Suppressed Demand

Key findings and recommendations

Suppressed Demand Working Group • November 2011

Led by geres — With the support of cdc climat

Alarming figures

The poorer **3/4** of the world's population use only **10%** of global energy

20% of the world's population live without access to electricity

40% are reliant on biomass for cooking

More than **1 billion** people are without access to safe drinking water

2.6 billion are without basic sanitation

Least Developed Countries account for just **1%** of all CDM projects

There are **31** LDC countries with no CDM project

Service Level Access Inequality

There is a staggering inequality in the access and quality of basic and necessary services between rich and poor societies. The lack of access to Minimum Service Levels (MSL) in Least Developed Countries (LDC's) is a serious barrier to socio-economic development and progress toward the achievement of the Millennium Development Goals.

Current international development targets, while imperative, will entail massive expansion of MSL's throughout the developing world. This is likely to carry with it increases in GHG's from poor regions. Without supported low carbon development strategies, limiting climate change becomes more challenging.

The CDM of the Kyoto Protocol has twin objectives: climate change mitigation and sustainable development. The carbon markets already played an important step in catalyzing low-carbon investment in developing countries but the CDM has demonstrated its irrelevance to the billions of people living in the LDC's.

One of the key obstacles is that the CDM has focused on historic levels of carbon emissions when determining the feasibility of a project. As a consequence, populations that are poor, in terms of services, infrastructure, access and income, and do not already pollute significantly, generally do not benefit from CDM projects.

Suppressed Demand

Suppressed Demand (SD) refers to a situation where the demand for basic energy services is not satisfied -in other words it is "suppressed"- because of barriers such as low income or poor infrastructure.

Including SD in developing CDM projects comes down to making a normative choice about where emissions levels would be at the same point in the future, with a view to their future economic transition, instead of being about where they are today or where they have been in the past. It is not accounted as emission reductions but as "avoided emissions". This "choice" is a function of the technologies and fuels that will likely be deployed and the level of service that would be needed (and may have to be modelled).

Adequately addressing the issue of SD can boost access to energy and other essential basic services while decarbonising and avoiding significant future amounts of emissions. A primary benefit would be to re-align the CDM as a potential development, mitigation and emissions avoidance mechanism for LDC's. It can also play a valuable role in improving regional distribution of the CDM and increase its relevance to the billions living in conditions of energy poverty and lacking basic services and reducing transaction costs.

In some cases, current CDM methodologies do already account for SD in some ways, e.g. through the use of an "expected fossil fuel baseline". Ironically, that's the case of some large scale energy supply projects.

The CDM Executive Board, in meetings 62 and 63, has provided a standard on SD and a work plan on the topic. It covers the revision to existing methodologies and work to further improve the clarity and level of detail contained in the Suppressed Demand guidelines. This steps are warmly welcomed.

Suppressed Demand Working Group

The Suppressed Demand Working Group was established during the 16th Conference of the Parties as an advocacy group to provide constructive criticism and inputs to the CDM Executive Board on the topic of Suppressed Demand. The SDWG brings together project developers and experts from various institutions. The creation of a Wikispace dedicated to the research work on SD has also given way to a better coordination between the members of the group.

Wikispace dedicated to the SDWG | http://sdwg.wikispaces.com

PASSIVE SOLAR HOUSES IN INDIA | A CONCRETE CASE FROM THE FIELD

KEY FIGURES

Under current methodologies:

► The CER from the project is **1.4 CER / household / year**

With SD approach and project specific data:

► the CER potential of the project is **2.1 CER / unit / year (on average**)

► **66% increase**

The project is located in the high altitude desert of the Western Indian Himalayas where winter temperatures can be as low as -30°C, with little precipitation and scarce vegetation. At present, in India, 40% of the total energy requirement, especially in the rural household sector, is met by non-commercial energy sources, which include fuel wood, crop residue, and animal waste, including human and draught animal power. High economic growth is increasing household energy needs tremendously. PSH project consists on energy efficiency measures of passive solar architecture and thermal insulation with local materials.

We faced several difficulties when applying the eligible CDM methodology, namely, the CDM AMS I.E, to PSH. The MSL for human needs established by the World Health Organization of 18^{0}C indoor temperatures are not reflected in the methodology and this reference can not be easily converted in energy units . The current fuels used are considered renewable biomass (dung, wood and bushes) even though they indicate a clear scarcity in fuel availability. Despite increases in efficiency and clear benefit in thermal comfort related by the project beneficiaries, there is a minimal energy saving as compared to a pre-project situation.

SUGGESTED CHANGES TO THE METHODOLOGY TO INCLUDE SD

■ To ensure the integrity of the approach, only should be considered eligible PSH technologies that can demonstrate to provide: [Case1] Indoor temperatures that average above 18°C for a 24 hour period; or [Case 2] significant temperature differences (indoor and outdoor) in extreme environments relative to a comparative household.

■ Include a **Minimum Service level of 18°C** (Case 1) and/or measurement of temperature differentials (Case 2)

■ **Allow Tier 2 (National Level) or Tier 3 (Local level) calculated emissions factor (tC02e/TJ)** using a barrier analysis and/or of forecasting cooking energy mix in 2030 with comparative efficiencies for thermal heating devices. This fuel mix must be based on published and credible research or energy modeling and verified as being i) conservative and ii) credible.

> "Accounting for SD in accounting for carbon emissions reductions may provide the springboard for leapfrogging fossil technology lock-ins in Africa."
>
> **Steve Thorne (SouthSouthNorth Africa)**

> "SD is already implicitly acknowledged for all large scale green-field energy supply projects in the CDM. Why should projects serving the poorest communities not get the same treatment?"
>
> **Randall Spalding-Fecher (Pöyry)**

> "It is clearly and intentionally viable to earn carbon credits for water that would otherwise go untreated, rather than boiled. This is SD."
>
> **Evan A. Thomas (Manna Energy Limited)**

> "Only the consideration of SD will allow the CDM to reach the poorest of the poor."
>
> **Axel Michaelowa (Perspectives)**

GENERAL RECOMMENDATIONS OF THE SDWG TO OPERATIONALIZE SUPPRESSED DEMAND IN THE CDM FRAMEWORK

1) Defining CDM relevant MSL and Basic Human needs: CDM projects cover mainly basic energy services. Therefore, other relevant Minimum Service Levels and basic human needs need to be defined and improved. Indeed, CDM relates mainly to energy services and other activities rarely concerning simple technological improvements at individual level. Moreover, when MSL's are expressed in non-energy units, such as liters of clean water per person per day or indoor temperatures, or energy units, methodologies must provide standardized, simple and clear paths to conversion into emissions levels. This requires a selection or choice of technology, fuel and service level provided.

2) Options in the aggregation level of baseline technologies and fuels: methodological options should be made available to project developers to develop location or nationally specific emissions factor values that better reflect local contexts (Tier 2 and tier 3). Default values should be allowed with the appropriate evidence and justification.

3) Inclusion of MSL: In some cases the MSL is simple to identify and agree upon. However others, such as cooking energy requirements, are inherently more difficult to identify, standardize and integrate into methodologies. Even when MSL recommendations exist, such as WHO recommendation for indoor temperature of 18^{0}C, these may not be expressed in energy units. Conversion of MSL's to CDM relevant energy units and GHG emissions then becomes more problematic. Also, the MSL's may not be relevant for extreme environments. For example, Passive Solar Housing in extremely cold environments, while providing genuinely beneficial and significant increases in temperature, may not provide the MSL suggested by the WHO of 18^{0}C. Moreover, this level of service may as well not be necessary for people who are adapted .

4) Engagement with practitioners: The SDWG urges the Executive Board to engage deeply with project developers to ensure that they are both usable and ensure environmental integrity of the approach, meaning that they can accurately reflect local situations.

The SDWG is willing to engage in close dialogue with the EB and other experts on these issues and provide specific inputs.

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