Annex 6

GUIDELINES ON THE CONSIDERATION OF SUPPRESSED DEMAND IN CDM METHODOLOGIES

(Version 01)

I. Background

1. The modalities and procedures for a clean development mechanism (CDM) (decision 3/CMP.1 paragraph 46) state that "the baseline may include a scenario where future anthropogenic emissions by sources are projected to rise above current levels, due to the specific circumstances of the host Party". This issue is also commonly referred to as "suppressed demand".

2. In decision 2/CMP.5, Parties encouraged the CDM Executive Board (hereinafter referred to as the Board) to "further explore the possibility of including in baseline and monitoring methodologies, as appropriate, a scenario where future anthropogenic emissions by sources are projected to rise above current levels due to specific circumstances of the host Party."

3. At the fifty-sixth meeting of the Board, the Board considered a recommendation by the Small-Scale Working Group (SSC-WG). The Board agreed that the SSC-WG should continue to address the issue where relevant in specific new methodologies and revisions of methodologies taking into account relevant approaches found in the methodologies approved by the Board.

4. After the Board has taken action at its fifty-sixth meeting, decision 3/CMP.6 reiterated its encouragement to the Board to "further explore the possibility of including in baseline and monitoring methodologies, as appropriate, a scenario where future anthropogenic emissions by sources are projected to rise above current levels due to specific circumstances of the host Party."

5. These guidelines were prepared in response to a request by the Board at its sixty-first meeting (EB61 report paragraph 40). These guidelines aim to achieve consistency in the methods to address the situation of suppressed demand in CDM baseline and monitoring methodologies where future emissions by sources may rise above current level.

II. Definitions, scope and applicability

A. Definitions

6. For the purpose of these guidelines, the following definitions apply:

   (a) **Income effect**: this effect occurs when the demand of a service, such as energy services, would increase in the baseline scenario over time as a result of the increase of the income of the user of the service, even without access to a better quality of the service;

   (b) **Rebound effect:** this effect occurs when the demand of a service, such as energy services, increase as a result of the decreased cost of the service per unit in the project scenario. For example the benefits from savings in energy demand due to technical efficiency improvement and hence reductions in greenhouse gas (GHG) emissions may result in an increase in the demand (e.g. extended operating hours in lighting);[1]

[1] A potential increase in the service level of other energy or non-energy services due to the rebound effect (e.g. fuel saved due to energy savings in lighting is used to meet previously suppressed cooking services) is

(c) **Minimum service level:** The minimum service level is a service level that is able to meet basic human needs (e.g. basic housing, basic energy services including lighting, cooking, drinking water supply). In some situations, this service level may not have been provided prior to the implementation of the CDM project activity.

B. Scope and applicability

7. These guidelines provide approaches that can be used in baseline and monitoring methodologies to address situations of suppressed demand. It is applicable when a minimum service level, as defined above, was unavailable to the end user of the service prior to the implementation of the project activity. For example, households may have had only very few kerosene lamps in place that were only operated during short time periods thereby only partially meeting the basic lighting demand of the household.

8. These guidelines aim to facilitate a consistent and appropriate consideration of approaches for addressing suppressed demand. Although harmonisation of such approaches across CDM methodologies is an important objective of these guidelines, it is recognised that a methodology applying these guidelines need to reflect the specific characteristics of the project types and sector covered by it for a realistic and conservative estimation of emission reductions.

9. These guidelines provide methodological approaches for two issues:

(a) The identification of the baseline technology/measure under a suppressed demand situation; and

(b) The identification of the baseline service level that should be used to calculate baseline emissions in a suppressed demand situation.

10. These guidelines are not exhaustive and revisions to expand its applicability and to include other approaches may be proposed.

III. Methodological Approaches

A. Identification of the baseline technology/measure

11. Methodologies for project types that face a suppressed demand situation may identify the baseline technology/measure through a step-wise procedure that builds on the elements outlined below. This step-wise approach is illustrated through an example for providing lighting to households.

Step 1: Identify the various alternatives technologies/measures available to the project proponent that satisfy the same need as the need satisfied by the proposed project activity.

Example: In the case of lighting, the following alternative technologies may be identified to satisfy the same needs: small wick lamps, large hurricane lamps or pressure lamps, incandescent lamps, compact fluorescent lamps (CFLs), light-emitting diode (LED) lamps.

Step 2: Identify which alternatives technologies/measures identified in step 1 are in compliance with the local regulations. If any of the identified alternatives is not in compliance with the local regulations, then exclude it from further consideration.

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considered as a sustainable development benefit to the host country and not considered in the calculation of emission reductions.

Example: All technologies are in compliance with local regulations and none of them is removed.

Step 3: Rank the alternatives remaining after step 2 in order of decreasing efficiency (e.g. lumen/Watt) or quality of the service provided, i.e. from the highest efficiency or quality to the lowest efficiency or quality.

Example: The technologies are ranked as follows:

1 LED lamps;

2 Compact fluorescent lamps (CFLs);

3 Incandescent lamps;

4 Large hurricane lamps or pressure lamps;

5 Small wick lamps.

Step 4: Assess the alternatives in the sequence identified in step 3 and eliminate in that sequence those alternatives that face barriers such as the ones listed below:

(a) Income barrier, i.e. inability to meet the capital cost;

(b) Lack of infrastructure (e.g. non-existence of supply/service infrastructure);

(c) Lack of skills to operate the alternative;

(d) Technological barrier: e.g. technologies with low market share with market penetration rates of less than 5%.

Example: LED lamps, compact fluorescent lamps (CFLs) and incandescent lamps are removed, as these face barriers due to lack of infrastructure and technological barriers. The remaining two alternatives are the following:

4 Large hurricane lamps or pressure lamps;

5 Small wick lamps.

Step 5: The first alternative not eliminated by step 4 and that is able to meet the minimum service level (see guidance below) under realistic conditions is deemed as the baseline technology/measure. If several fuels can be used for the same technology repeat the steps to identify the baseline fuel type.

Example: Large hurricane lamps or pressure lamps are identified as the baseline technology.

B. Identification of the baseline service level

12. In baseline and monitoring methodologies, the service level used to determine baseline emissions can correspond to the following levels:

(a) **The service level provided prior to the implementation of the project activity.** This approach is used for project types for which there could be significant incentives from the CER revenues to expand production (e.g. HFC-23 incineration from HCFC-22 production, N_2O abatement from adipic acid production). Capping the baseline service level to historical level avoids such incentives. However, using the historical service level is less appropriate under a suppressed demand situation, given that the demand for the service is likely to rise over time even without the CDM, once the barriers would be overcome;

(b) **The service level provided under the project activity.** This is the most commonly used approach: it is assumed that in the baseline the same service would be provided as under the project activity but with a different technology. However, this approach may not be realistic in some cases. For example, if a household receives 40 liter of clean water per day per person under the project scenario, it may not be realistic to assume that in the baseline 40 liter of water per day per person would be boiled, even if the income of the household would increase in the future. Using the project service level may also face some practical barriers, such as the difficulty of measuring the service provided under the project as well as for the baseline. For example, measuring the light output of a kerosene lamp could be challenging;

(c) **A minimum service level.** This service level is a 'choice' that reflects that the service provided prior to the implementation of the project activity would increase if it were not suppressed by the lack of income and high unit costs of the service. The service level is set at a level that satisfies basic human needs and makes possible the development of the type of project. However, the financial viability cannot be the only criteria for the determination of the minimum service level. This service level allows an increase above the levels provided prior to the implementation of the project activity, taking into account the income and rebound effect. Such an approach may provide opportunity for technological leapfrogging to a low emission path and clean development. Further guidance on defining this level is provided below.

13. In some situations, it may also be appropriate to use two or more service levels and respective baseline technologies/measures to cumulatively add up to the project service level. In this case, it is assumed that the minimum service level would be provided, as per the procedure outlined below, by the technology/measure that does not face the relevant barriers and can realistically provide the minimum service level (e.g. hurricane lamps) and that the difference between the project service level and minimum service level would be provided by another technology (e.g. incandescent lamps), once the income would have further increased.

Determination of the minimum service level

14. The minimum service level should be realistic and reasonable but not overly conservative. The minimum service level should be so chosen that over a long time horizon, it will always be reached (with rare exemptions, such as a protracted conflict or a regional/global economic collapse).

15. For establishing a minimum service level the following approaches may be used:

(a) National/international peer reviewed research or relevant studies;

(b) Benchmarks that take into account that emissions will rise to achieve the international/national development goals;

16. Further, in setting the minimum service level, the following should be taken into account:

(a) Environmental integrity of the emissions reductions has to be safeguarded;

(b) Financial viability of the CDM project cannot be the predominant determining criteria;

(c) Normative decisions have to be clearly referenced and explained;

(d) Decisions regarding suppressed demand have to be re-evaluated and updated periodically based on recent data to ensure they are based on realistic assumptions.

17. As already indicated in paragraph 12 above, the minimum service level does not prevent the achievement of higher service levels through the implementation of the CDM project activity. As illustrated in figure 1 and figure 2 below however, the minimum service level aims to recognize that realistic baselines need to be differentiated according to the attained level/quality of service. Referring to figure 1, it may be realistic to assume that few litres of purified water per day per person supplied by a purification device through the CDM project, in a region lacking water supply services and having low penetration of point of use water purification devices, would have a baseline comprising of fossil fuel and/or non renewable biomass (NRB) use for boiling water. However when 40 litres of purified water per day per person are supplied through the CDM project only the first few litres of purified water would qualify the NRB/fossil fuel baseline and a different baseline would apply to the remaining quantity of water (e.g. emissions associated with a public distribution system).

Examples for different service levels and the ranking of baseline technologies different services and technologies.

Figure 1: Water pyramid
Hierarchy of water requirements (after Abraham Maslow's (1908-1970) hierarchy of needs), WHO – Technical Notes for Emergencies Technical Note No. 9 Draft revised: 7.1.05 Minimum water quantity needed for domestic use in emergencies

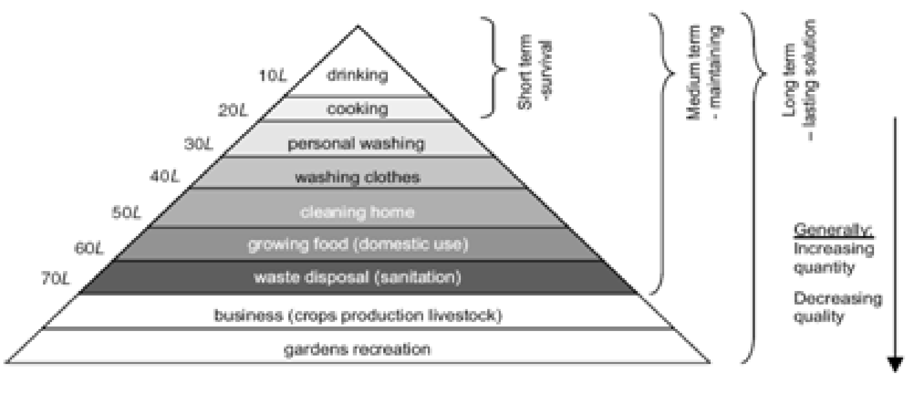
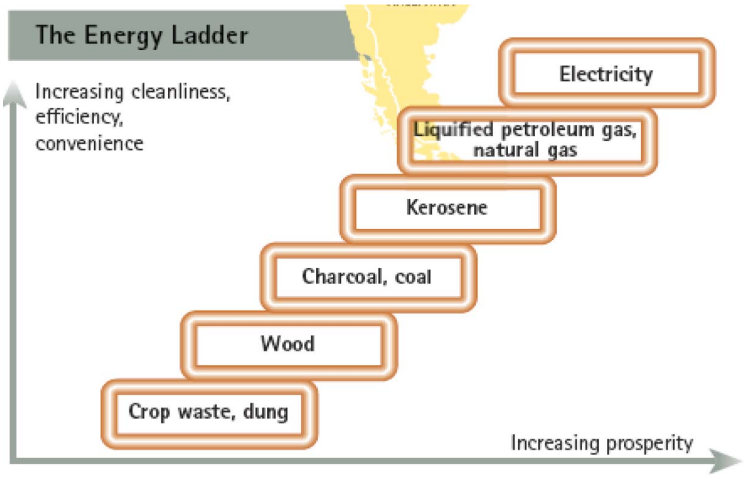


Figure 2: Energy ladder

"Importance of Increasing the Usability of the CDM and Gold Standard Methodologies for Improved Cook Stoves" Brenda Doroski, Partnership for Clean Indoor Air, U.S. Environmental Protection Agency at the 'Practitioners Workshop on AMS-I.E, AMS-II.G and AMS-I.C: CDM methodologies for household cooking energy supply' 26 October 2009



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History of the document

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01	EB 62 Annex 6 15 July 2011	Initial adoption.
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