

A6.4-SB007-AA11

Concept note

Methodological elements in the draft recommendation on requirements for the development and assessment of mechanism methodologies

Version 01.0

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COVER NOTE

1. Procedural background

1. The Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA), at its third session, requested the Supervisory Body for the mechanism established by Article 6, paragraph 4, of the Paris Agreement (Article 6.4 mechanism) to elaborate and further develop recommendations, for consideration and adoption by the CMA at its fourth session (November 2022), on the application of the requirements referred to in chapter V.B (titled Methodologies) of the rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement (RMP).¹
2. The CMA, at its fourth session, requested the Supervisory Body to elaborate and further develop recommendations, for consideration and adoption by the CMA at its fifth session (December 2023). It further requested the Supervisory Body, while developing the recommendations, to consider broader inputs from stakeholders provided in a structured public consultation process.²
3. The Supervisory Body, at its fifth meeting (SB 005), requested the secretariat to further work on the draft elements for the recommendation on requirements for the development and assessment of mechanism methodologies, taking into account guidance from the Supervisory Body at that meeting. In particular, the Supervisory Body requested the secretariat to prepare a draft recommendation for consideration at its next meeting, including:
 - (a) Proposals to frame, implement or operationalize the elements discussed at the meeting, taking into account the inputs of members of the Supervisory Body;
 - (b) Options to reflect different views expressed by members of the Supervisory Body at SB 005 as options to address the requirements.
 - (c) Proposals for potential consolidation or grouping of options to implement the different elements through a common option.
4. The Supervisory Body, at its sixth meeting (SB 006), considered the concept note "Proposals and options to operationalize baseline contraction factor, avoid 'lock-in levels of emissions' and address leakage in the draft recommendation on requirements for the development and assessment of mechanism methodologies" and the draft recommendations "Requirements for the development and assessment of mechanism methodologies" and requested the secretariat, in consultation with the informal working

¹ See decision 3/CMA.3, paragraph 6(d), for the request, and the annex to 3/CMA.3, for the Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement, contained in document FCCC/PA/CMA/2021/10/Add.1. Available at: <https://unfccc.int/documents/460950>.

² See decision 7/CMA.4, paragraphs 21 and 22, for the request, contained in document FCCC/PA/CMA/2022/10/Add.2. Available at: <https://unfccc.int/documents/626570>.

group, to undertake the following further work on the requirements for the development and assessment of mechanism methodologies:

- (a) Provide a concept note building on the concept note “Proposals and options to operationalize baseline contraction factor, avoid 'lock-in levels of emissions’”, addressing considerations with respect to options in the draft recommendation, including assessment of pros and cons;
- (b) Advise on the balance between substantive guidance in the recommendation, and further guidance by the Supervisory Body to activity participants, and guardrails for development of further guidance and tools;
- (c) Provide examples of application of adjustments downwards in methodologies of the clean development mechanism (CDM) or other mechanisms;
- (d) Provide an outline of:
 - (i) Tool for implementation of baseline approaches;
 - (ii) Tool for implementation of additionality.

2. Purpose

- 5. The purpose of this concept note is to address the mandate from the Supervisory Body as indicated in paragraph 4 (a) to 4 (d) above. In addition, an outline for the tool to address leakage is also included.

3. Key issues and proposed solutions

- 6. The document is divided in the following sections:
 - (a) Section 1. Assessment of pros and cons of options to address the downward adjustment of the baseline;
 - (b) Section 2. Discussion on balance between substantive guidance in the recommendation and further guidance in tools, including guardrails;
 - (c) Section 3. Examples of downward adjustment in methodologies of different carbon certification mechanisms;
 - (d) Appendix 1. Outline of the tool for the demonstration of additionality;
 - (e) Appendix 2. Outline of the tool for implementation of baseline approaches.
 - (f) Appendix 3. Outline of the tool to address leakage
 - (g) Appendix 4. Extracts of Section 4.8 “Approaches for downward adjustment and to address elements of paragraph 33 of the RMP”
 - (h) Appendix 5. Examples from CDM including CMP guidance, EB guidance to project developers
- 7. The outline of the tools in Appendix 1 (additionality), Appendix 2 (baseline) and Appendix 3 (leakage) is prepared for illustrative purposes to facilitate the work of the Supervisory Body to strike a balance between substantive guidance in the recommendation on

requirements for methodologies, and further guidance by the Supervisory Body to activity participants including development of methodological tools. Further analysis of the proposed approaches in the outlines will be required after the adoption of “Requirements for the development and assessment of mechanism methodologies” by the CMA, before a recommendation on fully developed tools can be made to the Supervisory Body.

4. Subsequent work and timelines

8. Further work will be carried out based on the guidance that will be received from the Supervisory Body.

5. Recommendations to the Supervisory Body

9. The Supervisory Body may wish to consider this document and provide guidance for any further work.

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1. Assessment of pros and cons of options to address the downward adjustment of the baseline

1. The draft recommendation on “Requirements for the development and assessment of mechanism methodologies”, as contained in annex 12 to the annotations of SB 007 meeting of the Supervisory Body, includes Section 4.8 “Approaches for downward adjustment and to address elements of paragraph 33 of the RMP”. The section is reproduced in appendix 4 of this document for easy reference.
2. In Table 1 below, a preliminary analysis of potential impacts of different approaches for downward adjustment of baseline including to address elements of paragraph 33 of the RMP are presented. It is not an exhaustive analysis, nor is based on a systematic analysis of impacts based on a standard impact assessment methodology and is meant to serve as a starting point for assessing impacts.

Table 1. Assessment of advantages and challenges of options to address downward adjustment of the baseline

Options	Impacts	
	Advantages	Challenges
Option 1.1 (Quantitative - Meth update)	<ul style="list-style-type: none"> • Activity participants, regulators, national authorities, Designated Operational Entities (DOEs) and other stakeholders are familiar with the proposed processes. • Buyers and activity participants and host Parties may perceive it as better for investment security with better visibility for risks. • If processes are implemented well, it may be possible to achieve similar results for emission reductions/removals as in option 1.2 and 1.3 considering that monitored and default parameters in a methodology and project reach greatly influence the emission reductions or removals achieved. • There are already many examples for downward adjustment implemented under different carbon certification mechanisms, which may be leveraged. See Section 3 below. • Approach works for both emission reductions and removals. 	<ul style="list-style-type: none"> • Quantitative impacts on emission reductions/removals may be perceived to be less certain than option 1.2 or 1.3. • Needs greater coordination among regulators and different stakeholders to assemble information on up-to-date science and data, including on activities, in a timely manner to update parameters with more conservative values aligned with long-term climate goals. Similarly, significant capacity-building efforts to reflect changes in field-level implementation may be necessary to ensure changes are understood and implemented in an efficient and timely manner. • Scalability/impact reach their limits at some point. • Carries the risk that parameters, if globally/internationally applied, may incorrectly reflect in-country circumstances and could become a barrier to carbon finance from 6.4 mechanism in the most disadvantaged parts of the world. • Blanket application of the approach as a requirement can

Options	Impacts	
	Advantages	Challenges
		negatively affect financial viability of the most transformational and cost-intensive projects, achieving opposite effect from the intended.
Option 1.2 (Quantitative - Top-down)	<ul style="list-style-type: none"> • May be seen as a consistent approach to achieve ambitious emission reductions with greater certainty. • May facilitate speedier implementation. • Experience shows that in some jurisdictions (e.g. certain emission trading schemes) reduced supply of units has resulted in a greater price per unit. • Perception of better alignment with climate goals may attract more buyers and may reduce the reputational risk concerns of buyers. 	<ul style="list-style-type: none"> • IPCC integrated mitigation pathways (IMPs) are based on cost optimization models and assume optimum carbon pricing and do not address equity issues. • There are concerns related to practical ways to take into account different national circumstances. • Realization of higher prices corresponding to shrinking delivery of units is not guaranteed, beyond a threshold financial viability of an ambitious mitigation or removal activity is in question. • As observed in the literature, reduced supply of units will not necessarily result in higher prices for the units. In some cases, host Parties/buyers may choose to opt for other options, e.g. more domestic action by host Parties, buyers may look for alternative sources of supply.
Option 1.3 (Quantitative - Bottom-up)	<ul style="list-style-type: none"> • May be seen as a consistent approach to achieve ambitious emission reductions with greater certainty • There is already experience in relation to standardized baselines under CDM to develop country-specific parameters and factors which may be leveraged. • Experience shows that in some jurisdictions (e.g. certain emissions trading schemes) reduced supply of units has resulted in a greater price for units. • Perception of better alignment with climate goals may attract more buyers and may reduce the reputational risk concerns of buyers. 	<ul style="list-style-type: none"> • Experience shows that internal consultation processes in the host Parties takes time. Given that the method to develop the factors is also complex and data intensive, the uptake of the option may be low. • Realization of higher prices corresponding to shrinking delivery of units is not guaranteed, beyond a threshold financial viability of an ambitious mitigation or removal activity is in question. • As observed in the literature, reduced supply of units will not necessarily result in higher prices for the units. In some cases, host Parties/buyers may choose to opt for other options, e.g. more domestic action by host Parties, buyers may look for alternative sources of supply.

Options	Impacts	
	Advantages	Challenges
		<ul style="list-style-type: none"> Market participants may perceive a higher level of risk that cannot be quantified up front.
Option 2 (Qualitative - Transformative)	<ul style="list-style-type: none"> Transformative projects would have the advantages of satisfying a demand in a least emitting pathway rather than focusing on improving a specific method of producing a specific output. The definition of transformational change, in particular in the context of different national circumstances could be elaborated by the DNA of the respective countries. Making the list of transformative activities/technologies/measures, publicly available will give predictability to project developers and make the mechanism attractive for market players. 	<ul style="list-style-type: none"> The boundaries of analysis tend to be large (international rather than national) requiring extensive data on demand and supply. Developing such a positive list of for transformative activities would be challenging unless the technologies are universally accepted as transformative and are unaffected by national circumstances. Considering different national circumstances in relation to those technologies would constitute a challenge.

2. Discussion on balance between substantive guidance in the recommendation and further guidance in tools

3. Considering the distinct nature of methodological approaches for the removals as compared to emissions reductions where much of the experience has been so far in relation to development of methodologies, it may be necessary to include broad based approaches in the draft recommendations. It may be prudent to leave room for customisation in the methodological tools, more so in sector specific methodologies that will be developed following the draft recommendation from that perspective.
4. CDM experience in developing guidance is also summarised in appendix 4 which together with the analysis on tools included in this document seems to suggest the need for flexibility of approaches at the same time regular review and updates based on activity data and latest science. Structured consultation with the stakeholders will be a critical step in this process.
5. An important element is also that many sectors and regions are likely to face data gaps in relation to vintages or availability of certain type of data or available infrastructure for data collection. There may be opportunities for technological leapfrogging to resolve some of the reliability issues as well as cost effective data collection. However, these may be best addressed through high level guidance in the draft recommendations to make way for further type/sector specific guidance in tools and methodologies.
6. To sum up, while prescriptive, sector specific or type specific guidance in the draft recommendations (e.g. concrete thresholds, defaults applicable to specific sectors) may help common understanding among all stakeholders, it may be extremely challenging to develop such factors/methods applicable across sectors and regions, that leave sufficient

incentives for activity development at the same time as being robust and reliable based on latest science and data. Therefore, it may be pragmatic to include comprehensive but broad approaches in the draft recommendation allowing further detailing of approaches in the tools and methodologies.

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3. Examples of downward adjustment in methodologies of different carbon certification mechanisms

7. Table 2 below illustrates periodic downward adjustment required in a sample of methodologies under the CDM and under other mechanisms. The contexts of these adjustments are not the same as those discussed under section 1. In most cases it was to capture the impact of autonomous energy efficiency improvement of baseline equipment (e.g., vehicles, residential equipment such as refrigerators and air-conditioners) that is typically observed in most markets. Except in a small number of cases, they do not factor in future adjustments required to meet the climate goals. Nevertheless, it is presented here as a useful reference based on methodologies that have been, for the major part, applied in projects from different regions.

Table 2. Examples of downward adjustment in methodologies of different carbon certification mechanisms

Mechanism	Methodology	Method for downward adjustment
CDM (Clean Development Mechanism)	TOOL18: Methodological tool Baseline emissions for modal shift measures in urban passenger transport ³	Technology improvement factor for the calculation of baseline emissions that aims to capture the autonomous improvement in fuel consumption of the baseline vehicles. A default value of 0.99 i.e. 1% improvement in fuel efficiency per year is indicated. When country specific information is available (e.g. as in the case of standardised baselines), the methodology allows its use in place of the default value.
	AM0101: High speed passenger rail systems (v2.0)	
	AMS-III.BQ.: Hydrogen fuel cell vehicles (v1.0)	
	AMS-III.C.: Emission reductions by electric and hybrid vehicles (v16.0)	
	AMS-III.AY.: Introduction of LNG buses to existing and new bus routes (v2.0)	
	AMS-III.U.: Cable cars for mass rapid transit system (MRTS)	

³ This tool is referenced in the approved methodologies 'AM0031: Bus rapid transit projects' (v8.0), 'ACM0016: Mass rapid transit projects' (v5.0), 'AMS-III.BM.: Lightweight two and three wheeled personal transportation' (v2.0).

Mechanism	Methodology	Method for downward adjustment
	AMS-III.AY.: Introduction of LNG buses to existing and new bus routes (v2.0)	
	AM00xx: Hydrogen production from electrolysis of water ⁴	Technology improvement factor ⁵ for the calculation of baseline emissions that aims to capture the autonomous improvement in the emissions intensity of hydrogen production but also factors in the emission intensities required for 2030 and 2050 goals. A default value of 0.93 i.e., 7% improvement in emissions intensity is indicated based on the estimated average emissions intensity of global hydrogen found in IEA (2023) ⁶ .
	AM0070: Manufacturing of energy efficient domestic refrigerators (v3.1)	Factor to account for autonomous technology improvement that would have likely occurred in the market in the calculation of specific electricity consumption of refrigerators. A default value of 3.5% per annum is indicated. Alternatively, the factor can be determined based on the evolution of energy efficiency of refrigerators produced in the host country and sold in the host country's market over a ten-year historic reference period.
	AM0083: Avoidance of landfill gas emissions by in-situ aeration of landfills (v1.0)	Factor to account for the increasing compliance rate with the regulation which mandates the collection and treatment of landfill gas from closed landfills or closed landfill cells in the calculation of baseline emissions.

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⁴ This is not an approved CDM Methodology. This methodology has been recommended by the Meth Panel for the consideration of the CDM Executive Board (see annex 1 of MP 91 report at <https://cdm.unfccc.int/Panels/meth/index.html>)

⁵ For captive consumers and where historic data on emission intensity of local hydrogen production is available, methodology provides other options that are based on primary data from the production plants. Where no such data is available and consumers are general consumers, this conservative option is proposed.

⁶ International Energy Agency (IEA). (2023). Towards hydrogen definitions based on their emissions intensity. Available at <https://iea.blob.core.windows.net/assets/acc7a642-e42b-4972-8893-2f03bf0bfa03/Towardshydrogendefinitionsbasedontheiremissionsintensity.pdf>

Mechanism	Methodology	Method for downward adjustment
	AM0112: Less carbon intensive power generation through continuous reductive distillation of waste (v1.0)	Factor to account for the increasing compliance rate with the regulation which mandates implementation of the continuous reductive distillation process in the calculation of baseline emissions.
	ACM0022: Alternative waste treatment processes (v3.0)	Factor to account for the rate of compliance of host country's regulatory requirements that mandate the use of alternative waste treatment process in the calculation of baseline emissions.
	AM0120: Energy-efficient refrigerators and air-conditioners (v1.0)	Factor to account for annual autonomous efficiency improvement. A default value of 0.02 (2 per cent per year) for air-conditioners and 0.015 (1.5 per cent per year) for refrigerators is indicated.
	ACM0019: N ₂ O abatement from nitric acid production (v4.0)	Adjustment to baseline N ₂ O emission factor (kg N ₂ O/t HNO ₃) for nitric acid production to reflect the expected technological development in the calculation of baseline N ₂ O emissions for nitric acid production.
	AMS-III.F.: Avoidance of methane emissions through composting (v12.0)	Factor to account for the mandatory destruction of the methane generated in landfills included in the host country's regulatory requirements in the calculation of baseline emissions.
	AMS-III.K.: Avoidance of methane release from charcoal production (v5.0)	
	AMS- III.L. Avoidance of methane production from biomass decay through controlled pyrolysis (v2.0)	
	AMS-III.AO.: Methane recovery through controlled anaerobic digestion (v1.0)	
	AMS-III.N.: Avoidance of HFC emissions in rigid Poly Urethane Foam (PUF) manufacturing (v3.0)	Factors to account for the possible loss of the blowing agent during the crediting years in the calculation of baseline emissions.
VCS	VM0008: Weatherization of Single Family and Multi-Family Buildings (v1.1)	Factor to account for the trends in the demand of electricity in buildings within a specified region in the calculation of emission reductions.

Mechanism	Methodology	Method for downward adjustment
(Voluntary Carbon Standard)	VM0016: Recovery and Destruction of Ozone-Depleting Substances (v1.1)	Factor to account for the rate of compliance of regulatory requirements in relation to Ozone Depleting Substances (ODS) in the calculation of baseline emissions
	VMD0038: Campus Clean Energy Efficiency Campus-Wide Module (v1.1)	Technology improvement factor for the calculation of baseline emissions that aims to capture the efficiency improvement fuel combustion and electricity generation. A default value of 0.013, i.e. 1.3% improvement per year is indicated.
	VM0038: Methodology for Electric Vehicle Charging Systems (v1.0)	Technology improvement factor for the calculation of baseline emissions that aims to capture the autonomous improvement in fuel consumption of baseline vehicles. A default value of 0.99 (i.e. 1% improvement in fuel efficiency per year) is indicated for heavy-duty vehicles.
	VM0039: Methodology for Use of Foam Stabilized Base and Emulsion Asphalt Mixtures in Pavement Application (v1.0)	Default benchmarks to account for an increase in the share of RAP (Reclaimed Asphalt Pavement) in the production and installation Hot Mix Asphalt (HMA) in road construction projects located in the United States to adjust the baseline. The higher the share of RAP, the lower are the baseline emissions per tonne of asphalt installed. Default values were proposed for calendar years between 2014 and 2025 for roadway projects, patching projects with hauling distance less than 40 miles and for patching projects with hauling distance greater than 40 miles projects.
	Indicative program, baseline and monitoring methodology for the large-scale supply & distribution of efficient light bulbs, shower heads and other water saving devices to households (v2.0)	Factors to reflect the decrease of the penetration rate of inefficient water fixtures and low-flow showerheads/floe-regulators in the marketplace in the calculation of emission reductions

Mechanism	Methodology	Method for downward adjustment
GS (Gold Standard)	Two and three wheeled personal transportation (v1.0)	Technology improvement factor for the calculation of baseline emissions that aims to capture the autonomous improvement in fuel consumption of the baseline vehicles. A default value of 0.99 i.e., 1% improvement per year in fuel efficiency is indicated. When country specific information is available (e.g. as in the case of standardised baselines), the methodology allows its use in place of the default value (reference to the CDM methodological tool 'TOOL18: Methodological tool Baseline emissions for modal shift measures in urban passenger)
	Advanced Refrigeration Systems (v2.1)	Factor to annually amortize the emission rate of refrigerants in the calculation of baseline emissions. Different default annual values are provided for different types of segments, equipment, charge (in kg) and type of refrigerant. 25.75% for large commercial refrigeration and 7.75% for stand-alone commercial refrigeration are indicated.
ACR (American Carbon Registry)	Certified Reclaimed HFC Refrigerants, Propellants, and Fire Suppressants (v2.0)	Factor to account for the percentage of certified reclaimed HFC that is replacing virgin HFC in the business-as-usual case. The methodology recommends a default value of 2%.

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Appendix 1. Outline of the tool for the demonstration of additionality

1. Introduction

1. Paragraph 38 of the rules, modalities and procedures of the Article 6.4 mechanism states that *“Each mechanism methodology shall specify the approach to demonstrating the additionality of the activity. Additionality shall be demonstrated using a robust assessment that shows the activity would not have occurred in the absence of the incentives from the mechanism, taking into account all relevant national policies, including legislation, and representing mitigation that exceeds any mitigation that is required by law or regulation, and taking a conservative approach that avoids lock-in levels of emissions, technologies or carbon-intensive practices incompatible with paragraph 33 above”*.
2. Paragraph 39 of the rules, modalities and procedures of the Article 6.4 mechanism states that *“The Supervisory Body may apply simplified approaches for demonstration of additionality for any least developed country or small island developing State at the request of that Party, in accordance with requirements developed by the Supervisory Body”*.

2. Scope

3. For additionality demonstration, Article 6.4 mechanism methodologies shall require, through the application of this tool, that:
 - (a) Only mitigation activities that would not have occurred in the absence of the incentives from the mechanism are eligible; and
 - (b) Only emission reductions that are surplus over what is required by laws and regulations are eligible; and
 - (c) Only mitigation activities that do not lead to lock-in of levels of emissions, technologies or carbon-intensive practices incompatible with paragraph 33 of the RMPs are eligible.
4. Section 6 of this tool provides a proposed outline to demonstrate and assess the additionality of an activity.
5. The scope of this document is to describe the approaches for demonstrating the additionality of an activity that may be specified by an Article 6.4 mechanism methodology. The methodology may provide further guidance and requirements for applying the approaches in this tool.
6. The outline of this tool is prepared for illustrative purposes to facilitate the work of the Supervisory Body to strike a balance between substantive guidance in the recommendation on requirements for methodologies, and further guidance by the Supervisory Body to activity participants including through the development of methodological tools.

3. Definitions

7. For the purpose of this tool, the following definitions apply:

- (a) **Applicable geographical area** – shall be by default the entire host country. Activity participants shall provide justification on the choice of geographical area when choosing a specific subnational jurisdiction, such as a province (e.g. essential distinction between the identified specific geographical area and the rest of the host country);
- (b) **Emissions-intensive practice/technology/measure¹** – a practice/technology/measure that has a GHG emissions intensity per unit of production/consumption or service that exceeds the intensity of the lowest-emitting, [technically feasible and commercially available] [economically feasible and environmentally sound] practice/technology for the production/consumption or service delivered;
- (c) **Locking in levels of emissions, technologies or carbon-intensive practices incompatible with paragraph 33 of the RMPs** – to be defined
- (d) **[Current] [Relevant] laws/regulations** – any [legally binding laws, rules, mandates, regulations, statutes, agreements or other legal] statutory requirements in force [or expected to come into force] at the national, subnational or local levels applicable to the proposed activity and that require technological, performance or management actions. These legal requirements may, for example, require the use of a specific technology, meeting a certain standard of performance, or managing operations according to a certain set of criteria or practices. Overarching policy targets or generic plans without specified instruments or means of implementation and requirements without means of enforcement are not considered included under the definition.
- (e) **Start date of the activity** – The date on which the activity participants commit to making expenditures for the undertaking of the activity, or for the construction or modification of the main equipment or facility associated with the activity, or for the provision or modification of a service associated with the activity. Where a contract is signed for such expenditures, it is the date on which the contract is signed. In other cases, it is the date on which such expenditures are made.

4. Data requirements for the demonstration of additionality

8. Data used for the demonstration of additionality shall meet the following requirements:

- (a) Activity participants shall transparently list and describe the sources of data considered (e.g., peer-reviewed literature, test results, official reports/statistics) and justify the choices made (i.e., sources used are clearly indicated with justifications showing that the values selected and their sources are appropriate, applicable and conservative);
- (b) The approach used to demonstrate additionality shall result in consistent and reliable results for the same set of conditions on the ground, and the reliability and credibility of all assumptions, data (including vintage) and calculation methods,

¹ The terms “practice”, “measure” and “technology” are used interchangeably in this document.

including any qualitative information and justifications of choices made between different sources of data, are transparently documented and independently validated;

- (c) The DOE shall undertake cross-checking of the information and results with available independent sources to enhance reliability;
 - (d) Any comments received related to the demonstration of additionality during public consultations on an activity are addressed effectively.
9. In validating the application of this tool, DOEs shall carefully assess and verify the reliability and creditability of all data, rationales, assumptions, justifications and documentation provided by activity participants to support the demonstration of additionality. The elements checked during this assessment and the conclusions shall be documented transparently in the validation report.

5. General approaches for the demonstration of additionality

10. Mechanism methodologies shall require that the proposed activity be above and beyond business as usual (BAU), and that the activity is not common practice in the relevant industry, sector, geographic region, or a specific host country, and that the activity would face one or more barriers (e.g., financial, technological, institutional) to its implementation.
11. The approaches to demonstrating additionality include the application of additionality tests as specified in section 5.2 below (e.g., barrier test, first of its kind test), use of performance-based approaches that are specified in methodologies or the use of positive lists of technologies that may be approved by the Supervisory Body. The Article 6.4 mechanism methodology shall specify which of these approaches are applicable to demonstrate the additionality of activities eligible in the methodology.

5.1. Pre-requisites for the demonstration of additionality

12. The activity participant, prior to demonstrating the additionality of the activity, shall demonstrate that the following pre-requisites have been fulfilled:
- (a) **Prior consideration test** – a public notification submitted by the activity participant to the Supervisory Body prior to the start date of the activity, indicating that the Article 6.4 mechanism benefits were considered necessary in the decision to implement the activity;
 - (b) **Regulatory surplus test** – the emission reductions that an activity aims to achieve are over and above what is required by law or regulation at the activity start date. In determining whether an action is surplus to statutory requirements, the activity participants do not need to consider requirements without evidence or means of enforcement.

5.2. Additionality tests

13. Activity participants may apply the following additionality tests as specified in the applied methodology:
- (a) **Lock-in emissions test** – to be defined.

- (b) **First-of-its-kind test** – a test to check whether the activity is the first in the applicable geographic area to apply a technology/measure that is different from technologies/measures implemented by any other mitigation activities that are able to deliver the same output as the proposed activity;
- (c) **Additionality risk test** – a test to determine the risk that the activity would be undertaken without the incentives of the Article 6.4 mechanism (low/medium/high). The additionality risk is determined based on the source of revenues of the activity and the number of similar activities implemented without the incentives of the mechanism in the same country;
- (d) **Implementation barrier test** – a test to determine whether there are barriers other than financial that could prevent the implementation of the activity. The barrier tests may include:
 - (i) **Financial barrier test or investment analysis** – a test to check whether the activity faces financial constraints that carbon finance is expected to resolve to enable implementation of the activity;
 - (ii) **Technological barriers test** – a test to check whether the activity faces significant technological barriers, such as risk of technology failure or research and development deployment risk, lack of trained personnel and supporting infrastructure for technology implementation, lack of service/support capacity, or lack of knowledge about the practice/activity, in comparison with other technologies providing similar outputs or services, and whether carbon market incentive is a key element in overcoming these barriers;
 - (iii) **Institutional barriers test** – a test to check whether the activity faces significant organizational, cultural or social barriers to implementation, and whether carbon market incentive is a key element in overcoming those barriers;
- (e) **Common practice test** – a test to cross-check the results of the additionality demonstration using any of the barriers tests. It checks whether there is a widespread deployment of the technology/measure or practice in the industry/sector within the relevant geographic area, including the host country. The level of penetration that represents common practice may differ between sectors and geographic areas, depending on the diversity of baseline candidates.

5.3. Additionality based on performance-based approaches

14. Article 6.4 mechanism methodologies may specify performance standards to qualify proposed activities as additional, i.e. additionality is demonstrated by showing that a proposed activity meets or exceeds a performance standard as defined in the mechanism methodology. A performance-based standard may be practice-based, a technology standard, or an emission rate or benchmark.
- (a) **Practice-based method** – entails evaluating the adoption rates or penetration levels of a particular practice in a relevant industry, sector or subsector. If the adoption rates or penetration levels are sufficiently low, and thus it is determined that the proposed activity is not common practice, then the activity is considered

additional. Specific thresholds may vary by industry, sector, geographical area and practice, and are specified in the relevant methodology;

- (b) **Technology standard** – installation of a particular GHG-reducing technology may be determined to be sufficiently uncommon that simply installing the technology is considered additional;
- (c) **Emission rate or benchmark (e.g., in tonnes of CO₂e emissions per unit of output)** – with examination of sufficient data to assign an emission rate that characterizes the industry, sector, subsector or typical land management regime, the net GHG emissions/removals associated with the activity, in excess of this benchmark emission rate, may be considered additional and credited.

5.4. **Additionality based on positive list of technologies**

- 15. The list will consist of activities that are deemed automatically additional when applicable conditions are satisfied.
 - (a) **Global positive lists** – the list will be developed by the Supervisory Body and will contain the activity types that, under all contexts, can show that their net present value of costs significantly exceeds (e.g., by at least 25 per cent) revenues and savings without carbon finance;
 - (b) **National or regional positive lists** – The list will be developed by the host country following the requirements to be set by the Supervisory Body in a future tool.

6. **Proposed outline of the additionality tool**

6.1. **Step 1. Prior consideration test**

- 16. The activity participants of a proposed A6.4 project shall demonstrate that the Article 6.4 mechanism incentives were considered necessary in the decision to implement the activity following the requirements as mentioned in the procedure “Article 6.4 mechanism activity cycle procedure for projects”.
- 17. If the activity participant is not able to demonstrate the prior consideration of the Article 6.4 mechanism benefits during the decision to implement the activity, the activity is not additional.

6.2. **Step 2. Regulatory surplus test**

- 18. The activity participant shall demonstrate that the emission reductions that an activity aims to achieve is over and above what is required by law or regulation at the activity start date by identifying any [current] [relevant] laws or regulations applicable to the activity, describing the emissions level or emissions intensity it requires, host country-level compliance rate with the said regulation and demonstrating that the activity reductions/removals obtain higher mitigation than that level. New relevant laws/regulations enforced during the crediting period shall be considered at the time of renewal of the crediting period.

6.3. Step 3. Additionality tests

6.3.1. Step 3.1. Lock-in emissions test

19. Avoiding locking-in should be demonstrated using one of the following approaches:
- (a) Confirming that:
 - (i) activity is compatible with the temperature goals of the Paris Agreement;
 - (ii) activity is in line with the host country's climate policies;
 - (iii) activity's GHG emissions intensity per unit of production/consumption is lower than the intensity of the lowest emitting, technically feasible and commercially available production pathway for the product, service, or output delivered;
 - (b) To be developed further.
20. If the activity does not lead to locking-in the levels of emissions, the activity participant should proceed to the next test.

6.3.2. Step 3.2. First-of-its-kind test

21. An activity is first of its kind if it is the first activity in the same geographical area to apply a technology that is different from technologies applied by other activities to deliver the same output.

6.3.3. Step 3.3. Additionality risk test

22. Activity participants shall determine whether the additionality risk level is low, medium or high by means of:
- (a) Checking the different revenue sources of the activity;
 - (b) Determining whether similar activities have been implemented without the incentives of the mechanism.
23. The additionality risk level of the activity is **low** if:
- (a) The only source of revenue or savings of the activity is from the sales of units of Article 6, paragraph 4, emission reductions (A6.4 ERs) or removal units; or
 - (b) The activity is not the first of its kind.
24. The additionality risk level of the activity is **medium** if:
- (a) The sales of A6.4 ERs or removal units is not the only source of revenue of the activity; and
 - (b) There is at least one similar activity implemented in the host country without the incentives of the Article 6.4 mechanism;

25. The additionality risk level of the activity is **high** if:
- (a) The sales of A6.4 ERs or removal units is not the only source of revenue of the activity; and
 - (b) There are several activities implemented in the host country without the incentives of the Article 6.4 mechanism.

6.3.4. Step 3.4. Implementation barrier test

26. Activities whose additionality risk is medium or high shall conduct the financial barrier test/investment analysis and in that case the demonstration of the other barriers is optional.

6.3.4.1. Step 3.4.1. Financial barrier test or investment analysis

27. Activity participants must determine whether the proposed activity is not:
- (a) The most economically or financially attractive; or
 - (b) Economically or financially feasible without the revenue from the sale of A6.4 ERs.
28. As a first step, activity participants should choose the appropriate analysis method, e.g. comparing the financial return of the activity against another activity (investment comparison) or against a suitable financial indicator (benchmark analysis).
29. The next step would be to list the inputs and assumptions needed to prepare the cash flow of the activity or to set/calculate the suitable financial indicator.
30. The last step would be to conduct a sensitivity analysis, by varying the inputs that represent a significant share of the revenues and expenditures.
31. If it is concluded that (i) the proposed activity is more costly than at least one alternative or that its net present value (NPV) or internal rate of return (IRR) is lower than the suitable financial indicator, and (ii) the sensitivity analysis concludes that the proposed activity is unlikely to be the most financially/economically attractive or is unlikely to be financially/economically attractive, then the financial barrier is demonstrated.

6.3.4.2. Step 3.4.2. Technological barrier test

32. This step serves to identify barriers and to assess which alternatives are prevented by these barriers.
33. If this step is used, determine whether the proposed activity faces barriers that:
- (a) Prevent the implementation of this type of proposed activity; and
 - (b) Do not prevent the implementation of at least one of the alternatives.
34. The identified barriers are sufficient grounds for demonstration of additionality only if they would prevent potential activity proponents from carrying out the proposed activity undertaken without it being registered as an activity.
35. Identified barriers that may prevent one or more alternative scenarios to occur then proceed to the next test i.e. Common practice test. If the Article 6.4 mechanism benefits

do not alleviate the identified barriers that prevent the proposed activity from occurring, then the activity is not additional.

6.3.4.3. Step 3.4.3. Institutional barrier test

36. The activity participant shall demonstrate that institutional barriers including limited technological know-how or information, availability of service infrastructure, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, would prevent the implementation of the activity and would lead to the implementation of other alternatives to the activity that would lead to higher emissions.
37. If the test is satisfied, proceed to the next test: Common practice test. If the Article 6.4 mechanism benefits do not alleviate the identified barriers that prevent the proposed activity from occurring, then the activity is not additional.

6.3.5. Step 3.5. Common practice test

38. The above additionality tests shall be complemented with an analysis of the extent to which the proposed activity type (e.g. technology, practice) has already been disseminated in the relevant sector and region. This test is a credibility check to complement the barriers test. The activity participant should identify and discuss whether the penetration level of the technology and measure applied by the activity is widespread in the industry/sector within the relevant geographic area by:
 - (a) Identifying the number of similar activities in the same geographical area that apply the same measure, use the same inputs (energy source or feedstock) and have the same outputs or services;
 - (b) Identify the penetration rate of similar activities over the target market size.
39. If outcome of this step is that the proposed activity is not regarded as “common practice”, then the proposed activity is additional. If outcome is that the proposed activity is regarded as “common practice”, then the proposed activity is not additional.

6.4. Performance-based approaches

40. The activity participants may follow the requirements in the specific Article 6.4 mechanism methodology and to use the performance-based approaches that are specified therein. Subject to the guidance in the methodology, If activity’s penetration is below the threshold, or if the technology type applied by the activity is unique, or if the emission rate or benchmark of the technology applied by the activity is below the rate that characterizes the industry, sector, subsector or typical land management regime, and relevant geographic area, then the activity is additional.

6.5. Positive-list technologies

41. Activities included in a positive list approved by the Supervisory Body are deemed additional.

Appendix 2. Outline of the tool for the implementation of baseline approaches

1. Introduction

1. Paragraph 36 of the rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement (RMP) states that “each mechanism methodology shall require the application of one of the approach(es) below to setting the baseline, while taking into account any guidance by the Supervisory Body, and with justification for the appropriateness of the choices, and recognizing that a host Party may determine a more ambitious level at its discretion”.

2. Scope and applicability

2.1. Scope

2. The scope of this document is to describe the approaches for baseline of an activity. Article 6.4 mechanism methodology may provide further guidance and requirements for applying the approaches in this tool.
3. The outline of this tool is prepared for illustrative purposes to facilitate the work of the Supervisory Body to strike a balance between substantive guidance in the recommendation on requirements for methodologies, and further guidance by the Supervisory Body to activity participants including through the development of methodological tools.

2.2. Applicability

4. This methodological tool is applicable for the selection and application of performance-based approaches in mechanism methodologies, according to either:
 - (a) A performance-based approach, taking into account:
 - (i) Best available technologies that represent an economically feasible and environmentally sound course of action, where appropriate;
 - (ii) An ambitious benchmark approach where the baseline is set at least at the average emission level of the best performing comparable activities providing similar outputs and services in a defined scope in similar social, economic, environmental and technological circumstances; or
 - (b) An approach based on existing actual or historical emissions, adjusted downwards to ensure alignment with paragraph 33 of the RMPs.

3. Definitions

5. For the purpose of this tool, the following definitions apply:
 - (a) **Applicable geographical area** – by default, the entire host country. Activity participants shall provide justification on the choice of geographical area when

choosing a specific subnational jurisdiction, such as a province (e.g. essential distinction between the identified specific geographical area and the rest of the host country);

- (b) **Best available technology (BAT)** – the practice/technology/measure that has the lowest GHG emissions intensity per unit of output or service of all the technologies providing the same output or service that are commercially viable and available in the applicable geographical area;
- (c) **Best performing comparable activities** – outputs or services according to the top [xx] percent of performance in terms of greenhouse gas (GHG) emissions intensity considering all of similar outputs or services in the applicable geographical area;
- (d) **Economically feasible and environmentally sound course of action** – an activity for which the economic returns are sufficient to cover its economic costs, and that is in line with laws and regulations on environmental protection in the applicable geographical area;
- (e) **Emissions intensive practice/technology/measure¹** – a practice/technology/measure that has a GHG emissions intensity per unit of production/consumption or service that exceeds the intensity of the lowest emitting, economically feasible and environmentally sound practice/technology for the production/consumption or service delivered;
- (f) **Locking in levels of emissions, technologies or carbon-intensive practices incompatible with paragraph 33 of the RMPs** – to be defined;
- (g) **Requirements of laws or regulations** – any statutory requirements imposed on the proposed activity and that require technological, performance or management actions. These legal requirements may, for example, require the use of a specific technology, meeting a certain standard of performance, or managing operations according to a certain set of criteria or practices. Overarching policy targets or generic plans without specified instruments or means of implementation and requirements without means of enforcement are not considered included under the definition;
- (h) **Start date of the activity** – the date on which the activity participants commit to making expenditures for the undertaking of the activity, or for the construction or modification of the main equipment or facility associated with the activity, or for the provision or modification of a service associated with the activity. Where a contract is signed for such expenditures, it is the date on which the contract is signed. In other cases, it is the date on which such expenditures are made.

4. Data and credibility requirements

6. When applying any baseline approach, developers of methodologies or standardized baselines and activity participants shall transparently list and describe the sources of data considered (e.g. peer-reviewed literature, test results, official reports/statistics) and justify the relevance, appropriateness and conservativeness of the choices made.

¹ The terms practice, measure and technology are used interchangeably in this document.

7. The data used shall be sourced from the most recent publicly available information, and not more than three years older than the year the activity project design document (PDD) is submitted for global stakeholder consultation.
8. A DOE shall cross-check, with independent sources, the relevance, appropriateness and conservativeness of the data used in order to enhance reliability;
9. Developers of methodologies or standardized baselines and activity participants shall appropriately address any comments related to the applied baseline approach received during public consultations on the proposed activity.

5. Procedures for the selection and application of the baseline approaches

10. Mechanism methodologies shall require the option(s) below for the determination of the baseline:

5.1. Option 1. Best available technologies

11. The baseline scenario may be identified/determined as the best available technology that represents an economically feasible and environmentally sound course of action.

Step 1. Define the output or service² provided by the activity.

Step 2. Identify the technologies that are available³ (where “available” means accessible off the shelf) in the applicable geographical area that provide the same output or service, via a tendering or direct contracting process, or by implementation directly by the end user, at the scale required for implementation at a similar level to the activity.

Step 3. Identify which of these available technologies are environmentally sound,⁴ i.e. in line with laws and regulations on environmental protection in the applicable geographical area.

Step 4. Identify which of the remaining technologies are economically feasible,⁵ i.e. their economic returns are sufficient to cover their economic costs, and are under sound technical and financial management by entities or individuals (as applicable) similar to those targeted by the activity.

Step 5. Define the emissions intensity⁶ of each of the remaining technologies as tCO₂e per unit output or service, based on the average conditions of the technology in the applicable geographical area.

² For example, for landfill gas capture and flaring, the service would be municipal waste management.

³ For example, for landfill gas capture and flaring, other technologies might be dumping in an uncontrolled dump, burning by households, controlled landfill without landfill gas (LFG) capture, and composting.

⁴ For example, for the landfill, if regulations prohibit uncontrolled dumping and open burning of waste, then these technologies are eliminated.

⁵ For example, for the landfill, both gas capture and flaring and composting are demonstrated to be loss-making technologies for waste management companies.

⁶ For the landfill, the tCO₂e/tonnes municipal waste disposal is estimated for the controlled landfill without LFG capture, which is the only remaining technology.

Step 6. Identify the remaining technology with the lowest emissions intensity.⁷ This technology constitutes the BAT and its emission intensity forms the basis for the crediting baseline.

12. The approach for defining BAT must be carried out each time the crediting period is renewed to update the baseline.
13. Best available technologies may be recommended by host Parties for consideration by the Supervisory Body, following the “Procedure for development, revision, clarification and update of standardized baselines”. The BAT approved through this process can be applied directly without following the steps above.

5.2. Option 2. Ambitious benchmark

14. The baseline for article 6.4 activities based on ambitious benchmark may be identified as the average emission level of the best performing comparable activities providing similar outputs and services in a defined scope in similar social, economic, environmental and technological circumstances.

Step 1. Define the output or service provided by the activity.

Step 2. Identify all the technologies (e.g. types of industrial plants, types of household units, as applicable to the activity type) that are providing the same output or service in the applicable geographical area in similar social, economic, environmental and technological circumstances.⁸

Step 3. Collect the GHG emissions performance data for all the identified technologies. Prepare a distribution curve of tCO₂e/unit output or service for the total amount of output or service in the applicable geographical area.

Step 4. Select the group of best performing comparable activities at the [xxth] percentile of the distribution curve and better. Calculate the simple average of the emissions levels of the best performing comparable activities as tCO₂e/unit output or service. This value constitutes the ambitious benchmark and its emission intensity forms the basis for the crediting baseline.

15. The ambitious benchmark shall be updated accordingly at the time of renewal of the crediting period.

5.3. Option 3. Downward adjustment to existing, actual or historical emissions

16. The baseline for the activity may be identified/determined based on existing actual or historical emissions, adjusted downwards.

Step 1. Determine the actual or historical emissions of the existing scenario prior to the activity.

⁷ For example, for the landfill, the emissions intensity of the controlled landfill without LFG capture is the BAT.

⁸ For example, for cement for concrete 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 metal-alloy production, the technologies are those being applied for the same metal-alloy production.

- a) Option 1: The actual emissions mean the emissions intensity of the most recent calendar year prior to submission of the PDD to global stakeholder consultation;
- b) Option 2: The historical emissions mean the average emissions intensity of the most recent three calendar years prior to submission of the PDD to global stakeholder consultation.

[Step 2. Adjust the emissions intensity downwards periodically] [to be developed]

- 17. [The downward adjustment shall be applied consistently by all the activities implemented in the same applicable geographical area using the same methodology.] [to be developed]

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Appendix 3. Outline of the tool to address leakage

1. Introduction

1. Paragraph 36 of the RMP states that “mechanism methodology shall (...) avoid leakage, where applicable (...)”.

2. Scope, applicability, and entry into force

2. This methodological tool provides guidance to first identify potential sources of leakage and then avoid, minimize or address leakage of an article 6.4 activity (hereinafter referred to as activity), to be elaborated within the mechanism methodologies (hereinafter referred to as methodologies).
3. The outline of this tool is prepared for illustrative purposes to facilitate the work of the Supervisory Body to strike a balance between substantive guidance in the recommendation on requirements for methodologies, and further guidance by the Supervisory Body to activity participants including through the development of methodological tools.

3. Definitions

4. For the purpose of this tool, the following definitions apply:
 - (a) **Leakage** – Net change of anthropogenic emissions by sources of GHGs which occurs outside the activity boundary, and which is measurable and attributable to the Article 6.4 activity;
 - (b) To be developed.

4. Step-wise procedures to address leakage

5. Mechanism methodologies may require the steps below to address leakage:
 - (a) **Step 1.** Identify potential sources of leakage in a typical activity covered by the mechanism methodology, including, but not limited to, any sources referred below;
 - (i) Used equipment that is accounted in the activity baseline being transferred outside of the activity boundary for continued use;
 - (ii) Diversion of resources from other activities or competing uses and shifts of pre-project activities;
 - (iii) Diversion of production or service provision, i.e., relocation and continuation of baseline activities outside the activity boundary;
 - (iv) [Upstream emissions owing to the production of products or services and downstream emissions due to use and disposal of products and services including emissions associated with the fuel/electricity consumed due to production, processing, transmission, storage and distribution.]

- (b) **Step 2.** Include provisions to avoid or minimize all sources of leakage as far as possible and address leakage that cannot be avoided by applying one or more measure(s) below;
- (i) Discounting: deductions of emission reductions from credited volumes taking into account equipment lifetime where applicable;
 - (ii) Scrapping: undertaking and evidencing the destruction / decommissioning / disposal of a baseline technology;
 - (iii) Abundancy of resources: demonstration of surplus availability of resources in the region;
 - (iv) Higher-level integration: integration in a higher-level monitoring system and use of a standardized baseline (or equivalent) that is regularly updated;
 - (v) Larger-scale implementation: sectoral, sub-national or national level implementation.

6. Table 1 below combines the potential leakage sources and potential solutions that may be considered for the different sectors. The specific guidance for the identification of leakage sources and approaches to address the identified leakage for certain activity types shall be provided in methodologies.

Table 1. Approaches that may be considered to address leakage per sector

Leakage Type	Energy (renewable energy, energy efficiency)	Industrial processes and product use	Agriculture, Forestry and Other Land Use (AFOLU)	Transport
Baseline equipment transfer	<ul style="list-style-type: none"> • Discounting; • Scrapping 	<ul style="list-style-type: none"> • Discounting; • Scrapping 		<ul style="list-style-type: none"> • Discounting; • Scrapping
Diversion of Resources	<ul style="list-style-type: none"> • Discounting; • Abundancy of resources 	<ul style="list-style-type: none"> • Discounting; • Abundancy of resources 		
Diversion of non-renewable biomass saved	<ul style="list-style-type: none"> • Discounting; • Survey 		<ul style="list-style-type: none"> • Discounting; • Survey 	
Upstream/ Downstream emissions	<ul style="list-style-type: none"> • Life cycle assessment (LCA) 	<ul style="list-style-type: none"> • LCA 		<ul style="list-style-type: none"> • LCA
Activity leakage within national boundaries	<ul style="list-style-type: none"> • Sectoral/national standardized baseline and/or Measurement, Reporting, and Verification (MRV); • Leakage belt 	<ul style="list-style-type: none"> • Sectoral/national standardized baseline and/or MRV; • Leakage belt 	<ul style="list-style-type: none"> • Sectoral/national standardized baseline and/or MRV; • Leakage belt 	<ul style="list-style-type: none"> • Sectoral/national standardized baseline and/or MRV; • Leakage belt
Market leakage			<ul style="list-style-type: none"> • Discounting; • Apply default values 	

- (a) **Step 3.** Include robust monitoring, reporting and verification systems that encompass all potential sources of leakage identified;
- (b) **Step 4.** Require the activity participant to follow any guidance from the DNA of the host Party on leakage, where available.

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Appendix 4. Extracts of Section 4.8 “Approaches for downward adjustment and to address elements of paragraph 33 of the RMP”

1. Introduction

1. The draft recommendation on “Requirements for the development and assessment of mechanism methodologies”, as contained in annex 12 to the annotations of SB 007 meeting of the Supervisory Body, includes Section 4.8 “Approaches for downward adjustment and to address elements of paragraph 33 of the RMP”. The section is reproduced below for easy reference.

2. Description of the Options: Option 1.1 to Option 1.3 (Quantitative) and Option 2 (Qualitative)

2. 52. The quantitative approaches, i.e., options 1.1 to 1.3 and qualitative approach, i.e., option 2 below enable stringency of baselines over time or result in downward adjustment of creditable emission reductions over time or support transformative actions in relation to Article 6.4 activities. A methodology may require the application of a single approach to meet the requirements of one or more elements of section 4 of this document (e.g., 4.1 Encouraging ambition over time, 4.5 Aligning with the long-term temperature goal of the Paris Agreement, 4.6 downward adjustment of existing actual or historical emissions). When one of the approaches is called in by the methodology to meet multiple elements of section 4 of this document, it is required to apply the approach only once, i.e., adjustments are not compounded.

52bis. Where appropriate, mechanism methodologies may use quantitative approaches (i.e., options 1.1 to 1.3) and qualitative approach (i.e. options 2.1 and 2.2) below [to operationalize] [to enable stringency of baselines over time or result in] downward adjustment of [baselines] [creditable emission reductions over time or support transformative actions in relation to Article 6.4 activities] [to restrict supply of A6.4 ERs to make up for the lack of demand]. [A methodology may require the application of a single approach to meet the requirements of one or more elements of section 4 of this document (e.g., 4.1 Encouraging ambition over time, 4.6 downward adjustment of existing actual or historical emissions).] [Application of these approaches is not mandatory and] [When one of the approaches is called in by the methodology to meet multiple elements of section 4 of this document, it is required to apply the approach only once, i.e.] adjustments are not compounded.

52ter. The quantitative approaches and a qualitative approach, i.e., option 2 below, are proposed to encourage increasing stringency of baselines over time, result in downward adjustment of creditable emission reductions over time, and or support transformative actions in relation to Article 6.4 activities. In that regard:

- (a) A methodology may require the application of a single option to meet the requirements of one or more elements of section 4 of this document (e.g., 4.1 Encouraging ambition over time, equitable sharing of mitigation benefits, etc, 4.6 downward adjustment of the approach(es) identified in para 36 of the RMP, or adjustment of existing actual or historical emissions);

- (b) When one of the options proposed here is required in the methodology to meet multiple elements of section 4 of this document, the option shall reflect what is needed to address all the elements, and applied only once, i.e., adjustments are not compounded.

53. Option 1 (and sub options): The following approaches to adjustment downward shall be applied:

- (a) **Option 1.1:** Increasing the stringency of baselines over time by updating the parameters in the methodologies at regular intervals based on [latest science] [latest IPCC reports], reassessing the parameters of the baseline at the renewal of the crediting period, accounting for autonomous improvements of baseline parameters, operationalized through methodology procedures and rules applicable to registered activities;

Option 1.1bis: Baseline Updates- This could include (a) increasing the stringency of baselines over time by updating the parameters in the methodologies at regular intervals based on latest science, (b) reassessing the parameters of the baseline at the renewal of the crediting period, (c) accounting for autonomous improvements of baseline parameters, (d) operationalized through methodology [development process] [procedures] and rules applicable to registered activities;

- (b) **Option 1.2:** Top-down development of downward adjustment factors for emission reductions estimates in a methodology, by the Supervisory Body, using IPCC Integrated Mitigation Pathways (IMPs) differentiated by sector or region to accommodate different circumstances of the Host Parties;

Option 1.2bis: Top-down development of downward adjustment factors for emission reductions estimates in a methodology, by the Supervisory Body in consultation with the host Parties, using IPCC Integrated Mitigation Pathways (IMPs) or other means differentiated by specific technology, sector, region, and socio-economic conditions to accommodate different circumstances of the host Parties;

Option 1.2ter: Development by the Supervisory Body of default downward adjustment factors for emission reductions estimates in a methodology with reference to the requirements (to be specified) of paragraph 33 of the RMP;

- (c) **Option 1.3:** Bottom-up development of country specific downward adjustment factors for emission reduction estimates in a methodology, where necessary differentiated by sector or region, operationalized through the Standardised Baseline procedures, i.e., submissions from host Parties through its DNAs will be considered by the Supervisory Body for approval, or through activity level guidance provided by the Supervisory Body;

Option 1.3bis: Bottom-up development of country specific downward adjustment factors for emission reduction estimates in a methodology, where necessary differentiated by specific technology, sector, region, and socio-economic conditions, operationalized in consultation with the host Parties through the Standardised Baseline procedures, or through activity level guidance provided by the Supervisory Body.

Option 1.3ter: Development of downward adjustment factors for emission reduction estimates in a methodology with reference to the requirements (to specify) of paragraph 33 of the RMP by the Host country. Downward adjustment factors shall be developed and operationalized through the Standardised Baseline procedures, or through activity level guidance provided by the Supervisory Body:

- (i) Taking into account IPCC Integrated Mitigation Pathways (IMPs) or other means differentiated by sector or region to accommodate different circumstances of the host Parties;
 - (ii) Reflecting host Party preferences with regard to retaining a portion of the emission reductions which should not be credited for the benefit of a third party;
 - (iii) Reflecting host Party requirements with respect to methodologies as expressed under paragraphs 26 or 27 of the RMP;
 - (iv) Reflecting the host Parties' approach to ensuring consistency with its NDC, LT-LEDs, and long-term goals of the Paris Agreement, as expressed in an implementation plan;
 - (v) Reflecting appropriate differentiation by sector or region, national and local circumstances.
- (d) **Option 2:** Demonstrating that activities eligible under the methodologies are transformative to enable deep decarbonisation aligned with IPCC's IMPs, i.e., have the potential to transform an entire sector to low carbon option, as opposed to producing incremental improvements, taking into account the specifics of a sector, geographical location and level of uncertainty of greenhouse gas estimation;

Option 2bis: Application of positive list to demonstrate that activities eligible under the methodologies are transformative, i.e., have the potential to transform an entire sector, as opposed to producing incremental improvements, taking into account the specifics of a sector, geographical location and level of uncertainty of greenhouse gas estimation;

Option 2ter: Setting baselines that do not assume growth of emissions in the absence of Article 6.4 activities.

Appendix 5. Examples from CDM including CMP guidance, EB guidance to project developers

	CDM M&P and CMP decisions (Further guidance relating to the CDM)	Examples of further guidance (e.g., Standard, Guidelines, and Tools) developed by the CDM EB
Baseline	<p><u>CDM M&P, paragraph 44 to 48</u></p> <p>48. In choosing a baseline methodology for a project activity, project participants shall select from among the following approaches the one deemed most appropriate for the project activity, taking into account any guidance by the Executive Board, and justify the appropriateness of their choice:</p> <p>(a) Existing actual or historical emissions, as applicable, or</p> <p>(b) Emissions from a technology that represents an economically attractive course of action, taking into account barriers to investment, or</p> <p>(c) The average emissions of similar project activities undertaken in the previous five years, in similar social, economic, environmental and technological circumstances, and whose performance is among the top 20 per cent of their category.</p>	<ul style="list-style-type: none"> • TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality • TOOL10: Tool to determine the remaining lifetime of equipment • AR-TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities • Guidelines for determining baselines for measure(s) • Guidance by the CDM Executive Board (EB) to the Meth Panel on methodologies for baselines and monitoring plans • Some large scale CDM methodologies cited the above tools for the analysis of baseline scenarios, while other large scale CDM methodologies directly specified one of the approaches from paragraph 48 (a) to (c) with 48 (a) approach being most commonly used. Small scale methodologies generally included more prescriptive guidance and default approaches/values.
Standardized baselines	<p><u>Decision 3/CMP.6, paragraph 44 to 52</u></p> <p>44. Defines a “standardized baseline” as a baseline established for a Party or a group of Parties to facilitate the calculation of emission reduction and removals and/or the determination of additionality for clean development mechanism project activities, while providing assistance for assuring environmental integrity;</p> <p>45. Decides that Parties, project participants, as well as international industry organizations or admitted observer organizations through the host country’s designated national authority, may submit proposals</p>	<ul style="list-style-type: none"> • Standard for determining coverage of data and validity of standardized baselines • Standard for establishment of sector-specific standardized baselines • Standard for establishment of standardized baselines for afforestation and reforestation project activities under the CDM • Guidelines for quality assurance and quality control of data used in the establishment of standardized baselines

	CDM M&P and CMP decisions (Further guidance relating to the CDM)	Examples of further guidance (e.g., Standard, Guidelines, and Tools) developed by the CDM EB
	for standardized baselines applicable to new or existing methodologies, for consideration by the Executive Board;	<ul style="list-style-type: none"> Standard for establishment of sector-specific standardized baselines included prescriptive guidance including percent thresholds for benchmarking. Procedures also allowed for the application of approaches in the methodologies. The latter approach was almost universally used in the standardised baselines that were developed.
Suppressed demand	<p><u>CDM M&P, paragraph 46</u> 46. The baseline may include a scenario where future anthropogenic emissions by sources are projected to rise above current levels, due to the specific circumstances of the host Party.</p> <p><u>Decision 2/CMP.5, paragraph 35</u> 35. Encourages the Executive Board to further explore the possibility of including in baseline and monitoring methodologies, as appropriate, a scenario where future anthropogenic emissions by sources are projected to rise above current levels due to specific circumstances of the host Party.</p> <p><u>Decision 3/CMP.6, paragraph 69</u> 69. Reiterates its encouragement to the Executive Board to further explore the possibility of including in baseline and monitoring methodologies, as appropriate, a scenario in which future anthropogenic emissions by sources are projected to rise above current levels owing to the specific circumstances of the host Party;</p> <p><u>Decision 8/CMP.7, paragraph 23</u> 23. Further requests the Executive Board to accelerate the implementation of guidelines on suppressed demand in baselines and monitoring methodologies, prioritizing those that are more applicable to the least developed countries, small island developing States, African countries and countries underrepresented in the clean development mechanism;</p>	<ul style="list-style-type: none"> Guidelines on the consideration of suppressed demand in CDM methodologies At least 5 small scale methodologies were revised using the approach of the guidelines including default values that were developed by the CDM EB on a top-down basis.

	CDM M&P and CMP decisions (Further guidance relating to the CDM)	Examples of further guidance (e.g., Standard, Guidelines, and Tools) developed by the CDM EB
Additionality	<p><u>CDM M&P, paragraph 43</u> 43. A CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.</p> <p><u>Decision 2/CMP.5, paragraph 24</u> 24. Requests the Executive Board, starting at its next meeting, to further work and report to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on the enhancement of objectivity and transparency in the approaches for demonstration and assessment of additionality and selection of the baseline scenario by means of the following activities:</p> <p>(a) Further development of guidelines for demonstration and assessment of barriers and of standardized methods to calculate financial parameters;</p> <p>(b) Development of guidance for project participants on the use of a first-of-its-kind barrier and the assessment of common practice, including the definition of the applicable region, similar technologies and thresholds for penetration rates;</p> <p>(c) Establishment of simplified modalities for demonstrating additionality for project activities up to 5 megawatts that employ renewable energy as their primary technology and for energy efficiency project activities that aim to achieve energy savings at a scale of no more than 20 gigawatt hours per year;</p> <p>(d) Development of guidance for the treatment of feed-in tariffs in the additionality analysis for renewable energy project activities;</p> <p><u>Decision 3/CMP.6, paragraphs 38 and 39</u> 38. Welcomes the work of the Executive Board on the establishment of simplified modalities for demonstrating additionality for project</p>	<ul style="list-style-type: none"> • TOOL01: Tool for the demonstration and assessment of additionality • TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality • TOOL19: Demonstration of additionality of microscale project activities • TOOL21: Demonstration of additionality of small-scale project activities • TOOL23: Additionality of first-of-its-kind project activities • TOOL24: Common practice • TOOL27: Investment analysis • TOOL32: Positive lists of technologies • AR-TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities • Guidelines for objective demonstration and assessment of barriers • Guidelines on the assessment of investment analysis • Non-binding best practice examples to demonstrate additionality for SSC project activities • TOOL19 and TOOL21 introduced positive list of technologies, however, TOOL32 combined all the approaches for positive lists under one tool with a requirement to assess the technologies periodically using specific criteria. TOOL01 complemented by TOOL23, 24 and 27 was most commonly applied with several projects applying TOOL02.

	CDM M&P and CMP decisions (Further guidance relating to the CDM)	Examples of further guidance (e.g., Standard, Guidelines, and Tools) developed by the CDM EB
	<p>activities up to 5 megawatts that employ renewable energy as their primary technology and for energy efficiency project activities that aim to achieve energy savings at a scale of no more than 20 gigawatt hours per year;</p> <p>39. Requests the Executive Board to continue to simplify these modalities based on experience gained and to expand, as appropriate, their applicability to type III projects that reduce emissions by less than 20,000 tonnes of carbon dioxide equivalent per annum and to report back to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its seventh session on the experience gained, including on the appropriateness of the threshold;</p>	
Leakage	<p>CDM M&P, paragraph 51</p> <p>51. Leakage is defined as the net change of anthropogenic emissions by sources of greenhouse gases which occurs outside the project boundary, and which is measurable and attributable to the CDM project activity.</p> <p style="text-align: center; font-size: 48px; opacity: 0.5;">DRAFT</p>	<ul style="list-style-type: none"> • TOOL03: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion • TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation • TOOL12: Project and leakage emissions from transportation of freight • TOOL13: Project and leakage emissions from composting • TOOL14: Project and leakage emissions from anaerobic digesters • TOOL15: Upstream leakage emissions associated with fossil fuel use • TOOL16: Project and leakage emissions from biomass • TOOL22: Leakage in biomass small-scale project activities • TOOL28: Calculation of baseline, project and leakage emissions from the use of refrigerants

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