II-AMT TOOL02

TOOL FOR ROBUST BASELINE SETTING



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CONCEPT NOTE

International Initiative for Development of Article 6 Methodology Tools

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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. Because the baseline represents what would have happened without the crediting program, it can never be known with certainty. Carbon markets have therefore developed various approaches to creating 'counterfactual' scenarios for the baseline. In international carbon markets the baseline has often been set to represent the scenario that would most likely have occurred in the absence of the mitigation activity, i.e., "business as usual" (BAU) ¹.
- In the context of the Clean Development Mechanism (CDM) and Joint Implementation (JI), similar but not identical 2. 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 category ². As a safeguard against artificially high baseline scenarios and to prevent perverse incentives of the CDM to introduce ambitious national mitigation policies and measures, the CDM Executive Board agreed on the so-called "E+ and E- policies" rules. Policies that increase emissions ("E+ policies") would not be considered in the baseline if introduced after 1997 while policies that reduce 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 GHG emissions per unit of production of an output or service which implied that absolute emissions of an activity 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.
- 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 this context, the Article 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.

¹ There have also been cases where baselines have already been set below BAU.

² Option c might be below BAU since it is derived from the top performers only.

Objectives

- 5. This methodological tool aims to provide guidance for robust approaches to baseline setting under Article 6 of the Paris Agreement. A robust approach can be described as an approach that 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 also shall 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 concept note builds the basis for the future tool being developed in the context of the "International Initiative for development of Article 6 Methodology Tools" (II-AMT), which was launched in January 2022.

The following experts have led the development of this concept note:

- Axel Michaelowa, Perspectives Climate Research, Switzerland
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The following experts supported the development of this concept note:

- Derik Broekhoff, Stockholm Environment Institute, US
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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 scoped 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 will provide 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 mitigation policies.
- 11. In validating the application of this tool, independent third-party auditors shall 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 shall also identify and cross-check available independent sources and documentation. The elements checked during this assessment and the conclusions shall be documented transparently.

12. TOOL02 will include 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 16-23. 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:

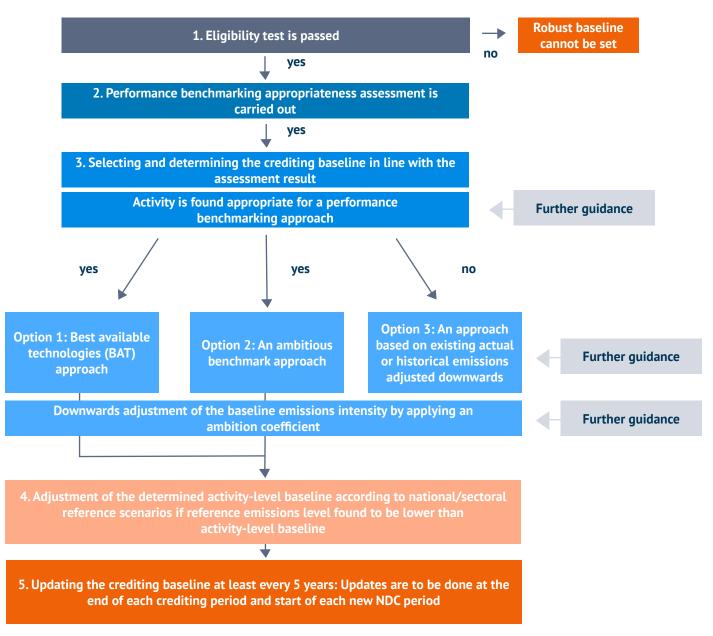
i. best available technologies;

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. Next to a broad conceptual description, TOOL02 will also include sector-level guidance³, disaggregated to the extent possible to:

a. support the identification of sectors for which performance benchmarking is appropriate;

b. inform sector-specific approaches for determining the appropriate ambitious benchmark percentiles; and

c. inform the development of sector-specific discount factors under baseline setting option 3.

Terms and Definitions

14. The following terms and definitions will be agreed upon in the development phase of the II-AMT.

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**: Narrow vs. broader definition in terms of covering techniques next to technologies must be discussed. Besides, the term "available" needs to be defined and set in relation to the additional attribute used in the decision "economically feasible" and "environmentally sound". Indicators are to be derived for the definition of "best" and "available" (e.g., accessibility).

i. **Available**: Technologies/techniques developed 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 Party⁴.

ii. Best: Most effective in achieving a high general level of protection of the environment/ climate.

iii. Economically feasible: The activity is attractive from an economic point of view (see II-AMT TOOL01)

iv. **Environmentally sound**: The activity is in line with national laws and regulation on environmental protection.

c. **Carbon-intensive practice/technology**: Narrow vs. stringent interpretation must be discussed and objective indicators agreed upon. Definition to be aligned with the definition provided in TOOL01, see paragraph 18b.

i. **Stringent definition**: A practice/technology that does not lead to a prolongation of the lifetime of emissionsintensive technologies for both new installations and refurbishments of existing installations.

d. **Crediting baseline**: Activity specific reference emissions scenario. The delta between the activity's crediting baseline and the activity emissions determines the calculation of mitigation outcomes.

e. **Crediting period**: Period in which mitigation outcomes can be credited.

f. NDC reference scenario: Reference emission scenario described in the NDC of the host country.

g. **NDC conditional target scenario**: Mitigation scenario associated with meeting the conditional NDC targets, as described in host country NDC and underlying technical reports.

h. **NDC unconditional target scenario**: Mitigation scenario associated with meeting the unconditional NDC targets, as described in host country NDC and underlying technical reports.

i. **Negative list**: A list that comprises activities that are not considered eligible to be promoted under Article 6 as they are no longer compatible with the Paris Agreement's long-term goals.

j. **Similar social, economic, environmental and technological circumstances**: Definitions of the terms "economic circumstances", "environmental circumstances" and "technological circumstances" need to be provided. Relevant definitions provided by crediting standards including the CDM must be reviewed and adapted as needed.

³ The sector-level guidance will be developed by experts in the development phase of the initiative.

⁴ In the II-AMT development phase, the experts will discuss further specifications on national and international oversight in determining "available" technologies and provide guidance on how to robustly justify the (non)availability of technologies.

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 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 targets of the Paris Agreement.

a. Before a baseline setting option can be chosen, 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 figure on a negative list adopted by the Article 6.4 Supervisory Body or the respective host country⁵.

ii. If the host country has communicated a long-term low emissions development strategy (LT-LEDS): the proposed activity and the associated activity emissions scenario is in line with the LT-LEDS of the host country

iii. If the host country has not communicated an LT-LEDS: the proposed activity does not lead to a lockin of current emission levels or continuation of carbon-intensive practices, i.e., that it does not lead to a prolongation of 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 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 target of the Paris Agreement or the host country LT-LEDS.

17. Step 1 (Mandatory): Assessment of the appropriateness of performance benchmarking for the sectors targeted by the proposed activity ⁶.

a. If the sector is characterized by homogeneous production, i.e., comparable outputs by produced goods or services, option 1 or 2 must be chosen. If there is a lack of data on the performance of technologies at the entity-level in the country and region, activity proponents must use option 2 below.

b. If the sector shows strongly varying circumstances among installations such as dramatic differences in the emissions intensity levels, activity proponents must use option 3.

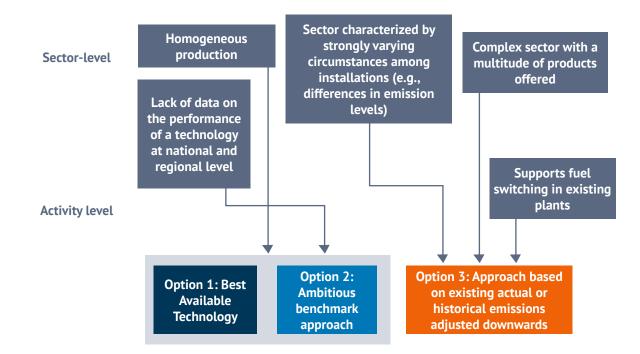
c. If the sector is complex in terms of the multitude of products/services offered, activity proponents must use option 3.

d. If the activity promotes fuel switching in existing plants, activity proponents must use option 3.

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. In the II-AMT development phase, experts will discuss further conditions for the development of negative lists

⁶ In the development phase of the initiative, experts may develop further criteria for assessing the appropriateness of benchmarking. Over the longer term, the appropriateness of benchmarking for specific activity types should be assessed and determined by the Article 6.4 Supervisory Body

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



Source: II-AMT (2022)

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

a. Definition of technology category to which the project technology belongs, starting from the good/service produced by the activity, applying the aggregation level set in paragraph 17a above.

b. Definition of potential baseline technologies that produce an equivalent output level of a service. This is to be accompanied by a demonstration of comparability of the technologies based on the output produced⁷.

c. Determination which of the identified potential baseline technologies/techniques are economically feasible, where appropriate.

d. Identified potential baseline technologies/techniques to be environmentally sound, i.e., in line with national laws and regulation on environmental protection.

e. Determination of 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 none or very few (1-3) national facilities. Thereby, a standardised approach is to be applied for large technologies beyond 10,000 t CO_2e annual emissions and a more tailored process for smaller technologies.

f. Downwards adjustment of the baseline emissions intensity over the years to ensure it is in line with the longterm target 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.

g. Baseline parameters are to be monitored across the crediting period and regularly updated in line with Step 4.

⁷ In the development phase of the initiative, experts may include a process for the demonstration of comparability into TOOL02

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.

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

a. Determination of an actual (current/historical) performance (distribution curve) of all technologies providing similar outputs or services in similar social, economic, environmental, and technological circumstances as the proposed activity.

b. Determination of an ambitious benchmark (e.g., 10th or 20th percentiles of the market) to be applied to the performance distribution curve if the characteristics of the distribution curve shows that these percentiles are conservative¹⁰. For the same technologies, less stringent benchmark percentiles should be applied for LDCs/SIDS to cater for their special circumstances.

c. Calculation of the average emissions intensity of the benchmark group selected in the previous sub-step.

d. Downwards adjustment of 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. Baseline parameters are to be monitored across the crediting period and regularly updated in line with Step 4.

20. 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 either a net-zero pathway/target or an LT-LEDS¹³. If the eligibility criterion is satisfied, the following steps are to be taken:

b. Determination of an actual or historical emissions baseline based on existing methodologies used under the Kyoto mechanisms.

c. Adjustment of 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, the ambition coefficient is derived 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:

(i) conservatively considers absolute emission reduction/removal target of the NDC (if applicable).

(ii) conservatively considers intensity target of the NDC (if applicable).

(iii) 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, the ambition coefficient is derived based on actual or historical emissions baseline adjusted downwards in line with one of the following options:

(i) A path consistent with the national LT-LEDS.

(ii) 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 target of the Paris Agreement.

iii. The ambition coefficient will be differentiated according to sectors if the necessary data is available¹⁵.

iv. The paths used to derive the ambition coefficient are monitored and updated every five years in line with Step 4.

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 longterm 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.

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

¹⁵ The development of sector-specific discount factors may be considered in the II-AMT development phase.

21. 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. Comparison of stringency level of NDC/sectoral reference scenario and activity level crediting baseline and downward adjustment of crediting baseline if needed¹⁶:

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), it is downscaled 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 reference emissions level is found to be lower than the activity level baseline set under Steps 1 or 2, it will be applied as baseline emissions level.

ii. Option 2: if there is there is no sector specific NDC unconditional target scenario or relevant sectoral strategy: Undertake a conservative downscaling of the national reference scenario to the activity level, building on 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.

22. Step 4: Regular updates to the baseline

a. All crediting baselines are to be updated 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 [X%]¹⁷ 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.

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

a. The crediting baseline can be further adjusted downwards to increase the share of emission reduction counted towards the host country's NDC and LT-LEDS targets (see II-AMT GUIDE01).

¹⁶ Further guidance on how sectoral and national reference scenarios are downscaled to the activity level may be developed during the II-AMT development phase.

¹⁷ The percentage will be further discussed by experts of the II-AMT in its development phase.

References

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