



**GLOBAL STAKEHOLDER CONSULTATION FORM FOR
PROPOSED NEW BASELINE AND MONITORING
METHODOLOGY OR METHODOLOGICAL TOOL
(version 01.0)**

<i>Name of submitter</i>	Daniel Galván Pérez
<i>Affiliated organization of submitter (if any)</i>	Independent Advisor / Consultant
<i>Email of submitter</i>	Danigalvan@hotmail.com
<i>Reference number of proposed new methodology or methodological tool</i>	A6.4-PMM011 – Low Carbon Intensive Hydrogen
<i>Based on an assessment of information in the A6.4-FORM-METH-002 and its application in sections A to C of the submitted draft project design document (A6.4-FORM-AC-020), provide your comments to the proposed new methodology using the tabular format below. Please indicate the sections or issues to which your comments refer to.</i>	
<i>Date received by the secretariat</i>	

#	Section / Para no./ Annex / Figure / Table	Type of comment ge = general te = technical ed = editorial	Comment (including justification for change)	Proposed change (including proposed text)
1	Sections 2.1 and 10.1; paras. 2 and 38–39 (Scope and baseline scenario)	te	For greenfield standalone hydrogen activities, the methodology appears to assume that each unit of low-carbon hydrogen produced displaces an equivalent quantity of fossil-based hydrogen represented by the BAT baseline. However, the methodology does not clearly require demonstration of the actual end-use/offtake of the hydrogen or that an equivalent quantity of fossil-based hydrogen would have been produced in the absence of the activity. This is particularly important for new or incremental hydrogen demand. Production of low-carbon hydrogen alone does not necessarily establish displacement of fossil hydrogen or the associated emission reductions.	Add an applicability/baseline requirement for greenfield standalone activities to identify and substantiate the intended end-use and/or offtake of the hydrogen and demonstrate that the project output displaces the baseline production pathway. Suggested text: "For greenfield standalone activities, activity participants shall identify and substantiate the intended end-use and/or offtake of the hydrogen produced and demonstrate that, in the absence of the activity, an equivalent output or service would have been supplied through the baseline pathway. The quantity of hydrogen eligible for crediting shall not exceed the quantity for which such displacement can be demonstrated."
2	Section 10.1, paras. 38–39; Section 9.3.3, para. 33 (Baseline and comparable activities)	te	Hydrogen is often an intermediate feedstock or energy carrier rather than the final output or service. For some end-uses, fossil hydrogen may therefore not be the relevant counterfactual. For example, industrial heat may potentially be provided by direct electrification; an energy-storage service may be provided by batteries or other storage technologies; and a greenfield steel plant may have technically feasible production routes that do not require an equivalent quantity of fossil hydrogen. The methodology itself recognizes end-use applications when defining comparable activities, but this consideration is not clearly carried through to baseline selection.	Clarify that baseline alternatives for greenfield activities shall include technically feasible alternatives that provide the same final output or service, not only alternative hydrogen-production technologies. Suggested text: "For greenfield activities, the identification of baseline alternatives shall consider all technically feasible and economically credible technologies and energy carriers capable of providing the same output or service associated with the intended end-use of the project hydrogen. Fossil-based hydrogen production may be selected as the baseline only where it is demonstrated to represent the applicable counterfactual."
3	Section 12.2, Step 1.2 and para. 77 (Diversion of renewable electricity / leakage)	te	The methodology identifies diversion of pre-existing renewable electricity as a potential leakage source, but para. 77 limits this consideration to renewable capacity that was pre-existing and not dedicated to the project. New or dedicated renewable generation can also have a system-level opportunity cost if, in the absence of the electrolyser, that electricity would have been supplied to the grid and displaced marginal fossil generation. Conversely, operation of an electrolyser during periods of renewable surplus or curtailment may support system integration and avoid such displacement. Therefore, "new/dedicated" status alone may not be sufficient to demonstrate absence of renewable-electricity diversion effects. While the A6.4 Sustainable Development Tool addresses potential impacts on energy availability and reliability for other users, including diversion of renewable energy into mitigation activities, this does not necessarily address the GHG accounting consequence where renewable electricity consumed by the electrolyser would otherwise have displaced marginal fossil generation. This issue should therefore also be addressed explicitly within the methodology's leakage and emission-reduction accounting provisions.	Extend the renewable-electricity diversion assessment to new/dedicated capacity by assessing the counterfactual use of the electricity and, where relevant, temporal matching. Suggested text: "For all renewable electricity supplying the activity, including new or dedicated capacity, activity participants shall assess the credible counterfactual use of the electricity in the absence of hydrogen production. Where the electricity would otherwise have been exported to the grid or supplied to another user and would have displaced higher-emission generation, the resulting system emissions shall be assessed in accordance with the leakage standard. Where electricity would otherwise have been curtailed or represents demonstrable system surplus, this may be taken into account in the assessment."

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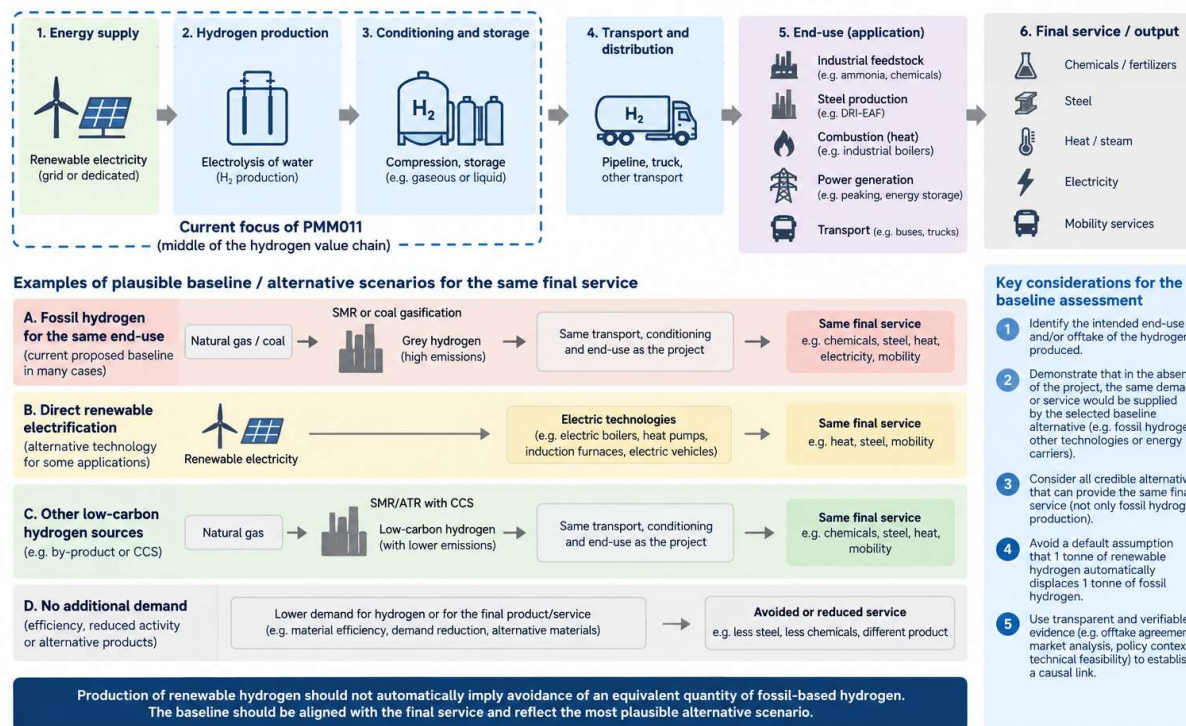
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4	Section 8, para. 13; Section 6, paras. 10–11 (Activity boundary and double counting)	te	The activity boundary ends at hydrogen production, compression and purification, while downstream end-use is excluded. Nevertheless, the end-use is relevant to demonstrating the baseline counterfactual, displacement of fossil hydrogen or alternative fuels, market leakage, and avoidance of double claiming with downstream mitigation activities. Without traceability of hydrogen delivery/use, it may be difficult to demonstrate that the credited hydrogen provides the service assumed in the baseline or to distinguish displacement from creation of new demand.	Keep downstream emissions outside the physical activity boundary where appropriate, but require monitoring/traceability information sufficient to substantiate the baseline and avoid double counting. Suggested text: "Activity participants shall establish a documented chain of custody or equivalent traceability system for hydrogen quantities claimed for emission reductions, including the receiving sector/end-use and, where applicable, offtake arrangements. Such information shall be used to substantiate baseline applicability, displacement assumptions, market-leakage assessment and avoidance of double counting with downstream mitigation activities."
5	Section 5 (Applicability conditions); Section 11 (Activity emissions - water use)	te	The methodology accounts for emissions associated with water treatment, pumping and desalination. Water use for electrolysis may, however, be significant in locations subject to water stress. The A6.4 Sustainable Development Tool already requires significant water consumers to assess impacts on water availability, accessibility, reliability and quality. Given that water is an inherent input to hydrogen production, the methodology could strengthen the interface with these safeguards by requiring explicit identification of the water source and confirmation that relevant SD Tool water-risk requirements have been assessed. This would be particularly relevant where freshwater is used in water-stressed areas.	Add an applicability requirement that activity participants identify the source and expected quantity of water used for hydrogen production and demonstrate compliance with the applicable water-related safeguards of the A6.4 Sustainable Development Tool. Where the activity is located in a water-stressed area, the activity participant should assess technically and environmentally feasible non-competing water sources, such as reclaimed wastewater, brackish water or desalinated seawater, as applicable. Emissions associated with treatment, desalination and pumping shall continue to be accounted for under the methodology. The MEP may also wish to consider whether technology-specific guidance for hydrogen activities would facilitate consistent application of the relevant SD Tool safeguards.
6	Applicability conditions / Definitions / Monitoring requirements	te	The proposed methodology should more clearly address the regulatory status, certification and traceability of renewable hydrogen. Regulatory and certification frameworks for renewable and low-carbon hydrogen are developing rapidly but remain heterogeneous across countries. Existing frameworks may establish requirements related to lifecycle GHG intensity, renewable electricity sourcing, additionality, temporal and geographical correlation, chain of custody and prevention of double claiming. Where applicable Host Party requirements exist, activities should demonstrate compliance with them. However, the absence of a dedicated national hydrogen certification framework should not necessarily prevent an otherwise eligible Article 6.4 activity from proceeding. In such cases, the methodology should establish minimum requirements for demonstrating the renewable and low-emission attributes of the hydrogen produced, subject to validation and verification by the DOE. This is important because classification as renewable or "green" hydrogen should not rely solely on the use of electrolysis and nominally renewable	Add applicability and monitoring provisions requiring activity participants to identify applicable Host Party regulatory, technical and certification requirements for renewable hydrogen and demonstrate compliance with such requirements. Where no dedicated national regulatory or certification framework exists, activity participants shall demonstrate conformity with minimum requirements specified by the methodology, including, as applicable: (i) transparent GHG-intensity accounting within a clearly defined system boundary; (ii) transparent and traceable demonstration of the origin and renewable attributes of the electricity used for hydrogen production; (iii) auditable measurement and chain of custody for the hydrogen produced; and (iv) measures to prevent double counting or double claiming of renewable attributes..

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			electricity. The relevant attributes of the hydrogen need to be transparently demonstrated and traceable throughout the applicable methodological boundary.	Where hydrogen is certified under an independently recognized certification scheme, such certification may be used as supporting evidence, provided that its scope, system boundary, GHG accounting approach and renewable electricity requirements are consistent with the methodology. Certification shall not substitute for requirements necessary to demonstrate emission reductions under the Article 6.4 mechanism.
8	General comment	General	The MEP may wish to consider whether some of the methodological elements developed under this proposed methodology could also serve as the basis for a common methodological tool for renewable hydrogen under the Article 6.4 mechanism. Renewable hydrogen may play two distinct roles under the mechanism. First, its production may itself constitute a mitigation activity where it demonstrably displaces fossil-based hydrogen, as envisaged by this proposed methodology. Second, renewable hydrogen may increasingly be used as an input or mitigation option in other Article 6.4 activities, for example in steel, chemicals, fertilizers, fuels or other industrial applications. Future methodologies addressing such activities may therefore need to determine whether the hydrogen used qualifies as renewable/low-emission and what GHG intensity should be attributed to it. Developing these requirements independently within each downstream methodology could result in inconsistent definitions, system boundaries, electricity-sourcing requirements, GHG accounting and traceability provisions. A common methodological tool could provide a consistent basis for assessing the relevant attributes and GHG intensity of renewable hydrogen, while individual methodologies would remain responsible for establishing their respective baseline scenarios and calculating emission reductions. Such a tool could also provide a common minimum framework in Host Parties where dedicated renewable-hydrogen regulation or certification is not yet available, without making the existence of a national certification scheme a prerequisite for participation in the mechanism.	Consider, based on the methodological work undertaken for this proposed methodology, the future development of a common Article 6.4 methodological tool or guidance for determining the eligibility, relevant attributes and GHG intensity of renewable hydrogen. Such a tool could be referenced by this methodology and by future methodologies in which renewable hydrogen is used as an input or mitigation option.

Figure 1. Hydrogen value chain and relevant boundaries for baseline assessment

Hydrogen value chain and relevant boundaries for baseline assessment

A comprehensive assessment should consider the full value chain and credible alternative ways to provide the same output or service.



Illustrative diagram accompanying comments 1–4. It highlights that baseline assessment should consider the intended end-use and final service, as well as credible alternatives across the hydrogen value chain, rather than focusing only on hydrogen production.
(Please add rows as required)

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	23 May 2025	Initial publication of form template.
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