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Application of the Oeko-Institut/WWF-US/ EDF methodology for assessing the quality of carbon credits

This document presents results from the application of version 3.0 of a methodology, developed by Oeko-Institut, World Wildlife Fund (WWF-US) and Environmental Defense Fund (EDF), for assessing the quality of carbon credits. The methodology is applied by Oeko-Institut with support by Carbon Limits, Greenhouse Gas Management Institute (GHGMI), INFRAS, Stockholm Environment Institute, and individual carbon market experts. This document evaluates one specific criterion or sub-criterion with respect to a specific carbon crediting program, project type, quantification methodology and/or host country, as specified in the below table. Please note that the CCQI website Site terms and Privacy Policy apply with respect to any use of the information provided in this document. Further information on the project and the methodology can be found here: www.carboncreditquality.org

Sub-criterion:	1.1.1 Eligibility of mitigation activities that are triggered by legal requirements
Carbon crediting program:	CDM
Assessment based on carbon crediting program documents valid as of:	15 May 2022
Date of final assessment:	31 January 2023
Score:	See page 2

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Scores

Project Type	Methodology	Additionality Tool	Score
Efficient Cookstoves	All methodologies		5
Establishment of natural forests	AR-ACM0003		2.4
Wind power (onshore)	All methodologies		5
Solar photovoltaic power	All methodologies		5
Household biodigesters	All methodologies		5
Industrial biodigesters fed with livestock manure	ACM00010	CDM TOOL02	2.4
	AMS.III.D	No tool	3.8
		CDM TOOL21	1
		CDM TOOL32	1
Landfill gas utilization	ACM0001	CDM TOOL02	2.4
	AMS-III.G	CDM TOOL32	1
Leak repair in natural gas transmission and distribution systems	AM0023	CDM TOOL02	2.4
Recovery of associated gas from oil fields	AM0009	CDM TOOL02	2.4

Assessment

Plausibility of existence of legal requirements

Relevant scoring methodology provisions

"This methodology first assesses whether it is plausible that the relevant project type is or will be legally required in the relevant geographical area. For some project types and geographical areas, such as the use of efficient cookstoves in least developed countries, it may be very unlikely that any relevant legal requirements exist or will be introduced during the crediting periods. In this case, the provisions of the carbon crediting program regarding legal requirements are not relevant and a score of 5 is assigned to this sub-criterion. Otherwise, the scoring depends on the carbon crediting program's provisions regarding legal requirements."

Assessment outcome

For landfill gas utilization, establishment of natural forest, industrial biodigesters fed with livestock manure, recovery of associated gas from oil fields and leak repair in natural gas transmission and distribution systems it is deemed possible that legal requirements exist that could require their implementation. The scoring for these project types therefore depends on the carbon crediting program's provisions regarding legal requirements (see assessment of indicators 1.1.1.1 and 1.1.1.2 below).

For efficient cookstoves, solar photovoltaic power, wind power (onshore) as well as household biodigesters it is deemed very unlikely that legal requirements could exist that require their implementation. The project types are therefore assigned a score of 5 for this sub-criterion.

Justification of assessment

Landfill gas utilization: In many countries, landfills are subject to pollution control regulations. This includes air pollution, soil protection and water regulations amongst others. While this does not automatically make landfills subject to specific regulations that require collection and destruction or utilization of landfill gas, the general regulatory environment for the project type makes it plausible that it could be legally required.

Establishment of natural forests: While it is unlikely that general legislation exists that directly mandates the establishment of natural forests it is plausible that in some cases natural forest is established in response to legal mandates. This can occur for example if barren land is designated as a protected area (e.g., in form of national park) and due to the protection, the land is overgrown by natural forests.

Efficient cookstoves: There are no known cases where a legal requirement requires the use of efficient cookstoves.

Solar photovoltaic power: While many countries have feed-in tariffs or other policies such as renewable energy targets in place that incentivize the implementation of solar photovoltaic power generation there are no known cases where regulation requires their implementation at a specific project site.

Wind power (onshore): While many countries have feed-in tariffs or other policies such as renewable energy targets in place that incentivize the implementation of onshore wind power generation there are no known cases where regulation requires their implementation at a specific project site.

Industrial biodigesters fed with livestock manure: Many countries encourage the efficient use of manure and have adopted policies and regulations that incentivize and govern manure management practices by farmers. Further, storage and use of manure is associated with environmental harms making it a subject to regulation in many countries over the world, including its utilization. An assessment of the manure policy frameworks of 34 developing countries in 2014 showed that 30 countries have policies related to manure management. Further, 18 countries have policies in place in relation to digestion.[1]

In China for example, the *Guiding Opinions on Promoting the Land Application of Livestock Manure and Strengthening the Pollution Control according to Law* adopted in 2019 contain targets for manure utilization of 80% in 2025 and 90% in 2030.[2] While targets do not constitute a legal requirement, it is plausible that regulation might be legislated in the coming years to support their achievement. It is therefore deemed plausible that the project type could be legally required.

Household biodigesters: While many governments have support programs for household biodigesters there are no known cases where their use is mandated by a law or regulation.

Recovery of associated gas from oil fields: Analysis performed by the World Bank shows that out of 21 oil producing countries, 13 countries have set targets or limits for the venting or flaring of associated gas. Further, 18 countries have regulation in place that prohibits routine flaring and venting. In 17 countries, development plans for new oil fields must include provisions for the use of associated gas.[3] The analysis shows that, globally, the general regulatory environment for the project type makes it plausible that it could be legally required.

Leak repair in natural gas transmission and distribution systems: Analysis performed by the International Energy Agency shows that out of 12 producing countries, currently only two countries (United States and Canada) have prescriptive regulations on leak detection and repair. Many other countries do however have in place mandatory permitting requirements and technology standards for natural gas pipelines.[4] The EU is currently not regulating methane emissions in the energy sector but has started the process of developing a regulatory framework that would also require companies to improve detection and repair of leaks.[5] At COP 26 in 2021 the Global Methane Pledge was launched through which more than 100 countries pledged to reduce more than 8 gigatons of CO_2e

[1] Teenstra et a. (2014) Global Assessment of Manure Management Policies and Practices; Wageningen Livestock Research
https://edepot.wur.nl/335445

[2] Wei et al. (2021) Policies and regulations for manure management for sustainable livestock production in China: A review; Frontiers of Agricultural Science and Engineering; Volume 8; Issue 1; pages 45-57
https://journal.hep.com.cn/fase/EN/10.15302/J-FASE-2020369

[3] World Bank (2022) Global Flaring and Venting Regulations: A Comparative Review of Policies
https://thedocs.worldbank.org/en/doc/fd5b55e045a373821f2e67d81e2c53b1-0400072022/original/Global-Flaring-and-Venting-Regulations-A-Comparative-Review-of-Policies.pdf

[4] IEA (2021) Driving Down Methane Leaks from the Oil and Gas Industry – A regulatory roadmap and toolkit
https://iea.blob.core.windows.net/assets/465cb813-5bf0-46e5-a267-3be0ccf332c4/Driving_Down_Methane_Leaks_from_the_Oil_and_Gas_Industry.pdf

[5] Abnett and Nasrilla (2021) Exclusive: Gas infrastructure across Europe leaking planet-warming methane; Reuters; https://www.reuters.com/business/environment/exclusive-gas-infrastructure-across-europe-leaking-planet-warming-methane-video-2021-06-24/

emissions from anthropogenic methane sources by 2030.[6] Implementing this pledge will likely require additional regulatory measures. It is therefore deemed likely that there might be regulations that require the implementation of this project type in more countries in the near future.

Indicator 1.1.1.1

Relevant scoring methodology provisions

The methodology evaluates whether the program provisions address how to treat mitigation activities that are legally required and whether a program allows for the registration of mitigation activities that are required by an existing and enforced legally binding mandate. The scores are applied as follows:

Carbon crediting program requirement	Score
The program's provisions exclude from eligibility mitigation activities that are required to be implemented due to existing legal requirements, regardless of whether the legal requirements are enforced or not.	5
The program's provisions exclude mitigation activities from eligibility that are required to be implemented due to existing legal requirements but allow for exemptions from this provision where the legal requirements are systematically not enforced and non-compliance is widespread in the country.	3
The program's provisions do not specifically address this matter, or the program allows mitigation activities to be registered that are required to be implemented due to existing and enforced legal requirements.	1

Information sources considered

1 TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality – Version 07.0 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-02-v7.0.pdf

2 Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities – Version 01, 19 Oct 2007. https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-02-v1.pdf

3 CDM-EB102-A04-STAN: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20190404115057893/methSB_Stan03.pdf

4 TOOL19: Demonstration of additionality of microscale project activities – Version 09.0 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-19-v9.pdf

5 TOOL21: Demonstration of additionality of small-scale project activities – Version 13.1 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-21-v13.1.pdf

6 TOOL32: Positive lists of technologies – Version 3.0 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-32-v3.0.pdf

7 ACM0001 – Version 19.0: Large-scale Consolidated Methodology Flaring or use of landfill gas https://cdm.unfccc.int/methodologies/DB/JPYB4DYQUXQPZLBDVPHA87479EMY9M

[6] https://www.globalmethanepledge.org/

8 AR-ACM0003 – Version 02.0: A/R Large-scale Consolidated Methodology Afforestation and reforestation of lands except wetlands https://cdm.unfccc.int/methodologies/DB/C9QS5G3CS8FW04MYYXDFOQDPXWM4OE

9 AMS-III.G – Version 10.0: Small-scale Methodology Landfill methane recovery https://cdm.unfccc.int/methodologies/DB/0KHNES8D09H134V3TZDQ47C3LQL3H2

10 ACM0010 - Version 08.0: Large-scale Consolidated Methodology GHG emission reductions from manure management systems https://cdm.unfccc.int/UserManagement/FileStorage/OJW9BM0HFSPXNGVD1KER3C2QU86I5T

11 AMS-III.D – Version 21.0: Small-scale Methodology Methane recovery in animal manure management systems https://cdm.unfccc.int/UserManagement/FileStorage/1AWXEKHVTYF423LCN56Z9GIMQOS8JR

12 AM009 - Version 07.0: Large-scale Methodology: Recovery and utilization of gas from oil fields that would otherwise be flared or vented https://cdm.unfccc.int/UserManagement/FileStorage/KP9MVADO1RLGUJ34C5IZ8T7NYEB0W2

Relevant carbon crediting program provisions

Provision 1 Source 8, section 5.2 “Identification of the baseline scenario and demonstration of additionality”, page 5: “Project participants (PPs) shall identify the baseline demonstrate that the project activity is additional by selecting one of the following options:

(a) Applying the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”;

(b) Applying an approved standardized baseline appropriate to their project.”

Provision 2 Source 2, paragraphs 8-12, pages 3-4: “Sub-step 1b. Consistency of credible alternative land use scenarios with enforced mandatory applicable laws and regulations

Apply the following procedure:

- Demonstrate that all land use scenarios identified in the sub-step 1a: are in compliance with all mandatory applicable legal and regulatory requirements;
- If an alternative does not comply with all mandatory applicable legislation and regulations then show that, based on an examination of current practice in the region in which the mandatory law or regulation applies, those applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is widespread, i.e. prevalent on at least 30% of area of the smallest administrative unit that encompasses the project area;

- Remove from the land use scenarios identified in the sub-step 1a, any land use scenarios which are not in compliance with applicable mandatory laws and regulations unless it can be shown these land use scenarios result from systematic lack of enforcement of applicable laws and regulations.

Outcome of Sub-step 1b: List of plausible alternative land use scenarios to the A/R CDM project activity that are in compliance with mandatory legislation and regulations taking into account the their enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations."

Provision 3 Source 3, section 5.3 Identification of the baseline land-use scenario, page 4: "The baseline land-use scenario of an A/R project activity implemented in the areas of land in which the proposed standardized baselines are to be applied shall be deemed to be the same as the pre-project land-use scenario, provided that:

(a) The pre-project land-use scenario is in accordance with the mandatory applicable legal and regulatory land-use requirements, in effect in the host Party country, for tree planting or establishment of tree/shrub vegetation in the lands that cover the boundary of the A/R CDM project activity, or an examination of the current practice in the region in which mandatory laws or regulations requiring tree planting or establishment of tree/shrub vegetation apply reveals that those applicable mandatory legal or regulatory requirements are not systematically enforced and that non-compliance of those requirements is widespread;

[…]

Provision 4 Source 7, section 5.3 Procedure for the selection of the most plausible baseline scenario and demonstrate additionality, pages 9-10: "Project participants may either apply the simplified procedures in section 5.3.1 below or the procedures in section 5.3.2 to select the most plausible baseline scenario and demonstrate additionality.

5.3.1. Simplified procedures to identify the baseline scenario and demonstrate additionality

For the simplified procedure to demonstrate additionality, the project proponent shall refer to the methodological tool "TOOL32: Positive lists of technologies".

The baseline scenario for LFG is assumed to be the atmospheric release of the LFG or capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons.

If all or part of the electricity generated by the project activity is exported to the grid, the baseline scenario for all or the part of the electricity exported to the grid is assumed to be electricity generation in existing and/or new grid-connected power plants. If all or part of the electricity is supplied to off-grid application, the baseline electricity generation equipment is assumed to correspond to the default emission factor from Option B2 of the "Methodological tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation".

The baseline scenario for heat is assumed to be a new natural-gas-fired heat generation equipment with a default baseline efficiency of 100 per cent or with a

default baseline efficiency as provided in Option F of the “Tool to determine the baseline efficiency of thermal or electric energy generation systems”.

5.3.2. Procedures according to the “Combined tool to identify the baseline scenario and demonstrate additionality”

25. Identify the baseline scenario and demonstrate additionality using the “Combined tool to identify the baseline scenario and demonstrate additionality” and following the requirements below.

[…]

Provision 5 Source 1, Step 1b: Consistency with mandatory applicable laws and regulations, Paragraphs 16-18, page 9: “The alternative scenario(s) shall be followed with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.5 (This Step does not consider national and local policies that do not have legally-binding status).

If an alternative scenario does not comply with all mandatory applicable legislation and regulations, then show that, based on an examination of current practice in the country or region in which the mandatory law or regulation applies, those applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is widespread in the country. If this cannot be shown, then eliminate the alternative scenario from further consideration.

If the proposed project activity is the only alternative scenario amongst the ones considered by the project participants that follows all mandatory regulations with which there is general compliance, then the proposed CDM project activity is not additional.”

Provision 6 Source 1, Step 0: Demonstration whether the proposed project activity is the first-of-its-kind, page 7: “This step is optional. If it is not applied it shall be considered that the proposed project activity is not the first-of-its-kind.

This step serves for the demonstration of additionality by means of the first-of-its-kind approach.

If the proposed CDM project activity(ies) apply measure(s) that are listed in the “Methodological tool: Additionality of first-of-its-kind project activities”, then the latest version of the “Methodological tool: Additionality of first-of-its-kind project activities” available on the UNFCCC website shall be applied to demonstrate that the project activity is the first-of-its-kind.

If the proposed CDM project activity(ies) apply other measure(s)2 than those identified in the “Methodological tool: Additionality of first-of-its-kind project activities”, the project proponents shall propose an alternative approach for demonstrating that a project is a “first-of-its-kind” (equivalent of Step 0).

Outcome of Step 0:

Conclusion I: The proposed project activity is the first-of-its-kind.

Conclusion II: The proposed project activity is not the first-of-its-kind.

In both cases, proceed to Step 1“

Provision 7 Source 6, paragraphs 10-11, page 4: “When applying baseline and monitoring methodologies that refer to this tool, project activities and PoAs are deemed automatically additional if they exclusively apply the technologies listed under this section and demonstrate that they fulfil the related conditions specified in the same section […].

[…] 5.1. Waste handling and disposal

5.1.1. Landfill gas recovery and its gainful use […]

The project activities and PoAs at new or existing landfills (greenfield or brownfield) are deemed automatically additional, if it is demonstrated that prior to the implementation of the project activities and PoAs the landfill gas (LFG) was only vented and/or flared (in the case of brownfield projects) or would have been only vented and/or flared (in the case of greenfield projects) but not utilized for energy generation, and that under the project activities and PoAs any of the following conditions are met:

The LFG is used to generate electricity in one or several power plants with a total nameplate capacity that equals or is below 10 MW;

The LFG is used to generate heat for internal or external consumption;

The LFG is flared.”

Provision 8 Source 9, Section 5.2 “Simplified additionality and baseline”, paragraph 13, page 5: “Project proponents may apply the following simplified procedure for additionality demonstration and baseline:

(a) Demonstrate additionality by referring to the requirements in methodological tool “Positive lists of technologies”.

(b) If the LFG is used for heat and electricity generation within the project boundary, that component of the project activity may use a corresponding methodology under Type I project activities:

(i) If all or part of the electricity generated by the project activity is exported to the grid, the baseline scenario for all or the part of the electricity exported to the grid is assumed to be electricity generation in existing and/or new grid connected power plants. If all or part of the electricity is supplied to off-grid application, the baseline electricity generation equipment is assumed to correspond to the default emission factor from Option B2 of the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”;

(ii) The baseline scenario for heat is assumed to be a new natural-gas-fired heat generation equipment with a default baseline efficiency of 100 per cent or with a default baseline efficiency as provided in Option

F of the “Tool to determine the baseline efficiency of thermal or electric energy generation systems”.”

Provision 9 Source 5, section 5 “Methodology procedure”, Paragraphs 10-11, page 4: “Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

(a) Investment barrier: a financially more viable alternative to the project activity would have led to higher emissions;

(b) Technological barrier: a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions;

(c) Barrier due to prevailing practice: prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions;

(d) Other barriers: without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emissions would have been higher.

Documentation of barriers, […], is not required for the positive list of technologies and project activity types that are defined as automatically additional for project sizes up to and including the small-scale CDM thresholds (e.g. installed capacity up to 15 MW). For the positive list of technologies, the project proponent shall refer to

Provision 10 Source 10, section 5.2 “Identification of the baseline scenario and demonstration of additionality”, paragraph 14, page 8: “Identify the baseline scenario and demonstrate additionality using the “Combined tool to identify the baseline scenario and demonstrate additionality”, following the requirements below.”

Provision 11 Source 11, section 4.2 “Additionality”, paragraphs 15-16, page 6: “Project activities may demonstrate the additionality by showing that there is no regulation in the host country, applicable to the project site, that requires the collection and destruction of methane from livestock manure. If so, it is not required to apply the “Guidelines on the demonstration of additionality of small-scale project activities”.

This additionality condition also applies to Greenfield project activities. Furthermore, for project activities applying this methodology in combination with a Type I methodology, that has an energy component whose installed capacity is less than 5 MW, this procedure for additionality demonstration also applies to that component.”

Provision 12 Source 12, section 5.2 “Identification of the baseline scenario and demonstration of additionality”, paragraph 18, page 8: “Project participants shall apply the latest approved version of the “Combined tool to identify the baseline scenario and demonstrate additionality” with the following additional guidance to identify the baseline scenario and demonstrate additionality:”

Provision 13 Source 13, section II “Baseline methodology procedure - Procedure for the selection of the baseline scenario and the demonstration of additionality”, page 4:

The selection of the baseline scenario and the demonstration of additionality should be conducted using the “Combined tool to identify the baseline scenario and demonstrate additionality”.”

Assessment outcome

The carbon crediting program is assigned the following scores:

Establishment of natural forest: 3

Landfill gas utilization:

- With TOOL02: 3
- With TOOL32: 1

Industrial biodigesters fed with livestock manure:

- ACM0010: 3
- AMS-III.D
    - No Tool: 5
    - With TOOL21: 1
    - With TOOL32:1

Recovery of associated gas from oil fields: 3

Leak repair in natural gas transmission and distribution systems: 3

Justification of assessment

Establishment of natural forest: AR-ACM0003 provides two options for the identification of the baseline scenario and demonstration of additionality:

- Applying the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” (from here on A/R combined tool)
- Applying an approved standardized baseline appropriate to their project (Provision 1).

The A/R combined tool includes the mandatory sub-step 1b that assesses the consistency of credible alternative land use scenarios with enforced mandatory applicable laws and regulations. These provisions exclude mitigation activities from eligibility that are required by an existing legally binding mandate but allow for exemptions from this provision where mandates are systematically not enforced, and non-compliance is widespread in the country. This corresponds to a score of 3 in the scoring approach. Neither AR-ACM0003 nor the combined tool contain provisions that allow for exceptions from applying this sub-step (Provision 2).

The CDM “Standard for the Establishment of standardized baselines for afforestation and reforestation project activities under the CDM” includes a provision that specifies that standardized

baselines must not apply where mitigation activities from eligibility that are required by an existing legally binding mandate but allow for exemptions from this provision where mandates are systematically not enforced, and non-compliance is widespread in the country (Provision 3). This also corresponds to a score of 3 in the scoring approach.

All projects applying AR-ACM0003—regardless of the option selected for demonstration of additionality—are therefore assigned a score of 3.

Landfill gas utilization: ACM0001 provides two options for the selection of the most plausible baseline scenario and demonstrating additionality:

- The application of the "Combined tool to identify the baseline scenario and demonstrate additionality" (TOOL02)
- Simplified procedures using TOOL32 Positive list of technologies (Provision 4).

TOOL02 includes a provision that specifies that projects can be considered additional if, based on an examination of current practice in the country or region in which the mandatory law or regulation applies, the applicable mandatory legal or regulatory requirements are "systematically not enforced and that non-compliance with those requirements is widespread" in the country (Provision 5). TOOL02 includes an optional step 0 that allows project developers to establish additionality by demonstrating that the proposed activity is the first-of-its-kind. The box at the end of step 0 however clarifies that after demonstrating that a project activities meet the first-of-its-kind criteria, project proponents must continue with step 1 of the combined tool, which includes the provision outlined above (Provision 6). The provisions contained in TOOL02 therefore correspond to a score of 3.

TOOL32 assigns automatic additionality to landfill gas utilization projects if the project developer can demonstrate that, prior to the implementation of the project, landfill gas was only vented and/or flared (brownfield projects) or would have been only vented and/or flared but not utilized for energy generation (greenfield projects). Projects using TOOL32 to demonstrate additionality need to further meet at least one of the following conditions:

- The LFG is used to generate electricity in one or several power plants with a total nameplate capacity that equals or is below 10 MW;
- The LFG is used to generate heat for internal or external consumption;
- The LFG is flared (Provision 7).

When using TOOL32 to identify the baseline, the baseline scenario is assumed to be the atmospheric release of the LFG or capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons (Provision 4).

There is no further requirement to assess whether the project activity is required by laws or regulations when using TOOL32. Therefore, the possibility exists that project activities that meet the above-mentioned conditions are deemed to be additional although there is a legally binding mandate that requires their implementation. TOOL32 for example would not screen out project activities, where historically LFG was vented and/or flared but a new legal mandate requiring utilization recently entered into force. For these reasons the provisions of TOOL32 receive a score of 1.

AMS-III.G refers to the application of TOOL32 for the demonstration of additionality (Provision 9). Projects registering under AMS-III.G therefore receive a score of 1 due to the reasons outlined above.

Industrial biodigesters fed with livestock manure

ACM0010 requires the application of TOOL02 to demonstrate additionality. TOOL02 includes a provision that specifies that projects can be considered additional if, based on an examination of current practice in the country or region in which the mandatory law or regulation applies, the applicable mandatory legal or regulatory requirements are "systematically not enforced and that non-compliance with those requirements is widespread" in the country (Provision 5). TOOL02 includes an optional step 0 that allows project developers to establish additionality by demonstrating that the proposed activity is the first-of-its-kind. The box at the end of step 0 however clarifies that after demonstrating that project activities meet the first-of-its-kind criteria, project proponents must continue with step 1 of the combined tool, which includes the provision outlined above (Provision 6). The provisions contained in TOOL02 therefore correspond to a score of 3.

AMS-III.D provides two options to demonstrate additionality (Provision 11):

- Showing that there is no regulation in the host country, applicable to the project site, that requires the collection and destruction of methane from livestock manure. In these cases no further additionality tool has to be applied. These requirements correspond to a score of 5.
- Applying the "Guidelines on the demonstration of additionality of small-scale project activities (i.e. TOOL21). TOOL21 requires to either conduct a barrier analysis to demonstrate additionality. Project activities that are part of the positive list of technologies (TOOL32) are not required to perform the barrier analysis. In both cases a score of 1 applies, as legal requirements are not assessed in these cases.

Recovery of associated gas from oil fields: AM0009 requires the application of TOOL02 to demonstrate additionality. TOOL02 includes a provision that specifies that projects can be considered additional if, based on an examination of current practice in the country or region in which the mandatory law or regulation applies, the applicable mandatory legal or regulatory requirements are "systematically not enforced and that non-compliance with those requirements is widespread" in the country (Provision 5). TOOL02 includes an optional step 0 that allows project developers to establish additionality by demonstrating that the proposed activity is the first-of-its-kind. The box at the end of step 0 however clarifies that after demonstrating that project activities meet the first-of-its-kind criteria, project proponents must continue with step 1 of the combined tool, which includes the provision outlined above (Provision 6). The provisions contained in TOOL02 therefore correspond to a score of 3.

Leak repair in natural gas transmission and distribution systems: AM0023 requires the application of TOOL02 to demonstrate additionality. TOOL02 includes a provision that specifies that projects can be considered additional if, based on an examination of current practice in the country or region in which the mandatory law or regulation applies, the applicable mandatory legal or regulatory requirements are "systematically not enforced and that non-compliance with those requirements is widespread" in the country (Provision 5). TOOL02 includes an optional step 0 that allows project developers to establish additionality by demonstrating that the proposed activity is the first-of-its-kind. The box at the end of step 0 however clarifies that after demonstrating that project activities meet the first-of-its-kind criteria, project proponents must continue with step 1 of the combined tool,

which includes the provision outlined above (Provision 6). The provisions contained in TOOL02 therefore correspond to a score of 3.

Indicator 1.1.1.2

Relevant scoring methodology provisions

The methodology assesses the program provisions for changes in legal requirements.

Program requirements if new legal requirements enter into force which require the mitigation activity to be implemented	Score
The program immediately ceases issuance of credits when the new legal requirements enter into force, regardless of whether they are systematically enforced or not.	5
The program immediately ceases issuance of credits when the new legal requirements are systematically enforced.	3
The program ceases issuance of credits at the end of the current crediting period if new legal requirements entered into force, regardless of whether they are systematically enforced or not.	3
The program ceases issuance of credits at the end of the current crediting period if new legal requirements entered into force and if these are systematically enforced.	2
The program does not specifically address this matter or allows projects to continue to issue carbon credits for the remainder of the project lifetime.	1

Information sources considered

1 Decision 3/CMP.1 Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol https://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf#page=6

2 CDM Project standard for project activities – Version 02.0 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20181221092046526/Reg_stan04v02.pdf

3 Methodological Tool – Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period – Version 03.0.1 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf

4 ACM0001 – Version 19.0: Large-scale Consolidated Methodology Flaring or use of landfill gas https://cdm.unfccc.int/methodologies/DB/JPYB4DYQUXQPZLBDVPHA87479EMY9M

5 AR-ACM0003 – Version 02.0: A/R Large-scale Consolidated Methodology Afforestation and reforestation of lands except wetlands https://cdm.unfccc.int/methodologies/DB/C9QS5G3CS8FW04MYYXDFOQDPXWM4OE

6 AMS-III.G – Version 10.0: Small-scale Methodology Landfill methane recovery https://cdm.unfccc.int/methodologies/DB/0KHNES8D09H134V3TZDQ47C3LQL3H2

Relevant carbon crediting program provisions

Provision 1 Source 1, paragraph 49a, page 6: “Project participants shall select a crediting period for a proposed project activity from one of the following alternative approaches:

(a) A maximum of seven years which may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable; or

(b) A maximum of 10 years with no option of renewal."

Provision 2 Source 2, section 10 "Renewal of crediting period", paragraph 279, page 61: "To support a request for renewal of crediting period of a registered CDM project activity, the project participants shall, using the valid version of the applicable PDD form, **update the sections of the PDD of the project activity relating to the baseline**, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the crediting period, applying methodologies in one of the following manners: […]"

Provision 3 Source 2, section 10 "Renewal of crediting period", paragraph 280, page 62: "For renewal of crediting period of a registered CDM project activity, the project participants are not required to reassess the additionality of the project activity nor update the section of the PDD relating to additionality."

Provision 4 Source 3, section 10 "Renewal of crediting period", paragraphs 282-286, page 63: "The project participants shall demonstrate the validity of the original baseline or update it in accordance with paragraphs […] below.

To demonstrate the validity of the original baseline or its update, the project participants are not required to reassess the baseline scenario. Instead, the project participants shall assess the GHG emission reductions or net anthropogenic GHG removals that would have resulted from that scenario.

The project participants shall assess and incorporate the impact of national and/or sectoral policies and circumstances, existing at the time of requesting renewal of crediting period, on the current baseline GHG emissions, without reassessing the baseline scenario.

The requirements contained in paragraph 284 above are not applicable to a registered CDM project activity applying the valid version of an applicable approved standardized baseline that standardizes baseline scenario in accordance with paragraph 281 above.

If data and parameters used for determining the original baseline, that were determined ex ante and not monitored during the crediting period, are no longer valid, the project participants shall update such data and parameters in accordance with the "Methodological tool: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period"."

Provision 5 Source 3, section II, page 1: "This tool provides a stepwise procedure to assess the continued validity of the baseline and to update the baseline at the renewal of a crediting period, as required by paragraph 49 (a) of the modalities and procedures of the clean development mechanism.

The tool consists of two steps. The first step provides an approach to evaluate whether the current baseline is still valid for the next crediting period. The second step

provides an approach to update the baseline in case that the current baseline is not valid anymore for the next crediting period.

Step 1: Assess the validity of the current baseline for the next crediting period

The "Procedures for the renewal of the crediting period of a registered CDM project activity" approved by the CDM Executive Board require assessing the impact of new relevant national and/or sectoral policies and circumstances on the baseline.

The validity of the current baseline is assessed using the following Sub-steps:

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

If the current baseline complies with all relevant mandatory national and/or sectoral policies which have come into effect after the submission of the project activity for validation or the submission of the previous request for renewal of the crediting period and are applicable at the time of requesting renewal of the crediting period, go to Step 1.2.

If the current baseline does not comply with relevant mandatory national and/or sectoral policies, then assess based on the examination of current practice in the country or region in which the policies apply, whether those policies are systematically not enforced and that non-compliance with those requirements is widespread in the country or region.

If the current baseline is not in compliance with the relevant mandatory national and/or sectoral policies or if it cannot be shown that the policies are systematically not enforced and that non-compliance with those policies is widespread in the country or region, then the current baseline needs to be updated for the subsequent crediting period."

Provision 6 Source 4, Section 5.9 "Changes required for methodology implementation in 2nd and 3rd crediting periods", page 25: "Refer to the latest approved version of the methodological tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period".

Assessment outcome

The carbon crediting program is assigned a score of 1.

Justification of assessment

The CDM does not include general provisions that systematically check whether new legal requirements have come into force, or have been enforced, that would require the implementation of the project. This is checked neither at issuance of CERs nor at the renewal of crediting periods (Source 2).

However, the CDM has a number of provisions on assessing legal requirements in the context of assessing the baseline at renewal of crediting periods. For some project types - i.e. where the baseline scenario is not undertaking any investment - a re-assessment of whether the baseline is in compliance with legal requirements - could implicitly have the same effect as an assessment whether

the project would be required to be implemented due to legal requirements. If the baseline is no longer plausible because of legal requirements, the updated baseline may correspond to the project scenario, and hence carbon credits could no longer be issued to the project. In this way, a re-assessment of the baseline scenario could partially rule out projects that would be implemented due to legal requirements.

Whether such provisions would be effective, however, also depends on whether the baseline scenario is reassessed or only the baseline emission calculation, and whether an update of the baseline leads to a conclusive assessment whether the project would be implemented due to relevant legal requirements.

In the case of a landfill gas utilization project, for example, it is possible that venting of methane is no longer permitted. In this case, it may be plausible that flaring or utilization of the landfill gas are the only other alternatives. This would, however, not entail an assessment of whether landfill gas utilization may be required due to other legal requirements (e.g. an obligation to provide a certain amount of electricity from renewable or waste sources).

In the case of a renewable power generation plant, an assessment of the whether baseline is consistent with legal requirements could be interpreted as checking whether the grid emission factor is still valid, without reassessing the baseline scenario. In this case, the compliance of the project with respective legal requirements would not be assessed.

Decision 3/CMP.1 on the modalities and procedures for the CDM stipulates that for the renewal of the crediting period a designated operational entity needs to determine and inform the Executive Board of the CDM that the original project baseline is still valid or has been updated (Provision 1). The CDM Project Standard for Project Activities further specifies that a renewal of the crediting period requires an update of the PDD sections related to the baseline (Provision 2) but no reassessment of additionality (Provision 3). The provisions related to the update of the baseline however include a requirement to assess and incorporate the impact of national and/or sectoral policies and circumstances, existing at the time of requesting renewal of crediting period, on the current baseline GHG emissions (Provision 4). This requirement is further specified in the CDM Methodological Tool on the “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”. Provisions in the tool stipulate that if the current baseline is not in compliance with the relevant mandatory national and/or sectoral policies or if it cannot be shown that the policies are systematically not enforced and that non-compliance with those policies is widespread in the country or region, then the current baseline needs to be updated for the subsequent crediting period (Provision 5). It is noted that the methodological tool on the validity of the baseline refers to “mandatory national and/or sectoral policies” and not to “legal and regulatory requirements” as for example in the combined tool to identify the baseline and demonstrate additionality. The interpretation for this assessment is that national and sectoral policies would include legal and regulatory mandates. The CDM rules, however, explicitly exclude a re-assessment of the baseline scenario. This means that the baseline scenario would not be updated, even if it is legally required. The general CDM rules are thus not effectively assessing whether the project activity would be implemented due to legal requirements. There are also no additional requirements in the respective methodologies. The program therefore receives a score of 1 for the indicator.

Scoring results

According to the above assessment, the carbon crediting program achieves the following scores:

Efficient cookstoves: It is deemed very unlikely that legal requirements could exist that require their implementation. The project type is therefore assigned **a score of 5** for this sub-criterion.

Establishment of natural forests: It cannot be ruled out that the project type is required to be implemented due to legal requirements. The following scores are assigned for the indicators:

Indicator 1.1.1.1: **3**

Indicator 1.1.1.2: **1**

Applying the scoring methodology, this results in an overall score of **2.4** for the project type establishment of natural forests for this sub-criterion.

Landfill gas utilization*:* It cannot be ruled out that the project type is required to be implemented due to legal requirements. The following scores are assigned:

Indicator 1.1.1.1:

- Projects using TOOL02: **3**
- Projects using TOOL32: **1**

Indicator 1.1.1.2: **1**

Applying the scoring methodology, this results in the following overall scores for the project type landfill gas utilization for this sub-criterion:

- Projects using TOOL02: **2.4**
- Projects using TOOL32: **1**

Solar photovoltaic power: It is deemed very unlikely that legal requirements could exist that require their implementation. The project type is therefore assigned **a score of 5** for this sub-criterion.

Wind power (onshore): It is deemed very unlikely that legal requirements could exist that require their implementation. The project type is therefore assigned **a score of 5** for this sub-criterion.

Household biodigesters: It is deemed very unlikely that legal requirements could exist that require their implementation. The project type is therefore assigned **a score of 5** for this sub-criterion.

Industrial biodigesters fed with livestock manure: It cannot be ruled out that the project type is required to be implemented due to legal requirements. The following scores are assigned:

Indicator 1.1.1.1:

- Projects using ACM0010: 3
- Projects using AMS-III.D

- Projects using no tool: **5**
- Projects using TOOL32: **1**
- Projects using TOOL21: **1**

Indicator 1.1.1.2: **1**

Applying the scoring methodology, this results in the following overall scores for the project type industrial biodigesters fed with livestock manure for this sub-criterion:

- Projects using ACM0010: 3
- Projects using AMS-III.D
  - with no tool: **5**
  - with TOOL32: **1**
  - with TOOL21: **1**

Applying the scoring methodology, this results in the following overall scores of for the project type:

- Projects using ACM0010: 2.4
- Projects using AMS-III.D
  - with no tool: **3.8**
  - with TOOL32: **1**
  - with TOOL21: **1**

Recovery of associated gas from oil fields

Indicator 1.1.1.1: **3**

Indicator 1.1.1.2: **1**

Applying the scoring methodology, this results in an overall score of **2.4** for the project type.

Leak repair in natural gas transmission and distribution systems

Indicator 1.1.1.1: **3**

Indicator 1.1.1.2: **1**

Applying the scoring methodology, this results in an overall score of **2.4** for the project type.

Annex: Summary of changes from previous assessment sheet versions

The following table describes the main substantive changes implemented in comparison to the assessment from 31 May 2022.

Topic	Rationale
Score on cover sheet	Scores have been updated to include newly assessed project types
Plausibility assessment	Plausibility assessments were conducted for the new project types and results and justifications added.
Indicator 1.1.1.1	Provisions for the new project types have been added from the respective methodologies. Assessment outcomes and justifications have been added as well.
Scoring results	Section was updated to reflect the scores for the new project types. Bold font size has been added to project type names to increase readability.