ARTICLE 6.4 MECHANISM

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Standard

Setting the baseline in mechanism methodologies

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TABLE OF CONTENTS **Page**

1. INTRODUCTION 4

1.1. Scope 4

1.2. Entry into force 4

2. DEFINITIONS 4

3. APPLICABILITY 6

4. GENERAL PRINCIPLES AND REQUIREMENTS 6

4.1. Principles 6

4.2. General requirements 7

4.2.1. General requirements for quantification 7

4.2.2. Description of the pre-activity scenario 7

4.2.3. Data requirements for baseline setting and quantification 7

4.2.4. Standardization 8

4.2.5. Justification of methodological choices and assumptions 8

5. APPROACH TO SETTING THE CREDITING BASELINE 8

5.1. Summary of the step-wise approach to determining the crediting baseline 8

5.1.1. Step 1: Selection of one of the baseline approaches from paragraph 36 of the Rules, Modalities and Procedures 9

5.1.2. Step 2: Application of the selected baseline approach prior to downward adjustment 10

5.1.3. Step 3: Application of the downward adjustment 11

5.1.4. Step 4: Identification of a conservative business-as-usual baseline 11

5.1.5. Step 5: Comparison of the downward adjusted baseline and the conservative business-as-usual baseline 11

5.2. Application of the baseline approaches at different levels of aggregation 12

6. APPLICATION OF BASELINE APPROACHES FROM PARAGRAPH 36 OF THE RULES, MODALITIES AND PROCEDURES 12

6.1. Best available technology approach 13

6.1.1. Applicability 13

6.1.2. Level of aggregation at which best available technology is determined 13

6.1.3. Determination of the best available technology baseline scenario 14

6.1.4. Determination of baseline emissions or removals 15

6.2. Ambitious benchmark approach 15

6.2.1. Applicability 15

6.2.2. Determination of the baseline scenario and baseline emissions and/or removals 15

6.3. Existing actual or historical emissions approach 17

6.3.1. Applicability 17

6.3.2. Baseline scenario selection 17

6.3.3. Methods for quantification of baseline emissions and/or removals 18

7. DETERMINATION OF THE DOWNWARD ADJUSTMENT 18

7.1. Downward adjustment in the calendar year of the start date of the first crediting period 19

7.2. Downward adjustment in subsequent years 20

8. DETERMINATION OF A CONSERVATIVE BUSINESS-AS-USUAL BASELINE 22

9. COMPARISON AND SELECTION OF CREDITING BASELINE 25

APPENDIX 1. GENERAL REQUIREMENTS FOR MECHANISM METHODOLOGIES 26

1. Introduction

1.1. Scope

1. This standard sets out requirements for mechanism methodologies for setting the crediting baseline, including identifying the baseline scenario and determining baseline emissions and/or removals, and provides requirements for the determination of standardized baselines. It will be applied by proponents of mechanism methodologies in developing methodologies and by the Secretariat, the Methodological Expert Panel (MEP) and the Supervisory Body in assessing and considering mechanism methodologies for approval. The standard is not intended for the preparation of project design documents (PDDs) or monitoring reports.

2. Additional requirements for mechanism methodologies beyond setting the baseline are included in Appendix 1 to this document.

1.2. Entry into force

3. This document enters into force on 16 May 2025.

2. Definitions

4. The following definitions shall apply:

   (a) **Activity participant:** A public or private entity that participates in an Article 6.4 activity;

   (b) **Applicability conditions:** Conditions that specify contexts, configurations and cases in which a mechanism methodology can be applied to a proposed Article 6.4 activity while ensuring environmental integrity;

   (c) **Baseline geographical reference area:** The geographical area assessed for setting the crediting baseline;

   (d) **Best available technology (BAT):** The practice or technology in a given scope (e.g. sector and baseline geographical area) that:

      i. Provides a similar output as the Article 6.4 activity;

      ii. Represents an economically feasible and environmentally sound course of action;

      iii. Is available in the baseline geographical area, meaning accessible off the shelf, or via a tendering or direct contracting process, or by direct implementation by an end user within the boundary of potential Article 6.4 activities; and

      iv. Results in the lowest emissions or largest removals per unit of output among all practices and/or technologies that fulfil the conditions (i) to (iii).

(e) **Best performing comparable activities:** The activities that provide outputs within a top segment of performance in terms of greenhouse gas (GHG) emissions or removals per unit of output, considering all activities that provide similar outputs in a baseline geographical reference area;

(f) **Business-as-usual (BAU):** Plausible reference benchmark or scenario for GHG emissions or removals prior to or in the absence of the implementation of the proposed Article 6.4 activity. It may be a scenario, emission or removal level, or an emissions or removals intensity;

(g) **Crediting baseline:** Reference emissions or removals level against which the volume of emission reductions or net removals achieved by the Article 6.4 activity is quantified;

(h) **Legal requirements:** Laws, statutes, regulations, court orders, decrees, consent agreements, executive orders, permitting conditions or any other legally binding mandates, noting that regulatory environments may vary;

(i) **Level of aggregation:** The extent to which consolidation of information from any parts or units to form a collective whole is undertaken;

(j) **Level of service**: the quality, reliability and scale of an output provided by an Article 6.4 activity and/or in the baseline scenario;

(k) **Output**: Each good or service[1] provided by the Article 6.4 activity and/or in the baseline scenario, as specified in the mechanism methodology;

(l) **Policies:** All national or sub-national policies that are applicable to the relevant activity and its alternatives, including: policies and legal requirements; subsidies and incentives (e.g., incentives from carbon pricing schemes such as emission trading schemes or from guarantees of origin); taxes and tax breaks; fees; performance standards; or other specified instruments or means of implementation. This shall also include any specific national or sub-national targets for the sector or the type of activity, as long as these are supported by policy frameworks for implementation, but not general goals (e.g., a national emissions target) that are not specific to the sector or type of activity;

(m) **Pool of users:** For activities related to outputs, the pool of users consists of the user(s) supplied with the outputs by the activity;

(n) **Remaining lifetime:** The period during which an equipment would continue operating and/or a certain practice would remain in place without undergoing major repair or overhaul as specified in the mechanism methodology, given limitations such as technical lifetime, economic lifetime, legal requirements, policies, or any other factor which would lead to the discontinuation of the use of the equipment and/or practice;

(o) **Sector:** A segment of a national economy that delivers defined output(s) (e.g. municipal waste management, household cooking energy, electricity, residential cooling, freight transportation);

[1] For example, electricity, cooking energy, municipal waste management, and so forth.

(p) **Standardized baseline:** A standardization developed on a subnational, national, or group-of-Parties basis rather than on activity-specific basis to facilitate the determination of the baseline, calculation of GHG emission reductions or removals and/or the determination of additionality for Article 6.4 activities, while ensuring environmental integrity within the scope of the standardized baseline.[2]

3. Applicability

5. This version of the standard is applicable to proposed mechanism methodologies for activities undertaken at the project level. The standard may be amended in the future to also cover methodologies addressing mitigation actions at other scales (e.g., programmes of activities, policies, sectoral approaches, etc). The standard further applies for the development of standardized baselines.

6. The standard applies to mechanism methodologies related to both emission reductions and net removals. The standard may be amended in the future to incorporate further considerations for activities involving removals.

7. The standard applies to mechanism methodologies and methodological tools. For simplicity, only the term mechanism methodology is used in this standard.

4. General principles and requirements

4.1. Principles

8. The following principles shall be applied in setting crediting baselines and standardized baselines to ensure that information provided is a true and fair account. These principles shall be the basis for and guide the development of mechanism methodologies and standardized baselines:

(a) **Accuracy:** Bias and uncertainties in both quantitative and non-quantitative information shall be reduced as far as is practical;

(b) **Below business as usual:** The determined crediting baseline shall be below a conservatively determined BAU emissions level;

(c) **Completeness:** All relevant information to support the baseline setting shall be included;

(d) **Conservativeness:** In the context of baseline setting, conservativeness is the use of data, parameters, assumptions, and methods to ensure that baseline emissions are not overestimated, and baseline removals are not underestimated. Only credible sources shall be used that are appropriate to the context of the type of activity;

(e) **Consistency:** The application of methods ensures consistent results across similar circumstances;

[2] Based on the definition provided in A6.4-STAN-METH-001, para. 63. Available at: https://unfccc.int/sites/default/files/resource/A6.4-STAN-METH-001.pdf

(f) **Encourage ambition over time:** Crediting baselines shall decrease over time to encourage ambition of activities;

(g) **Real:** The results of activities represent actual tonnes of GHG emission reductions or net removals derived from credible methods for estimating mitigation outcomes;

(h) **Relevance:** Data, parameters, assumptions, and methods used for setting the crediting baseline shall not be misleading and only verifiable data and parameters that may have an impact on the outcome of setting the crediting baseline shall be included;

(i) **Transparency:** Sufficient and appropriate information shall be disclosed to allow intended users to make decisions with reasonable confidence. Transparency relates to clearly stating all data, parameters, assumptions and methods applied; referencing background material; stating documentation changes and stating and justifying all data, parameters, methods and assumptions made such that the outcomes can be reproduced.

4.2. General requirements

4.2.1. General requirements for quantification

9. Mechanism methodologies shall satisfy the general requirements for mechanism methodologies included in Appendix 1 of this standard.

4.2.2. Description of the pre-activity scenario

10. Mechanism methodologies shall require activity participants to describe the pre-activity scenario in the PDD. The pre-activity scenario corresponds to the circumstances immediately prior to the implementation of the Article 6.4 activity and shall be the existing conditions at the site where the activity will be implemented; or the conditions in the absence of policies that refer to or formally integrate the mechanism as an instrument for implementation or, for the case of distributed technologies for households, communities, and/or small and medium enterprises, the existing conditions for providing the activity output(s) in the baseline geographical reference area.

4.2.3. Data requirements for baseline setting and quantification

11. Mechanism methodologies shall specify the assumptions, parameters, data sources and key factors used for determining the baseline scenario and quantifying baseline emissions and/or removals and specify the related requirements with regard to data quality, vintage, availability and credibility.

12. Mechanism methodologies shall require data to be sourced from the most appropriate data source. This may include internal data of the activity participants or publicly available information provided by third parties. Only credible sources shall be used that are appropriate to the context of the type of activity. Relevant third-party data sources may include IPCC publications, peer-reviewed scientific literature, test results following accepted standards performed by accredited entities, reports/statistics published by governments, multilateral entities, or industry or sector organizations, as applicable.

13. Mechanism methodologies shall require activity participants and developers of standardized baselines to transparently list and describe the sources of data considered

and justify the vintage, relevance, accuracy, and conservativeness of the choices made. The data used shall be referenced. In cases where values, approaches or data sources are only applicable to specific scopes (e.g., geographic or sectoral scopes), the mechanism methodologies or standardized baselines shall clearly describe the scope of applicability of the respective values, approaches or data sources.

14. Mechanism methodologies shall determine the baseline scenario and the baseline emissions and/or removals in a transparent manner. They shall also take into account the uncertainty associated with setting the baseline scenario and quantifying baseline emissions and/or removals, consistent with relevant IPCC guidelines. The consideration of uncertainty shall include all causes of uncertainty, including assumptions, equations or models, parameters and measurements. The consideration of uncertainty may, however, focus or be limited to those causes of uncertainty that are most relevant in the context of the Article 6.4 activity (e.g., the uncertainty of minor baseline emission sources may not need to be considered). In the process of quantification of uncertainties, expert judgment may be used, among other approaches provided by relevant IPCC guidelines.

15. Different approaches may be pursued to address uncertainty. These may include approaches that address overall uncertainty or approaches that address uncertainty separately for the baseline scenario and the quantification of baseline emissions and/or removals. For example, in the case of uncertainties in the selection of the baseline scenario, the most conservative scenario may be selected among different plausible scenarios; whereas, for determining the baseline emissions and/or removals the uncertainty may be quantified using approaches such as formulas for error propagation.

4.2.4. Standardization

16. Standardization of baseline scenarios and crediting baselines in mechanism methodologies is encouraged as this avoids the risk of selection bias in using project-specific approaches, which could lead to overestimation of baseline emissions or underestimation of baseline removals. Such standardization may be achieved by the application of the BAT or ambitious benchmark approach to baseline setting or through the use of default values.

4.2.5. Justification of methodological choices and assumptions

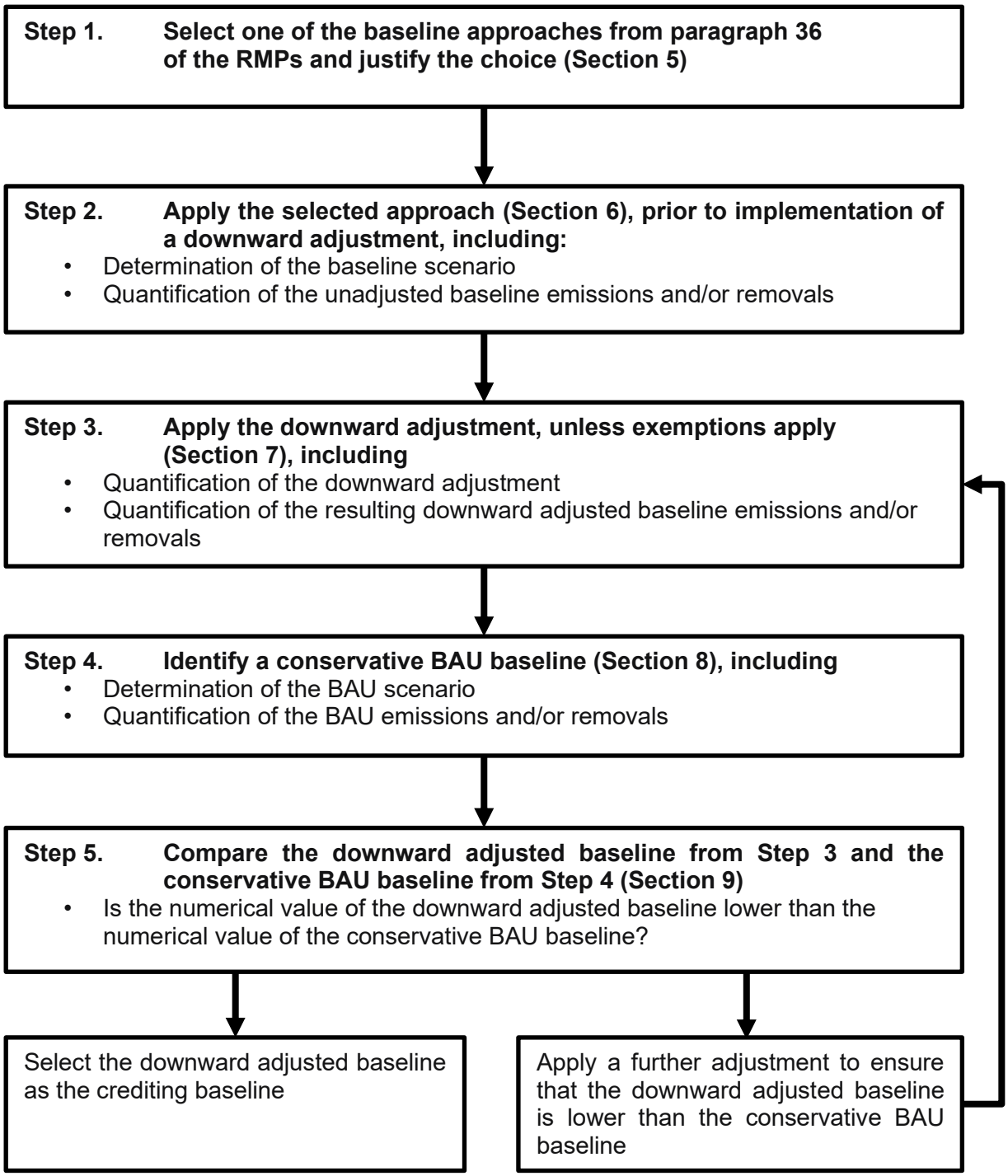
17. The proponent of a mechanism methodology shall justify all methodological choices and assumptions made in determining the baseline scenario and the crediting baseline, including how the choices and assumptions ensure that the principles and requirements in this section and the requirements in Appendix 1 are satisfied.

5. Approach to setting the crediting baseline

5.1. Summary of the step-wise approach to determining the crediting baseline

18. Mechanism methodologies shall specify the procedure for determining the crediting baseline, in accordance with the step-wise approach in figure 1 and described below.

Figure 1. Procedure for determining the crediting baseline[3]



[3] Note that this procedure is applied both ex-ante in the project design document and ex-post in monitoring reports. Further details on the timing and the ex-post application is included in sections 8 to 9. For ex-post application of the procedure, in Step 5, the lower between the conservative BAU and the downward adjusted baseline is selected as the crediting baseline for each calendar year during the crediting period, rather than going back to Step 3.

5.1.1. Step 1: Selection of one of the baseline approaches from paragraph 36 of the Rules, Modalities and Procedures

19. In Step 1, mechanism methodologies shall specify which of the approaches from paragraph 36 of the Rules, Modalities and Procedures (RMPs) is selected for determining the crediting baseline for the Article 6.4 activity. Mechanism methodologies shall apply one of the three approaches specified in paragraph 36 of the RMPs for setting the baseline scenario for each of the components of the activity (e.g., for the capture of landfill gas and its use for energy generation, one baseline approach may be applied for the capture of landfill gas and a different baseline approach may be applied for energy generation). The selected approach shall satisfy the applicability conditions provided for the relevant approach in section 6 below. The proponent of the mechanism methodology shall also consider the guidance provided in section 6 on which approaches may be best suited under different circumstances and justify the appropriateness of the choice among approaches (i) to (iii) of paragraph 36 of the RMP.

5.1.2. Step 2: Application of the selected baseline approach prior to downward adjustment

20. In step 2, mechanism methodologies shall specify how the selected approach, prior to any downward adjustment, is applied to determine the baseline scenario and the baselines emissions and/or removals occurring in the determined baseline scenario.

21. Mechanism methodologies shall define and justify, or require the activity participants to define and justify, the baseline geographical reference area considering the main baseline sources or sinks. The baseline geographical reference area may be global, regional, national, sub-national or site-specific. An Article 6.4 activity type that supplies a global pool of users with a highly internationally traded good (e.g., aluminium) may need to consider global conditions when setting the crediting baseline. On the contrary, some Article 6.4 activity types may only affect baseline emissions within a very restricted geographical scope or even at a specific site[4].

22. To determine the baseline scenario, the mechanism methodology shall either:

    (a) Specify and justify the baseline scenario; or

    (b) Include a stepwise procedure for how activity participants or host countries shall determine the baseline scenario.

23. The procedure and methodological approaches for paragraph 22 shall follow the requirements set out in section 6 of this standard.

24. Mechanism methodologies may either use separate approaches to demonstrate additionality and determine the baseline scenario or use a combined approach that both demonstrates additionality and determines the baseline scenario, depending on the approach selected. Specifically, it may be possible to use BAT or an ambitious benchmark to simultaneously determine the baseline scenario and apply “performance-based approaches” in demonstrating additionality (refer to the “Standard: Demonstration of additionality in mechanism methodologies”). Where a combined approach is used, both

[4] For example, in the case of switching to a low-emission energy source or feedstock in a specific plant, only site-specific conditions may need to be considered when setting the crediting baseline.

this standard and the standard “Demonstration of additionality in mechanism methodologies” shall apply.

25. Mechanism methodologies shall specify the methods for quantification of the baseline emissions and/or removals. Mechanism methodologies shall specify to which potential baseline scenarios its quantification methods are applicable. The methodological approaches shall follow the requirements set out in section 6 of this standard.

26. Under all three approaches in paragraph 36 of the RMPs, mechanism methodologies shall determine whether any trends in the emissions and removals, or the emissions or removals intensity (i.e., emissions or removals per unit of output), over time should be incorporated in the baseline quantification. Such trends may, inter alia, arise from technological improvements over time or occur due to policies. This is necessary if such trends have a material impact on the emissions and removals, or the emissions or removal intensity, in the baseline scenario. Where such trends are relevant, mechanism methodologies may reflect such trends by determining a baseline that declines over time or by setting the baseline at a sufficiently ambitious level to address any such trends.

5.1.3. Step 3: Application of the downward adjustment

27. In step 3, mechanism methodologies shall specify how the downward adjustment shall be determined, including the quantification of the downward adjustment and the quantification of the resulting downward adjusted baseline.

28. Where baseline approaches from RMP paragraph 36 (i) or (ii) have been selected, exemptions from the downward adjustment may apply in particular circumstances, subject to the provisions in section 7.2. Where such exemptions are proposed, the proponent of the mechanism methodology shall provide appropriate justification.

29. The procedure and methodological approaches to determine the downward adjustment shall follow the requirements set out in section 7.

30. The downward adjusted baseline shall be determined as the baseline emissions and/or removals determined in Step 2, reduced by the quantified downward adjustment determined in accordance with the requirements in section 7. Note that for both emissions and removals baselines, the downward adjustment is subtracted, noting that removals shall be assigned a negative value and emissions a positive value.

5.1.4. Step 4: Identification of a conservative business-as-usual baseline

31. In step 4, mechanism methodologies shall specify how a conservative business-as-usual (BAU) baseline shall be determined, including the determination of the BAU scenario and the quantification of the emissions and/or removals occurring in the BAU scenario. The methodological approaches shall follow the requirements set out in section 8.

5.1.5. Step 5: Comparison of the downward adjusted baseline and the conservative business-as-usual baseline

32. In Step 5, mechanism methodologies shall require activity participants to compare the downward adjusted baseline and the conservative BAU baseline and specify the procedure and methodological approaches to select the crediting baseline following the requirements set out in section 9.

5.2. Application of the baseline approaches at different levels of aggregation

33. The baseline scenario or parameters to quantify crediting baseline for emissions and/or removals, such as baseline emission factors, may be applied at different levels and by different entities:

    (a) **Proponent of the mechanism methodology:** The proponent of a mechanism methodology may determine the baseline scenario or parameters to quantify baseline emissions and/or removals, for all, or a subset of, the potential Article 6.4 activities that are eligible under the methodology. For example, a mechanism methodology may determine the baseline scenario as the consumption of power from the electric grid and may accordingly provide methods to determine the grid emission factor to quantify baseline emissions. The proponent of the mechanism methodology shall provide documented evidence and justifications in the methodology that the scenario and/or parameters are applicable for the relevant activities. The mechanism methodology may then state that these matters are deemed to be applicable for the relevant activities, as long as the applicability criteria or conditions specified in the methodology are satisfied. The mechanism methodology may need to be regularly revised to update the underlying analysis. The proponent of the mechanism methodology shall therefore specify the duration of the validity of the proposed methodology (e.g., three years). Where the application of the standardization is mandatory, this shall be explicitly stated in the mechanism methodology;

    (b) **Activity participants:** The proponent of a mechanism methodology may specify in the methodology how the baseline scenario shall be determined and/or how baseline emissions and/or removals shall be quantified by each individual activity applying the methodology. This procedure shall then be applied by each proposed Article 6.4 activity. For example, a methodology may provide a method for how each activity shall quantify existing actual or historical emissions and a downward adjustment factor for them;

    (c) **Host countries:** The proponents of a mechanism methodology shall specify in the methodology which approaches, parameters or conditions may or shall be demonstrated through the submission of a proposed standardized baseline by host countries. This may include standardization in relation to baseline setting, baseline quantification, or additionality demonstration. Standardization could also relate only to a specific parameter, such as the grid emission factor or the fraction of non-renewable biomass. Where the application of the standardized baseline is mandatory, this shall be explicitly stated in the standardized baseline.

6. Application of baseline approaches from paragraph 36 of the Rules, Modalities and Procedures

34. This section sets out how the approaches for setting the baseline referred to in paragraph 36 of the RMP shall be implemented in mechanism methodologies. The section complements the requirements set out in Step 2 of section 5.

6.1. Best available technology approach

6.1.1. Applicability

35. Mechanism methodologies may determine the baseline using this approach where the following applies:

    (a) The emissions or removals per unit of output are determined primarily by the technology(ies) and/or practice(s) used in the Article 6.4 activity; and

    (b) Best available technology (BAT) can be determined with the available data.

36. This approach may be particularly suitable where:

    (a) An activity consists of a single technology and/or practice (e.g., substitution/installation of new equipment such as clean cooking activities); and/or

    (b) The activity and alternative technologies and/or practices provide reasonably homogeneous outputs (i.e., they produce similar outputs for the pool of users).

37. If the proposed mechanism methodology falls within the scope of the sector or activity type identified by the host party to apply BAT as default approach, then only BAT is applicable.

6.1.2. Level of aggregation at which best available technology is determined

38. Mechanism methodologies shall determine, or provide a procedure for activity participants to determine, the applicability of the BAT baseline, including:

    (a) Geographic scope;

    (b) Technologies and/or practices for which it is applicable; and

    (c) Validity over time.

39. The BAT approach may be applied at different levels and by different entities in line with the description in Section 5.2 above, including by the proponent of the mechanism methodology, the activity participant, or by host Parties. Next to such bottom-up approaches, the Supervisory Body may determine a BAT baseline following a top-down process. BATs determined by these entities shall have the following geographic scopes:

    (a) Supervisory Body: global, or a narrower scope set during the determination of the BAT;

    (b) Host Party: the national boundaries of the Party, or a sub-national scope within the national boundaries;

    (c) Mechanism methodology: the appropriate geographical area as determined in the mechanism methodology, or a narrower scope specified in the mechanism methodology for a subset of the potential users;

    (d) Activity participants: the location of the corresponding Article 6.4 activity, or as otherwise specified in the procedure of the mechanism methodology.

6.1.3. Determination of the best available technology baseline scenario

40. The baseline scenario based on BAT shall be identified as:

    (a) An approved BAT determined by the Supervisory Body or by host Parties; or

    (b) A BAT specified by the mechanism methodology or determined by the activity participants following a procedure in the mechanism methodology.

41. When considering whether a technology and/or practice is an economically feasible course of action, mechanism methodologies shall consider whether the technology and/or practice is one that will typically provide sufficient returns to cover investment, operations & maintenance costs.

42. For technologies and/or practices applied in households, the mechanism methodology shall define "economically viable course of action" based on the type of activity and characteristics of the users. The definition may be based on the commonly experienced costs associated with the technology and/or practice and shall be based on an investment analysis applying financial parameters that reflect access to finance by households in a manner that does not overestimate financial barriers, and other relevant considerations.

43. When considering whether a technology and/or practice is an environmentally sound course of action, mechanism methodologies shall consider whether the technology and/or practice is in line with laws and regulations on environmental protection in the applicable geographical area and seeks to reasonably minimize environmental harm.[5]

44. Mechanism methodologies shall specify the appropriate baseline geographic reference area for determining the BAT or provide for principles and requirements that activity participants shall apply to establish this area with proper justification.

45. The definition of BAT specifies that the technology and/or practice "is available in the baseline geographical area, meaning accessible off the shelf, or via a tendering or direct contracting process, or by direct implementation by an end user within the boundary of potential Article 6.4 activities". Mechanism methodologies shall consider that when the Article 6.4 activity type is greenfield and may displace the implementation of new capacity, then availability relates not just to the specific activity participant, but to any entities that may implement similar technologies and/or practices; whereas, when the Article 6.4 activity type is implemented within existing installations, the availability may be limited to those technologies and/or practices available to the activity participants.

46. When the BAT is specified in the mechanism methodology or by the activity participants following the procedure in the mechanism methodology, then the BAT shall be determined by applying at least the following steps:

    (a) Define the technology(ies) and/or practice(s) used in the Article 6.4 activity, their output(s), users, sector and, where relevant, market penetration;

    (b) Identify the available technologies and/or practices (and their combinations) in line with the definitions in this standard for supplying the pool of users in the baseline geographical reference area, at the scale required for implementation at a similar level to the activity;

[5] As assessed on a mechanism methodology basis or further defined by the Supervisory Body.

(c) Identify which of these available technologies are environmentally sound;

(d) Identify which of the environmentally sound technologies are also economically viable;

(e) Define the emissions or removals intensity of each of the remaining technologies identified in step (d) above as tonnes of carbon dioxide equivalent (tCO2-eq) per unit of output, based on the average conditions of the technology in the baseline geographical reference area;

(f) Identify the remaining technology from step (e) above with the best emissions or removals intensity. This technology constitutes the BAT and its emission or removals intensity forms the basis for the baseline.

6.1.4. Determination of baseline emissions or removals

47. The mechanism methodology shall define the procedures to quantify the baseline emissions and/or removals. When the baseline scenario is set using BAT, then the quantification of the baseline emissions and/or removals shall also be derived using the emissions or removals intensity (as tCO_2-eq per unit of output) of the identified BAT. However, approaches other than BAT may be used to determine other parameters required to quantify the baseline emissions and/or removals.

48. The BAT may need to be regularly revised to update the underlying analysis. The proponent of the mechanism methodology shall therefore specify the duration of the validity of the proposed methodology.[6]

6.2. Ambitious benchmark approach

6.2.1. Applicability

49. Mechanism methodologies may determine the baseline using this approach where reliable data on best performing comparable activities providing similar outputs is available and permits a conservative and reliable estimation of the baseline.

50. This approach may be particularly suitable where:

(a) The sector is characterized by homogeneous outputs, i.e., if there are similar outputs with a similar level of service for the pool of users; and/or

(b) The emissions or removals per unit of output depend on multiple factors (inter alia, technology and/or operational practices, fuels, feedstocks, local circumstances such as climatic conditions).

6.2.2. Determination of the baseline scenario and baseline emissions and/or removals

51. The baseline scenario based on an ambitious benchmark shall be identified as the average emissions or removals level of the best performing comparable activities providing similar outputs in a defined scope in similar social, economic, environmental, and technological circumstances. Mechanism methodologies shall further specify this

[6] In case the validity of a BAT expires, users of the mechanism methodology may propose a request for revision to update the underlying analysis and validity.

approach and justify the methodological choices made, including specification of the criteria for similarity of circumstances.

52. Mechanism methodologies shall either directly set the ambitious benchmark, or define a procedure that activity participants shall apply for setting the crediting baseline based on an ambitious benchmark, considering the following steps:[7]

(a) Define and justify the appropriate baseline geographical reference area for the type of technology and/or practice;

(b) Identify all technologies and/or practices (e.g., types of industrial plants, types of household units, as applicable to the activity type) that are providing similar output in the baseline geographical reference area in similar social, economic, environmental, and technological circumstances[8];

(c) Specify which comparable activities (e.g., individual installations or units such as industrial plants, households) in the baseline geographical reference area shall be included in the analysis, taking into account the type and characteristics of the Article 6.4 activity. For example, if the Article 6.4 activity consists of the installation of greenfield plants, then only recently built installations shall be included in the analysis. For brownfield Article 6.4 activities (e.g., energy efficiency improvements), existing installations may be considered, depending on the circumstances. Similarly, only activities of a similar size (e.g., plants above a certain threshold) or within certain locations (e.g., only households in rural areas) may be considered, depending on the context of the Article 6.4 activity. If an Article 6.4 activity replaces existing installations while at the same expanding the capacity, comparable activities shall include installations, or combinations of installations, that can provide the same level of service as the Article 6.4 activity;

(d) Select a suitable indicator for determining the performance of the comparable activities (e.g. tonnes of CO_2 equivalent per unit of output, energy efficiency of appliances);

(e) Determine the appropriate time period for which available performance data for all identified technologies and/or practices shall be included. In some cases, one year may be an appropriate period In cases where the performance varies significantly between calendar years (e.g., due to differences in climatic conditions such as precipitation), an appropriate multi-year period (e.g., three years) shall be selected. The choice shall be appropriately conservative and be justified;

(f) Collect recent performance data for the comparable activities of the identified technologies and/or practices in the baseline geographical reference area;

[7] Mechanism methodologies may propose alternative approaches towards determining an ambitious benchmark.

[8] For example, for cement for building construction applications, the technologies are those being applied for building construction with similar structural capabilities, e.g., other cement production for concrete-based construction, wood-frame construction, steel-frame construction, masonry. For another example, metal-alloy production, the technologies are those being applied for the same metal-alloy production.

(g) Prepare a performance distribution curve, using the selected indicator such as tonnes of CO_2 equivalent per unit of output, for the total amount of output provided by the comparable activities in the baseline geographical reference area;

(h) Specify how to define the group of best performing comparable activities bounded at maximum by the 20th percentile of the distribution curve or lower (e.g., 10th percentile, 5th percentile), and justify the choice;

(i) Calculate the weighted average (by output) performance of all the best performing comparable activities including and beyond the selected percentile, using the selected indicator such as tonnes of CO_2 equivalent per unit of output.

53. The value determined in sub-bullet (h) constitutes the ambitious benchmark and shall form the basis for quantifying the baseline emissions and/or removals.

54. Mechanism methodologies shall define the methods for quantification of the ambitious benchmark baseline. When the baseline scenario is set using an ambitious benchmark, then the baseline emissions and/or removals shall also be derived using the benchmark. However, other parameters needed to quantify baseline emissions and/or removals may be derived using other approaches (for example, an ambitious benchmark for the energy efficiency of comparable activities may be combined with a default value for the specific GHG intensity per unit of energy).

55. When the ambitious benchmark is determined by activity participants, by applying a procedure defined in a mechanism methodology, the mechanism methodology shall specify which type of data sources may be used by activity participants. The mechanism methodology should aim to ensure that the data is both of high quality and recent, preferably with a vintage of no more than 3 years prior to the year in which the PDD is submitted for global stakeholder consultation.

6.3. Existing actual or historical emissions approach

6.3.1. Applicability

56. Mechanism methodologies may determine the baseline using this approach where there is limited data availability on the emissions or removals performance from similar activities in the sector.

57. This approach may be particularly suitable where:

(a) Emissions or removals per unit of output are dependent on factors that are highly activity- or site-specific; and/or

(b) Sector data shows strongly heterogeneous circumstances.

58. Where an Article 6.4 activity replaces specific equipment that was used in the pre-project scenario and could continue to be used, a baseline scenario determined using this approach shall only remain valid until, at maximum, the end of the reasonably expected remaining lifetime of the equipment that was used in the pre-activity scenario.

6.3.2. Baseline scenario selection

59. The baseline scenario may be identified based on existing actual or historical emissions.

60. The mechanism methodology shall specify a pre-determined baseline scenario or contain a procedure to determine the baseline scenario. Possible baseline scenarios may include:

    (a) The continuation of the pre-activity scenario up to a certain point in time (for example, up to the time at which a retrofit would have occurred);

    (b) A dynamic baseline scenario over time (for example, if a gradual shift away from the pre-activity scenario is observed);

    (c) The retrofit or replacement of equipment that has been used in the pre-activity scenario;

    (d) The implementation of the Article 6.4 activity at a later point in time.

6.3.3. Methods for quantification of baseline emissions and/or removals

61. The mechanism methodology shall define the methods to quantify the baseline emissions and/or removals as tCO_2-eq or the baseline emissions or removals intensity as tCO_2-eq per unit of output. The determination shall be consistent with the identified baseline scenario. The baseline may be derived using the following general methods:

    (a) **Site-specific historical data:** Where this method is used, the mechanism methodology shall address issues related to the minimum number of historical years to consider, year-on-year variability, any trends in the historical data and the need for the use of factors to account for improvements in performance that may occur in the baseline scenario over time;

    (b) **Control group:** Where this method is used, the mechanism methodology shall establish requirements related to selection of the control group; shared characteristics between the activity and control groups such as location, pre-activity and project technologies and/or practices, and socio-economic circumstances; and statistical tests for similarity between the control and activity group;

    (c) **Model:** Where this method is used, the mechanism methodology shall address the selection, calibration, capabilities, credibility and conservativeness of models; and

    (d) **Default factors:** Where this method is used, the mechanism methodology shall specify the source of the default factors used and ensure their relevance and conservativeness.

7. Determination of the downward adjustment

62. Mechanism methodologies shall encourage ambition through setting crediting baselines below BAU and increasing the ambition of crediting baselines over time. Therefore, mechanism methodologies shall include factors or quantitative methods for downward adjustment appropriate to the sector, Article 6.4 activity type and scale of the activity. The factors or quantitative methods shall be based on clear and objective criteria and shall result in a downward adjustment that ensures the selected baseline is below BAU and encourages ambition over time.

7.1. Downward adjustment in the calendar year of the start date of the first crediting period

63. For baselines determined based on BAT or an ambitious benchmark, no downward adjustment shall apply in the calendar year of the start date of the first crediting period.

64. For baselines determined based on existing actual or historical emissions, the downward adjustment in the calendar year of the start of the first crediting period shall be determined as follows:

(a) Through the following step-wise procedure:

i. Determine the uncertainty at the lower bound of the uncertainty interval relative to the central estimate of the ex-ante quantified unadjusted net baseline emissions and/or removals at 95% confidence level during the first crediting period ($UNC_{BE\ act/hist,CP1}$). The determination of the uncertainty shall consider all causes of uncertainty as per paragraph 13 of section 4 in Appendix 1;

ii. Determine the downward adjusted baseline emissions and/or removals based on uncertainty for the calendar year of the start date of the first crediting period ($BE_{adj,U,y}$), as follows[9];

$$BE_{adj,UNC,y} = BE_{Act/Hist,y} * (1 - UNC_{BE\ act/hist,CP1}) \quad \text{Equation (1)}$$

Where:

$BE_{adj,UNC,y}$	=	Downward adjusted baseline emissions and/or removals based on uncertainty in year *y*
$BE_{Act/Hist,y}$	=	Unadjusted existing actual or historical net baseline emissions and/or removals in year *y*
$UNC_{BE\ act/hist,CP1}$	=	Uncertainty at the lower bound of the uncertainty interval relative to the central estimate of the ex-ante quantified unadjusted net baseline emissions and/or removals during the first crediting period (fraction)
y	=	Calendar year of the start date of the first crediting period

iii. Determine the minimum downward adjusted baseline emissions and/or removals for the calendar year of the start date of the first crediting period ($BE_{adj,min,y}$), as follows;

$$BE_{adj,min,y} = BE_{Act/Hist,y} - \left(BE_{Act/Hist,y} - AE_y\right) * 0.1 \quad \text{Equation (2)}$$

Where:

$BE_{adj,min,y}$	=	Minimum downward adjusted baseline emissions and/or removals in year *y*.

[9] Where, for the uncertainty of a central value, the absolute upper bound is a positive number and the absolute lower bound a negative number, or vice-versa, further guidance will be developed.

$BE_{Act/Hist,y}$	=	Unadjusted existing actual or historical net baseline emissions and/or removals in year *y*
AE_y	=	Ex-ante estimated activity emissions and/or removals in year y
y	=	Calendar year of the start date of the first crediting period

iv. Compare the downward adjusted baseline emissions and/or removals based on uncertainty ($BE_{adj,UNC,y}$) and the minimum downward adjusted baseline emissions and/or removals ($BE_{adj,min,y}$) and select the lower as the downward adjusted baseline;

$$BE_{adj,y} = \min\left(BE_{adj,min,y}, BE_{adj,UNC,y}\right) \quad \text{Equation (3)}$$

Where:

$BE_{adj,y}$	=	Downward adjusted baseline emissions and/or removals in year y
y	=	Calendar year of the start date of the first crediting period

OR

(b) Through another approach proposed in the mechanism methodology, considering the minimum downward adjustment described in the method above.

7.2. Downward adjustment in subsequent years

65. For all three baseline approaches in paragraph 36 of the RMPs (i.e., BAT, ambitious benchmark, and existing actual or historical emissions), a downward adjustment shall apply in all calendar years following the start date of the first crediting period, unless an exemption in specific circumstances is approved by the Supervisory Body.

66. Such exemptions shall only apply to baselines based on BAT or ambitious benchmarks. Economic viability could be a consideration for exemptions, for example, where the application of a downward adjustment may result in no calculated emission reductions or net removals.

67. The downward adjustment applied in subsequent years shall increase over time to encourage ambition over time and ensure that the baseline is below BAU.

68. For baselines determined based on existing actual or historical emissions, the starting point for increasing the downward adjustment over time shall be the downward adjustment in the calendar year of the start date of the first crediting period, as determined in section 7.1 above. For baselines determined based on BAT or an ambitious benchmark, the downward adjustment shall increase from a value of zero applied in the calendar year of the start date of the first crediting period.

69. The increase in the downward adjustments over time shall be operationalised either as an annual change or as stepwise change implemented not less frequently than every three years. An increase in the downward adjustment shall be applied starting on 1 January of a calendar year. The first increase shall be applied in the calendar year following the calendar year of the start date of the first crediting period.

70. Mechanism methodology shall specify the factors or quantitative methods to calculate the downward adjustment for subsequent calendar years of the crediting period and how the increase over time is operationalised. The determination of the downward adjustment may be based on the following principles and considerations:

    (a) **Consideration of economic viability of the mitigation technologies and/or practices**: The quantitative methods and factors could consider the economic viability of the relevant mitigation activities. This holds in particular for critical mitigation activities, large-scale transformation and decarbonization technologies, and negative emission approaches. The quantitative methods and factors could result in relatively lower downward adjustments for these technologies and approaches, and other critical technologies at an early stage of innovation and diffusion, compared with technologies and/or practices that are closer to being economically viable;

    (b) **Setting incentives for the adoption of less GHG intensive technologies and/or practices:** The factors and quantitative methods could result in a relatively higher downward adjustment for more GHG intensive technologies and/or practices and a relatively lower downward adjustment for less GHG intensive technologies and/or practices[10];

    (c) **Consideration of established long-term pathways:** Already established long-term pathways for emissions, technologies and/or practices adopted by Parties, groups of Parties and/or international industry associations could inform the downward adjustment. This could mean that some sectors, regions or Parties would have greater annual increases to the downward adjustment compared with others;

    (d) **Consideration of concept of sufficiency:** Considering work on sufficiency presented in IPCC AR6 WGIII, Chapter 9, the factors and quantitative methods could result in a relatively higher downward adjustment for activities implemented in a context of high resource consumption patterns and a relatively lower downward adjustment for lower resource consumption patterns[11];

    (e) **Consideration of suppressed demand:** The quantitative methods and factors could result in a relatively lower downward adjustment for sectors or regions where demand is suppressed.

[10] For example, the downward adjustment may be higher for Article 6.4 activities flaring landfill gas than for activities using the landfill gas as fuel;

[11] For example, in the buildings sector, it may be proposed that for communities whose energy consumption was historically high, the rate of reducing emissions is higher than that for communities with historically low energy consumption

71. The annual increase in the downward adjustment shall correspond to at least 1% of the baseline emissions in the calendar year of the start date of the first crediting period. A pro-rata approach may be used to apply this minimum value to periods other than a full calendar year.

8. Determination of a conservative business-as-usual baseline

72. Mechanism methodologies shall include provisions to demonstrate that the downward adjusted baseline is below BAU. For that purpose, mechanism methodologies shall require the identification of a conservative BAU scenario that would occur in the absence of the Article 6.4 activity and provide a method for the quantification of the corresponding BAU emissions and/or removals in a conservative manner. The BAU also may be defined using an approved standardized baseline.

73. The proponent of a mechanism methodology shall consider the following alternatives for the purpose of determining the BAU scenario and justify the choice, including how it ensures conservativeness:

    (a) Continuation of the historical situation (pre-activity scenario);

    (b) Establishment of an economically viable technology and/or practice;

    (c) A scenario combining (a) for the remaining lifetime of the existing equipment and/or practice, followed afterwards by (b); or

    (d) Only when it is justified that the previous alternatives are not suitable, another relevant scenario in line with the applicable principles and requirements set out in this standard.

74. Where several scenarios are plausible, the most conservative scenario shall be chosen as the BAU scenario.

75. The proponent of a mechanism methodology may consider the following approaches for estimating the BAU emissions and/or removals and shall justify the choice:

    (a) Where the activity is not a greenfield activity, mechanism methodologies may consider the historical emissions or emissions intensity prior to the implementation of the activity, including any trends toward improving performance, for the remaining lifetime of the existing equipment and/or practice; or

    (b) Where the activity is a greenfield activity, or where it operates beyond the end of the remaining lifetime of the existing equipment and/or practice, mechanism methodologies may consider the average emissions intensity of new capacity installed in the past three years, in the baseline geographical reference area, and/or in similar social, economic, environmental and technological circumstances and providing similar outputs as the activity with these criteria specified further in the mechanism methodology.

76. In determining the BAU scenario and quantifying the BAU emissions and/or removals pursuant to paragraphs 72 to 75 above, mechanism methodologies shall identify and incorporate in the BAU:

    (a) Any policies that are active or scheduled to take effect within the crediting period, unless they refer to or formally integrate the mechanism as an instrument for implementation. All legal requirements shall be deemed to be enforced while recognizing that regulatory environments vary; and

    (b) Any specific national or sub-national targets for the sector or the type of activity, as long as these are supported by policy frameworks for implementation[12], but not general goals that are not specific to the sector or type of activity.

77. Mechanism methodologies shall ensure that the comparison of the downward adjusted baseline with the BAU baseline in section 5 (Step 5 in Figure 1) results in the determination of a crediting baseline that is below BAU. For this purpose, mechanism methodologies shall identify the conservative BAU baseline as follows:

    (a) Through the following step-wise procedure:

        i. Determine the uncertainty at the lower bound of the uncertainty interval relative to the central estimate of the ex-ante quantified BAU net baseline emissions and/or removals during the first crediting period ($UNC_{BAU,CP1,y}$). The determination of the uncertainty shall consider all causes of uncertainty as per paragraph 13 in Appendix 1;

        ii. Determine the conservative BAU baseline emissions and/or removals based on uncertainty for the relevant year or period ($BAU_{cons,UNC,y}$), as follows[13];

$$BAU_{cons,UNC,y} = BAU_y * (1 - UNC_{BAU,CP1,y}) \quad \text{Equation (4)}$$

Where:

$UNC_{BAU,CP1,y}$	=	Uncertainty at the lower bound of the uncertainty interval relative to the central estimate of the ex-ante quantified most likely net BAU baseline emissions and/or removals during the first crediting period year y (fraction)
$BAU_{cons,UNC,y}$	=	Conservative BAU baseline emissions and/or removals based on uncertainty in year *y*
$BAU_{,y}$	=	Most likely net BAU baseline emissions and/or removals in year *y*
y	=	Relevant year or period (see instructions below)

[12] The extent to which the policy frameworks in place are sufficient to enable the achievement of the targets may be considered in determining their relevance for the BAU scenario and quantification, as well as whether they refer to or formally integrate the mechanism as an instrument for implementation.

[13] Where, for the uncertainty of a central value, the absolute upper bound of the uncertainty interval is a positive number and the absolute lower bound of the uncertainty interval a negative number, or vice-versa, further guidance will be developed.

iii. Determine the minimum conservative value of the BAU baseline during the first crediting period as follows:

$$BAU_{cons,min,y} = BAU_y - \left(BAU_y - AE_y\right) * 0.1 \quad \text{Equation (5)}$$

Where:

$BAU_{cons,min,y}$	=	Minimum conservative BAU baseline emissions and/or removals in year *y*
AE_y	=	Activity emissions and/or removals in year y
Y	=	Relevant year or period (see instructions below)

iv. Compare the conservative BAU baseline emissions and/or removals based on uncertainty ($BAU_{cons,UNC,y}$) and the minimum conservative BAU baseline emissions and/or removals ($BAU_{cons,min,y}$) and select the lower as the conservative BAU baseline emissions and/or removals;

$$BE_{cons,y} = \min\left(BAU_{cons,min,y}, BAU_{cons,UNC,y}\right) \quad \text{Equation (6)}$$

Where:

$BE_{cons,y}$	=	Conservative BAU baseline emissions and/or removals in year y
y	=	Relevant year or period (see instructions below)

OR

(b) Propose another approach that ensures that the selected crediting baseline is below BAU, considering the minimum discount described in the method above.

78. The BAU scenario and quantification of the BAU emissions and/or removals shall be determined:

(a) Ex ante in the PDD at the start of the first crediting period for the same duration as the crediting period of the proposed Article 6.4 activity, specifying the BAU emissions and/or removals for each calendar year within the crediting period; and

(b) Ex post for each calendar year within the crediting period.

79. For the ex-post quantification of the BAU baseline emissions and/or removals, mechanism methodologies shall specify which parameters are determined ex-ante and remain fixed for the crediting period and which parameters are updated for each calendar year or at a different frequency.

80. The BAU scenario shall be redetermined at each crediting period renewal and the same analysis shall be carried out.

9. Comparison and selection of crediting baseline

81. Mechanism methodologies shall contain provisions to require activity participants to undertake the following comparisons.

82. Mechanism methodologies shall require activity participants to compare, ex-ante in the project design document, the following two baselines:

    (a) The downward adjusted baseline resulting from Step 3; and

    (b) The conservative BAU baseline resulting from Step 4.

83. Where the ex-ante conservative BAU baseline emissions and/or removals is lower than the ex-ante downward adjusted baseline for any calendar year or cumulatively over the crediting period, then the mechanism methodology shall require the activity participant to return to Step 3 and revise the quantitative methods and factors to determine the downward adjustment, to ensure that the downward adjusted baseline is lower than the conservative BAU baseline for each calendar year and cumulatively for the crediting period.

84. Mechanism methodologies shall further require activity participants to compare, ex-post in monitoring reports, for each individual calendar year during the crediting period, the ex-post calculated downward adjusted baseline for the year and the ex-post calculated conservative BAU baseline for the same year and confirm that the downward adjusted baseline is lower than the conservative BAU baseline. If it is not, then the conservative BAU baseline shall be used for that calendar year.

Appendix 1. General requirements for mechanism methodologies

1. Applicability conditions

1. Mechanism methodologies shall specify the conditions under which proposed Article 6.4 activities may use the methodology. Applicability conditions shall clearly describe the technologies and/or practices which are eligible under a methodology as well as, if appropriate, those which are not.

2. Applicability conditions shall also prevent the use of the methodologies in contexts, configurations and cases for which these are not intended and under which an overestimation of emission reductions or net removals and/or perverse incentives could occur.

3. For each applicability condition, the mechanism methodology shall specify whether the fulfilment of the condition shall be assessed:

   (a) Once at the initial validation of the PDD or, where the information is not yet available, at the first verification of emission reductions or net removals; or

   (b) At each verification of emission reductions or net removals.

2. Definition of the activity boundary

4. The proponent of a mechanism methodology shall identify all emission sources, sinks or reservoirs that could be altered by Article 6.4 activities that are eligible under the methodology. For each identified source, sink or reservoir, the proponent shall indicate whether it pertains to the baseline scenario and/or the Article 6.4 activity scenario. The proponent shall compare the sources, sinks and reservoirs between the two scenarios in a tabular format to ensure a complete and fair comparison.

5. The proponent shall further indicate whether each identified source, sink and reservoir is controlled, related to, or otherwise affected by the applicable Article 6.4 activities, in line with the definitions, and provide adequate justification. Note that some sources, sinks or reservoirs may be classified in different ways, depending on the configuration of the Article 6.4 activity[1]; where applicable, this should be indicated.

6. Based on this analysis, mechanism methodologies shall define the activity boundary of the applicable Article 6.4 activities, including which emission sources, sinks or reservoirs and GHGs are included. The activity boundary shall be presented in table, covering both the Article 6.4 activity scenario and the baseline scenario.

[1] For example, in some activities, a source of transport emissions may be controlled whereas in others it may be related.

7. The activity boundary shall include all emission sources, sinks or reservoirs that are identified as controlled or related. The activity boundary also may include sources, sinks or reservoirs that are identified as otherwise affected by the applicable Article 6.4 activities.[2] Changes in anthropogenic emissions and/or removals of GHGs that occur outside the activity boundary and that are attributable to the activity shall be considered as leakage, subject to the provisions in the draft standard "Addressing leakage in mechanism methodologies".

8. Mechanism methodologies may omit sources, sinks or GHGs from the activity boundary, provided that the omission leads to a more conservative quantification of emission reductions or net removals. For example, where it can be demonstrated for the range of activities that may apply the methodology that upstream emissions associated with the Article 6.4 scenario are lower than upstream emissions associated with the baseline scenario, the relevant upstream emissions may be omitted in both the Article 6.4 activity scenario and the baseline scenario. The mechanism methodology may also specify conditions under which certain sources, sinks, reservoirs or GHGs shall be considered or may be omitted. The proponent of the mechanism methodology shall demonstrate and provide appropriate justifications for any such omissions, including that the omission is conservative for the range of Article 6.4 activities that may apply the methodology.

9. Mechanism methodologies shall require activity participants to delineate the geographical boundary of a proposed Article 6.4 activity. Mechanism methodologies may require activity participants to specify the location of the activity in the form of Keyhole Markup Language files or similar formats as one or more polygon(s), by specifying the coordinates of the geographic boundary using a known coordinate system or any other method to delineate the geographic boundary. The geographic boundary may cover more than one host Party. Where appropriate, the mechanism methodology may request the location of the leakage emission sources and sinks to be described as well.

10. Mechanism methodologies shall require demonstration that the activity, does not constrain, but aligns with the policies, options and implementation plans of the host Party with regard to the nationally determined contribution (NDC) of the host Party, its long-term low greenhouse gas emission development strategies (LT-LEDS), if it has submitted one, and the long-term temperature goal of the Paris Agreement and long-term goals of the Paris Agreement through an assessment, undertaken by the DNA of the host Party, of the activity's consistency with Decision 3/CMA.3 paragraph 40 (c) and paragraph 27 (a) as part of the host Party's approval.

3. Calculation of emission reductions or net removals

11. Mechanisms methodologies shall include provisions to determine emission reductions or net removals separately for each calendar year. To address situations where monitoring periods cover more than one calendar year, mechanism methodologies shall specify methods to allocate the emission reductions or net removals achieved during a monitoring period to calendar years. The method of allocation shall be based on the best

[2] For example, for activities that provide renewable electricity to the grid and thereby affect electricity generation by power plants in the grid, the emissions from power plants in the grid may be treated as a baseline emission source within the activity boundary.

approximation for when the emission reductions or net removals have likely occurred. The following approaches shall be used:

(a) Proportional allocation: Where this is plausible, emissions or removals in the monitoring period shall be allocated proportionally to the duration of the period in each calendar year. If annual caps or other annual values are applied in the methodology, these shall be pro-rated to periods shorter than a full calendar year;

(b) Allocation based on likely expected or observed trends or patterns: Where proportional allocation is not plausible, emissions or removals in the monitored period shall be allocated based on likely expected or observed trends or patterns. For example, for an afforestation activity, growth tables for the respective species and local conditions may be used to allocate a stock change observed over a multi-year period to individual calendar years;

12. Mechanism methodologies shall specify whether the type of Article 6.4 activities covered by the methodology may generate emission reductions, net removals, or both emission reductions and net removals. Where Article 6.4 activities may generate both emission reductions and net removals, mechanism methodologies shall include provisions to separately determine the emission reductions and the net removals that have occurred in a monitoring period.

4. Conservativeness and uncertainty

13. Mechanism methodologies shall apply a conservative approach to ensure that the emission reductions or net removals from an Article 6.4 activity using the methodology are very unlikely to be overestimated, taking into account the overall uncertainty in quantifying the emission reductions or net removals. The implementation of conservativeness (e.g., through conservative assumptions, parameters, discounts) in determining the calculated emission reductions or net removals shall be based on the level of uncertainty (e.g., applying a larger deduction in case of higher uncertainties). All causes of uncertainty shall be considered, including uncertainty in data (e.g., measurements), parameters (e.g., representativeness of default values), assumptions (e.g., the baseline scenario), and methods (e.g., models to quantify emission reductions).

5. Attributability of emission reductions or net removals to the Article 6.4 activity

14. Mechanism methodologies shall ensure that the quantified emission reductions or net removals result from the implementation of the Article 6.4 activity and not from changes in exogenous factors that are not related to the implementation of the Article 6.4 activity. Mechanism methodologies shall therefore require approaches that take into account and adjust for exogenous factors affecting emission reductions or net removals.

6. Potential perverse incentives

15. The proponent of a mechanism methodology shall identify any potential perverse incentives for the activity participants to inflate the calculated emissions reductions or net removals. This may include cases where output levels could increase as a result of the incentive of the mechanism. Where such perverse incentives can occur, the mechanism methodology shall ensure that they are avoided.

7. Rebound effects

16. Mechanism methodologies shall ensure that rebound effects (i.e., an increase in the level of service as a result of the implementation of an Article 6.4 activity, e.g., when introducing energy-efficient appliances) are accounted for. Where applying the provisions with regard to suppressed demand, further requirements or guidance from relevant other standard(s) may be considered.

8. Avoidance of double counting

17. The proponent of a mechanism methodology shall identify risks of potential double counting of the emission reductions or net removals and, where such risks are relevant and material, include provisions to avoid such double counting in the mechanism methodology. This shall include but not be limited to:

    (a) Double counting due to overlapping claims between different crediting mechanism activities;

    (b) Double counting due to overlap with mandatory domestic mitigation schemes; and

    (c) Double counting due to overlap with other frameworks or environmental markets.

8.1. Double counting due to overlapping claims between different carbon crediting mechanism activities

18. Double counting may occur if different carbon crediting mechanism activities claim the same emission reductions or removals. The consideration of this form of double counting shall include but not be limited to:

    (a) The risk of different entities claiming the emission reductions or removals associated with the production and use of goods or services (e.g., both the producer and the consumer of a biofuel claiming the same emission reductions);

    (b) The risk of overlap from emission sources or carbon pools that occur upstream and downstream of the activity (e.g., an efficient cookstove activity and an avoided deforestation activity claiming the same emission reductions);

    (c) The risk of overlap due to implementation of activities at different aggregation levels within the same geographical area (e.g., a project-scale avoided deforestation activity falling within the scope of a jurisdictional avoided deforestation activity).

19. This risk could, for example, be addressed in mechanism methodologies by requiring agreement between the entities that may potentially seek carbon credits for the same emission reductions or removals.

8.2. Double counting due to overlap with mandatory domestic mitigation schemes

20. Double counting may occur if an Article 6.4 activity reduces emissions or enhances removals that are covered by a mandatory domestic mitigation scheme (e.g. an emissions

trading system). This risk could, for example, be addressed in mechanism methodologies by:

(a) Excluding activities or not issuing Article 6.4 ERs for emission reductions or removals that are subject to such overlap; or

(b) Requiring that measures are in place to ensure that any relevant impacts of the activity (e.g., inter alia the GHG emission reductions achieved or the kilowatt-hours of renewable electricity produced) are not counted towards the achievement of targets or obligations under the mandatory domestic mitigation scheme (e.g., inter alia by cancelling allowances from the emissions trading system before issuing carbon credits).

8.3. Double counting due to overlap with other frameworks or environmental markets

21. Double counting may occur if the mitigation outcomes achieved by an Article 6.4 activity are also claimed in other frameworks or environmental markets (e.g. guarantees of origin for renewable electricity generation, green hydrogen schemes, low carbon fuel standards, etc.). Note that this only holds if mitigation outcomes (e.g., emission reductions, removal enhancements, renewable energy generation, energy efficiency improvements, etc.) are claimed in other frameworks or environmental markets, but not where other outcomes (e.g., air contaminant reductions or social impacts) are claimed.

22. This risk could, for example, be addressed in mechanism methodologies by:

(a) Excluding activities or not issuing Article 6.4 emission reductions for emission reductions or removals that are subject to such overlap; or

(b) Requiring that the Article 6.4 activity does not claim the same mitigation outcomes in the relevant other environmental markets or accounting frameworks.

9. Monitoring

23. Mechanism methodologies shall specify procedures and methods for the monitoring all data and parameters necessary to calculate the emission reductions or net removals from Article 6.4 activities using the methodology.

24. Further requirements related to monitoring may be introduced in this standard in the future.

10. Aggregation of information

25. Where appropriate, mechanism methodologies may consolidate information within a geographical area and a sector, to provide observations at a broader level than an individual Article 6.4 activity. Comparable activities can be grouped or aggregated to provide a broader picture when this does not lead to misrepresentation. Comparable activities can also be split or disaggregated, when this does not lead to misrepresentation, for example when the sector shows great heterogeneity.

11. Validity and periodic updating of mechanism methodologies

26. In accordance with the “Procedure: Development, revision and clarification of methodologies and methodological tools”, approved methodologies and methodological tools that have been applied in projects shall be reviewed on a regular basis. The review particularly shall seek to incorporate, or substitute, sources and types of data, and update the methodological approaches and assumptions, to enhance the application of the

principles and general requirements in section 4 of this standard. This may include the adoption of new measurement approaches, such as the use of remote sensing and digital technologies. Each version of a mechanism methodology shall specify until when it is valid for use, taking into account the methodological approaches, assumptions and data sources used in the methodology, as well as trends and developments in the sector. The validity shall not exceed five years.

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