

International Initiative for Development of Article Methodology Tools (II-AMT) inputs on the A6.4SB draft recommendation for requirements for the development and assessment of mechanism methodologies

15 September 2022

The II-AMT is an international expert-led process to enable the alignment of approved Clean Development Mechanism (CDM) baseline and monitoring methodologies with rules and principles for collaboration under Article 6 of the Paris Agreement. Experts from all continents bring different perspectives from their knowledge of climate policies and practices in key regions combined with long-standing expertise in CDM methodologies to develop specific Article 6 methodology tools reflecting the principles and approaches of Article 6.

The II-AMT welcomes the opportunity to provide comments on the issues published by the Article 6.4 Supervisory Body (A6.4SB) in the annotated agenda and related annexes of the second meeting of the A6.4 SB. The II-AMT recognises the limited time available to the A6.4SB to hold 3 meetings and present its recommendations to the CMA at its fourth session, and welcomes the draft documents prepared by the SB thus far.

The A6.4SB, in the run-up to its second meeting instructed its informal working group on methodologies to prepare draft recommendations on “Requirements for the development and assessment of mechanism methodologies” to the CMA for consideration, with a view to forwarding the recommendations to CMA 4 (A6.4-SB002-AA-A07). The II-AMT would like to provide the following views in relation to the draft recommendations.

On requirement “3.1. Encouraging ambition over time”:

- On Option 1: We fully support option 1 that prescribes the use of “baseline contraction factor (BCF) curve” to encourage ambition overtime by setting a cap on baseline emissions. The BCF curves reflect the concept of a ambition coefficient declining over time developed inter alia under the II-AMT.
- On Option 2: We would like to highlight that option 2 reflects eligibility requirements and does not relate to baseline setting.
- On Option 3: We would like to encourage the A6.4SB to be more specific in its recommendations for option 3. The options presented in the text are rather broad and too diverse to be generally seen as ambitious.

Regarding requirement “3.9. Requirements on baselines”, we do not agree with the proposed approaches as they would exclude many activities for which benchmarking / BAT cannot be applied. We would instead suggest a general approach applying a baseline contraction factor/ambition coefficient to ensure ambition under the historical emissions approach.

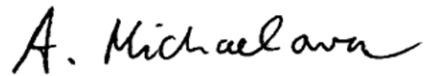
Regarding “3.10. Additionality”, we fully align ourselves with the draft recommendations.

The II-AMT would like to present the draft Article 6.4 methodology tools from the initiative as its input to the SB on requirements for development and assessment of mechanism methodologies. The draft tool will also be made available on the Initiative’s [website](#) shortly. The following are attached as annexes to this submission:

- TOOL01 - Tool for the demonstration and assessment of additionality (draft)
- TOOL02 - Tool for robust baseline setting (draft)
- TOOL03 - Tool for monitoring, reporting and verification of emissions and emission reductions (draft)

We welcome the opportunity to engage with the Article 6.4 Supervisory Body further and would be happy to discuss our comments with you in more detail.

With best wishes,

A handwritten signature in black ink that reads "A. Michaelowa". The signature is written in a cursive, flowing style.

Dr. Axel Michaelowa

Expert, II-AMT and Senior Founding Partner, Perspectives Climate Group

ANNEX A: TOOL01

TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY (DRAFT)

Tool

Version 00.00

15.09.2022

CONTENTS

- Introduction** 3
 - Background** 3
 - Objectives** 3
- Rules and Principles** 4
- Scope and applicability** 5
- Terms and definitions 8
- Methodology procedure** 10
 - Stepwise determination of additionality** 10
 - GUIDANCE FOR THE DEVELOPMENT OF POSITIVE LISTS** 13
 - GUIDANCE FOR THE DEVELOPMENT OF POSITIVE LISTS FOR FINANCIAL ADDITIONALITY** 13
 - ” GUIDANCE FOR THE DEVELOPMENT OF POSITIVE LISTS** 13
 - GUIDANCE FOR CREDITING PERIOD LENGTH AND RENEWAL** 13
 - Ex-ante determination of credit period length** 14
 - Stepwise approach for consideration of additionality for crediting period renewal** 14
- References** 15

INTRODUCTION

BACKGROUND

1. Additionality testing aims to ensure that only mitigation outcomes that require carbon market support are credited under baseline-and-credit schemes, so that carbon finance is not spent on mitigation that would have been achieved anyway. If carbon finance is directed toward such non-additional activities and redirects resources from where additional mitigation would occur, the efficiency of global efforts to address climate change will be undermined and global emissions will increase in case NDC targets are less ambitious than business-as-usual. If a host country has an ambitious NDC and is committed to achieve its targets, a non-additional mitigation outcome may be compensated for by additional action to achieve the NDC. However, that would still lead to an inefficient allocation of resources within the country and could make it difficult for the host country to achieve its NDC. If non-additional mitigation outcomes are transferred and not compensated for by more action in the host country, which is the case if the NDC has a target above business as usual, then offsetting emissions with such non-additional mitigation outcomes leads to an increase in global emissions, compared to a scenario without such transfers. Therefore, a robust assessment of additionality is key to ensuring the quality of the mitigation outcomes and the efficiency and environmental integrity of carbon market mechanisms.
2. As a criterion, additionality is known already from the Kyoto Protocol flexibility mechanisms - Joint Implementation (JI) and the Clean Development Mechanism (CDM). Under the CDM, methodologies included steps to determine additionality, and later these approaches were summarised in tools¹.
3. With the implementation of the Paris Agreement, determining additionality must be done in the context of the obligation of Parties to implement their NDCs and to increase ambition in mitigation and adaptation action to contribute to achieving the long-term objectives of the agreement. The Article 6 rulebook - in particular the rules, modalities, and procedures (RMP) of the Article 6.4 mechanism (A6.4M) - clarifies new principles and requirements for the demonstration and assessment of additionality.
4. In January 2022, the “International Initiative for Development of Article 6 Methodology Tools” (II-AMT) was launched with the aim of developing methodological tools that guide the revision of existing methodologies when applied to activities implemented in the context of Article 6 of the Paris Agreement.

OBJECTIVES

5. This TOOL01 provides a robust approach and guidance for project proponents to demonstrate that their proposed mitigation activities can be considered additional in the context of Article 6 of the Paris Agreement. TOOL01 has been developed based on experience with and lessons learned from the application of the CDM additionality tool and other approaches to additionality assessment applied in international carbon markets. It is a stand-alone tool for additionality under Article 6 for project and programme-level activities. A combined tool for baseline setting and additionality is not presented at this time.

The following experts of the II-AMT have led the development of this tool:

- a. Axel Michaelowa, Perspectives Climate Research, Switzerland

¹ The most widely applied CDM tools for additionality are the “Tool for the demonstration and assessment of additionality” with its latest version (version 7) adopted in November 2012 and the “Combined tool to identify the baseline scenario and demonstrate additionality” with the latest version (version 7) from September 2017. These tools refer to separate tools for common practice analysis, currently in version 3.1 from June 2015, and for investment analysis. The latter has been revised frequently, with the current version 11 adopted in October 2021.

- b. Randall Spalding-Fecher, Carbon Limits, Norway
- c. Derik Broekhoff, Stockholm Environment Institute, USA
- d. Jessica Wade-Murphy, Atmosphere Alternative, Colombia

The following experts supported the development of this tool:

- e. Clayton Munnings, Munnings Consulting, USA
- f. Kentaro Takahashi, International Institute for Global Environmental Studies, Japan
- g. Martha Ntabadde, freelance consultant and member of the CDM Methodology Panel, Uganda
- h. Ximena Samaniego, Perspectives Climate Research, Germany

RULES AND PRINCIPLES

6. This tool has been developed based on the following principles enshrined in the decision 2/CMA.3 and 3/CMA.3 adopted by the Parties to the Paris Agreement:

7. **Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement**

“1. Internationally transferred mitigation outcomes (ITMOs) from a cooperative approach are:

(a) Real, verified and **additional**; [...]” (Decision 2/CMA.3, annex, paragraph 1)

8. **Rules, modalities, and procedures of the A6.4M**

31. The activity: (a) Shall be designed to achieve mitigation of GHG emissions that is **additional**, including reducing emissions, increasing removals and mitigation co-benefits of adaptation actions and/or economic diversification plans (hereinafter collectively referred to as emission reductions), and not lead to an increase in global emissions; [...]

38. 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 locking in levels of emissions, technologies or carbon-intensive practices** incompatible with **paragraph 33²** above.

(Decision 3/CMA.3, annex, paragraphs 31 and 38)

9. In addition, the following principles are relevant for this tool:

- a. Each participating party shall ensure that participation in Article 6 contributes to the implementation and achievement of their NDCs, LT-LEDS, and long-term goals of the Paris Agreement (most notably Decision 2/CMA.3, annex, paragraph 4.f and Decision 3/CMA.3, annex, paragraph 28.b) (see II-AMT GUIDE01)
- b. The assessment shall deliver **consistent results** for similar activities in the same relevant context conditions. For that to work, the additionality tool must contain mandatory steps for all activities and only few optional assessments. To allow for **consistent validation** by third

² Paragraph 33 reads: “Mechanism methodologies shall encourage ambition over time; encourage broad participation; be real, transparent, conservative, credible, below ‘business as usual’; avoid leakage, where applicable; recognize suppressed demand; align to the long-term temperature goal of the Paris Agreement, contribute to the equitable sharing of mitigation benefits between the participating Parties; and, in respect of each participating Party, contribute to reducing emission levels in the host Party; and align with its NDC, if applicable, its long-term low GHG emission development strategy if it has submitted one and the long-term goals of the Paris Agreement.” (Decision 3/CMA.3, annex, paragraph 33).

Party auditors, the tool must provide detailed guidance on how to apply the different steps (See II-AMT TOOL03, paragraph 65).

- c. The assessment shall include a characterisation of the inherent risks to additionality relevant to the general activity type and to the specific project conditions, as a reality check of the additionality assessment. Safeguards include:
 - Automatic financial additionality through positive lists shall only be applicable to activity types in circumstances where few, if any, activities are occurring without carbon credit revenue. National and international positive lists for financial additionality must be updated regularly.
 - Mandatory re-assessment of parts of additionality determination steps at the time of crediting period renewal.
 - Mandatory restriction of choices for crediting period length under certain circumstances.
- d. The assessment shall utilise information communicated in the respective host country NDC as a reference point for additionality demonstration.

SCOPE AND APPLICABILITY

10. This tool provides a general framework for demonstrating and assessing additionality of activities implemented in cooperative approaches under Article 6.2 of the Paris Agreement, subject to approval by participating Parties, and aims to inform the development of more detailed rules by the Supervisory Body of the Article 6.4 mechanism.
11. This tool provides for a stepwise approach to assess and demonstrate the additionality of projects and programmatic approaches (collectively called “mitigation activities”) in an applicable geographic area that is both in line with the Article 6.2 guidance and the RMPs of the A6.4M, the latter offering more detail on how to robustly determine additionality under Article 6. It is not applicable to mitigation activities on a higher level of aggregation such as sectoral approaches or mitigation policies. This tool does not replace the need for baseline methodologies to provide a stepwise approach to identify the baseline scenario for a mitigation activity. Activity participants shall ensure consistency between the determination of additionality of an activity and the determination of a baseline scenario (see II-AMT TOOL02).
12. In validating the application of this tool, independent third-party auditors shall carefully assess and verify the reliability and credibility of all data, rationales, assumptions, justifications³, and documentation provided by activity participants to support the demonstration of additionality. In this context, they shall also identify and cross-check available independent sources and documentation. The information checked during this assessment and the conclusions shall be documented transparently⁴. The host country NDC shall be one of the sources assessed during this process (see II-AMT TOOL03, paragraphs 65-68).
13. TOOL01 includes detailed guidance for a stepwise approach to determine additionality by considering the elements of “prior consideration”, “regulatory additionality”, and “financial additionality”, summarised in Figure 1 and detailed in paragraphs 18-21. The different steps entail⁵:
 - a. Checking for public notification of the intent to earn carbon credits prior to the start of the activity.

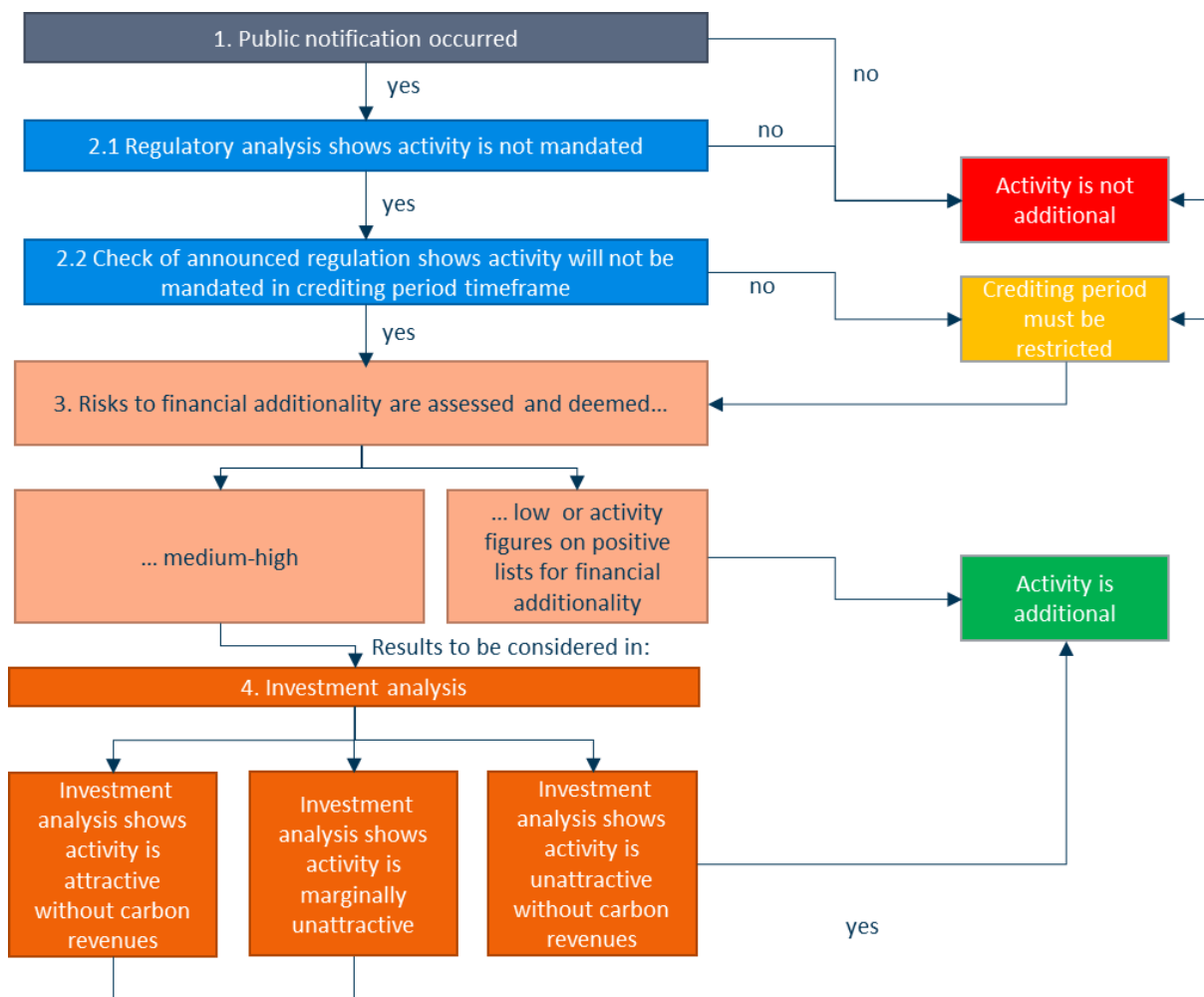
³ DOEs role and the level of detail of the guidance and the kinds of benchmarks or independent sources auditor should consult will be elaborated further in the next version.

⁴ The II-AMT experts recommend exploiting the benefits of digitisation in Article 6 cooperation in this context. Governments participating in cooperative approaches could agree to keep information on data, assumptions, benchmarks, in a database that auditors can access to cross-check information provided in mitigation activity design documentation.

⁵ The tool does not include a step for common practice analysis. While the principle is important, there has been no robust operationalisation so far that provides added value for the determination of additionality, mostly given difficulties in accessing the necessary data.

- b. Determining regulatory additionality to confirm that the neither is the activity mandated by law, nor is the mitigation it achieves effectively required by regulation. This step also includes a check of whether existing and promulgated regulations would mandate the activity at any point during the crediting period.
- c. Evaluating the risk that the activity type is financially attractive without carbon revenue, to decide if an investment analysis is required.
- d. Determining financial additionality of the activity based on an investment analysis.

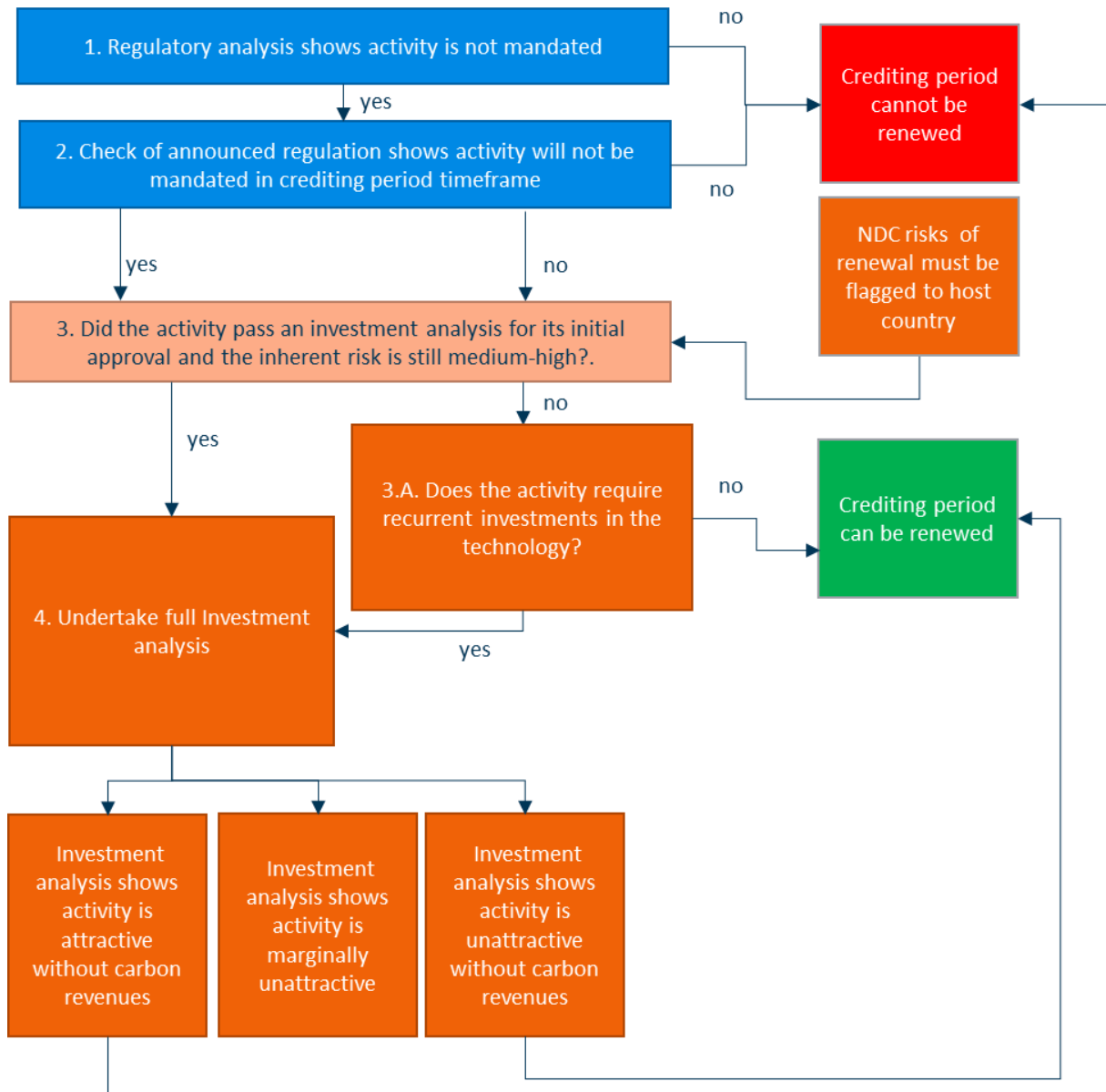
FIGURE 1: FLOWCHART OF PROPOSED STEPWISE PROCESS FOR DEMONSTRATION OF ADDITIONALITY



Source: II-AMT 2022

- 14. TOOL01 also includes guidance on the development of positive lists for financial additionality at different levels of aggregation. The guidance includes necessary requirements for elaborating and regularly updating positive lists. Details are provided in paragraphs 23-30
- 15. TOOL01 includes guidance on potential restrictions of the crediting period length based on financial and implementation characteristics of the mitigation activity. Longer crediting periods are required for projects with high up-front investments, long technical lifetimes and relatively low annual credit revenues. Further details are provided in paragraphs 31-32
- 16. TOOL01 furthermore includes guidance on re-assessing regulatory, and financial additionality of the activity when applicable at crediting period renewal in a stepwise approach as depicted in Figure 2, with further details provided in paragraphs 33-34.

FIGURE 2: FLOWCHART OF PROPOSED STEPWISE APPROACH TO RE-ASSESS ADDITIONALITY AT CREDITING PERIOD RENEWAL



Source: II-AMT 2022

TERMS AND DEFINITIONS

17. The following terms and definitions are applied.

- a. **Applicable geographic area:** The area which is in line with the level of aggregation applied in the respective baseline approach. The default should be the national level, if lower levels of aggregation are applied, subnational jurisdictions.
- b. **Barrier analysis:** A check whether prohibitive, non-monetary barriers exist that cannot be considered in an investment analysis. It must demonstrate that these barriers would not be faced by alternatives to the mitigation activity and that the expectation of carbon credit revenues is decisive for overcoming these barriers. Barrier types may include: unavailability of third party financing, split incentives (e.g., the investor not being the beneficiary of cost savings associated with the investment) or other barriers if they are specific to the mitigation activity and/or region where the mitigation activity is implemented. The identification of the barriers shall be specific and, where possible, quantified. The analysis shall include clear, objective and verifiable evidence to demonstrate the prohibitive character of an identified barrier or their combination. Finally, the analysis must indicate *how* carbon revenues will be applied to overcome the identified barriers and demonstrate that expected revenues will be sufficient to do so.
- c. **Emissions intensive practice/technology⁶:** A technology/technique that has a GHG emissions intensity [per unit of production] [per unit of value added] that exceeds [intensity of best available technology (BAT) for producing the product, service, or output being delivered] [intensity of the lowest emitting, technically feasible and commercially available production pathway for the product, service, or output delivered] [the world average intensity [of all applications of this technology] [of applications of the technology in the last 5 years]].
- d. **Financially [viable][feasible]:** The activity would likely be undertaken without revenues from international carbon markets.
- e. **Host country approval list:** an activity on a host country approval list is deemed eligible for approval and authorisation by a host country government (definition of the term as used in the context of the II-AMT).
- f. **Lifetime of technology:** Total time for which the equipment is technically designed to operate from its first commissioning.
- g. **Lock-in of emission levels⁷:** The proposed activity does not lead to a prolongation of the lifetime of emissions-intensive technologies (for both new installations and refurbishments of existing installations). For activities that lead to the replacement of technologies with a high emissions intensity by technologies with a lower emissions intensity: the emissions intensity of the new technology is aligned with generally accepted (IPCC/IEA) emissions scenarios for reaching the long-term goal of the Paris Agreement or the host country LT-LEDS.
- h. **Payback period:** Amount of time required to recover the discounted cost of an investment.
- i. **Positive list:** An activity on a positive list is deemed automatically additional in relation to all or specific aspects (e.g., financial additionality, regulatory additionality).
- j. **Relevant Law / Mandate / Regulation / Policy:** Regardless of the exact terminology used in the respective national context, any legally binding laws, rules, mandates, regulations, statutes, agreements, or other legal requirements in force at national level, subnational, or

⁶ The applicability of this definition will be elaborated further in the next version.

⁷ The applicability of this definition will be elaborated further in the next version.

local levels applicable to the proposed mitigation activity, and that [trigger] [require] technical, performance, or management actions.

- k. **Similar economic and social context:** key economic (GDP per capita, etc.) and social (Gini coefficient, etc.) are in the range of $\pm 50\%$.
- l. **Start date**⁸: 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 incurred. Activities incurring minor pre-project expenses (e.g., feasibility studies, and preliminary surveys) are not considered in the determination of the start date.

⁸ Adjustment on this definition based on the discussion about prior notification will be elaborated further in the next version.

METHODOLOGY PROCEDURE

This section explains the step-by-step process to implement the tool.

STEPWISE DETERMINATION OF ADDITIONALITY

18. Step 1 - MANDATORY: Public notification of intent to earn carbon revenue prior to start of the activity

- a. Demonstrate that carbon market revenues were considered by the activity participants in the investment decision of the activity by undertaking a public notification of the intent to earn carbon revenue. This notification shall include the mitigation activity title, location, brief description, and identification of at least one activity participant. The notification may take the forms of:
 - i. A letter, fax or e-mail with date stamp from the activity participant to the host country government, the UNFCCC Secretariat, and/or the participating Parties of a cooperative approach.
 - ii. While available and until an A6.4 specific procedure is established, the CDM Prior Consideration procedure may be applied.
 - iii. Publication in a medium with date stamp, including a newspaper, magazine, newsletter, or social media post.
- b. The notification must occur prior to the start of the activity⁹. [In a transitional period until 31/12/2023, a grace period is applied where notification must occur within three months of the activity start date.]

19. Step 2 - MANDATORY: Determination of regulatory additionality:

- a. For this step, the applicable jurisdictional boundaries, include regional/supra-national, national, subnational, and local jurisdictions pertinent to the mitigation activity.
- b. Further, the applicable legal instrument: only specific policy instruments; overarching policy targets or plans are not applicable
- c. Sub-step 2.1- MANDATORY: Regulatory analysis to determine that the proposed activity is neither directly mandated by law nor otherwise triggered by legal requirements or agreements.
- d. Sub-step 2.2- MANDATORY: Regulatory analysis to determine that there are no forthcoming legal requirements that would trigger the activity once they go into effect during the activity's forthcoming crediting period. If forthcoming legal requirements are identified, then the crediting period initially may be defined only until the date the legal requirements are implemented.

20. Step 3- MANDATORY: Evaluation of inherent financial additionality risks of the specific activity type

- a. This is a pre-step for the determination of financial additionality to ensure realistic assumptions are provided by the activity proponent in comparison to the risk scenario described.
- b. Applicable geographical area: Country
- c. List and characterisation of the *inherent* financial additionality risks related to this specific activity type (e.g., evidence of potential profitability, ample experience, availability of subsidies, availability of competitive financing sources, etc.).

⁹ The details of transitional period, i.e. linkage with the eligibility period established in the guidelines of the PA (pre and post 2020), and a more precise definition of the start date of the activity will be elaborated further in the next version.

- i. Includes analysis of whether the only source of revenue or savings of the activity is the revenue from the sale of mitigation outcomes. Activity types that feature such characteristics in all possible contexts shall be deemed to have a “low” inherent additionality risk.
- d. List and characterisation of risks to the activity type implementation (e.g., long payback periods, barriers including unavailability of the technology, lack of financing sources, lack of access to financing, lack of human capacity).
- e. Conclusions on:
 - i. The consolidated **inherent additionality** risk (high, medium, low):
 1. High, meaning the activity type is implemented frequently without incentives from the mechanism;
 2. Medium, meaning the activity type has been implemented without incentives from the mechanism; or
 3. Low, meaning the activity type has not been implemented without incentives from the mechanism.
 - ii. the consolidated **implementation risk** (high, medium, low)
- f. If consolidated inherent additionality risk is assessed as:
 - i. Low: Activities are eligible for a global positive list for financial additionality and do not have to go through Step 4
 - ii. Medium: Step 5 (investment analysis) is mandatory.
 - iii. High: Step 5 (investment analysis) is mandatory. In addition, the activity proponent must justify how the specific activity differs from the norm of the activity type by justifying the input(s) to its financial analysis that drive financial unattractiveness.
- g. If consolidated implementation risk is deemed
 - i. Low: Barriers shall not be included in the investment analysis and not considered further.
 - ii. Medium or High: Barriers to implementation may be incorporated in the investment analysis and impacts on the investment decision explained in step 4^{10, 11}.

21. Step 4: Determination of financial additionality of the activity through investment analysis (MANDATORY step if inherent financial additionality risk is medium or high):

- a. Investment analysis of the activity to determine that it is not financially feasible without the expected revenues from the sale of the certified mitigation outcomes *internationally*.
 - i. This analysis requires identification of what is a financially viable and realistic alternative(s) to the project in similar social, economic, and regional contexts¹². This will provide the point of comparison for the analysis to identify the value of the economic assessment parameter (e.g., internal rate of return, payback period) at which a project

¹⁰ Special circumstances of LDCs, SIDS apply in this step and for mitigation activities located in LDCs, barriers to implementation may be considered as a complement to the investment analysis, while for other countries they must be incorporated in the investment analysis as explained in Step 5. Examples about how to define barriers in different kind of projects, and how to translate barriers in specific amounts or financial terms will be elaborated further in the next version.

¹¹ In the absence of such a decision, programme developers must refer to the latest version of the “guidelines on the assessment of investment analysis” approved by the CDM EB in its most recent version and in particular the default values for the expected return on equity listed therein.

¹² In the next version, experts will discuss how to define the applicable geographic context. Wherever possible, the relevant geographical context is the country, since mitigation projects will now always be “in competition” for carbon finance with other mitigation in the same country, wholly and exclusively. Urban/rural context differences may be relevant to be accounted for in many activity types if the same technology is applied in rural and urban contexts. Supranational contexts (e.g., global) could be relevant for highly integrated industry sectors (but cost of capital may still be dependent on country context). The experts will discuss options to standardise the identification of similar social, economic, and regional contexts at country and sector level.

- would *not* be deemed economically / financially feasible, considering all revenues and savings generated by the project¹³.
- ii. This analysis needs to include all revenues and savings generated for the activity, including any incentives related to policy instruments, such as all kinds of subsidies (e.g., grants, reverse auctions, contracts for difference etc.), avoided carbon taxes, financial impacts of emissions trading schemes, etc.
 - iii. The analysis may include any identified medium and high risks to implementation. These risks generated by the barriers identified need to be expressed in monetary terms, e.g., in changes in cash flow due to slower activity implementation, lower load factors, risk-adjusted discount rate, etc. If this is not possible, then the risk cannot be considered, which leads to conservative outcomes.
- b. Conclusions on degree of confidence on financial additionality:
- i. If the activity is like to be attractive without the revenues from credit sales, then the activity is not considered additional¹⁴.
 - ii. If the activity type is only marginally unattractive¹⁵ [i.e. variation of relevant economic parameters, such as IRR or payback period from the viable alternative does not exceed 10%] [under a realistic sensitivity analysis economic parameters such as IRR or payback period of the viable alternative and the mitigation activity overlap), the activity is considered financially additional, but the crediting period must be restricted as detailed in paragraph 31.
 - iii. If the investment analysis concludes to a medium to high degree of confidence that the activity would not be attractive without the revenues from credit sales, then the activity is financially additional.

22. Step 5 – MANDATORY: Re-assessment of regulatory additionality at the point of crediting period renewal (see paragraph 31).

- a. Applicable jurisdictional boundaries, including regional/supra-national, national, subnational, and local jurisdictions.
- b. Applicable legal level: specific policy instruments; overarching policy targets or plans are not applicable
- c. Sub-step 2.1- MANDATORY: Regulatory analysis to determine that the proposed activity is neither directly mandated by law nor otherwise triggered by legal requirements or agreements.
- d. Sub-step 2.2- MANDATORY: Regulatory analysis to determine that there are no forthcoming legal requirements that would trigger the activity once they go into effect during the activity's forthcoming crediting period

¹³ For the next version, experts will assess who to define “realistic” alternative scenarios. Definitions of alternative scenarios may be linked to the concept of best available technologies and techniques.

¹⁴ Barrier analysis exemptions may be applicable for activities located in LDCs, SIDS. If an activity is in an LDC and implementation risk is medium or high, if the identified implementation non-monetary barrier is overcome by the fact that the project is framed as an Article 6 project and receives carbon revenues, it may be deemed additional. Specific barriers need to be defined in this con

¹⁵ How to define this category and how would be evaluated in relation to the crediting period renewal will be elaborated further in the next version.

GUIDANCE FOR THE DEVELOPMENT OF POSITIVE LISTS

- 23.** In the following, positive lists are defined as a list that is deemed automatically additional in relation to all or specific aspects (e.g., financial additionality, regulatory additionality). In the context of the II-AMT, positive lists for additionality must meet minimum quality criteria including third party validation and regular updates before they can be used to substitute step 5 of the above proposed stepwise procedure (i.e., financial additionality). These minimum criteria are included below. Positive lists may be adopted by the Article 6.4 Supervisory Body (for use in the Article 6.4 mechanism or in cooperative approaches), other independent standards as well as parties to the Paris Agreement (for use in cooperative approaches).

GUIDANCE FOR THE DEVELOPMENT OF POSITIVE LISTS FOR FINANCIAL ADDITIONALITY

In the development of positive lists for financial additionality, the following approaches may be considered. Further approaches may also be elaborated by the A6.4 SB:

- 24.** Activity types that under all contexts can show that their net present value of costs significantly, i.e., by at least 25%, exceeds revenues and savings without carbon finance are eligible to be put on a global positive list of “low risks to financial additionality”.
- 25.** Activity types that under the national context can show their costs significantly exceed revenues and savings so that their IRR is negative under conservative assumptions regarding the discount rate are eligible to be put on a national positive list as well as
- 26.** Activity types that under all contexts can show that their levelized costs of delivering a product or service are more than 25% higher than the industry average, and
- 27.** Activity types that under the national context can show a positive marginal abatement cost which exceeds a country specific benchmark value.

” GUIDANCE FOR THE DEVELOPMENT OF POSITIVE LISTS

- 28.** Positive lists should be technology-based p
- 29.** The process for developing global and national positive lists should include the following
- Inputs from experts in the development of the list
 - Public consultation period
 - Independent assessment and validation of the outcomes of the development process
- 30.** Global and national positive lists for financial additionality should be reviewed every three years

GUIDANCE FOR CREDITING PERIOD LENGTH AND RENEWAL

- 31.** Guidance on the analysis of the relationship between technology lifetime and type and timing of investment decisions (e.g., for once-off investments versus replacement and renewed investment decisions into the same activity).
- When the investment decision is either one-off (e.g., building power plant) or replacement and/or renewed investments are undertaken (e.g., investing in clean cookstoves, re-investing for replacement or expansion of programme)
 - When the lifetime of the technology is longer than crediting period
 - When the lifetime of technology is shorter than crediting period

EX-ANTE DETERMINATION OF CREDIT PERIOD LENGTH

- 32.** The underlying assumption is, in line with the RMPs of the A6.4M, that the crediting period length is fixed at either a maximum five years renewable twice or at ten years non-renewable.
- a. If activity is marginally unattractive: restriction of crediting period to the payback period of the project investment (if investment decision is one-off) or to the lifetime of technology (if the activity requires replacement and additional investments).
 - b. In case of replacement and/or additional investments and a technology with lifetime of less than five years (e.g., 3 years), the initial crediting period should be a maximum of five years renewable (10 years non-renewable should not be accepted). Host country can determine shorter crediting period in their authorisation.

STEPWISE APPROACH FOR CONSIDERATION OF ADDITIONALITY FOR CREDITING PERIOD RENEWAL

- 33. Step 1 - MANDATORY: Assessment of regulatory additionality**
- 34. Step 2: Assessment of financial additionality for replacement and/or new investments into the activity**
- a. Whether this step is mandatory depends on the relationship of technology lifetime and investment decision:
 - i. In case no investment analysis was required, and the inherent risk is still considered low (i.e., due to low financial additionality risk) a re-assessment of financial additionality risk is not required. If risk is now deemed medium-high for activity type, investment analysis is now required based on current data.
 - ii. In case of a one-off investment decision in a technology with a lifetime that is longer than the crediting period, re-assessment of financial additionality is not required if this was done for the first crediting period.
 - iii. In case of replacement investments in a technology with a lifetime shorter than the crediting period or additional investments to scale up the activity, the project is required to undertake an investment analysis for the renewal.

REFERENCES

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ANNEX B: TOOL02

TOOL FOR ROBUST BASELINE SETTING (DRAFT)

Tool

Version 01.00

15.09.2022

CONTENTS

Introduction3
 Background3
 Objectives.....4
Rules and Principles4
Scope and applicability.....5
Terms and definitions.....8
Methodology procedure9
References18

TABLE OF TABLES

Table 1: Example 1 - Emission pathway using BAT14
Table 2: Example 1 – Share of waste sector in achieving NDC target over the years15
Table 3: Example 2 - Downward adjusted benchmark emissions intensity over the years16
Table 4: Example 2 - Emission reduction from mitigation activity using downward adjusted benchmark over the years.....17
Table 5: Example 2 - Downward adjusted benchmark vs downscaled benchmark over the years.....18

TABLE OF FIGURES

Figure 1: Flowchart of proposed stepwise process for robust baseline setting.....7
Figure 2: Assessment of the appropriateness of performance benchmarking for sectors11
Figure 3: Example 1 - Linear projection of emissions in Reference and NDC achievement scenarios..15
Figure 4: Example 2 - Performance distribution curve for waste sector16

INTRODUCTION

BACKGROUND

1. A crediting baseline sets the reference level of greenhouse gas (GHG) emissions for an Article 6 activity. The difference between the baseline emissions and the activity emissions defines the volume of mitigation outcomes generated by the activity. Carbon markets have developed various approaches to creating ‘counterfactual’ scenarios for the baseline. Most often, the baseline has been set to represent the scenario that would most likely have occurred in the absence of incentives from carbon crediting, i.e., “business as usual” (BAU). There have, however, also been cases where crediting baselines have been set below BAU. The estimation of BAU emissions is inherently subject to uncertainty.
2. In the context of the Clean Development Mechanism (CDM) and Joint Implementation (JI), similar but not identical baseline guidance was enshrined in the Marrakech Accords agreed in 2001. Under CDM and JI, baseline-related principles comprised transparency, conservativeness, internal consistency, appropriate and adequate calculations/assumptions, accuracy, measurability and reliability of data and limited uncertainties. Under the CDM, crediting baselines should be set in line with one of the following options: (a) existing actual or historical emissions, (b) emissions from a technology that represents an economically attractive course of action, taking into account barriers to investment or (c) 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 % of their category¹. As a safeguard against artificially high baseline scenarios and to prevent that the CDM generate perverse incentives against ambitious national mitigation policies and measures, the CDM Executive Board agreed on the so-called “E+ and E- policies” rules. Policies that increased emissions (“E+ policies”) would not be considered in the baseline if introduced after 1997 while policies that reduced emissions (“E- policies”) would not be considered in the baseline if introduced after 2001. The Joint Implementation Supervisory Committee (JISC) specified three valid approaches to baseline setting including a JI-specific approach, a methodology for baseline setting approved by the CDM Executive Board or an approach already taken in comparable JI projects.
3. In the context of the Kyoto Mechanisms, crediting baselines have often taken the form of intensity-based baselines, usually linked to BAU emission paths. In these cases, baseline parameters have been denominated in tonnes of GHG emissions per unit of production of an output or service which implied that absolute emissions of an activity, or the sector in which that activity is implemented, could increase if production grew more quickly than emissions intensity fell. Such absolute emission increases in host countries are not aligned with the Paris Agreement’s temperature goal². In fact, carbon market cooperation in the context of the Paris Agreement will need to contribute to a net reduction of global GHG emissions which implies, for example, setting a crediting baseline that is lower than low-end estimates of BAU emissions.
4. Under the Paris Agreement, all Parties have mitigation targets in place and are urged to increase their Nationally Determined Contribution (NDC) ambition every 5 years to reach global net-zero emissions in the second half of this century. In addition, Article 6 cooperation has the explicit aim contribute to higher ambition in Parties’ mitigation and adaptation actions. In this context, the Article

¹ Option c might be below BAU since it is derived from the top performers only.

² Referring to Article 2 of the Paris Agreement where it states that the objective is to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels

6.2 guidance and the Article 6.4 rules, modalities and procedures (RMPs) specify methodological principles and, in the case of the RMPs, specific requirements for robust baseline setting.

OBJECTIVES

5. This methodological tool aims to provide robust approaches to baseline setting under Article 6 of the Paris Agreement. A robust approach provides practicality in terms of being applicable to various activities while ensuring the environmental integrity of baseline-and-credit schemes. The development of this tool is guided by baseline setting practices in the CDM and JI context and conceptual considerations in light of the new Paris Agreement context. The proposed methodological tool is the authors' contribution to the operationalization of the Article 6.4 principles and rules and is meant to inform governments and other entities engaging in cooperative approaches under Article 6.2. Some aspects are subject to the authors' specific interpretation of the principles.
6. The following experts have led the development of this tool:
 - Axel Michaelowa, Perspectives Climate Research, Switzerland
 - Randall Spalding-Fecher, Carbon Limits, Norway
 - Kentaro Takahashi, Institute for Global Environmental Studies, Japan
 - Clayton Munnings, Munnings Consulting, US
 - Martha Ntabadde, freelance consultant and member of the CDM Methodologies Panel, Uganda
 - Francois Sammut, Carbon Limits, Norway
 - Jessica Wade-Murphy, Atmosphere Alternative, Colombia

The following experts supported the development of this tool:

- Derik Broekhoff, Stockholm Environment Institute, US
- Juliana Keßler, Perspectives Climate Research, Germany

RULES AND PRINCIPLES

7. This tool is developed based on the following principles enshrined in the decision 2/CMA.3 and 3/CMA.3 adopted by the Parties to the Paris Agreement (emphasis added by authors).
8. **Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement**
"18. [...] The initial report shall contain comprehensive information to: [...]

(h) Describe how each cooperative approach ensures environmental integrity, including:
(ii) Through robust, transparent governance and the quality of mitigation outcomes, including through **conservative** reference levels, baselines set in a conservative way and **below 'business as usual' emission projections** (including by taking into account all existing policies and **addressing uncertainties** in quantification and potential leakage);"
(the same wording is taken up again in paragraph 22)
(Decision 2/CMA.3, Annex, paragraph 18, 22)
9. **Rules, modalities, and procedures of the A6.4M**
"33. Mechanism methodologies shall encourage **ambition over time**; encourage broad participation; be real, transparent, **conservative, credible, below 'business as usual'**; avoid leakage, where applicable; **recognize suppressed demand; align to the long-term temperature goals of the Paris Agreement**, contribute to the equitable sharing of mitigation benefits between

Parties; and, in respect of each participating Party, **contribute to reducing emission levels in the host Party; and align with its NDC**, if applicable, **its long-term low GHG emission development strategy** if it has submitted one and the long-term goals of the Paris Agreement.”

“34. Mechanism methodologies shall include assumptions, parameters, data sources and key factors and take into account uncertainty, leakage, **policies and measures**, and **relevant circumstances including national regional or local, social, economic, environmental and technological circumstances** and address reversals where applicable.”

“35. Mechanism methodologies may be developed by activity participants, host Parties, stakeholders or the Supervisory Body. Mechanism shall be approved by the Supervisory Body where they meet the requirements of these rules, modalities and procedures and the requirements established by the Supervisory Body.”

“36. 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, including information on how the proposed baseline approach is consistent with paragraphs 33 and 35 above and recognizing that a host Party may determine a more ambitious level at its discretion:

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;
- (iii) An approach based on existing **actual** or **historical emissions, adjusted downwards** to ensure alignment with paragraph 33 above.”

“38. 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 locking in levels of emissions**, technologies or carbon-intensive practices incompatible with paragraph 33 above.”

(Decision 3/CMA.3, Annex, paragraph 33, 34, 35, 36, 38)

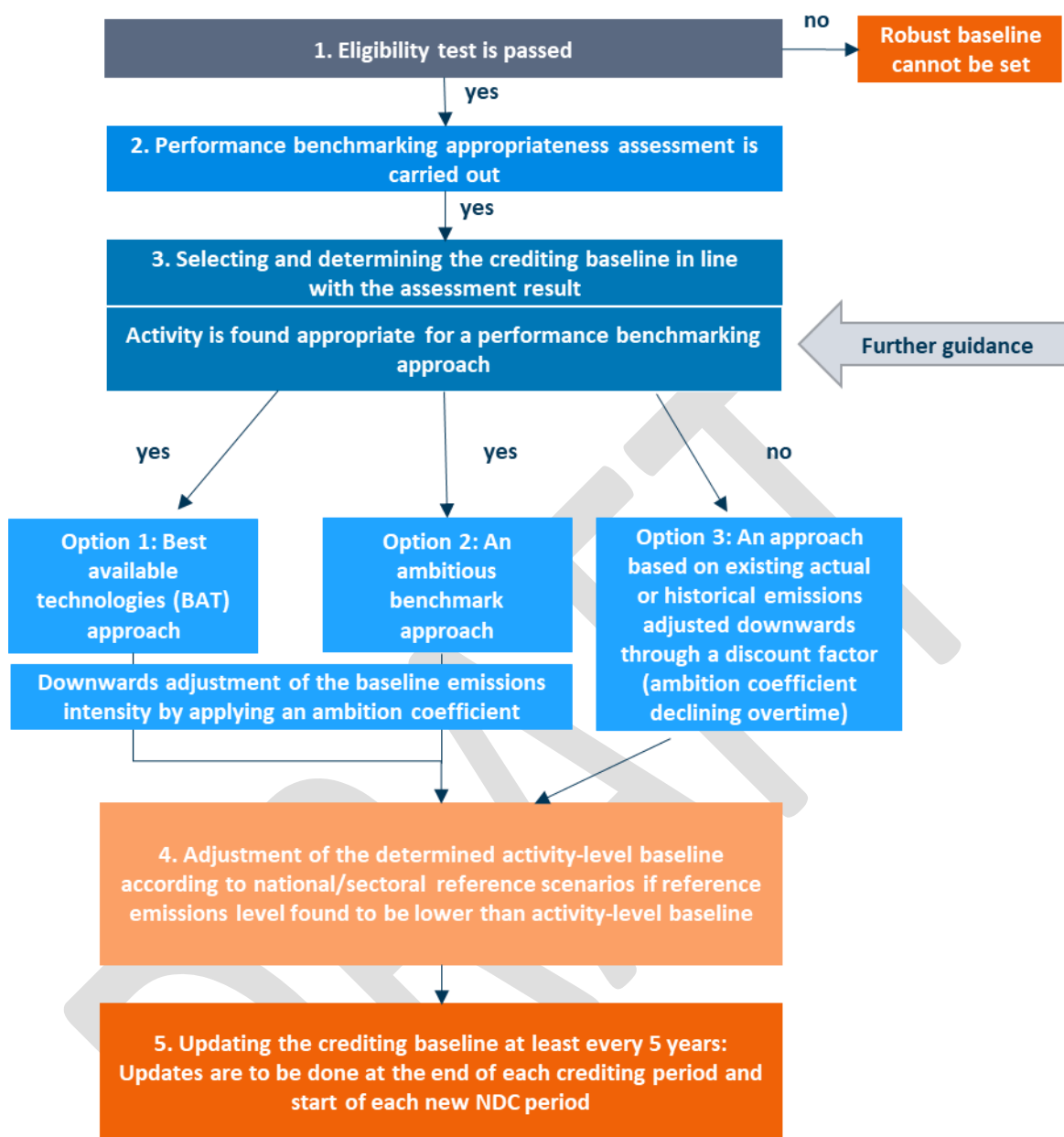
SCOPE AND APPLICABILITY

10. TOOL02 provides for a stepwise approach to setting a crediting baseline for projects and programmatic approaches (collectively called “mitigation activities”) that is both in line with the Article 6.2 guidance and the Article 6.4 RMPs, the latter offering more detail on how to set crediting baselines under Article 6. It is not applicable to mitigation activities on a higher level of aggregation such as sectoral approaches or policy-based crediting.
11. In validating the application of this tool to a specific activity, independent third-party designated operational entities (DOEs) are to carefully assess and verify the reliability and creditability of all

data, rationales, assumptions, justifications, and documentation provided by activity participants to support the setting of robust baselines. In this context, they also need to identify and cross-check available independent sources and documentation. The elements checked during this assessment and the conclusions must be documented transparently.

12. TOOL02 includes detailed guidance for a stepwise approach for setting a robust, below BAU crediting baseline, in line with the three approaches outlined in the Article 6.4 ‘rules and principles’ section, summarised in Figure 1 and outlined in detail in paragraphs 16-24. The different steps entail:
- a. Passing an **eligibility assessment**.
 - b. **Assessing the appropriateness** of performance benchmarking for the sector and sub-sectors targeted by the proposed activity, which then determines which baseline setting approach is used.
 - c. **Selecting the crediting baseline** according to one of the three approaches:
 - i. best available technologies;
 - ii. an ambitious benchmark; and
 - iii. downward adjustment of existing actual or historical emissions.
 - d. **Adjusting the selected activity-level baseline** according to national/sectoral reference scenarios (NDC alignment)
 - e. **Regularly updating** the baseline

FIGURE 1: FLOWCHART OF PROPOSED STEPWISE PROCESS FOR ROBUST BASELINE SETTING



Source: II-AMT (2022)

13. In addition to the broad conceptual description, TOOL02 also includes sector/activity type-level guidance³, disaggregated to the extent possible to:
- support the identification of sectors/activity types for which performance benchmarking is appropriate;
 - inform sector/activity type-specific approaches for determining the appropriate ambitious benchmark percentiles; and
 - inform the development of sector/activity type-specific discount factors under baseline setting option 3.

³ Guidance may be provided for 3-5 key sectors/activity types.

TERMS AND DEFINITIONS

14. The following terms and definitions are used in this tool.

- a. **Activity emissions scenario:** Estimated GHG emissions associated with the proposed activity for the entire lifetime of the technology/ duration of the activity, independent of the length of the crediting period.
- b. **Best available technology:**
 - i. **Technology** is defined in a broad sense, not only covering equipment developed from the application of scientific knowledge to address climate change, but also covering “techniques” i.e., considering the usage pattern of technologies.
 - ii. **Available:** Technologies/techniques exist or can be accessed or applied on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether the technologies/techniques are used or produced within the territory of that Party, as long as they are reasonably accessible to the operator of the facility as determined by that Party. Accessibility relates to the technology/technique and the availability of human resources to install and operate the technology/technique according to its specifications throughout its techno-economic lifetime.
 - iii. **Best:** Most effective in achieving a high general level of protection of the environment/ climate e.g., most effective in practical reduction of pollution or emissions; or most practical adaptation to the impacts of climate change.
 - iv. **Economically feasible:** For all kinds of technologies, the activity is attractive from an economic point of view, i.e., for a reasonably well managed company operating it. This does not mean that it needs to be financially feasible for all companies under all circumstances (see II-AMT TOOL01 regarding financial feasibility in the context of a concrete activity). Moreover, for household technology, the cost of ownership of the technology is less than 10 per cent of the household annual income.⁴
 - v. **Emissions lock-in:** The lifetime of emissions intensive technologies is enhanced through the activity and/or transition to low-emissions technologies is slowed down. Reasons for emissions/carbon lock-can be economic, socio-cultural, technological, infrastructure-related as well as institutional and political.
 - vi. **Environmentally sound:** The activity is in line with national laws and regulation on environmental protection.
 - vii. **Emissions-intensive practice/technology:** [An emissions-intensive practice/technology is one that results in net greenhouse gas emissions and for which there is an economically feasible alternative that generates the same product or service level, but with less emissions; or with net removals.] [A technology/technique that has a GHG emissions intensity [per unit of production] [per unit of value added] that exceeds the world average intensity by more than x% of applications of the technology in the last 5 years].

⁴ Aligned to definition from the “Concept note: Guidelines for the implementation of methodological principles, approaches and methods for the establishment of baseline and additionality” from A6.4SB-001

- c. **Crediting baseline:** Activity specific reference emissions scenario, against which the volume of mitigation outcomes achieved by the activity is calculated. The difference between the activity's crediting baseline and the measured activity emissions determines the volume of mitigation outcomes generated by the activity.
- d. **Crediting period:** Period within which the mitigation outcomes of a given activity can be credited.
- e. **NDC baseline scenario:** National level reference emissions scenario described in the NDC of the host country.
- f. **NDC conditional target scenario:** Mitigation scenario associated with meeting the conditional NDC targets i.e. what each country specifies it would undertake if external means of support are provided or other stated conditions are met, as described in host country NDC and underlying technical reports.
- g. **NDC unconditional target scenario:** Mitigation scenario associated with meeting the unconditional NDC targets, i.e., what a country specifies it could implement based on its own resources and in-country capabilities, as described in host country NDC and underlying technical reports.
- h. **Negative list:** A list that comprises activities that are not eligible for Article 6, because they are no longer compatible with the Paris Agreement's long-term goals due to emissions lock-in and/or lack of additionality.
- i. **Similar social, economic, environmental and technological circumstances:**
 - i. "Economic circumstances" are deemed similar if key economic parameters (market interest rate, inflation rate) do not differ by more than 50%
 - ii. "Environmental circumstances" are deemed similar if key environmental parameters (intensity levels of pollution of key air, soil and water pollutants, biodiversity index) do not differ by more than 50%
 - iii. "Technological circumstances" are deemed similar if the penetration rate of technologies relevant for the sector where the activity takes place does not differ by more than 50%.

METHODOLOGY PROCEDURE

STEPWISE APPROACH TO SETTING THE CREDITING BASELINE

15. This section outlines a stepwise approach for determining the baseline in line with the three "below BAU" baseline setting approaches defined in the Article 6.4 rules. The steps outlined below shall ensure that the activity and resulting mitigation outcomes do not lead to a net increase in emissions across participating Parties between NDC implementation periods.
16. **Mandatory pre-step: Each Article 6 activity must fulfil the following eligibility criteria of alignment with the long-term goals of the Paris Agreement and not leading to emissions lock-in**
17. Alignment means that a given activity is consistent with the long-term goal of the Paris Agreement i.e., it does not make it more difficult to achieve the transformation required for a global emissions

pathway to achieve a balance of emissions and sinks in the second half of the century in line with the “well below 2°C temperature goal.

- a. Before you choose a baseline setting option, the proposed Article 6 activity must pass an eligibility assessment in relation to the following aspects, to robustly show that it will not lead to a lock-in of emissions levels incompatible with reaching the Paris Agreement long-term goals. Evidence must be provided to robustly justify that:
 - i. The activity does not feature on a negative list adopted by the Article 6.4 Supervisory Body or the respective host country⁵. The list may include technologies deemed as incompatible with below 2°C pathways in the latest IPCC Assessment Report.
 - ii. If the host country has communicated a long-term low emissions development strategy (LT-LEDS); the proposed activity and its emissions scenario are in line with the host country’s LT-LEDS scenario and does not compromise on resilience or increase vulnerability, for the entire duration of their crediting period.
 - iii. If the host country has not communicated an LT-LEDS: the proposed activity does not lead to a lock-in of current emission levels or continuation of emissions-intensive practices by prolonging the lifetime of emissions-intensive technologies (for both new installations and refurbishments of existing installations).
 - iv. For activities that lead to the replacement of technologies by technologies with a lower emissions intensity: the emissions intensity of the new technology is aligned with the generally accepted (IPCC/IEA) emissions scenarios for reaching the long-term goal of the Paris Agreement or the host country LT-LEDS.

18. Step 1 (Mandatory): Selection of baseline approach.⁶

- a. If the sector is characterized by homogeneous production⁷, i.e., comparable outputs by produced goods or services, then choose option 1 if a BAT has been specified for the sector in question and choose option 2 if a BAT has not been specified and there is no data on the performance of technologies at the entity-level in the country and region.
- b. Choose option 3 if
 - i. there is a lack of data on the performance of technologies at the entity-level in the country and region;
 - ii. the sector shows strongly varying circumstances among installations such as dramatic differences in the emissions intensity levels;
 - iii. the sector is complex in terms of the multitude of products/services offered; or
 - iv. the activity promotes fuel switching in existing plants.

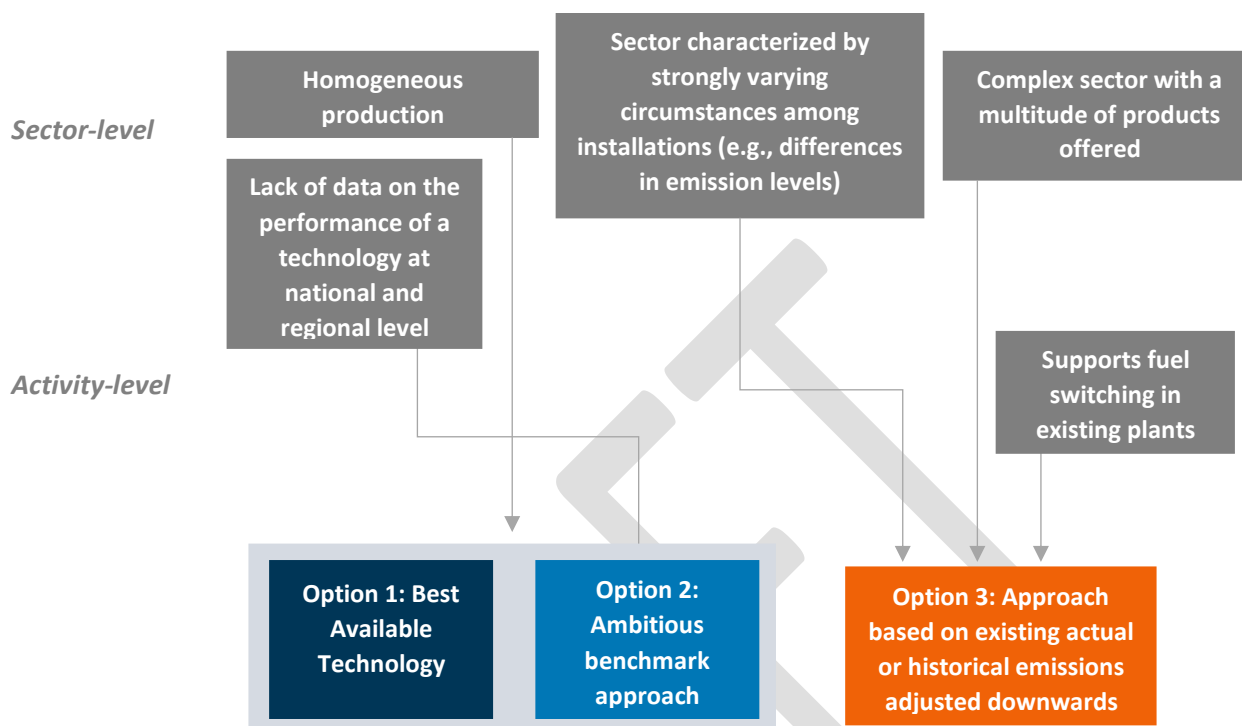
⁵ Activity types that lead to a lock-in of current emissions levels or the continuation of carbon intensive practice under all possible circumstances should be put on a negative list of ineligible activity types by the Article 6.4 Supervisory Body and governments hosting Article 6 activities.

⁶ Over the longer term, the appropriateness of benchmarking for specific activity types should be assessed and determined by the Article 6.4 Supervisory Body.

⁷ Further guidance on sectors appropriate for performance benchmarking will be elaborated in the next version of the tool.

- c. In case the methodology already applies a benchmark approach to baseline setting, it needs to be assessed whether a BAT has been specified for the respective activity. If this is not the case, then step 2, option 2 is to be followed.

FIGURE 2: ASSESSMENT OF THE APPROPRIATENESS OF PERFORMANCE BENCHMARKING FOR SECTORS



Source: II-AMT (2022)

19. Step 2, Option 1: Setting the baseline in relation to best available technologies (BAT)

- a. Define the technology category to which the project technology belongs, starting from the good/service produced by the activity, applying the aggregation level set in paragraph 16a above.
- b. Define the potential baseline technologies/techniques that produce an equivalent output of a good/service and deemed available in the host country, i.e. the technologies/techniques need not have been implemented in the host country already, but the regulatory, service provider, and financing conditions are available for their implementation.
 - i. Recognizing the special circumstances of LDCs and SIDS, in the case of these countries, consider as “available” only technologies/techniques that already have been implemented in the country.
- c. Determine which of the identified potential baseline technologies/techniques are economically feasible, given the circumstances of the host country.
- d. Identify the potential baseline technologies/techniques that are environmentally sound, i.e., in line with national laws and regulation on environmental protection.
- e. Determine the performance parameters and values of the best technology/technique among the economically feasible baseline technologies for the Article 6 activity in the national context, or in the regional context in case there are 3 or fewer national facilities. Thereby, a

standardised approach is to be applied for large technologies beyond 10,000 t CO₂e annual emissions, where a generic BAT emissions coefficient is to be provided by the host country DNA and a more tailored process for smaller technologies where the activity developer proposes a performance parameter for approval by the host country DNA.

- f. Downward adjust the baseline emissions intensity over the years of the crediting period to ensure it is in line with the long-term goal of the Paris Agreement⁸. This is done through the application of a mandatory “ambition coefficient”, set by the Supervisory Body for Article 6.4 and by the host country for Article 6.2⁹, falling linearly over time to adjust the baseline emissions downwards and reaching net zero at the time of the host country’s net zero target. The ambition coefficient would be set at 100% in 2021 and zero in 2050 for a country whose net zero target date in 2050. For countries without a net zero target, the A6.4SB would specify the year in which the ambition coefficient reaches zero.
- g. Baseline parameters are to be monitored across the crediting period and regularly updated in line with **Step 4**.

20. **Step 2, Option 2: Setting the baseline through an ambitious benchmark**

- a. Determine a performance distribution curve using the most up-to-date data not more than 3 years old of all technologies providing similar outputs or services in similar social, economic, environmental, and technological circumstances as the proposed activity in the host country. If host country specific data are not available, data from the region the host country belongs to are to be used.
- b. Determine an ambitious benchmark at the 20th percentile of the market be applied to the performance distribution curve if the characteristics of the distribution curve shows that these percentiles are conservative¹⁰.
- c. Calculate the average emissions intensity of the benchmark group selected in the previous sub-step.
- d. Downwards adjust the benchmark emissions intensity over the years (i.e., after the first year) to ensure it is in line with the long-term target of the Paris Agreement¹¹. This is done through the application of a mandatory “ambition coefficient”, set by the Supervisory Body for Article 6.4 and by the host country for Article 6.2¹², falling linearly over time to adjust the baseline emissions downwards.
- e. Monitor the baseline parameters across the crediting period and regularly updated in line with Step 4.

⁸ Suppressed demand is not factored into the crediting baseline as it does not deliver the absolute emission reductions required for achieving the Paris Agreement’s long-term targets. This will avoid a situation where a host country transfers more ITMOs than the actual reduction in the NDC-covered GHG inventory. There are other approaches to addressing development needs and national circumstances that provide actual benefits to countries with special circumstances. Examples would include partial authorization (i.e., sharing mitigation outcomes) or higher ITMO prices. These could be used instead of allowing for suppressed demand in the baseline calculation.

⁹ In the absence of such coefficients be determined by the Article 6.4 Supervisory Body or the host country, approaches to determine ambition coefficients will be described in the II-AMT TOOL02.

¹⁰ In the II-AMT development phase, experts will discuss sector-specific approaches for determining the appropriate percentiles.

¹¹ Suppressed demand is not factored into the crediting baseline as it does not deliver the absolute emission reductions required for achieving the Paris Agreement’s long-term targets. This will avoid a situation where a host country transfers more ITMOs than the actual reduction in the NDC-covered GHG inventory. There are other approaches that provide actual benefits to countries with special circumstances, for example partial authorization or higher ITMO prices which could be considered instead of allowing suppressed demand.

¹² In the absence of such coefficients be determined by the Article 6.4 Supervisory Body or the host country, approaches to determine ambition coefficients will be described in the II-AMT TOOL02.

21. Step 2, Option 3: Setting the baseline based on existing actual or historical emissions adjusted downwards

- a. This option can only be chosen by activity proponents for activities in host countries that have communicated a net-zero pathway/target and/or an LT-LEDS¹³, unless the country is an LDC or SIDS. If the eligibility criterion is satisfied, the following steps are to be taken:
- b. Determine an actual or historical emissions baseline based on existing methodologies used under the Kyoto mechanisms.
- c. Adjust the actual or historical emissions baseline downwards through a discount factor (“ambition coefficient”) to the actual/historical emissions intensity, declining over time:
 - i. For the duration of the current NDC period, derive the ambition coefficient based on actual or historical emissions baseline adjusted downwards in line with a path consistent with the unconditional NDC target (see II-AMT GUIDE01). This is done to ensure the baseline:
 - a. conservatively considers absolute emission reduction/removal target of the NDC (if applicable).
 - b. conservatively considers the intensity target of the NDC (if applicable).
 - c. conservatively considers all metrics potentially used in NDCs including non-CO₂e metric targets¹⁴ of the NDC (if applicable).
 - ii. For periods beyond the current NDC period, derive the ambition coefficient based on the actual or historical emissions baseline adjusted downwards in line with one of the following options:
 - a. A path consistent with the national LT-LEDS.
 - b. A linear path towards the point in time the host country anticipates achieving a net zero target or zero emissions if this is consistent with the long-term goal of the Paris Agreement. For LDCs and SIDS that have not communicated a net-zero pathway/target and/or an LT-LEDS, this is deemed to be 2050 with the downward trend beginning in 2030.
 - iii. Monitor the paths used to derive the ambition coefficient and update them every five years in line with **Step 4**.

22. Step 3: Assessment of the activity-level baseline set as per step 1-2 for alignment with the NDC unconditional target scenario and sector-specific strategies (NDC alignment).

- a. Compare the stringency level of NDC/sectoral reference scenario and activity level crediting baseline and downward adjustment of crediting baseline if needed:
 - i. Option 1: if there is a sector specific NDC unconditional target scenario or other relevant sector strategy (e.g., international strategies of the cement sector), downscale it to the activity level in a conservative manner, building on the share of the activity in total sectoral production of goods/services. If that downscaled

¹³ The implication of this rule being that activity types that are not appropriate for benchmarking cannot be undertaken in countries where there is no long-term strategy or net zero goal that gives indication about the long-term downward adjustment of the baseline.

¹⁴ E.g., introduction of policy, installed RE capacity

reference emissions level is found to be lower than the activity level baseline set under steps 1 and 2, it will be applied as baseline emissions level.

- ii. Option 2: if there is no sector-specific NDC unconditional target scenario or relevant sectoral strategy but an unconditional target on the national level, apply a downscaling by the share of the sector in total economic activity multiplied with the share of the activity in total sectoral production of goods/services. If the resulting downscaled reference level is lower than the activity level baseline set under steps 1 or 2, it will be applied as baseline emissions level.

Example 1.

A mitigation activity in the waste sector of Country A is defining its baseline emissions level for participation in the A6.4 mechanism. It already defined an activity-specific baseline using Step 2, Option 1, for which it determined that the BAT was a well-managed sanitary landfill without methane capture. The baseline emissions were then downward adjusted over the two planned 5-year crediting periods linearly toward reaching zero in 2050, which is the time of Country A's net zero target (see column 2 of Table 1).

TABLE 1: EXAMPLE 1 - EMISSION PATHWAY USING BAT

Year	Activity level baseline (tCO2e)	Step 3 downscaled baseline (tCO2e) (see explanation in text below Table 1)
2020	200.000	200.000
2021	193.333	197.120
2022	186.667	194.240
2023	180.000	191.360
2024	173.333	188.480
2025	166.667	185.600
2026	160.000	182.720
2027	153.333	179.840
2028	146.667	176.960
2029	140.000	174.080
2030	133.333	171.200

Country A has an unconditional, economy wide NDC target of 30% reduction in 2030 versus a reference scenario of 20% growth in emissions from 2020 to 2030 (Figure 3). Country A's GDP is 200 billion USD. Its waste sector represents 1% of GDP. The planned mitigation activity is located in the second largest city of Country A in a service area that represents 8% of the total tonnes of municipal solid waste processed by the sector per year. The share of the waste sector in achieving the economy wide NDC target is calculated as 1% of the complete commitment, based on its share in total economic activity represented by GDP. Then, the share of the

mitigation activity is based on its contribution to the total service level of the sector (8% of total processed waste) (Table 2).

FIGURE 3: EXAMPLE 1 - LINEAR PROJECTION OF EMISSIONS IN REFERENCE AND NDC ACHIEVEMENT SCENARIOS

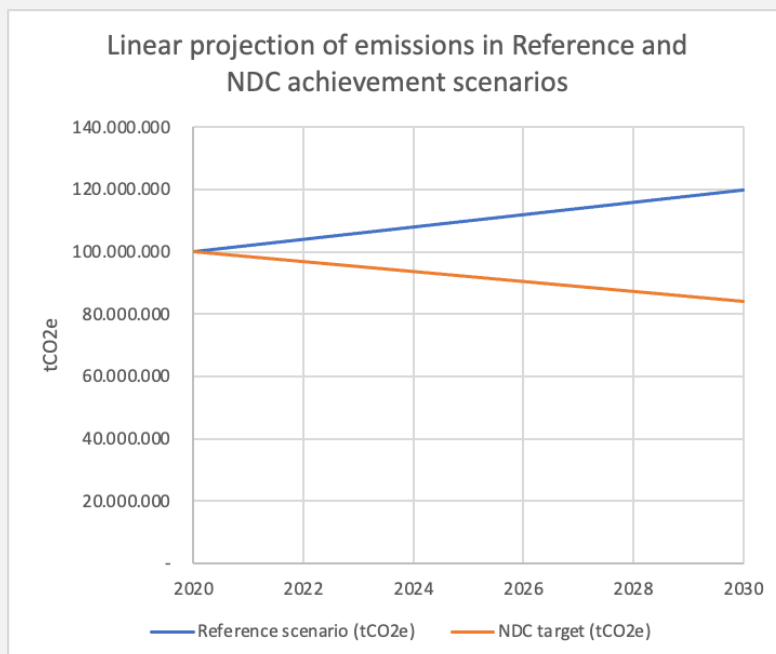


TABLE 2: EXAMPLE 1 – SHARE OF WASTE SECTOR IN ACHIEVING NDC TARGET OVER THE YEARS

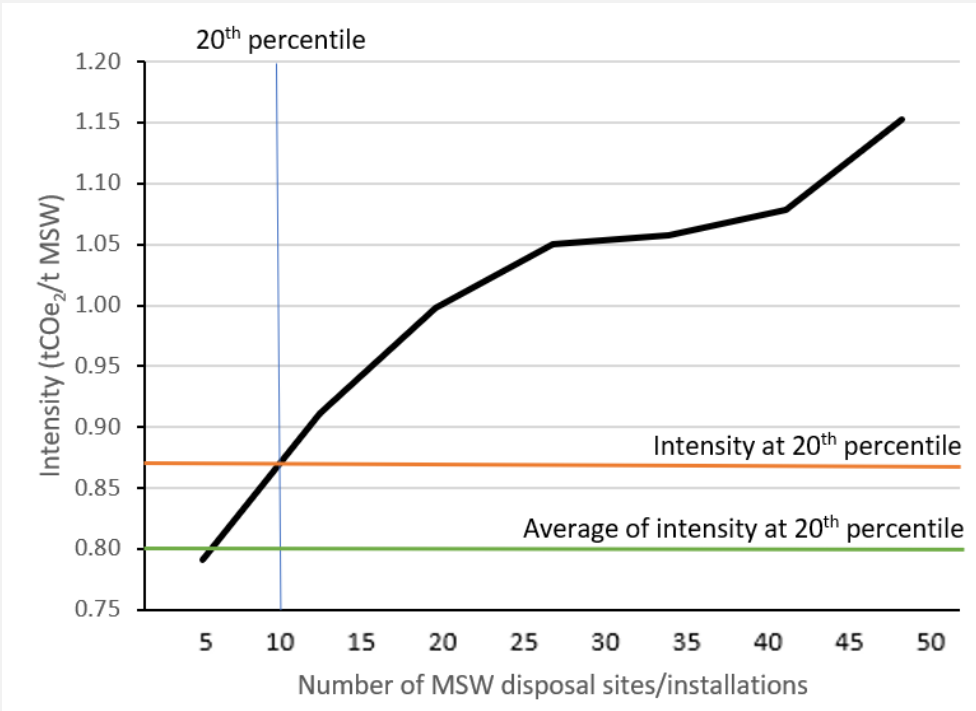
Year	Reference scenario (tCO2e)	NDC target (tCO2e)	Annual reduction to achieve NDC (tCO2e)	Sector share of 1% of GDP (tCO2e)	Mitigation activity share of 8% of sector output (tCO2e)
2020	100.000.000	100.000.000	-	-	-
2021	102.000.000	98.400.000	3.600.000	36.000	2.880
2022	104.000.000	96.800.000	7.200.000	72.000	5.760
2023	106.000.000	95.200.000	10.800.000	108.000	8.640
2024	108.000.000	93.600.000	14.400.000	144.000	11.520
2025	110.000.000	92.000.000	18.000.000	180.000	14.400
2026	112.000.000	90.400.000	21.600.000	216.000	17.280
2027	114.000.000	88.800.000	25.200.000	252.000	20.160
2028	116.000.000	87.200.000	28.800.000	288.000	23.040
2029	118.000.000	85.600.000	32.400.000	324.000	25.920
2030	120.000.000	84.000.000	36.000.000	360.000	28.800

This is compared with the baseline level to give the downscaled baseline according to the NDC economy-wide target (column 3 in Table 1). Since this baseline is higher than the activity-specific baseline determined in the earlier steps, the activity-specific baseline shown in column 2 is applied.

Example 2.

A mitigation activity in the waste sector of Country B is defining its baseline emissions level for participation in the A6.4 mechanism. It already defined an activity-specific baseline using Step 2, Option 2, for which it needs to determine an ambitious benchmark based on current waste disposal practices in the country, based on the 50 municipal solid waste (MSW) disposal sites currently operating in the country, which includes a variety of technologies such as waste incineration, sanitary landfilling (with and without landfill gas recovery) and anaerobic digestion. First the country defines the benchmarking unit, which is tCO₂e/t MSW disposed. The country collated all waste disposal and emissions data for the last three years and developed a performance distribution curve for the sector. Based on this curve the average from the 20th percentile (top 10 best performing installations) of this performance distribution curve was determined to be 0.8 tCO₂e/t MSW in 2020.

FIGURE 4: EXAMPLE 2 - PERFORMANCE DISTRIBUTION CURVE FOR WASTE SECTOR



Downwards adjustment of the benchmark emissions intensity over the years was then carried out according to Step 2, Option 2d to ensure it is in line with the long-term goal of the Paris Agreement, through the application of an “ambition coefficient”, in this case assumed to be set by the host country for Article 6.2 at 3% reduction per year.

TABLE 3: EXAMPLE 2 - DOWNWARD ADJUSTED BENCHMARK EMISSIONS INTENSITY OVER THE YEARS

Year	Downward adjusted benchmark, tCO ₂ e/t MSW
2020	0.80
2021	0.78
2022	0.75
2023	0.73
2024	0.71
2025	0.69
2026	0.67
2027	0.65
2028	0.63
2029	0.61
2030	0.59

Country B has an unconditional NDC target for the waste sector of 30% reduction in 2030 versus a reference scenario of 20% growth in emissions from 2020 to 2030. The planned mitigation activity is located in the largest city of Country B in a service area that represents 10% of the total tonnes of MSW processed by the sector per year. The emission reduction of the mitigation activity using the downward adjusted benchmark is compared to the required emission reduction of the mitigation activity in order to meet the country's NDC target for the waste sector. As the former is found to be lower than the latter, the benchmark has to be adjusted further to meet the downscaled baseline (downscaled benchmark).

TABLE 4: EXAMPLE 2 - EMISSION REDUCTION FROM MITIGATION ACTIVITY USING DOWNWARD ADJUSTED BENCHMARK OVER THE YEARS

Year	Reference scenario (tCO ₂ e)	NDC target (tCO ₂ e)	Waste sector annual reduction to meet NDC (tCO ₂ e)	Mitigation activity share of 10% of sector output (tCO ₂ e)	Mitigation activity annual reduction using Downward adjusted benchmark
2020	100,000,000	100,000,000		0	
2021	102,000,000	98,400,000	3,600,000	360,000	240,000
2022	104,000,000	96,800,000	7,200,000	720,000	482,256
2023	106,000,000	95,200,000	10,800,000	1,080,000	726,561
2024	108,000,000	93,600,000	14,400,000	1,440,000	972,717
2025	110,000,000	92,000,000	18,000,000	1,800,000	1,220,538
2026	112,000,000	90,400,000	21,600,000	2,160,000	1,469,846
2027	114,000,000	88,800,000	25,200,000	2,520,000	1,720,474
2028	116,000,000	87,200,000	28,800,000	2,880,000	1,972,261
2029	118,000,000	85,600,000	32,400,000	3,240,000	2,225,056
2030	120,000,000	84,000,000	36,000,000	3,600,000	2,478,716

As the former is found to be lower than the latter, the benchmark has to be adjusted further to meet the downscaled baseline (downscaled benchmark).

TABLE 5: EXAMPLE 2 - DOWNWARD ADJUSTED BENCHMARK VS DOWNSCALED BENCHMARK OVER THE YEARS

Year	Downward adjusted benchmark, tCO ₂ e/t MSW	Downscaled benchmark, tCO ₂ e/t MSW
2020	0.80	
2021	0.78	0.72
2022	0.75	0.70
2023	0.73	0.68
2024	0.71	0.66
2025	0.69	0.64
2026	0.67	0.62
2027	0.65	0.60
2028	0.63	0.58
2029	0.61	0.56
2030	0.59	0.55

23. Step 4: Regular updates to the baseline

- a. Update the crediting baseline with the start of each new NDC period assuming the common timeframes decision is interpreted in the way that a new NDC period starts every 5 years (see II-AMT GUIDE01), regardless of when in the preceding NDC period the activity did start. At that point, the baseline of activities that are becoming part of the unconditional NDC becomes equal to the activity emissions, effectively ending the generation of credits (see II-AMT GUIDE01). To ensure that activities starting late in an NDC period are not disincentivized due to the risk of the downwards baseline adjustment at the start of the next NDC period, a “baseline protection” of guaranteeing that the baseline does not fall below [50%] of the current baseline level should be provided, barring restrictions due to changes in additionality of the activity (see II-AMT TOOL01).
- b. The update of the baselines can never lead to a baseline becoming less stringent over time. This will incentivise early movers and ensure ambition increase.

24. Step 5 (optional): Setting the baseline in a more conservative manner than this tool

- a. Further adjust the crediting baseline downwards to increase the share of emission reduction counted towards the host country’s NDC and LT-LEDS targets (see II-AMT GUIDE01).

REFERENCES

II-AMT (2022a): TOOL01 - Tool for the demonstration and assessment of additionality: Concept Note. Version April 2022, Perspectives Climate Research, Freiburg

II-AMT (2022b): TOOL03 – Tool for monitoring, reporting and verification of emissions and emission reductions: Concept Note. Version April 2022, Perspectives Climate Research, Freiburg

II-AMT (2022c): GUIDE01 - Guidance for contributions to host country NDC and long-term strategies and goals: Concept Note. Version April 2022, Perspectives Climate Research, Freiburg

UNFCCC (2021a): Decision 2/CMA.3. Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement. UNFCCC, Glasgow

UNFCCC (2021b): Decision 3/CMA.3. Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement. UNFCCC, Glasgow

DRAFT

ANNEX C: TOOL03

TOOL FOR MONITORING, REPORTING AND VERIFICATION OF EMISSIONS, REDUCTIONS AND REMOVALS (DRAFT)

CONTENTS

Introduction3
 Background3
 Objectives.....3
Rules and principles3
Scope and applicability.....6
Terms and definitions.....7
New Elements to be considered in light of Article 6.....9
Key MRV Elements sufficiently addressed under CDM Methodologies14
Verification guidance17
References19

TABLE OF TABLES

Table 1: Costs of monitoring and verification of reversals11

TABLE OF FIGURES

Figure 1: FLOWCHART SHOWING THE SAFEGUARD ASSESSMENT PROCESS.....14

INTRODUCTION

BACKGROUND

1. Transparency assured through robust monitoring, reporting and verification (MRV) processes is pivotal to ensure environmental integrity under the market mechanisms defined under Article 6 of the Paris Agreement (PA). Monitoring methodologies under Article 6 need to consider host country's Nationally Determined Contributions (NDCs) and the national reporting commitments of both host and buyer country under the Enhanced Transparency Framework (ETF), particularly in the context of the Biennial Transparency Reports (BTRs).
2. In January 2022, the "International Initiative for Development of Article 6 Methodology Tools" (II-AMT) was launched with the aim of developing methodological tools that guide the revision of existing methodologies when applied to activities implemented in the context of Article 6 of the Paris Agreement.

OBJECTIVES

3. MRV under Article 6 should not be developed from scratch. This tool aims at complementing rules and procedures under the Clean Development Mechanism (CDM) by applying the lessons learnt during their use. It therefore serves as an "add on" to existing CDM monitoring methodologies, providing approaches that satisfy the principles and criteria of Article 6.
4. The following experts have led the development of this tool:
 - Axel Michaelowa, Perspectives Climate Research, Switzerland
 - Francios Sammut, Carbon Limits, Norway
 - Martha Ntabadde, member of the CDM Methodology Panel, Uganda
 - Sina Wartmann, independent consultant for MRV and Transparency
 - Kentaro Takahashi, Institute for Global Environmental Strategies, Japan
 - Naoki Matsuo, Institute for Global Environmental Strategies, Japan
5. The following experts supported the development of this tool:
 - Randall Spalding-Fecher, Carbon Limits, Norway
 - Paula Macías Díaz, Carbon Limits, Norway
 - Derik Broekhoff, Stockholm Environment Institute, US
 - Jessica Wade-Murphy, Atmosphere Alternative, Colombia
 - Clayton Munnings, Munnings Consulting, US
 - Aayushi Singh, Perspectives Climate Research, Germany

RULES AND PRINCIPLES

6. This tool is developed based on the following principles enshrined in the decisions 2/CMA.3 and 3/CMA.3 as well as 18/CMA.1 and 5/CMA.3 adopted by the Parties to the Paris Agreement:
7. **Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement**

"1. Internationally transferred mitigation outcomes (ITMOs) from a cooperative approach are:

(a) Real, **verified** and additional; [...]"

(c) **Measured** in metric tonnes of carbon dioxide equivalent (**t CO₂ eq**) in accordance with the **methodologies and metrics** assessed by the **Intergovernmental Panel on Climate Change** and adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA)¹

[...]

18 f). For a first or first updated NDC consisting of policies and measures that is not quantified, **quantify the emission level resulting from the policies and measures** that are relevant to the implementation of the cooperative approach.

18 i) Describe how each cooperative approach will:

(i) **Minimize** and, where possible, **avoid negative environmental, economic and social impacts**;

22. Each participating Party shall also include, as an annex to its biennial transparency reports [...], the following information on how each cooperative approach in which it participates:

(b) Ensures environmental integrity, including:

[...]

(ii) Through robust, transparent governance and the quality of mitigation outcomes, including [...] addressing **uncertainties** in quantification

(iii) [...] when **reversals** of emission removals occur, ensuring that these are addressed in full;”

(f) Minimizes and if possible avoid negative environmental, economic and social impacts.

8. Rules, modalities, and procedures of the Article 6.4 Mechanism

"24. The Supervisory Body shall, in accordance with relevant decisions of the CMA:

(a) Establish the requirements and processes necessary to operate the mechanism, relating to, inter alia: [...]

(xi) The development of tools and approaches to assess and **report information about how each activity is fostering sustainable development**, [...]

32. The activity shall apply a mechanism methodology that has been developed in accordance with chapter V.B below (Methodologies) and approved by the Supervisory Body following its technical assessment, in order to: [...]

(c) Ensure **accurate** monitoring of emission reductions.

50. The activity participants shall **monitor** emission reductions achieved by the activity during each monitoring period, in accordance with the relevant requirements adopted by the Supervisory Body. The activity participants shall also **monitor potential reversals** over a period to be decided by the Supervisory Body.

51. A designated operational entity shall independently review and determine the implementation of, and the emission reductions achieved by, the Article 6, paragraph 4, activity during the monitoring period (hereinafter referred to as verification) against the requirements set out in these

¹ The Article 6.2 guidance also allows for ITMOs to be measured in other non-greenhouse gas (GHG) metrics determined by the participating Parties that are consistent with the nationally determined contributions (NDCs) of the participating Parties. However, this tool only focuses on MRV of GHG metrics.

rules, modalities and procedures, further relevant decisions of the CMA and relevant requirements adopted by the Supervisory Body, and provide written assurance of the **verified** emission reductions (hereinafter referred to as certification).”

9. Modalities, procedures, and guidelines of the enhanced transparency framework

“3. The guiding principles of these modalities, procedures, and guidelines (MPGs) are:

[...]

(d) Promoting **transparency, accuracy, completeness, consistency and comparability**;

[...]

31. Each Party shall use notation keys where numerical data are not available when completing common reporting tables, indicating the reasons why emissions from sources and removals by sinks and associated data for specific sectors, categories and subcategories or gases are not reported. These notation keys include: [...]

(e) “C” (confidential) for emissions by sources and removals by sinks of GHGs where the reporting would involve the **disclosure of confidential information**

[...]

37. Each Party shall use the **100-year time-horizon global warming potential (GWP)** values from the **IPCC Fifth Assessment Report**, or 100-year time-horizon GWP values from a subsequent IPCC assessment report as agreed upon by the CMA.”

10. Further principles

Since the objective of the tool is to reform the existing CDM MRV framework, the requirements for the monitoring plan of CDM and JI activities enshrined in the Marrakech Accords of 2001 are as follows (wording taken from the JI section, it is repeated verbatim in the CDM section):

“(a) The collection and archiving of **all relevant data** necessary for estimating or measuring anthropogenic emissions by sources and/or anthropogenic removals by sinks of greenhouse gases occurring **within the project boundary during the crediting period**;

(b) The **collection and archiving** of all relevant data necessary for determining the baseline of anthropogenic emissions by sources and/or anthropogenic removals by sinks of greenhouse gases within the project boundary during the crediting period;

(c) The identification of all potential sources of, and the collection and archiving of data on increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of greenhouse gases **outside the project boundary** that are **significant** and **reasonably attributable** to the project during the crediting period. The project boundary shall encompass all anthropogenic emissions by sources and/or removals by sinks of greenhouse gases under the control of the project participants that are significant and reasonably attributable to the [...] project;

[...]

(e) **Quality assurance and control procedures** for the monitoring process;

(f) Procedures for the periodic calculation of the reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by sinks by the proposed [...] project, and for leakage effects, if any. Leakage is defined as the net change of anthropogenic emissions by sources

and/or removals by sinks of greenhouse gases which occurs outside the project boundary, and that is **measurable** and **attributable** to the [...] project;

(g) **Documentation of all steps** involved in the calculations referred to in subparagraphs (b) and (f) above.”

Decision 9/CMP.7 on the “Materiality standard under the clean development mechanism” specifies that

“The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol [...]

1. Decides that the concept of **materiality** should be applied in a **consistent manner** under the clean development mechanism; [...]

4. [...] decides that information related to a clean development mechanism project activity shall be considered material if its omission, misstatement, or the non-compliance with a requirement might lead, at an aggregated level, to an **overestimation of the total emission reductions** or removals achieved by a clean development mechanism project activity equal to or higher than:

(a) 0.5% of the emission reductions or removals for project activities achieving a total emission reduction or removal of equal to or more than 500,000 t CO₂e per year;

(b) 1% of the emission reductions or removals for project activities achieving a total emission reduction or removal between 300,000 and 500,000 t CO₂e per year;

(c) 2% of the emission reductions or removals for large-scale project activities achieving a total emission reduction or removal of 300,000 t CO₂e per year or less;

(d) 5% of the emission reductions or removals for small-scale project activities other than project activities covered under paragraph 4(e) below;

(e) 10% of the emission reductions or removals for the type of project activities that are referred to in decision 3/CMP.6, paragraph 38 [i.e., renewable energy projects <5 MW and energy efficiency projects projecting energy savings <20 GWh per year]”

SCOPE AND APPLICABILITY

11. This tool specifies updates to the monitoring elements of CDM methodologies, as well as related reporting and verification elements, to ensure alignment with the Article 6.2 guidance; the rules, modalities, and procedures (RMPs) of the Article 6.4 mechanism; and MPGs of the enhanced transparency framework (ETF). Where existing standards for monitoring outside of CDM methodologies, such as standards for monitoring equipment or sustainable development (SD) monitoring, appropriately capture the principles of Article 6, the tool provides a direct reference to such standards.

12. The key elements for updating the existing framework are listed below:

- a) Error! Reference source not found. **ELEMENT 1: Ensuring conservativeness** Ensuring conservativeness in case accuracy is low due to excessive costs of accurate monitoring approaches:
 - i. the baseline
 - ii. activity emissions and/or removals

- b) **ELEMENT 2: Monitoring of all relevant policies** Ensuring monitoring of all relevant policies, including potential new policies influencing emissions levels of the activity
- c) **ELEMENT 3: Monitoring of reversals** Ensuring full identification and monitoring of reversals
- d) **ELEMENT 4: Monitoring Sustainable Development impacts** Ensuring identification and monitoring of all relevant sustainable development parameters through use of robust methodological guidance and tools.

13. The Article 6 MRV tool also recognises the following elements deemed sufficiently addressed under the existing CDM MRV methodological approaches, which may only require minor modification:

- e) **ELEMENT 5: Accuracy**
- f) **ELEMENT 6: Completeness**
- g) **ELEMENT 7: Consistency**
- h) **ELEMENT 8: Comparability**
- i) **ELEMENT 9: Leakage**
- j) **ELEMENT 10: Materiality**
- k) **(d)** 5 per cent of the emission reductions or removals for small-scale project activities other than project activities covered under subparagraph (e) below; (e) 10 per cent of the emission reductions or removals for the type of project activities referred to in decision 3/CMP.6, paragraph 38 (referred to as microscale project activities).
- l) **ELEMENT 11: Confidential information**
- m) **Generally, no** information that is used in the proof of additionality should be confidential.
- n) **ELEMENT 12: Use of recent IPCC AR GWPs**
- o) **ELEMENT 13: Quality assurance (QA)/Quality control (QC)**

TERMS AND DEFINITIONS²

14. The following terms and definitions are applied under this tool:

15. Accuracy

- A relative measure of the exactness of an emission or removal estimate. Estimates should be accurate in the sense that they are systematically neither over nor under true emissions or removals, so far as can be judged. When there is accuracy, there is agreement between the true value and the average of repeated measured observations or estimates of a given variable. An accurate measurement or prediction lacks bias or, equivalently, systematic error.
- This means all endeavours is made to remove bias from the emissions estimates using the best approaches to data collection and putting into consideration uncertainty.

16. Activity

- A practice or ensemble of practices that take place on a delineated area over a given period of time.

17. Activity boundary

- The activity boundary should encompass all anthropogenic emissions by sources or of greenhouse gases (GHG) influenced by the activity.

² As the tool develops over the development phase, this section will evolve with addition of new terms.

- An activity boundary may vary by the type of activity.

18. **Bias (systematic error)**

- Refers to lack of accuracy and it can occur when the available data is not representative of the actual situation or due to instrument error.

19. **Comparability**

- Activities are monitored and reported in a way that allows comparison with similar activities.

20. **Completeness**

- All parameters that are relevant for estimation of material baseline and activity emissions or sinks for all gases within the project activity boundary, are covered or monitored.

21. **Conservativeness**

- Baseline emissions are underestimated, baseline removals are overestimated.
- Project emissions are overestimated, project removals are underestimated.

22. **Consistency**

- Estimates for different years of the monitoring period of an activity, are made in such a way that differences in the results between years reflect real differences in emissions. Estimates should, as far as possible, be monitored and calculated using the same method and data sources in all reporting years of the activity and should aim to reflect the real annual fluctuations in emissions or removals and not be subject to changes resulting from methodological differences.

23. **Leakage**

- Emissions occurring outside the activity boundary that are quantifiable and attributable to the proposed activity.
- Increased emissions, or reduced removals, occurring as a result of the activity but not related to the activity's primary or intended effect.
- Leakage must be estimated based on a comparison to the baseline scenario for the activity causing the leakage and applied to the sources/sinks affected.

24. **Materiality**

- Emissions / removals are material if they are significant.

25. **Monitoring period**

- Must be equal to calendar years and aligned with the annual emission balances of sources and sinks covered by the NDC to allow for robust accounting.³
- The end of a monitoring period must coincide with the end of the NDC implementation period, thereby allowing for monitoring of updated baseline parameters of the new NDC implementation period in a new monitoring period⁴.

26. **Permanence**

³ See II-AMT GUIDE01 for further details.

⁴ See II-AMT GUIDE01 for further details.

- Permanence refers to a situation where the mitigation outcomes generated by a mitigation activity cannot be reversed later.
- Non-permanence risk is associated with mitigation activities that enhance the storage of carbon in a reservoir, either by reducing carbon emissions from a reservoir, or by removing carbon from the atmosphere and storing it in a reservoir.
- Degree to which generated mitigation outcomes cannot be reversed needs to be clearly defined.

27. Relevant policy

- A policy is relevant if it impacts an activity's level of greenhouse gas emissions/removals and is beyond the control of the activity developer.

28. Reporting

- Reporting is done on two levels
 - The activity level: through the monitoring report, which is submitted to the accredited auditor for verification and certification of the emission reductions from the activity.
 - The national level: by participating Parties (e.g., the host country) through their initial and regular information on the activity and how it ensures environmental integrity and contributes to NDC/long-term low emission development strategy (LT-LEDS) implementation. If this information is provided by the activity design documentation and monitoring reports, it reduces the reporting burden for host countries⁵.

29. Reservoir

- A component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored.

30. Removal

- Anthropogenic activities removing CO₂ from the atmosphere and durably storing it in geological, terrestrial, or ocean reservoirs, or in products. It includes existing and potential anthropogenic enhancement of biological or geochemical sinks and direct air carbon capture and storage but excludes natural CO₂ uptake not directly caused by human activities.

31. Reversal

- Release of greenhouse gases previously removed by the activity into the atmosphere, or;
- Destruction of a reservoir of greenhouse gases previously protected by the activity.

NEW ELEMENTS TO BE CONSIDERED IN LIGHT OF ARTICLE 6

32. This section of the tool specifies the new elements relevant under Article 6 for MRV. These specifications are to be applied in the CDM methodologies used by activity developers⁶. Designated Operational Entities (DOEs) are to assess during validation whether the specifications are properly applied in activity design documents, and check during verification whether monitoring reports are consistent with these specifications.

⁵ See II-AMT GUIDE01 for further details.

⁶ Examples for each element will be developed by the experts as guidance to activity developers.

33. ELEMENT 1: Ensuring conservativeness⁷

34. If activity developers can show that achieving the minimum level of accuracy specified in the methodology (see Element 5 below) generates monitoring costs exceeding [X] [2] US\$ per tCO₂e emissions reduction, they can apply an MRV approach with a lower level of accuracy but need to apply the conservative value of the resulting confidence interval, i.e. the lower end of the confidence interval for parameters applied in the baseline and the higher end for parameters applied for calculating activity emissions.

35. ELEMENT 2: Monitoring of all relevant policies

36. A relevant policy is a policy that leads to a relevant change of emissions of an activity over a period of one year or more and which is not part of that activity.

37. Relevant policies might include, among other, mandatory regulations and monetary incentives or disincentives. These might influence the choice of technologies, consumption and/or demand, which in turn influence emission levels under the activity and/or might require an adjustment to the baseline. As part of developing the monitoring plan, the project developer shall carry out a risk analysis, activity emission levels (e.g., relating to technologies, consumption, demand) might be influenced by policies during the crediting period.

38. The activity developer shall assess on an annual basis, [for LDCs] every five years, aligned with NDC periods], whether policies significantly influencing the activity's GHG emission and/or baseline emission levels over a year or longer have been implemented. For this purpose, the activity developer shall provide relevant information as well as a simplified estimate of GHG emission changes under the activity. Relevant information might include legislative and administrative texts and/or formal statements of public entities to the activity developers. [Activity developers in LDCs would not have to monitor policies for a period of [5 years] after the start date of the first crediting period].

39. The activity developer might provide a simplified estimate of changes to the activity's and/or the baseline's GHG levels (as appropriate) by comparing GHG levels with and without the policies, modifying relevant elements of the estimation approach, e.g., related to technologies, consumption, or demand. Whilst doing so and to the extent feasible, the activity developer should refer to the targets or specifications (e.g., regulative text and/or impact assessments of the policies)

40. ELEMENT 3: Monitoring of reversals

Step 1: [Option 1] Developers of activities that generate reservoirs of GHGs through removals or protect reservoirs from destruction are responsible for monitoring the activity area to identify potential reversals through remote sensing at least annually from the start of the crediting period, and after the crediting period [for a duration of 100 years] [for a duration of [10] years after the end of the last crediting period].

41. [Option 2] Activity developers can discharge themselves from this monitoring requirement by showing a statement from the Article 6 authority of the host country that the host country government takes over the responsibility for monitoring for the remainder of the monitoring duration, and reports on each activity for which it takes the responsibility in its annual Article 6 report to the UNFCCC.

⁷ The draft text under Element 1: Ensuring conservativeness is still under development by the experts.

42. [Option 3, if available] From the start of the crediting period, and after the crediting period [for a duration of 100 years] [for a duration [10] years after the end of the last crediting period], the UNFCCC Secretariat identifies potential reversals through remote sensing of all such activity areas. Once a potential reversal has been identified, the developer of the activity is tasked to organize monitoring of the activity area. Activity developers can discharge themselves from this monitoring requirement by showing a statement from the Article 6 authority of the host country that the host country government takes over the responsibility for monitoring for the remainder of the monitoring duration
43. **Step 2:** In case a reversal has been identified, monitoring will be undertaken to determine the extent of this reversal. Developers of activities must present an identification and monitoring plan for the duration of the monitoring period which as a minimum describes the following:
- Remote sensing technology to be used to identify reversals
 - Source of remote sensing data
 - Frequency of monitoring for reversal (minimum once per year)
 - Responsibilities for monitoring (incl. proof if responsibility for monitoring is discharged to the Article 6 authority of the host country)
 - Procedure for notification in case of reversal
 - Procedure for monitoring extent of reversal (if relevant)
 - Annual cost for identification of reversal
 - Annual cost for monitoring in case of reversal
44. The activity developer is required to have in place sufficient financial provisions to fulfil obligations related to the identification and monitoring of reversals, either through insurance contracts or provision of funding in an escrow account. The activity developer is required to provide details of the actual nature of the financial need, the estimated volume (level) of the financial provision foreseen to be required and a description of the nature (type) of the financial provisions it [has] [will] establish[ed] to cover the needs for long term identification and monitoring of reversals. The activity developer should provide all accompanying documentation and evidence required to support statements made in Table 1.
45. **Step 3:** In case a reversal has been identified and its extent determined through monitoring, it needs to be remedied in full [through cancellation of credits in buffer reserves]. Unless specified through monitoring, the reversal should be assumed to have begun one day after the date of the previous monitoring activity, and the period for cancellation of credits should begin on that date.

TABLE 1: COSTS OF MONITORING AND VERIFICATION OF REVERSALS

<p>Coverage: The cost of ongoing monitoring, at an appropriate frequency, of the reservoir of GHGs and of verification and certification by a designated operational entity for at least xx years after the end of the last crediting period of the project activity</p>
<p>Detailed description of the financial need</p>

Level of financial provision
Type of financial provision

46. ELEMENT 4: Monitoring Sustainable Development impacts

- 47. Given a strong political mandate to track sustainable development impacts – both positive and negative - under the Article 6.4 mechanism, there is a need to revisit the CDM SD tool and fill the gaps identified by carbon market experts to design a robust SD assessment system under Article 6.
- 48. Some of the gaps in the CDM SD tool are lack of quantification of co-benefits, lack of safeguards against negative SD impacts, voluntary and not mandatory monitoring, reporting and verification of co-benefits, and lack of guidance on stakeholder consultations.
- 49. This element refers to the Tool to track and monitor SD impacts developed by the A6.4SB; and provides a Safeguards tool.
- 50. The SD tool provides a high-level guidance on identifying relevant SD parameters and monitoring SD impacts in a consistent approach that bridges the gaps in the CDM SD tool. The A6.4SB tool for monitoring SD impacts will be referred to under this tool and will be used for tracking and monitoring of SD impacts.
- 51. The Safeguards tool with robust social and environmental safeguards provides a minimum threshold that an activity must adhere to in order to ensure that it abides by the “do-no-harm” principles.
- 52. **Safeguards Assessment Tool.**
- 53. The project proponent shall carry out an assessment of the environmental, economic and social impacts of the proposed project activity using the following steps:
- 54. **Step 1: Screening**
- 55. This would entail a quick high-level analysis to determine whether a detailed Environmental, Social-economic Impact Assessment (ESIA) is necessary, in accordance with the legislative framework of the host country or as required by an international body, if applicable to the given technology. Consultation at this stage must happen with the planning authorities of the host country. The regulatory body in charge of environmental enforcement or any other that the host country fronts to fulfil this role, shall ensure that the screening is non-biased. The host country may choose to develop a list of micro-scale mitigation technologies for which a detailed ESIA may not be deemed necessary.
- 56. **Step 2: Scoping**
- 57. If the step above requires that a full Environmental, Economic and Social Impact Assessment is necessary, this step follows to determine which environmental, social, and economic impacts are likely to be significant plus identify data availability gaps and identify spatial (e.g., project boundary) and temporal scopes (e.g., for the length of the crediting period)

58. At this stage consultation is important with the host country government enforcement agency to confirm that the proposed scope is appropriate; local communities; and other relevant stakeholders is important in ensuring all potential impacts are identified.

59. **Step 3: Assessment**

60. The project proponent shall apply the *IFC Performance Standards on Social and Environmental Sustainability*⁸ or *the Environmental and Social standards* under the World Bank Environmental and Social Framework⁹ in the assessment of social-economic and environmental project impacts and identification of mitigation options.

61. The two standards are closely related and aim to address a broader scope of environment and social risks and potential impacts to be assessed and managed by the project activity proponent including on climate change, biodiversity, community health, road traffic safety, disability, occupational health and safety and ways to ensure vulnerable groups have access to project benefits.

62. All projects for which an ESIA is deemed necessary under step 1, shall abide by the IFC Performance Standard 1 or World Bank Environmental and Social Standard 1: Assessment and Management of Environmental and Social Risks and Impacts¹⁰; throughout the duration of the crediting period of the project activity. When considered necessary by the host country's environmental regulatory body, the project activity may be mandated to abide by other IFC performance Standards, in the management of other impacts by the project that are considered significant. The assessment can be broken down into three parts:

I. Baseline Assessment

Baseline assessment is important to provide a reference point against which any future environmental, social, and economic impacts associated with a project activity can be gauged.

II. Impact prediction and Evaluation

This is considered the heart of the Assessment and involves analysing the impacts identified in the scoping and baseline study, to determine the nature, temporal and special scale, magnitude, and likelihood of the identified impacts. This will require professional judgement and input from various experts including ecologists, biologists, economists, and sociologists. Once the potential impacts are more fully understood, it is necessary to judge the significance of each impact, to determine whether it is acceptable, requires mitigation or is unacceptable.

III. Mitigation of identified Impacts

Mitigation aims to eliminate or reduce negative environmental, social, and economic impacts of the project activity. Mitigation options should generally be considered in the following order of preference: avoidance, reduction, restoration of environment, relocation, and compensation.

63. **Step 4: Formulation of Environmental and Social Management Plan (ESMP) and the Environmental Impact Statement (EIS).**

⁸ IFC (2012): [IFC Performance Standards on Social and Environmental Sustainability](#)

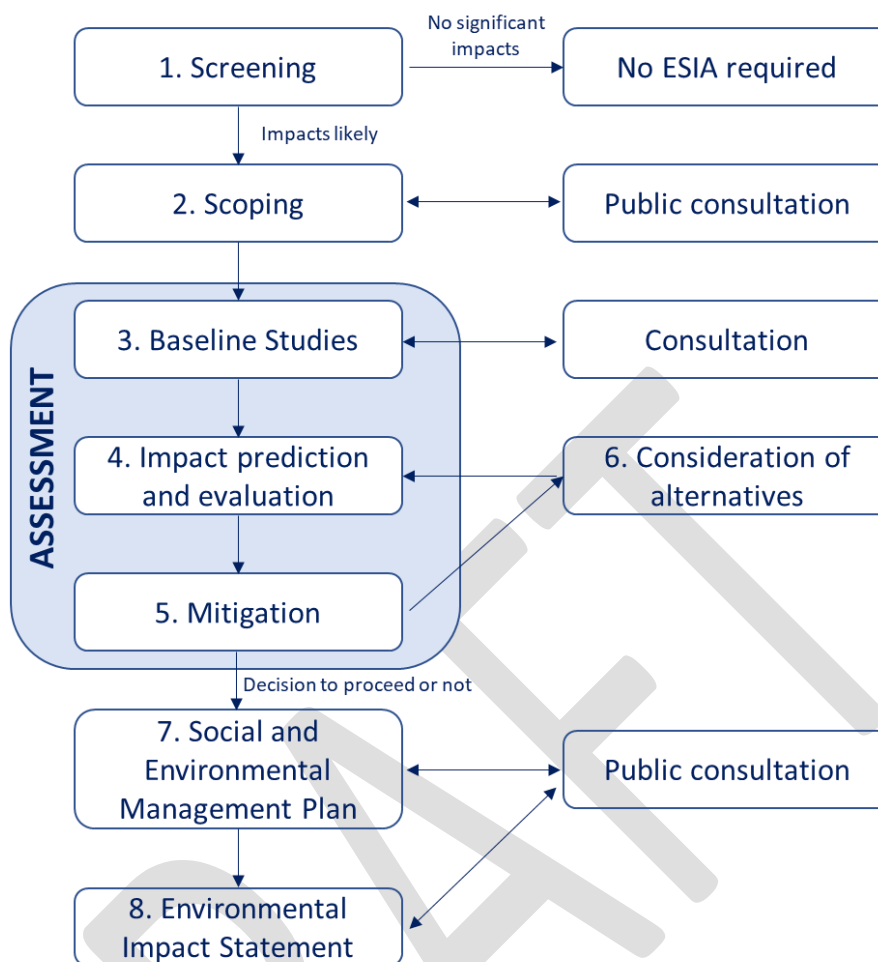
⁹ [World Bank Environmental and Social Standards](#)

¹⁰ World Bank (2018): [ESS1: Assessment and management of environmental and social risks and impact](#)

64. Following the assessment, a plan is formulated in an Environmental and Social Management Plan (ESMP), which is a report defining main environmental, economic, and social activities; measures on prevention; minimisation and mitigation of the impacts; as well as organisational structures and responsibilities, schedule, and a sufficient budget for implementation of the Plan and monitoring activities over the course of the crediting period of the activity.
65. The results of the environmental and social impact assessment process and findings are summarized in a report-the Environmental Impact Statement (EIS). It provides a clear review of potential impacts and how they have been and will be mitigated. This report will form the basis of public consultation activities and is the document that will be presented to regulatory authorities of the host country and would suffice to fulfil the requirements of decision 18/CMA.1, paragraph 18h (i) or paragraph 22 (f) to provide detailed information to demonstrate that the activity minimizes and, where possible, avoids negative, environmental, economic, and social impacts.

DRAFT

FIGURE 1: FLOWCHART SHOWING THE SAFEGUARD ASSESSMENT PROCESS



KEY MRV ELEMENTS SUFFICIENTLY ADDRESSED UNDER CDM METHODOLOGIES

66. This section briefly discusses the MRV elements sufficiently addressed under CDM methodologies and need not be addressed in detail by this tool. For a subset of CDM methodologies, they may require some adjustments in light of Article 6 decisions; however, these are expected to be minor and will not fundamentally change the elements.

67. ELEMENT 5: Accuracy

- The measured values should neither be over nor underestimated. In the estimation of mitigation outcomes of a given activity, the aim should be to use data or information that is as representative as possible in order to reduce possible bias and increase accuracy. This means making all endeavours to remove bias from the estimates and taking care of uncertainty. However, where the cost of achieving accuracy is prohibitive, the activity developer may strike a balance between accuracy and conservativeness, using a less accurate approach while ensuring that GHG emission levels are not underestimated / sinks are not overestimated. For this purpose, the activity developer shall provide a proper justification indicating why a more accurate approach leads to prohibitive costs; what approach is suggested as an alternative and how it avoids underestimation of emissions or

overestimation of sinks (see element 1 above). The accuracy element will entail specification within the methodology, of the confidence intervals for measurement equipment and monitoring parameters as well as specification of calibration requirements for measurement equipment in order to ensure accuracy.

- The general approach under the CDM of setting confidence intervals for monitoring parameters presents a good starting point to address uncertainty. The confidence interval is a range that encloses the true value of an unknown fixed quantity with a specified confidence (probability). Typically, a 95 percent confidence interval has been used following IPCC Guidelines for National GHG inventories.
- However, in the measurement or quantification of any parameter, the degree of uncertainty shall be quantified and accounted for in the estimation of the mitigation outcomes. The activity developer shall collect appropriate information necessary to develop estimates of uncertainty at 95 percent confidence interval.
- The 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories contain uncertainty assessment guidance for GHG reporting that may be applied when quantifying uncertainty and adjusting mitigation outcomes accordingly.
- Under Section 3.2, subsection 3.2.2 of the IPCC Guidelines for National GHG Inventories on quantifying uncertainty¹¹ specific guidance is provided on quantifying uncertainty related to activity or empirical data, including for applied emission factors. Sub-section 3.2.1.2 provides requisite information sources of data for quantifying uncertainty from measured emission or removal data, activity data or from emission factors; and 3.2.3 provides approaches for combining uncertainty which may be useful in determining the overall mitigation outcome considering uncertainty, derived from different parameters with varying uncertainty estimates.

68. ELEMENT 6: Completeness

- The activity developer shall monitor all relevant emission sources and sinks as well as all GHGs occurring under the project activity. In considering emission sources and sinks as well as gases, the activity developer shall consider the IPCC 2006 Guidelines for national GHG inventories and the emission sources and sinks as well as gases contained therein. They shall also consider the 2019 Refinement to the IPCC 2006 Guidelines for national GHG inventories, where the host country is using it for the compilation of their national GHG inventory.

69. ELEMENT 7: Consistency

- To the extent appropriate the same methodologies, parameters, assumptions and data sources are to be used for monitoring over time, to ensure changes in emission / sink levels reflect real changes as opposed to mere changes in methodology or data. Where this is not fully feasible, methodologies, parameters, assumptions and data sources should be chosen to minimize inconsistencies, and this should be reported transparently in the monitoring report. Furthermore, the monitoring plan is to be updated accordingly. Transparent and

¹¹ IPCC (2019): [Chapter 3: Uncertainties, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories](#)

structured documentation and archiving of approaches, data and data sources play a key role in facilitating consistency over time ¹².

70. ELEMENT 8: Comparability

- In principle, comparability will be enhanced, where methodologies used are the same or similar as for activities which are similar in scope covered (e.g., with regards to sector/subsector, emission sources/sinks, gases, causality of GHG reduction, technologies used, etc.). Conservativeness combined with accuracy of monitoring should however take precedence over comparability of approaches.

71. ELEMENT 9: Leakage

- The element will specify a set of parameters needed to cover significant and reasonably attributable emissions outside of the activity boundary. Additional guidance will be provided on addressing leakages for upscaled mitigation actions.¹³

72. ELEMENT 10: Materiality

- The materiality thresholds determined in decision 9/CMP.7, para 4 are to be applied under Article 6. These are specified in the Guidelines for application of Materiality in verifications¹⁴ as follows:
- Information is material if it might lead, at an aggregated level, to an overestimation of the total emission reductions or removals achieved by a project activity equal to or higher than:
 - (a) 0.5 per cent of the emission reductions or removals for project activities achieving a total emission reduction or removal of equal to or more than 500,000 tons of carbon dioxide equivalent per year;
 - (b) 1 per cent of the emission reductions or removals for project activities achieving a total emission reduction or removal between 300,000 and 500,000 tons of carbon dioxide equivalent per year;
 - (c) 2 per cent of the emission reductions or removals for large-scale project activities achieving a total emission reduction or removal of 300,000 tons of carbon dioxide equivalent per year or less;
 - (d) 5 per cent of the emission reductions or removals for small-scale project activities other than project activities covered under subparagraph (e) below; (e) 10 per cent of the emission reductions or removals for the type of project activities referred to in decision 3/CMP.6, paragraph 38 (referred to as microscale project activities).

73. ELEMENT 11: Confidential information

- Relates to any data or information disclosed for purposes of estimation of project activity emissions or sinks which is private in nature or proprietary to a trade secret of corporate nature that is identified or marked as confidential at the time of disclosure.

¹² Elements on ensuring accuracy, completeness, and consistency (Elements 5-7) in MRV can be supported through digitisation of data collection and analysis. Digitisation is outside the scope of this tool, but relevant approaches and initiatives may be cross-referenced.

¹³ Guidance is under development.

¹⁴ [CDM EB 69 Report, Annex 6](#)

- Confidential information may include information in relation to a party, business or project activity, which is commercially sensitive or of a secret nature e.g., information that reveals the operations, belongings of a business, etc. especially where only a few companies dominate the data.
- Only information that is specific to the entities directly involved in the activity can be labelled as confidential. Information that relates to a number of different entities including the activity developers and thus does not allow to discern commercially relevant characteristics of the entities directly involved in the activity cannot be declared confidential.
- Any information identified or marked as confidential should be treated as such and efforts need to be made to ensure that the confidentiality is protected, and the originator of the confidential information guaranteed confidentiality by aggregating confidential information in such a way as to protect the confidentiality but produce accurate emissions results for the given project activity.
- Generally, no information that is used in the proof of additionality should be confidential.

74. ELEMENT 12: Use of recent IPCC AR GWPs

- Until 2030, GWPs as specified in IPCC AR5 are to be used to convert GHGs into CO₂e.

75. ELEMENT 13: Quality assurance (QA)/Quality control (QC)

- The QA/QC element relates to specifying the QA/QC procedures to be applied that help improve accuracy, consistency, and completeness.
- The activity developer will, as a minimum, describe the following:
 - how the measurement equipment is calibrated, adjusted, and checked (including prior to use) against measurement standards traceable to international measurement standards and the frequency of calibration
 - quality assurance procedures of the information technology system used for data flow activities
 - procedures for internal reviews and validation of data
 - procedures for corrections and corrective action

VERIFICATION GUIDANCE¹⁵

76. The tool will explore developing a detailed guidance for independent third-party auditors on what their role would entail. Auditors are responsible for carefully assessing and verifying the credibility of data sources, assumptions, calculations, justifications, and other information provided by activity participants in activity development documents. Beyond the documentation submitted by activity developers, the auditors must also consider any independent sources available to allow for consistent validation. Digitisation will play an important role in increasing access to publicly available information sources.
77. Verifiers are to be assigned by the UNFCCC Secretariat per random allotment to an activity owner. The UNFCCC Secretariat publishes a fee schedule for verifications Fees must be exclusive of additional costs such as travel costs. The UNFCCC Secretariat operates a roster of qualified local verification experts. A site visit is mandatory for the first verification; for subsequent verifications with immaterial changes of verified emission reductions/removals, activity developers can request a waiver.

¹⁵ The Verification Guidance is under development and will be made available shortly.

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