable oil"; and
 - (b) ACM0017 "Production of biodiesel for use as fuel".

4. Definitions

8. The definitions contained in the Glossary of CDM terms shall apply.

9. For the purpose of ~~these guidelines~~ **this methodological tool** the following definitions apply:

- (a) Co-products: products produced along with the main product and having similar revenues as the main product;
- (b) By-products: products produced along with the main product and having smaller revenues than the main product; and
- (c) Residues/wastes: residues/wastes are generated along with the main product but have no or negligible revenues.

5. **Methodology procedure**

5.1. ~~Proposed guidelines~~ **Approaches** for apportioning emissions from production process

10. One of the following approaches to apportion emissions shall be used in the methodologies:

- (a) **Apportioning by market prices**, i.e. apportioning of the emissions proportional to the market prices of the main product and the by-products or co-products. The market prices may be either monitored ex post or be determined once for the crediting period. This rule can be applied only if transparent and reliable information on market prices is available;
- (b) **Substitution approach (or system expansion)**. The by-products and co-products are included in the project boundary. For each by-product or co-product, the alternative production process(es) is/are identified as part of the procedure to identify how the by-product or co-product would have been produced. Respectively, the emissions associated with the alternative production process of the co-products and by-products are allocated to the co-product or by-product;
- (c) **Allocation by energy content**, i.e. apportioning of the emissions proportional to the enthalpy of the main product and the by-products or co-products. This rule can only be applied in cases where the main product and all co-products or by-products are fuels (e.g. petroleum products produced by an oil refinery);
- (d) **Attributing all emissions to the main product**. As a conservative approach, all emissions from production process are accounted as project emissions. This approach cannot be used for the calculation of baseline emissions.

11. Furthermore, the following ~~guidelines~~ **criteria** apply:

- (a) Emissions from the production process shall not be allocated to residues/wastes, which are used/consumed in a CDM project activity, for example, if biomass residues from sugar cane production (i.e. bagasse) are used for the production of electricity;
- (b) If a co-product or by-product produced in conjunction with the production of the main product is not sold on the market and is not used/consumed no production emissions shall be apportioned to the co-product(s)/by-product(s). This applies, for example, where the oilseed meal or glycerin produced along with biofuel in

the project activity would be dumped or left to decay. In such situation no emissions are apportioned to oilseed meal or glycerin;

- (c) If a co- or by-product is currently not used in the market or is available in excess and project participants plan to use it under the CDM project activity, no emissions should be apportioned to it.

Procedure for proposing alternative approaches

12. In exceptional cases, project participants may propose, as revision of ~~these guidelines~~ **this methodological tool** or as part of proposed new methodologies, different allocation rules if they can justify that they are better suited than the allocation approaches provided in ~~these guidelines~~ **this methodological tool** or if the necessary data to apply the allocation approaches provided in ~~these guidelines~~ **this methodological tool** are not available.

5.2. Examples of the application of the **methodological tool guidelines**

(a) Apportioning by market prices

13. The CDM project is the production, sale and consumption of blends of petrodiesel with palm methyl ester to be used as fuel.
14. In the oil mill (process 1 for the production of biodiesel) the main product is the palm oil and the by-product is the palm kernel. For apportioning by market prices to the main product (palm oil) the following equation is used:

$$AF_{1,y} = (MP_{MP,y} \times M_{MP}) / (MP_{MP,y} \times M_{MP} + MP_{BP,y} \times M_{BP}) \quad \text{Equation (1)}$$

Where:

$AF_{1,y}$	=	Allocation factor for process 1 (oil mill) in year y (fraction)
$MP_{MP,y}$	=	Market price per ton of main product (palm oil) in year y (\$/tonne)
M_{MP}	=	Mass of main product (palm oil) associated with the production of 1 tonne of final biofuel (tonne)
$MP_{BP,y}$	=	Market price per ton of dry co-product (palm kernels) in year y (\$/tonne)
M_{BP}	=	Mass of co-product (palm kernels) associated with the production of 1 tonne of final biofuel (tonne)

For calculations, the following values are applied:

Parameter	Value Applied	Source
$MP_{MP,y}$	586 €/tonne	Malaysian Palm Oil Board. July 2008. http://econ.mpob.gov.my/upk/daily/20080730latest.htm
M_{MP}	1.05 tonnes	Ecofys.(2007). Technical Specification: Greenhouse Gas Calculator for biofuels. p. 56
$MP_{BP,y}$	332 €/tonne	Malaysian Palm Oil Board. July 2008. http://econ.mpob.gov.my/upk/daily/20080730latest.htm

M_{BP}	0.25 tonnes	Ecofys.(2007). Technical Specification: Greenhouse Gas Calculator for biofuels. p. 56
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$$AF_{1,y} = (586 \times 1.05) / (586 \times 1.05 + 332 \times 0.25) = 0.88 \quad \text{Equation (2)}$$

15. The emissions associated with the cultivation of biomass will then be allocated to the palm oil using the allocation factor. In the example as the allocation factor is 88%, 88% of the emissions of producing the biomass will be taken into account as emissions for the palm oil.

(b) Substitution approach (or system expansion)

16. A CDM project is a natural gas fired combined heat and power plant. Electricity and steam are co-products. The project emissions from combustion of natural gas have to be apportioned between electricity and steam.
17. The apportioning of project emissions is made by including the production of the steam in the baseline scenario. Hence, the baseline scenario is not only determined for the generation of electricity but also for the generation of steam (co-product). For this example, it is assumed that the procedure to identify the most plausible baseline scenario results in that the electricity would be generated in the grid and the steam would be generated in a natural gas fired heat-only boiler.
18. With the substitution approach, all emissions from combustion of natural gas are accounted as project emissions and the baseline emissions are determined for both electricity and steam generation:

$$PE_y = FC_{PJ,NG,y} \times NCV_{NG,y} \times EF_{CO_2,NG,y} \quad \text{Equation (3)}$$

$$BE_y = EG_{PJ,y} \times EF_{grid,y} + HG_{PJ,y} \times EF_{BL,boiler} \text{ with } EF_{BL,boiler} = \frac{EF_{CO_2,NG,boiler}}{\eta_{boiler}} \quad \text{Equation (4)}$$

Where:

PE_y	=	Project emissions in year y (t CO ₂ /yr)
$FC_{PJ,NG,y}$	=	Quantity of natural gas combusted in the project plant in year y (m ³ /yr)
$NCV_{NG,y}$	=	Net calorific value of natural gas in year y (GJ/m ³)
$EF_{CO_2,NG,y}$	=	CO ₂ emission factor of natural gas in year y (t CO ₂ /GJ)
BE_y	=	Baseline emissions in year y (t CO ₂ /yr)
$EG_{PJ,y}$	=	Quantity of electricity produced in the project plant in year y (MWh/year)
$EF_{grid,y}$	=	Grid emission factor for electricity in year y (t CO ₂ /MWh)
$HG_{PJ,y}$	=	Quantity of heat generated in the project plant in year y (GJ/year)

- $EF_{BL,boiler}$ = Emission factor for heat generation in the boiler in the baseline scenario (t CO₂/GJ)
 $EF_{CO_2,NG,boiler}$ = CO₂ emission factor of natural gas that would be used in the baseline scenario boiler (t CO₂/GJ)
 η_{boiler} = Energy efficiency of the boiler that would be used in the baseline scenario for heat generation
19. This approach avoids the determination of an allocation factor (AF) by including both co-products in the boundary. This approach has been applied in several approved baseline and monitoring methodologies.
- (c) Allocation by energy content
20. A CDM project is gas treatment plant, where the input is wet gas, the main product is natural gas and the by-products are liquefied petroleum gas (LPG) and gasoline. For apportioning emissions of the treatment plant to the natural gas by energy content the following equation is used:

$$AF_1 = (NCV_{MP} \times M_{MP}) / (NCV_{MP} \times M_{MP} + NCV_{BP1} \times M_{BP1} + NCV_{BP2} \times M_{BP2}) \quad \text{Equation (5)}$$

Where:

- AF_1 = Allocation factor for treatment to the natural gas (fraction)
 NCV_{MP} = Net calorific value of main product (natural gas) (GJ/m³)
 M_{MP} = Mass of main product (natural gas) associated with the daily production of the treatment plant (m³)
 NCV_{BP1} = Net calorific value of LPG (GJ/m³)
 M_{BP1} = Mass of LPG by-product from the gas treatment plant associated with the daily production of the treatment plant (m³)
 NCV_{BP2} = Net calorific value of gasoline (GJ/m³)
 M_{BP2} = Mass of gasoline by-product from the gas treatment plant associated with the daily production of the treatment plant (m³)

For calculations, the following values are applied:

Parameter	Value Applied	Source
NCV_{MP}	0.0336	IPCC 2006
M_{MP}	21,000,000	Hypothetical configuration of a gas treatment plant.
NCV_{BP1}	24.123	IPCC 2006
M_{BP1}	1,650	Hypothetical configuration of a gas treatment plant.
NCV_{BP2}	31.453	IPCC 2006
M_{BP2}	500	Hypothetical configuration of a gas treatment plant.

$$AF_1 = (0.0336 \times 21,000,000) / (0.0336 \times 21,000,000 + 24.123 \times 1,650 + 31.453 \times 500) = 0.93 \quad \text{Equation (6)}$$

21. The emissions associated with the gas treatment process will then be allocated to the natural gas using the allocation factor. For example if the allocation factor is 93%, then 93% of the emissions from the gas treatment process will be taken into account for the natural gas.

(d) Attributing all emissions to the main product

22. The application of this option is illustrated for the same combined heat and power plant as for the substitution approach above. The emissions from combustion of natural gas in the project plant are fully allocated to the generation of electricity (main product). The steam generation (in this case a by-product) is not included in the boundary.
23. Hence, project emissions are the emissions from combustion of natural gas and baseline emissions are the emissions from electricity generation in the grid:

$$PE_y = FC_{PJ,NG,y} \times NCV_{NG,y} \times EF_{CO2,NG,y} \quad \text{Equation (7)}$$

$$BE_y = EG_{PJ,y} \times EF_{grid,y} \quad \text{Equation (8)}$$

Where:

PE_y	=	Project emissions in year y (t CO ₂ /yr)
$FC_{PJ,NG,y}$	=	Quantity of natural gas combusted in the project plant in year y (m ³ /yr)
$NCV_{NG,y}$	=	Net calorific value of natural gas in year y (GJ/m ³)
$EF_{CO2,NG,y}$	=	CO ₂ emission factor of natural gas in year y (t CO ₂ /GJ)
BE_y	=	Baseline emissions in year y (t CO ₂ /yr)
$EG_{PJ,y}$	=	Quantity of electricity produced in the project plant in year y (MWh/year)
$EF_{grid,y}$	=	Grid emission factor for electricity in year y (t CO ₂ /MWh)

24. This option results in lower emission reductions than the substitution approach. However, it is simple and would not require ~~to determine~~ **determining** the baseline scenario for the heat generation. This may be a simple option for project participants in situations where the quantity of the steam generation is very small or where the steam generation would in the baseline only cause very minor emissions (e.g. if generated with renewable sources).

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Document information

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03.0	11 May 2015	Publication within annex 13 to the annotated agenda of EB84. Revision to reclassify this document from a Guideline to a Tool.
02.0	17 September 2010	EB 56, Annex 9 Revision to make the guidelines applicable to newly approved methodology AM0089.
01.0	16 October 2009	EB 50, Annex 12 Initial adoption.
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Appendix 5. Draft methodological tool. Accounting eligible HFC-23

CDM-EB-AA-A13

Reclassification of existing regulatory documents in accordance with the revised CDM Executive Board decision and documentation framework (second batch)
Version 01.0

Methodological tool

Accounting eligible HFC-23

Version 02.0



United Nations
Framework Convention on
Climate Change

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1. Introduction

1. AM0001 implicitly assumes that the amount of HFC-23 eligible for crediting for a year y ($Q_{\text{HFC23,e},y}$)¹ is calculated on an annual basis. Furthermore, AM0001 tacitly assumes that HFC-23 is destroyed in real time (i.e. no storage and subsequent destruction takes place). However, project participants (PPs) of project activities routinely submitted under AM0001 requests for issuance of CERs for shorter periods of time than one year. Further, in a few cases the verification reports also included the amount of HFC 23 stored due to temporary shut-downs of HFC-23 destruction facility, as the quantity destroyed in the monitoring period.
2. The Board at its 35th meeting requested the Meth Panel to provide clarification on the approved methodology AM0001 on how to address situations where HFC-23, generated in production of HCFC-22, is stored, when the HFC-23 incineration plant is temporarily not functioning, and subsequently destroyed. Furthermore, the Board requested the panel to provide guidance on whether to take into account the HCFC-22 produced during the down times of HFC-23 incineration plants including its implications on the calculation of CERs (para 29, EB 35 meeting report).
3. Also, the Board took note of the reporting of the HFC-23 waste generation rate/HCFC-22 production ("w") values by the project activities while applying the approved methodology AM0001. The Board agreed that the Designated Operational Entities (DOEs) should ensure, for each request for issuance, that the value of "w" shall not exceed the maximum value as registered in the Project Design Document (PDD), taking into account the issuances that have occurred in the past one year period, in order to ensure that the annual maximum "w" value has not been exceeded (para 90, EB 35 meeting report).

2. Scope, applicability, and entry into force

2.1. Scope

4. The purpose of this methodological tool is to provide criteria for the determination of the quantity of HFC-23 eligible for crediting.

2.2. Applicability

5. This methodological tool is applicable to proposed and registered project activities that apply the approved methodology AM0001 "Decomposition of fluoroform (HFC-23) waste streams" and that do not make reference to the "Guidelines on accounting eligible HFC-23".

¹ This term ($Q_{\text{HFC23,e},y}$) is not directly used in the methodology AM0001 (up to Version 5.2). In AM0001 (up to version 5.2) $Q_{\text{HFC23},y}$ refers to the quantity of HFC-23 destroyed. This term is the lower value between the quantity actually destroyed ($Q_{\text{HFC23,d},y}$ in this guidance) and the quantity of HFC-23 eligible for crediting ($Q_{\text{HFC23,e},y}$ in this guidance).

2.3. Entry into force

6. Immediately upon adoption of the methodological tool at the eighty-fourth meeting of the Board (29 May 2015).

3. Normative references

7. This methodological tool refers to the following approved methodology:
- (a) AM0001 "Decomposition of fluoroform (HFC-23) waste streams".

4. Definitions

8. The definitions contained in the Glossary of CDM terms shall apply.

5. Methodology procedure

9. The following procedure aims to account for storage needs as well as to ensure that the issuance is in compliance with the cap established by the methodology:

~~10. The Meth Panel recommends the EB to adopt the following guidance:~~

- (a) CERs can be issued for a monitoring period shorter than one year, upon request for issuance as per the approved procedure.
- (b) A year y of the crediting period is defined on the basis of the starting date of the crediting period of a project activity. For example, if the starting date is 15 June, then a year y of the crediting period for the project is 15 June to next year 14 June.
 - (i) A monitoring period (the period for which the request for issuing CERs is made by PPs of a registered CDM project activities) can be of a shorter duration than a year, but all the monitoring periods within a year y of the crediting period should add up to the duration of the year. For example, if issuance is requested four times in a year y , the starting date of the first monitoring period should be the same as the starting date of the year y of the crediting period and the end date of the last monitoring period (fourth in this case) should be the end date of the year y of the crediting period.
 - (ii) The quantity of HFC-23 eligible for crediting ($Q_{\text{HFC23,e},y}$) should be determined for each year y of the crediting period and not for any other length of time period.
- (c) The maximum amount of HFC-23 that is eligible for crediting ($Q_{\text{HFC23,e},y}$) in a year y is the sum of (a) any HFC-23 that is stored at the end of the year $y-1$ and that is eligible for storage and subsequent destruction according to the conditions outlined in paragraph 9 (e) below and (b) the minimum of the following values (the procedure to calculate this for a year y is provided in the equations below):
 - (i) The actual generation of HFC-23 in year y of the crediting period less the quantity sold, used or vented in year y ;

- (ii) The product of actual production of HCFC-22 in year y of the crediting period (Q_{HCFC_y}) and the historical waste generation rate (w) as determined and fixed in the registered CDM PDD;
- (iii) The product of the maximum historical annual HCFC-22 equivalent production ($Q_{HCFCe_{HIST}}$) determined as per procedure in the approved methodology and the historical waste generation rate (w) as determined and fixed in the registered CDM-PDD;²
- (iv) The product of the maximum historical annual HCFC-22 equivalent production ($Q_{HCFCe_{HIST}}$) determined as per procedure in the approved methodology and fixed in the registered CDM-PDD and the actual average HFC-23/HCFC-22 waste generation rate in year y (this represents the amount of HFC-23 that would have been produced at historic production level with current ratio of HFC-23 generation).²

Thus, the maximum amount of HFC-23 that is eligible for crediting in a year y is calculated as follows:

$$Q_{HFC23,e,y} = Q_{HFC23,co,y} + MIN \left\{ \begin{array}{l} Q_{HFC23,g,y} \\ Q_{HCFC22_y} \times w \\ Q_{HCFC22e_{HIST}} \times w^* \\ Q_{HCFC22e_{HIST}} \times Q_{HFC23,g,y} / Q_{HCFC22,y}^* \end{array} \right\} \quad \text{Equation (1)}$$

*: please see footnote 2

Where:

$Q_{HFC23,e,y}$	=	The maximum amount of HFC-23 that is eligible for crediting in a year y
$Q_{HFC23,co,y}$	=	Quantity of HFC-23 that has been stored in year $y-1$ and is eligible for destruction in year y
$Q_{HFC23,g,y}$	=	Quantity of HFC-23 generated in year y
Q_{HCFC22_y}	=	Quantity of HCFC-22 produced in year y
$Q_{HCFCe_{HIST}}$	=	The maximum annual HCFC-22 production that is eligible for crediting as determined and fixed in the registered CDM-PDD
w	=	The historical waste generation rate (w) as determined and fixed in the registered CDM-PDD

- (d) HFC-23 that is generated after the start of the crediting period, temporarily stored and subsequently destroyed can be accounted for calculation of emission reductions under AM0001. The destruction of HFC-23 that was generated before the start of the crediting period cannot be accounted towards emission reductions. Note that since 1 April 2007 the start of the crediting period cannot be earlier than the registration of the CDM project activity.

² Applicable only to project activities that have been registered using version 03 or above of the approved methodology AM0001.

- (e) The quantity of HFC-23 stored by the end of year $y-1$ and eligible for crediting in year y is the difference between (a) the maximum amount of HFC-23 that is eligible for crediting in the year $y-1$, and (b) the sum of the actual amount destroyed in year $y-1$ and the amount sold, used or vented to the atmosphere. Note that if the quantity credited and the quantity that has been sold, used or vented to the atmosphere is larger than the eligible quantity, a value of zero should be used for the quantity that is eligible for storage.

$$Q_{HFC23,co,y} = MAX(Q_{HFC23,e,y-1} - Q_{HFC23,cr,y-1} - Q_{HFC23,other,y-1}; 0) \quad \text{Equation (2)}$$

Where:

- $Q_{HFC23,co,y}$ = Quantity of HFC-23 stored by the end of year $y-1$ and eligible for destruction in year y
- $Q_{HFC23,e,y-1}$ = The maximum amount of HFC-23 that is eligible for crediting in year $y-1$
- $Q_{HFC23,cr,y-1}$ = Quantity of HFC-23 destruction credited in year $y-1$
- $Q_{HFC23,other,y-1}$ = Quantity of all HFC-23 that has been sold, used or vented to the atmosphere in year $y-1$

This provision is illustrated in the following table:

Table 1. Calculation of the quantity of HFC-23

Period	Maximum amount of HFC-23 that is eligible for crediting in the year *	Quantity of HFC-23 destruction credited in the year	Quantity of HFC-23 sold, used or vented to the atmosphere in the year	Quantity of HFC-23 eligible for storage and destruction in the subsequent year
	A	B	C	D=MAX(A-B-C;0)
year 1	100	80	0	20
year 2	120	110	0	10
year 3	110	50	80	0
year 4	100			
year 5				

* Assuming that $\min(Q_{HFC23,g,y}, Q_{HFC22,y} * W, Q_{HFC22,y,max} * Q_{HFC23,g,y} / Q_{HFC22,y}, Q_{HFC22,y,max} * W)$ is 100.

5.1. Procedures for requests for issuance

11. For the case that project participants use monitoring periods shorter than one year, the following procedures are prescribed, in order to ensure that the overall CERs issued in a year y are consistent with the provisions of the methodology and to minimize the risk of excessive issuance.
- (a) For project activities that have been registered using version 03 or later versions of the approved methodology AM0001, the following formulae shall be used to estimate the crediting for monitoring period.

$$Q_{HFC,cr,i,y} = MIN \left\{ \begin{array}{l} MIN \left(Q_{HCFC22,HIST} \times \sum_{n=1}^i Q_{HCFC22,n,y} \right) \times MIN \left(w; \frac{\sum_{n=1}^i Q_{HFC23,g,n,y}}{\sum_{n=1}^i Q_{HCFC22,n,y}} \right) + Q_{HFC23,co,i,y} \\ \sum_{n=1}^i Q_{HFC23,d,n,y} \end{array} \right\} - \sum_{m=1}^{i-1} Q_{HFC23,cr,m,y} \quad \text{Equation (3)}$$

Where:

- $Q_{HFC23,cr,i,y}$ = Quantity of HFC-23 destruction credited in the monitoring period i of year y
- $Q_{HCFC,y,max}$ = The maximum annual HCFC-22 production that is eligible for crediting as determined and fixed in the registered CDM-PDD
- $Q_{HCFC22,n,y}$ = Quantity of HCFC-22 produced in monitoring period n of year y
- $Q_{HFC23,co,y}$ = Quantity of HFC-23 stored by the end of year $y-1$ and eligible for destruction in year y (as defined above)
- $Q_{HFC23,g,n,y}$ = Quantity of HFC-23 generated in the monitoring period n of year y
- $Q_{HFC23,d,n,y}$ = Quantity of HFC-23 destroyed in the monitoring period n of year y
- $Q_{HFC23,cr,m,y}$ = Quantity of HFC-23 destruction credited in the monitoring period m of year y
- i = Monitoring period for which issuance of CERs is requested
- n = Monitoring periods from the start of the year up to the monitoring period i
- m = Monitoring periods of year y that preceded the monitoring period i

- (b) For project activities that have been registered using version 01 or version 02, the following formulae shall be used to estimate the crediting for monitoring period.

$$Q_{HFC,cr,i,y} = MIN \left\{ \begin{array}{l} \sum_{n=1}^i Q_{HCFC22,n,y} \times MIN \left(w; \frac{\sum_{n=1}^i Q_{HFC23,g,n,y}}{\sum_{n=1}^i Q_{HCFC22,n,y}} \right) + Q_{HFC23,co,i,y} \\ \sum_{n=1}^i Q_{HFC23,d,n,y} \end{array} \right\} - \sum_{m=1}^{i-1} Q_{HFC23,cr,m,y} \quad \text{Equation (4)}$$

12. In the unlikely event that the sum of the quantity of HFC-23 destruction credited before the last issuance period of the crediting year y has exceeded the amount eligible, for example:

$$\sum_{i=1}^{n-1} Q_{HFC23,cr,i,y} > Q_{HFC23,e,y} \quad \text{Equation (5)}$$

Then the quantity of HFC-23 destruction credited in the final issuance period of crediting year y is zero, and the subsequent issuance is made only after the excess amount has been recovered.

13. All the data required for a applying above guidance shall be reported in the issuance report for each issuance period.

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01.1	26 June 2008	Editorial change to clarify that last two components of formulae to estimate the maximum amount of HFC-23 that is eligible for crediting in a year y apply to version 03 onwards.
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Reclassification of existing regulatory documents in accordance with the revised CDM Executive Board decision and documentation framework (second batch)

Version 01.0

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