

**CDM-MP88-A01**

## Concept note

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# Ensuring the consistency in definitions of market penetration metrics and thresholds for additionality demonstration

Version 01.0



**United Nations**  
Framework Convention on  
Climate Change

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## 1. Procedural background

1. The Executive Board of the clean development mechanism (CDM) (hereinafter referred to as the Board), at its 113<sup>th</sup> meeting (EB 113), considered the concept note “Ensuring the consistency in definitions of market penetration metrics and thresholds for additionality demonstration” and agreed with the overall direction of the work undertaken to have consistent thresholds for using stock and sales data. The Board requested the Methodologies Panel (MP) to:
  - (a) Consider whether a differentiation in target market size and total market size is necessary, given that the target market size is recommended to be used and may, in some situations, correspond to the total market size;
  - (b) Ensure consistent application of the concept in the best-practice examples provided;
  - (c) Further clarify under what conditions (e.g. number of installations) the market penetration approach can be used, in particular in the context of first-of-its-kind;
  - (d) Revise the relevant methodologies and methodological tools for consideration by the Board at a future meeting.

## 2. Purpose

2. The purpose of this concept note is to address the mandates provided at EB 108, EB 110 and EB 113 and make a recommendation to the Board.

## 3. Definitions of new terms associated with market penetration of technologies/measures and consistent use of the terms and thresholds in methodologies and tools

3. This note analyses the existing provisions in the various large-scale and small-scale methodologies, tools and guidelines, where the guidance on demonstration of additionality and common practice makes reference to market share, market penetration and penetration rate. Also, some examples of the application of market penetration thresholds in programme of activities design documents (PoA-DDs) are included in Appendix 3.
4. Thresholds applied to demonstrate automatic additionality in the existing CDM methodologies and tools include 2 per cent, 5 per cent, 10 per cent and 50 per cent. Methodologies for projects involving distributed units generally apply a 5 per cent threshold, whereas methodologies for grid-connected renewable energy projects apply a 2 per cent threshold.
5. Table 1 below lists the diffusion thresholds applied by CDM methodologies and tools for different technologies to demonstrate automatic additionality.

**Table 1. Diffusion threshold ranges for automatic additionality**

Technologies/measures	Threshold value (in percentage)	Clean development mechanism tools and methodologies
Solar water heaters, high-efficiency biomass-fired systems, and solar lamps	≤ 5	TOOL19
Renewable energy power generation in national grids or isolated grids	≤ 2	TOOL32
Rural electrification using renewable energy	≤ 50	
Electric and hybrid vehicles	≤ 5	AMS-III.C
Liquefied natural gas buses	≤ 5	AMS-III.AY
Improved efficiency of vehicle fleets	≤ 5	AMS-III.BC
E-bikes	≤ 5	AMS-III.BM
Agricultural waste as feed stock for paper, cardboard and bio-oil production	≤ 10	AM0057
Increasing composition of blend in cement production	≤ 5	ACM0005
Efficient cookstoves	≤ 5	AMS-I.E and AMS-II.G

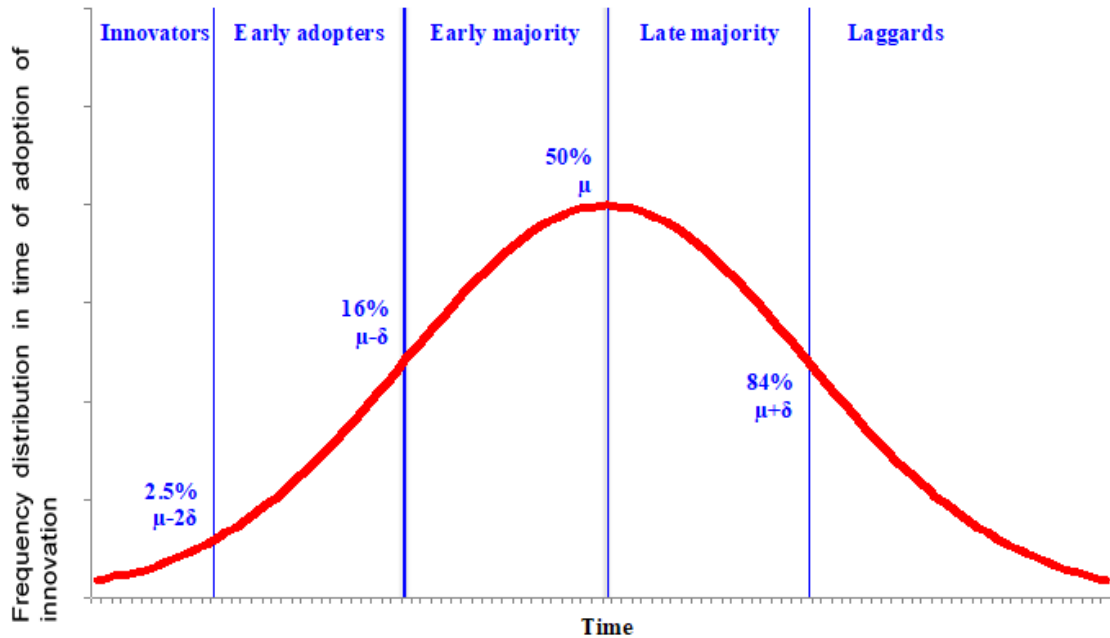
6. Currently, the common practice threshold used in TOOL24 is 20 per cent. In other words, the proposed project activity is a “common practice” within a sector in the applicable geographical area if the factor  $F (=1-N_{diff}/N_{all})$  is greater than 0.2 and  $N_{all}-N_{diff}$  is greater than 3.
7. However, in the methodologies, thresholds applied for common practice include 20 per cent, 33 per cent and 50 per cent. In some cases, the rationale for thresholds is included directly in the methodology (e.g. AM0044 cites ‘*Everett M. Rogers, 2003, Diffusion of Innovations, Fifth Edition, Simon & Schuster Inc.*’ for the 33 per cent threshold specified for the common practice), while in other cases either the information is not provided or may have been provided in the background documentation at the time of approval. The practice in transport sector methodologies is varied: the 20 per cent threshold is applied to exclude common practice in some cases, while in others it is used for an initial screening to apply other tests for additionality or ascribe automatic additionality.
8. Thresholds of 20 per cent, 33 per cent and 50 per cent applied for common practice in the methodologies (see table 2) may be harmonized/standardized using trusted scientific information on the product diffusion threshold found in the figure below (i.e. innovator (2.5 per cent), early adopters (16 per cent), early majority (50 per cent)).

**Table 2. Diffusion threshold ranges for common practice**

<b>Technologies/measures</b>	<b>Threshold value (in percentage)</b>	<b>Clean development mechanism tools and methodologies</b>
Bus rapid transit system High speed passenger rail system Electric taxiing system for airplanes Mass rapid transit system	≥ 20	AM0031 AM0101 AM0116 ACM0016
Energy efficiency improvements in boilers	≥ 33	AM0044
Domestic refrigeration	≥ 50	AM0071
Distribution of compact fluorescent lamps (CFL) and light emitting diode (LED) bulbs to households	≥ 20	AM0113
New district cooling system	≥ 20	AM0117
Conversion of single cycle to combined cycle power generation	≥ 50	ACM0007
Utilizing waste heat to preheat the raw materials	≥ 50	AM0066
Direct reduced iron in electric arc furnaces	≥ 50	AM0109

9. The 'early majority' and 'late majority' represent the bulk of the population: 34 per cent each (or one standard deviation above and below the mean under the normal distribution). Neither the 'early majority' nor the 'late majority' are risk-taking and are unlikely to adopt an innovation until it is proven by a trusted peer. The 'late majority' will take longer to adopt an innovation due to higher levels of technophobia, scepticism and price sensitivity. When sales of a product reach stability (50 per cent of the late majority category), the normal distribution will be at its peak (first derivative equals zero).

**Figure 1. Rogers diffusion model (1962)**



Source: Rogers, 1962.

10. The following section makes recommendations for improvements to the definitions of terminology and the consistent use of the terms and thresholds in the methodologies and tools.

### 3.1. Definitions of market penetration metrics

11. Following guidance from the Board at EB 113, the definition of “market share”, which was proposed earlier in relation to total market size, was removed. The MP recommends that only the new definition of “market penetration” should be included in CDM glossary of terms.

<i>Term</i>	<i>Definition</i>
Market penetration	<p>The following terms are defined in the context of the percentage share of a specific technology for demonstrating additionality or determining common practice or first-of-its-kind. The share of the specific technology may be expressed in relation to (i) stock of functional or operational technology at the user end; (ii) sales volume of the technology; or (iii) installed capacity or production capacity or service amount (e.g. megawatts of installed capacity, gigawatt-hours of electricity generation, passenger-kilometre travelled).</p> <p><b>Market penetration:</b> The percentage share of a specific technology in the ‘target market size’ during a specified period (e.g. percentage of monthly or annual sales in the target market) or at a specific point of time (e.g. percentage of stock of functional equipment at the user end in the preceding year of analysis in the target market).</p> <p>In this definition, ‘<b>target market size</b>’ is the potential size of the market for a specific technology in the total market (e.g. passenger car vehicles that may adopt the technology in the total market for all passenger car vehicles) in the applicable geographical area (hence, it is usually smaller than the total market size). ‘<b>Total market size</b>’ is the total market for a technology and is equal to the total population or capacity (e.g. all end-users, all vehicles) in the applicable geographical area.</p> <p>The target market size is determined as follows:</p> <p>Project participants first need to determine the ‘total market size’ in the applicable geographical area for the specific technology, and then determine the ‘target market size’ within that total number.</p> <p>The target market size may be determined based on (i) the market data from a publicly available source; or (ii) the information collected from a market survey conducted by project participants, or a combination of the two.</p> <p>When determining the target market size, project participants shall bear in mind that only a segment of the total market may be served by the specific project technology, taking into consideration the conditions/constraints below, inter alia:</p> <ul style="list-style-type: none"> <li>(a) Product and technology constraints (e.g. project technology may work only under certain technological conditions such as stable grid connectivity);</li> <li>(b) Socioeconomic characteristics (e.g. project technology may be targeted only to certain income levels);</li> <li>(c) Geographical, topographical and climate conditions (e.g. project technology may be workable or suitable only under certain conditions);</li> <li>(d) Cultural, demographic, behavioral and psychographic conditions (e.g. project technology may be accepted only by certain group of people).</li> </ul> <p>If it can be demonstrated that no constraint to the deployment of technologies exists, the target market size may be considered to be equal to the total market size.</p>

### 3.2. Revision of the methodologies and tools

12. As mandated at EB 110, the MP analysed the existing approved methodologies and methodological tools with regard to consistency in the use of the terms and related guidance, and recommended revisions to the relevant methodologies and tools as contained in appendix 1 and appendix 2 (proposed changes are highlighted in yellow).

13. As a threshold for automatic additionality, based on the findings from Rogers' 1962 diffusion model that a technology is considered to be in the innovation stage until reaching the 2.5 per cent diffusion level (see annex 9 to the MP 83 meeting report regarding Roger's theory of diffusion), the MP recommended a **2.5 per cent threshold for sales data** (three years' sales average) and a **1.5 per cent threshold for stock data**. In case of stock, the denominator is total number of existing technologies/products over the lifetime of the technologies/products, whereas the numerator represents new technologies/products for a much shorter duration (since the introduction of newer technologies/products). The use of sales data is preferable, and stock data should be used only if there is no sales data.
14. As for a threshold for common practice, the MP recommended 16 per cent because the threshold between early adopters and early majority matches well with the definition of common practice.
15. The MP considered that **the proposed thresholds** (i.e. 2.5 per cent (sales) and 1.5 per cent (stock) for automatic additionality and 16 per cent for common practice) **may be more suitable as thresholds for the proportion of the distributed type of technologies/products, but not for the proportion of facilities or plants**. Therefore, the MP recommended that these thresholds should be applied only to the methodologies and tools where market penetration thresholds are defined for the distributed type of technologies/products. Accordingly, the MP recommended retaining current provisions in "TOOL23: Additionality of first-of-its-kind project activities" and "TOOL24: Common practice".

## 4. Impacts

16. The proposed work will:
  - (a) Improve the understanding of market penetration in the context of CDM project activities and programmes of activities and its application when demonstrating additionality and conducting common practice analysis;
  - (b) Ensure consistent use of the terms and thresholds across CDM methodologies and tools for demonstrating additionality and conducting common practice analysis.

## 5. Subsequent work and timelines

17. If the Board agrees with the proposed definition of the term "market penetration", this definition will be included in the "Glossary: CDM Terms". Furthermore, if the Board agrees with the proposed changes to the relevant methodologies and tools as shown in Appendix 1 and 2 to this document, revision of those methodologies and tools will be finalized at this meeting.

## 6. Recommendations to the Board

18. The MP recommends that the Board consider the concept note and provide guidance on the definition of "market penetration" metrics as contained in section 3.1 above and revision of methodologies and tools as contained in section 3.2 above.



## Appendix 1. Proposed revision to the terms and thresholds for automatic additionality used in identified methodologies and tools

### 1. Methodological tools

#### 1.1. TOOL19: Demonstration of additionality of microscale project activities

1. The **market** penetration<sup>1</sup> of the proposed technology (i.e. **s**Solar water heating system, **c**Clean and energy efficient cookstoves, **h**High efficiency biomass fired devices (e.g. energy efficient cookstoves and **s**Solar lamps) is equal to or less than **2.5 per cent** of the technologies/measures (providing similar services to end-users) **based on annual sales of units or 1.5 per cent based on stock of units**, in the applicable geographic area **region**<sup>2</sup> in order to be considered as automatically additional. **The stock data should be used only if there is no sales data.**
2. The **market** penetration shall be determined using one of the following options:
  - (a) Official statistics or reports, relevant industry association reports or peer-reviewed literature;
  - (b) Results of a sampling survey conducted by project participants or a third party as per the latest version of "Standard: Sampling and surveys for CDM project activities and programme of activities"; covering technologies/measures providing similar services as the project technology/measure.
3. **If the market penetration is determined using the data based on annual sales of units, the most recent three years' data available at the time of submission of the clean development mechanism product design document (CDM-PDD) or the clean development mechanism component project activity design document (CDM-CPA-DD) for validation/inclusion shall be used. A minimum of three years of historical sales data is necessary to capture variations of the sales data from year to year. Exceptionally, historical sales data covering less than three years, but a minimum of one year, may be used with due justifications (e.g. demonstrated unavailability of data despite the efforts made).**
4. To determine the **market** penetration using the **above paragraph** data based on the **stock of units**, the most recent data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion, shall be used, and the data vintage used shall not include data older than three years prior to: (a) the start date of the CDM project activity; or (b) the start of validation/inclusion, whichever is earlier.

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<sup>1</sup> **Refers to proportion of stock of functional equipment at the user end, also termed as market saturation.**

<sup>2</sup> **Region/**Applicable geographical area should be the entire host country. If the project participants opt to limit the applicable geographical area to a specific geographical area (such as province, region, etc.) within the host country, then they shall provide justification on the essential distinction between the identified specific geographical area and rest of the host country.

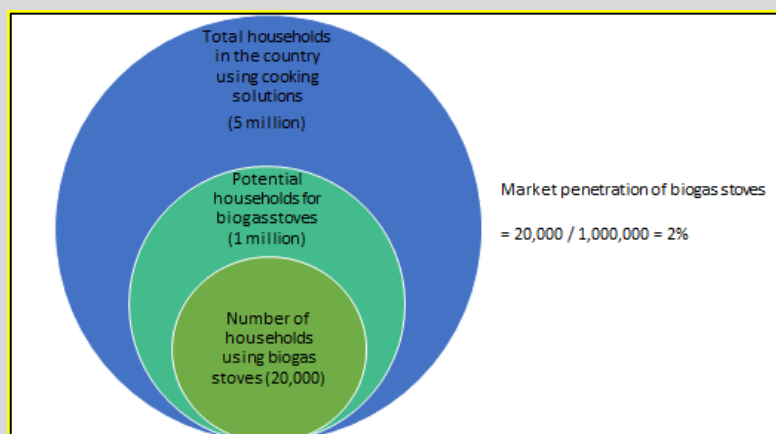
### Box 1. Non-binding best practice example 1

Project technology: Biogas stoves

The installation and use of biogas stoves may be limited to the rural area of host country X (e.g. households with availability of animal manure and land for installing biodigesters), thus excluding urban areas.

Even though the total market size is the number of households using cooking solutions in host country X, it cannot be considered that all of them will be potential consumers of the biogas stoves. The potential target market for biogas stoves may include households using traditional three-stone stoves, improved cook stoves, liquefied petroleum gas (LPG) stoves and electric stoves, and which have good availability of biomass waste as well as land for the installation of biodigesters. The estimation of the "market penetration" of the biogas stoves, taking account of the "target market size", are given in the figure below.

Figure. "Market penetration" related to the target market size in the host country X



As shown in the figure above, the market penetration of biogas stoves is 2 per cent (based on stock). Therefore, it can be considered that the technology has market penetration of more than 1.5 per cent and is not automatically additional.

## 2. Transport methodologies

### 2.1. AMS-III.C: Emission reductions by electric and hybrid vehicles

5. Demonstrate ex ante that the market share penetration of project electric/hybrid vehicles is equal to or smaller than 2.5 per cent of the annual sales of the vehicles of the same category (e.g. if project vehicles are electric scooters, market share penetration of electric two wheelers is equal to or smaller than 2.5 per cent of all motorized two wheelers, irrespective of the manufacturer) in the region. To determine the market penetration, the most recent three years' data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion shall be used. A minimum of three years of historical sales data is necessary to capture variations of the sales data from year to year. Exceptionally, historical sales data covering less than three years, but a minimum

of one year, may be used with due justifications (e.g. demonstrated unavailability of data despite the efforts made).

### Box 2. Non-binding best practice example 2

Project technology: Electric vehicles

Market penetration is determined as the percentage of electric vehicles in the target market size, based on sales data, in the applicable geographical area.

The table below illustrates the market penetration of passenger cars by fuel type in country X in 2019, 2020 and 2021. In this example, **the target market size is considered as private four-wheelers only for household use.**

**Table. New passenger car sales by fuel type in country X in 2019, 2020 and 2021 (in percentage)**

Year	Petrol	Diesel	Electric
2019	67	32	1
2020	62	30	8
2021	59	25	16
Average	62.7	29.0	8.3

As shown in the table above, the market penetration of electric vehicles, based on the most recent three years' sales data from 2019 to 2021, was 8.3 per cent.

Therefore, based on the most recent three years' sales data, it can be considered that electric vehicles have a market penetration of more than 2.5 per cent and is not automatically additional.

## 2.2. AMS-III.AY: Introduction of LNG buses to existing and new bus routes

6. Additionality is demonstrated using one of the options below:

- (a) Option 2: Demonstrate ex ante that the market **share penetration** of **project LNG buses** is less than or equal to **1.5 per cent** of the **total operating buses** (not only public transport bus) in the region.

## 2.3. AMS-III.BC: Emission reductions through improved efficiency of vehicle fleets

7. Additionality may be demonstrated based on typical barriers faced by energy efficiency projects, including but not limited to:

- (a) Common practice barrier: energy efficiency technologies are often not common practice. Fleet owners are often sceptical of such practices and resistant to adopt them. A project activity is considered to be additional if **the market penetration**

**rate** of each of the planned project measures is less than **1.5 per cent** for the types of vehicles included in the fleets<sup>3</sup>.

## 2.4. AMS-III.BM: Lightweight two and three wheeled personal transportation

8. Other activities that do not satisfy the conditions under paragraph 18 are considered additional if:
  - (a) Activities that are type 7 (i.e. introduction of e-bikes) and the **market share** (penetration) of e-bikes **amongin** bicycles in use in the city is below or equal to **1.5 per cent** based on number of annual bicycle trips undertaken in the city or based on **the stock of bicycles market share**;

## 3. Distributed unit methodologies

### 3.1. AMS-I.E.: Switch from non-renewable biomass for thermal applications by the user

9. Demonstrate ex-ante that the **market** penetration<sup>4</sup> of the project technology is equal to or less than **2.5 per cent** of the technologies/measures providing similar services to **end-users** using the data **based on annual sales of units**, or **1.5 per cent** using the data **based on the stock of units**, in the **applicable geographic area region** in order to be considered as automatically additional.
10. The **market** penetration shall be determined using one of the following options:
  - (a) Official statistics or reports, relevant industry association reports or peer-reviewed literature;
  - (b) Results of a sampling survey conducted by project participants or a third party as per the latest version of "Standard: Sampling and surveys for CDM project activities and programme of activities"; covering technologies/measures providing similar services as the project technology/measure.
11. The **region**/applicable geographical area to determine the penetration should be the entire host country. If the project participants opt to limit the applicable geographical area to a specific geographical area (such as province, region, etc.) within the host country, then they shall provide justification on the essential distinction between the identified specific geographical area and rest of the host country.
12. **If the market penetration is determined using the data based on annual sales of units, the most recent three years' data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion shall be used. A minimum of three years of historical sales data is necessary to capture variations of the sales data from year to year. Exceptionally, historical sales data covering less than three years, but a minimum of one**

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<sup>3</sup> **Market penetration is rates are** assessed for the specific categories of vehicles in which the measures are implemented, and not for the fleet as a whole, because a project may implement specific measures only on some vehicles and not the entire fleet. To assess the **market penetration rate** for the fleet, a weighting based on the number of each type of vehicle is made. Each planned measure must fulfil the threshold value of **1.5 per cent** individually if this barrier is used.

<sup>4</sup> **Refers to proportion of stock of functional equipment at the user end, also termed as market saturation.**

year, may be used with due justifications (e.g. demonstrated unavailability of data despite the efforts made).

13. To determine the market penetration using the ~~above paragraph~~ data based on the stock of units, the most recent data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion, shall be used, and the data vintage used shall not include data older than three years prior to: (a) the start date of the CDM project activity; or (b) the start of validation/inclusion, whichever is earlier.

### 3.2. AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass

14. Demonstrate ex ante that the market penetration<sup>5</sup> of high efficiency biomass fired devices (e.g. energy efficient cookstoves) is equal to or less than 2.5 per cent of the technologies/measures providing similar services to end-users based on the annual sales of units, or 1.5 per cent based on the stock of units, in the applicable geographic area region in order to be considered as automatically additional.
15. The market penetration shall be determined using one of the following options:
- (a) Official statistics or reports, relevant industry association reports or peer-reviewed literature;
  - (b) Results of a sampling survey conducted by project participants or a third party as per the latest version of "Standard: Sampling and surveys for CDM project activities and programme of activities"; covering technologies/measures providing similar services as the project technology/measure.
16. The region/applicable geographical area to determine the penetration should be the entire host country. If the project participants opt to limit the applicable geographical area to a specific geographical area (such as province, region, etc.) within the host country, then they shall provide justification on the essential distinction between the identified specific geographical area and rest of the host country.
17. If the market penetration is determined using the data based on the annual sales of units, the most recent three years' data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion shall be used. A minimum of three years of historical sales data is necessary to capture variations of the sales data from year to year. Exceptionally, historical sales data covering less than three years, but a minimum of one year, may be used with due justifications (e.g. demonstrated unavailability of data despite the efforts made).
18. To determine the market penetration using the ~~above paragraph~~ data based on the stock of units, the most recent data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion, shall be used, and the data vintage used shall not include data older than three years prior to: (a) the start date of the CDM project activity; or (b) the start of validation/inclusion, whichever is earlier.

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<sup>5</sup> Refers to proportion of stock of functional equipment at the user end; also termed as market saturation.

## Appendix 2. Proposed revision to the terms and thresholds for common practice used in identified methodologies and tools

### 1. Energy and or heat generation/consumption and energy transmission methodologies

#### 1.1. AM0071: Manufacturing and servicing of domestic refrigeration appliances using a low GWP refrigerant

1. In case of small commercial refrigeration appliances: The **market share penetration of small commercial refrigeration appliances**, which are sold in the host country and charged with low **global warming potential (GWP)** refrigerants, **is below 50 16 per cent based on annual sales at the time of validation** of the project activity.
2. **The market penetration is determined using the data based on annual sales of units of the most recent three years' data available at the time of submission of the clean development mechanism product design document (CDM-PDD) or the clean development mechanism component project activity design document (CDM-CPA-DD) for validation/inclusion. A minimum of three years of historical sales data is necessary to capture variations of the sales data from year to year. Exceptionally, historical sales data covering less than three years, but a minimum of one year, may be used with due justifications (e.g. demonstrated unavailability of data despite the efforts made).**

#### 1.2. AM0113: Distribution of compact fluorescent lamps (CFL) and light-emitting diode (LED) lamps to households

3. If the project lamp sold or distributed to a household by the project coordinator is self-ballasted CFLs,
  - (a) For other countries, additionality shall be demonstrated using the latest version of the "Tool for the demonstration and assessment of additionality" that is available on the UNFCCC web site. Step 2 (Investment analysis) shall be used to demonstrate additionality. The investment analysis shall be applied from the perspective of the project coordinator undertaking the project activity.<sup>6</sup> Step 4 (Common practice analysis) shall be assessed from the perspective of the users of the project lamps. The proposed project activity is considered as "common practice", if the **market penetration of CFLs sold for households in the geographical area of the project activity is greater than 1620 per cent based on annual sales.**

**The market penetration is determined using the data based on annual sales of units of the most recent three years' data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion. A minimum of three years of historical sales data is necessary to capture variations of the sales data from year to year. Exceptionally, historical sales data covering less than three years, but a minimum of**

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<sup>6</sup> A simple cost analysis may be applied according to EB 59, para. 36.

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one year, may be used with due justifications (e.g. demonstrated unavailability of data despite the efforts made).

### Appendix 3. Examples of market penetration meeting the five per cent threshold in programme of activities design documents

Ref. and project/ PoA title	Text	Source
10512	As per Bangladesh Government's Country Action Plan for Clean Cookstoves, <b>current market penetration represents just 3 per cent of the target population.</b> At present, about 1 million stoves are thought to be in use, amongst over 30 million households in Bangladesh. Therefore, the ICS PoA is considered to be automatically additional.	
10613	<b>The penetration rate for high efficiency based biomass fired cookstove in Papua New Guinea is less than 1 per cent.</b>  At present, about 90 per cent of the population is using firewood for cooking and all are predominantly based on three stone open firing practice. Additionally, there is no other project or program in the country related to cookstove or household energy related activities, which can be verified from the CDM database and also from the Clean Cook Alliance. Therefore, the PoA is considered to be automatically additional.	<p>a) This can be referred from the Assessment of Domestic Fuelwood Consumption in Papua New Guinea, January 2020. <b>The penetration is generally estimated as = (ICS owners x 100)/(total sample size),</b> and as per this assessment study the sample used for the study is found to be without any ICS, only open firing is the practice.</p> <p>b) Report 'Domestic Fuelwood Consumption in Papua New Guinea, January 2020,</p> <p>c) <a href="https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2013/Sep/Papua-New-Guinea.pdf?la=en&amp;hash=3E847FD95A91ADAA4CC34614F7A325F80CE36D39">https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2013/Sep/Papua-New-Guinea.pdf?la=en&amp;hash=3E847FD95A91ADAA4CC34614F7A325F80CE36D39</a> (page 4)</p>
10610	According to the National Charcoal Survey for Uganda 2015, the rate of traditional cookstove in Uganda is 80 per cent. In addition, according to the World Bank report, <b>the penetration rate of the ICS in the Uganda is equal or less than 5 per cent.</b> It means that use of ICS in Uganda is not widespread without PoA.  According to the 2016 UDHS survey, only 52 per cent of people in Uganda use water treatment. This means that 48 per cent of people do not use the water treatment method for drinking water at all. <b>In Uganda, the population using water</b>	<p>The World Bank, Uganda Clean Cooking Behavioral Diagnostic, p.6 (2019) <a href="https://openknowledge.worldbank.org/handle/10986/31283">https://openknowledge.worldbank.org/handle/10986/31283</a></p> <p>Uganda Bureau of Statistics, Demographic And Health Survey (2016): page 21 <a href="https://dhsprogram.com/pubs/pdf/FR333/FR333.pdf">https://dhsprogram.com/pubs/pdf/FR333/FR333.pdf</a></p>



Ref. and project/ PoA title	Text	Source
	<p><b>purifiers is only 0.8 per cent (Ceramic, sand or other filter: 0.7 per cent, Solar disinfection: 0.1 per cent).</b> This means that water purifiers are rarely used in Uganda, and water purifiers will not universally used without PoA.</p>	
<p><b>10516</b></p>	<p>The report “Access to Clean Cooking Energy and Electricity” from 2018 states that <b>just 0.77 per cent of rural households are using an improved biomass cookstove or biogas for cooking</b>, a number which is also referred to in the report “Roadmap for Access to Clean Cooking Energy in India” from 2019. In this report it is also stated that improved biomass cookstoves are not relevant for urban households, so that the penetration rate of 0.77 per cent can be used for whole India.</p>	<p>Jain et al. 2018, p.58: Access-to-Clean-Cooking-Energy-and-Electricity-Survey of the States 2018-1  <a href="https://www.ceew.in/sites/default/files/CEEW-Access-to-Clean-Cooking-Energy-and-Electricity-11Jan19_0.pdf">https://www.ceew.in/sites/default/files/CEEW-Access-to-Clean-Cooking-Energy-and-Electricity-11Jan19_0.pdf</a></p>

*Note:*

- Abbreviations: CDM = clean development mechanism, IDCOL = Infrastructure Development Company Limited, PoA = programme of activities.
- The date of the approval of AMS-I.E and AMS-II.G when the five per cent market penetration threshold was included was 31 August 2018, and the date of approval of TOOL19 approval when the five per cent market penetration threshold was included was 29 November 2018.

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**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	13 July 2022	MP 88, Annex 1 To be considered by the Board at EB 115.

Decision Class: Regulatory  
 Document Type: Information note  
 Business Function: Methodology  
 Keywords: baseline penetration, glossaries, management of official documentation