

A6.4-MEP006-A01

Draft Standard

**Addressing suppressed demand in
mechanism methodologies**

Version 01.0

DRAFT



United Nations
Framework Convention on
Climate Change

COVER NOTE

1. Procedural background

1. The Supervisory Body of the Article 6.4 mechanism (SBM), at its tenth meeting (SBM 010), approved its workplan for 2024 and mandated the Methodological Expert Panel (MEP) to prepare recommendations for a tool on suppressed demand.
2. At its first meeting (MEP 001), the MEP initiated its work on the mandate and agreed to recommend to the Supervisory Body the development of a standard on suppressed demand. The Supervisory Body approved this recommendation at its eleventh meeting (SBM 011).
3. At its second, third, fourth, fifth, and sixth meetings, the MEP continued its work and converged on key issues to address in developing the standard on suppressed demand.

2. Purpose

4. The purpose of the draft “Standard: Addressing suppressed demand in mechanism methodologies” is to set out the requirements for recognising suppressed demand in mechanism methodologies, with an aim to facilitate a consistent and appropriate consideration of approaches for addressing suppressed demand.

3. Key issues and proposed solutions

5. The key issues identified are as follows:
 - (a) The potential risk of over-crediting from a suppressed demand baseline being set higher than the level of service for meeting basic human needs;
 - (b) How quantitative thresholds should be derived for the types and levels of services which correspond to fulfilling basic human needs, and possible thresholds to be used for suppressed demand of energy consumption;
 - (c) The need for periodic monitoring of conditions which result in suppressed demand;
 - (d) The possibility of Article 6.4 activities providing a level of service in excess of the quantitative threshold corresponding to basic human needs and how to address it.
6. To address these issues, the MEP undertook the following:
 - (a) The MEP reviewed the Clean Development Mechanism (CDM) guidelines on suppressed demand and analysed the CDM methodologies and registered CDM project activities recognising suppressed demand;
 - (b) The MEP engaged with energy experts to gain an understanding from their research on suppressed demand;
 - (c) The MEP examined perspectives of carbon market experts on over-crediting risks;
 - (d) The MEP also reviewed the literature and ongoing international initiatives and frameworks that have developed multidimensional indicators covering basic

energy access, such as the multi-tier framework of the World Bank's Energy Sector Management Assistance Program¹ (ESMAP), International Energy Association² (IEA), the United Nations Secretary General's Advisory Group on Energy and Climate Change³ (AGECC), the concept of Decent Living Standards (DLS) included in the IPCC AR6 WG III Chapter 5, pages 505, 506, 513 and 522⁴, and the Modern Energy Minimum⁵ developed by the Energy for Growth Hub.

7. Based on this analysis, the MEP concluded that the standard should contain provisions and approaches on the following:
 - (a) Definition of the conditions in which suppressed demand can be recognized;
 - (b) Establishment of the threshold values for the level of service to meet basic human needs in mechanism methodologies incorporating suppressed demand and including thresholds for the total energy consumption under suppressed demand conditions for residential and non-residential cases;
 - (c) Specification of which provisions in the "Standard Setting the baseline in mechanism methodologies" do not apply to suppressed demand baselines;
 - (d) Laying out of further requirements for mechanism methodologies on how to incorporate suppressed demand into baseline setting.

4. Impact

8. The standard provides requirements and guidance that mechanism methodologies must fulfil when addressing suppressed demand. The standard will provide clarity that will enable the development and approval of mechanism methodologies and activities that take into account situations of suppressed demand.

5. Subsequent work and timelines

9. The MEP agreed to seek public inputs from stakeholders on this draft version of the standard. The MEP will incorporate the stakeholders' inputs received and recommend a revised draft of the standard for approval by the Supervisory Body.

6. Recommendations to the Supervisory Body

10. Not applicable (Document is published for a call for public inputs).

¹ See https://www.esmap.org/sites/esmap.org/files/ESMAP-AFREA_Energy_HouseHold_Energy_Access_DP_23.pdf

² IEA World Energy Outlook, 2009
<https://iea.blob.core.windows.net/assets/ac80b701-bdfc-48cf-ac4c-00e60e1246a0/weo2009.pdf>

³ Energy for Sustainable Development
[https://www.un.org/millenniumgoals/pdf/AGECCsummaryreport\[1\].pdf](https://www.un.org/millenniumgoals/pdf/AGECCsummaryreport[1].pdf)

⁴ IPCC AR6 Chapter 5 Demand, Services and Social Aspects of Mitigation
https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter05.pdf

⁵ Modern Energy Minimum <https://energyforgrowth.org/wp-content/uploads/2019/01/FULL-Modern-Energy-Minimum-final-Jan2021.pdf>

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1. Introduction

1.1. Scope

1. This Standard sets out requirements for recognizing suppressed demand in mechanism methodologies. This Standard aims to facilitate a consistent and appropriate consideration of approaches for addressing suppressed demand. It provides requirements on how to identify the service level that fulfils basic human needs and identify the baseline technology and/or practice where suppressed demand exists, and the means to monitor whether suppressed demand conditions persist during the crediting period.
2. The Standard will be applied by the methodology proponents developing new mechanism methodologies or proposing revisions to existing ones, and by the UNFCCC Secretariat, the Methodological Expert Panel (MEP) and the Supervisory Body in assessing and considering proposed mechanism methodologies for approval. The standard is not intended for the preparation of project design documents (PDDs) or monitoring reports.

1.2. Entry into force

3. This document enters into force on **DD Month YYYY.**

2. Definitions

4. The following definitions shall apply:
 - (a) **Activity participant:** A public or private entity that participates in an Article 6.4 activity;
 - (b) **Basic human needs (BHN):** Physical and physiological needs considered essential for survival and minimum quality of life, such as water, food, housing, sanitation (waste treatment/disposal, and wastewater treatment), access to energy services (including lighting, cooking, and thermal comforts including heating or cooling), mobility, communications and education, health and economic activities such as agriculture;
 - (c) **Business-as-usual (BAU):** Plausible reference benchmark or scenario for GHG emissions or removals prior to or in the absence of the implementation of the proposed Article 6.4 activity. It may be a scenario, emission or removal level, or an emissions or removals intensity;
 - (d) **Level of service for meeting basic human needs:** The threshold below which an individual is considered to face deprivation of BHN;
 - (e) **Suppressed demand:** A situation where services provided to a population are insufficient to meet the basic human needs due to barriers, such as low income or lack of infrastructure, and where the growth of emissions resulting from meeting such needs requires special consideration in the assessment of Article 6.4 baseline scenarios;
 - (f) **Suppressed demand baseline:** A crediting baseline that is established for the provision of services that address basic human needs.

3. Applicability

5. The standard applies to mechanism methodologies related to emission reductions and methodological tools. For simplicity, only the term mechanism methodology is used in this standard.
6. The standard does not apply to mechanism methodologies for activities involving removals.
7. Mechanism methodologies may recognise suppressed demand where:
 - (a) Neither the existing conditions, nor the business-as-usual (BAU) can realistically provide the level of service for meeting the basic human needs of a population; and
 - (b) These conditions are likely to persist throughout the crediting period due to barriers such as low income, lack of capital, or inadequate infrastructure.
8. This standard applies to the following contexts:
 - (a) The residential context, which may include the energy use for lighting, cooking, food preservation, communication, space heating and cooling; and safe water supply;
 - (b) The non-residential context, which may include energy use by smallholder agriculture (e.g. milling, drying, cold storage); energy for health centres (e.g. lighting, cold storage, cooking, space heating and cooling); energy for schools (e.g. lighting, cooking, space heating and cooling, powering of teaching and learning devices);
 - (c) Other areas, such as mobility, construction or waste management.
9. This standard provides specifications for the total energy consumption to meet basic human needs for the residential and non-residential sector but does not yet provide specifications for other areas. Such specifications may be proposed in submissions of mechanism methodologies. Note that the standard also does not provide values for the level of service for meeting specific basic human needs in the residential and non-residential context.
10. This standard shall be used in conjunction with the “Standard Setting the baseline in mechanism methodologies” (hereinafter referred to as “Baseline Standard”). This present standard specifies which provisions in the Baseline Standard do not apply to suppressed demand baselines.
11. This standard is applicable for activities undertaken at the project level. The standard may be amended in the future to cover methodologies addressing mitigation actions at other scales (e.g. programme-of-activities, policies, sectoral approaches).

4. General principles and requirements

4.1. General principles

12. The principles in the Baseline Standard shall apply, with an exception to the principle of conservativeness which is defined as follows in the specific context of suppressed demand.

13. **Conservativeness:** In the context of suppressed demand, conservativeness is the use of data, parameters, assumptions, and methods, to ensure that neither the baseline emissions nor the level of service for meeting basic human needs are overestimated.

4.2. Requirements

14. When addressing suppressed demand, the mechanism methodology shall:
- (a) Specify which basic human need(s) it addresses and the metric and threshold to be used for such need;
 - (b) Specify the type(s) of technology and/or practice that will provide the level of service for meeting basic human needs.
15. The total level of service required to meet basic human needs shall be applied consistently across countries, regardless of the technology and/or practice that a project activity uses to address that basic human need.

5. Approaches for recognising suppressed demand

5.1. Determination of the underlying conditions for recognising suppressed demand

16. When addressing suppressed demand, the mechanism methodology shall require activity participants to demonstrate that the intended project beneficiaries are in suppressed demand conditions with respect to the identified basic human need(s) at the start of each crediting period and that these conditions are likely to persist throughout the crediting period;
17. Mechanism methodologies shall specify the specific characteristics and scale of the activity types and sectors they cover for determining a suppressed demand baseline.

5.2. Identification of the level of service for meeting basic human needs

18. Mechanism methodologies shall define, the specific context to which the methodology is applicable, the level of service for meeting basic human needs for which a suppressed demand baseline may be applied to calculate baseline emissions. This applies both when the technology and/or practices provided under the Article 6.4 activity cover a single, or more than one, basic human need(s). However, the level of service for meeting basic human needs shall be established separately for each basic human need.
19. The thresholds for the level of service for meeting BHN are defined as:
- (a) For suppressed demand in residential energy consumption, the specific BHN values shall be derived, and appropriately justified, consistent with the following threshold values:
 - (i) For total [electrical] energy consumption: Total electricity consumption up to 250 kWh per person per year¹; and

¹ As defined in the Modern Energy Minimum <https://modernenergyminimum.org>.

- (ii) [For total fuel consumption for cooking and heating up to 2.1 Gigajoules (50 kg oil equivalent of modern fuel) per person per year².];
 - (b) For suppressed demand in non-residential energy consumption, deemed relevant to meet BHN, as described in the definition of BHN, the specific BHN values shall be derived, and appropriately justified, consistent with the following threshold value for total energy consumption;
 - (i) [For total direct and indirect electrical energy consumption: Electricity consumption up to 750kWh per person per year³.]
20. When defining values for specific BHN for the residential sector based on this figure, values from this figure should be adjusted based on the ratio between the total energy consumption provided under paragraph 19(a) and 19(b) above and the total energy consumption for residential sector from this figure. The same applies for non-residential sector.
 21. Further globally applicable values for the level of service for meeting BHN for other areas may be developed in the future revision to this standard. These values may include the identification and recognition of indirect energy demand for services required to meet BHN in the residential or non-residential context.
 22. Mechanism methodologies establishing suppressed demand baselines may use energy metrics and non-energy metrics to determine the level of service for meeting basic human needs. Where non-energy metrics are used, the metrics for the level of service for meeting the basic human needs shall be comparable to those in paragraph 19(a) and 19(b) above, and be proposed by proponents of mechanism methodologies.
 23. For establishing the level of service for meeting a specific BHN, the following data sources may be used:
 - (a) National or international peer-reviewed research;
 - (b) Relevant studies and reports from multilateral organizations⁴;
 - (c) Established benchmarks related to international and/or national development goals⁵.
 24. Further, for establishing the level of service for meeting a specific BHN, the following [shall] [may] be taken into account:
 - (a) Climatic zones;
 - (b) Policy and regulations;

² As defined in Level 1 of energy access according to Energy for a Sustainable Future: Report and Recommendations The Secretary -General's Advisory Group on Energy and Climate Change (AGECC), 2010, Energy for a Sustainable Future: Report and Recommendations.

³ As defined in the Modern Energy Minimum <https://modernenergyminimum.org>.

⁴ For example, The World Health Organization recommendations on per capita safe drinking water volumes.

⁵ For example, the DLS framework, IPCC AR6 Chapter 5 Demand, Services and Social Aspects of Mitigation, pages 505, 506, 513- 522:
https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter05.pdf.

- (c) Scale and proportionality to the metric for the total level of service for meeting BHN for the relevant context, where defined in this standard.
25. In some situations, it may be appropriate to apply two or more baseline technologies and/or practices and respective service levels to reflect the cumulative project service level.
26. The level of service for a specific BHN shall represent a reasonable fraction of the total level of service for meeting basic human needs for the relevant context, when it is defined in this standard. For example, a mechanism methodology for Article 6.4 activities that provide lighting services for households shall specify the limit for lighting based on reasonable and justifiable distribution for different consumption percentages of the service in the relevant geographical area.
27. The sum of the individual thresholds for each service shall not exceed the threshold for total level of service for meeting BHN for residential electric energy use, considering also other electric energy services required by the household to meet its basic human needs such as space cooling and heating, food preservation and communications. The same would apply for an Article 6.4 activity that provides both lighting and cooling services [or combinations of other services for households, it shall specify the limit for each service separately that cumulatively meet the threshold for BHN] for households, and in this case, it shall specify the limit for lighting and the limit for cooling separately.
28. For any service provided above the level of service for meeting basic human needs through the implementation of the Article 6.4 activity the following requirements shall apply:
- (a) For the portion of the level of service provided by the Article 6.4 activity up to the threshold level of service for meeting basic human needs, the mechanism methodology shall require the determination of a baseline scenario and a baseline technology and/or practice for that service level in line with the requirements in section 5.2 of this standard. The mechanism methodology may use the suppressed demand baseline up to the threshold for meeting basic human needs;
 - (b) For the portion of the level of service provided by the Article 6.4 activity that is above the threshold level of service for meeting basic human needs, the mechanism methodology shall not determine a suppressed demand baseline but
 - a) solely use the provisions of the Baseline Standard to derive the baseline, or
 - b) provide the option to activity participants that no baseline emissions for the services exceeding the threshold are claimed.
29. The baseline emissions determined in accordance with paragraph 28(b) above shall:
- (a) **Option A:** [Not be subjected to any limitation to the total level of service that may be provided.]
 - (b) **Option B:** [Be subjected to the following limit:]
 - (i) **Option B.1:** [Time limitation of one crediting period, and subsequent crediting periods shall not apply suppressed demand baselines.]

- (ii) **Option B.2:** [Up to a maximum of [two][four][times the level of service for meeting; basic human needs] [the DLS amount⁶ for the service type, where available]. If the service provided by the project activity is above that maximum, then the project activity shall apply a non-suppressed demand baseline for the total service level [instead of two separate baselines, one for the suppressed demand baseline and the other for the level of service exceeding the suppressed demand threshold.]

- 30. During the crediting period, if the level of service provided by the Article 6.4 activity temporarily exceeds the threshold level of service for meeting BHN, and if the baseline for exceeded threshold has not been determined ex-ante in the PDD, then no baseline emissions for service levels exceeding the threshold level of service can be claimed.

5.3. Identification of the suppressed demand baseline technology and/or practice

- 31. Mechanism methodologies shall use the provisions in the Baseline Standard to determine the baseline scenario and the baseline technology and/or practice for the suppressed demand baseline, subject to the following requirements:
 - (a) The baseline shall be determined for the lower of:
 - (i) the level of service for meeting BHN; or
 - (ii) the level of service delivered in the mitigation activity scenario, rather than a service level that reflects existing conditions or a BAU scenario;
 - (b) The identified baseline technology and/or practice shall be able to realistically provide the level of service referred to in sub-paragraph (i) above;
 - (c) When applying the existing actual or historical emissions approach, the approach is not required to utilize site-specific historical data but may instead use another method that reflects the actual or historical emissions of the baseline technology or practice;
 - (d) The suppressed demand baseline may be based on a technology and/or practice that can be demonstrated through studies, documents, or third-party records, but is not well documented in official records or data⁷, whereby the supporting evidence for the baseline may not comply entirely with the *Data requirements for baseline setting and quantification* in the Baseline Standard. The types of alternate studies, documents, or third-party records permissible as evidence shall be specified in the mechanism methodology;
 - (e) The downward adjusted baseline resulting from Step 3 of the Baseline Standard may be used as the crediting baseline. The determination of a conservative BAU baseline, as per Step 3 and section 7 of the Baseline Standard, is not necessary and the downward adjusted baseline does not need to undergo a comparison with BAU or fulfil the requirement of being below BAU;

⁶ For example, the DLS framework, IPCC AR6 Chapter 5 Demand, Services and Social Aspects of Mitigation, pages 505, 506, 513- 522:
https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter05.pdf.

⁷ For example., diesel gensets in a context where these are widely used by individuals, but not tracked or reported reliably by the national government.

- (f) The downward adjustment in subsequent years, as referred to in Section 7.2 of the Baseline Standard, may correspond to the minimum value of 1 percent;
 - (g) There is no need for consideration of rebound effects, as referred to Appendix 1 to the Baseline Standard.
32. The suppressed demand baseline shall be re-evaluated and updated at the renewal of the crediting period to ensure it is based on current situation.

5.4. Monitoring of suppressed demand conditions

33. Mechanism methodologies shall include requirements for activity participants to monitor and reassess whether ongoing conditions continue to indicate that suppressed demand would persist in the absence of the Article 6.4 activity, using one or more indicators as mentioned in sub-paragraph (a) below. The mechanism methodology shall specify the indicator(s) and threshold(s) to be used by activity participants to monitor and reassess ongoing suppressed demand conditions, as follows:
- (a) Indicators may be parameters such as average household income, distance to electrical substations, grid reliability, distance to water treatment plants in compliance with potability standards, or others relevant for the BHN being addressed and the conditions of the project population prior to the project activity;
 - (b) The monitoring to assess ongoing suppressed demand conditions shall exclude the direct impact of the Article 6.4 activity on the conditions of the project population.
34. Reassessment of level of service for meeting BHN shall be undertaken at least every [five][two][one] years.
35. If the ongoing conditions of an activity are found to exceed the threshold defined as meeting suppressed demand, then that location is deemed ineligible for the baseline for which suppressed demand is recognized, and a new baseline may be proposed following an approved methodology via the post-registration changes procedure, as referred to in the "Procedure: Article 6.4 activity cycle procedure for projects".

Appendix 1. [Decent Living Standards default activity levels] [Indicative table of energy and non-energy thresholds related to basic human needs]

1. The figure below shows indicative activity levels that may be considered by methodology proponents in identifying the specific BHN for specific activities. The values provided in this figure are based on DLS.⁸

Figure. Indicative activity levels

DLS dimensions & services	Activity levels		Energy Intensities		
	Default levels	HD	Default (direct)	Default (indirect)	LAT
Nutrition					
Food	2000–2150 kcal/cap/day	15 %	–	3 KJ/kilocalorie	30 %
Cooking appliances	1 cooker/household	–	0.8 KJ/kilocalorie	1 GJ/app+	50 %
Cold Storage	1 fridge-freezer/household	–	0.44 GJ/app+/yr	4 GJ/app+	–
Shelter & living conditions					
Household size	4 persons/household	~25 %	–	–	–
Sufficient space	15 meters ² floor-space/cap*	80 %	–	2–4 GJ/m ²	100 %
Thermal comfort	15 meters ² floor-space/cap*	80 %	20–60 MJ/m ² /yr	–	300 %
Illumination	2500 lm/house; 6 hrs/day	100 %	150 lm/W	14 MJ/house/yr	–
Hygiene					
Water supply	50 Litres/cap/day	100 %	–	5–17 KJ/L	–
Water heating	20 Litres/cap/day	100 %	96–220 KJ/L	–	50 %
Waste management	Provided to all households**	–	–	180 MJ/cap/yr	200 %
Clothing					
Clothes	4 kg of new clothing/year	33 %	–	100 MJ/kg	–
Washing facilities	80 kg of washing/year	33 %	2.4 MJ/kg	2 GJ/app+	–
Healthcare Hospitals	200 meters ² floor-space/bed	50 %	410–560 MJ/m ² /yr	14–23 GJ/m ²	130 %
Education Schools	10 meters ² floor-space/pupil	50 %	100–130 MJ/m ² /yr	4.5–7.5 GJ/m ²	150 %
Communication & information					
Phones	1 phone/person over 10yrs old	–	28 MJ/phone/yr	110 MJ/phone	30 %
Computers	1 laptop/household	–	220 MJ/laptop/yr	3 GJ/laptop	30 %
Networks & data	High**	100 %	–	~0.4 GJ/cap/yr	–
Mobility					
Vehicle production	Consistent with pkm travelled**	–	–	0.1–0.3 MJ/pkm	50 %
Vehicle propulsion	5000–15,000 pkm/cap/year	3–10%	0.2–1.9 MJ/pkm++	–	100 %
Infrastructure	Consistent with pkm travelled**	–	–	0.1–0.3 MJ/pkm	–

* Assuming 10 m² of living space/capita plus 20 m² of communal space/house; with the latter divided by four, we get 15 m²/capita overall.

** Activity levels here are not straightforward to define.

+ 'App' refers to 'appliance'.

++ Large range as this covers different modes (public transport to passenger flights).

⁸ Millward-Hopkins et al. (2020), Providing decent living with minimum energy: A global scenario, *Global Environmental Change*, 65, 102168: <https://doi.org/10.1016/j.gloenvcha.2020.102168>

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Document information

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