



**TAKING ACTION ON SUPPRESSED
DEMAND**

POLICY BRIEF

by

LDC Environment Centre

With Support of
Climate & Development Knowledge Network (CDKN)

INTRODUCTION

The Climate Change Convention

Noting the growing evidence of changing global climate and aware of the potential impacts on social and economic development and guided by the principles and provisions of the United Nations Charter, the international community took a bold decision amidst uncertainty and adopted the United Nations Framework Convention on Climate Change (UNFCCC) on 9th May 1992 in New York, USA. The Convention was opened for signature at the Earth Summit in Rio de Janeiro in June 1992 and it entered into force on 21st March 1994. The ultimate objective of the Convention is to achieve stabilization of greenhouse gases concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system; within a time-frame sufficient to allow ecosystems to adapt naturally to climate change and ensure that food production is not threatened; and to enable economic development to proceed in a sustainable manner.

The UNFCCC lays a basis for sustainable development, recognizing the individual level of national development and the need for economic growth to meet social and economic needs of countries, particularly developing countries. Climate change and development are interlinked and development can be achieved without endangering the global climate system. The principles and provision of the Convention guide both actions of Parties and the decisions of the Conference of the Parties (COP). The third Conference of the Parties (COP3) in December 1997 adopted the Kyoto Protocol the objective of which is to strengthen commitments of Parties, particularly developed country Parties. It commits developed countries to reduce their green house gas (GHG) emissions on average by 5.2% below the 1990 emission level by the year 2012.

The UNFCCC and its Kyoto Protocol are the basis for a global response to the stabilization of concentrations of GHGs and to minimize impacts of adverse effects of climate change. It therefore represents spirit of global cooperation irrespective individual country's contribution. The Kyoto Protocol also defined the clean development mechanisms (CDM), joint implementation (JI) and emission trading (ET) to assist developed country Parties comply with their Kyoto targets.

Carbon Market Mechanisms

Markets can play an important role in environmental protection. Hitherto the market mechanisms have not been fully utilized to promote sustainable development. The creation of the carbon commodity has stimulated and attracted interest from both the private sector and civil society organizations (CSOs). The CSOs have played a key role in the development of the voluntary carbon market while the private sector has driven the development of the CDM. The experience gained from the Kyoto mechanisms particularly the CDM can be gainfully utilized in the development of future carbon market mechanisms, including the Nationally Appropriate Mitigation

Actions (NAMAs) and Reducing Emissions from Deforestation and Forest Degradation (REDD). These are emerging market mechanisms which require determination of reference points (baseline) and monitoring of project activities to enable computation of the emission reductions or avoided emissions. The CDM Executive Board (EB) has developed a comprehensive and stringent regulatory framework to ensure environmental integrity of the CDM. This level of stringency has disadvantaged small projects particularly in LDCs and African countries, which have low GHG emission levels.

The Clean Development Mechanism

The primary objectives of the CDM are to assist non-Annex I parties in achieving sustainable development as well as Annex I Parties in meeting part of their commitments under Article 3 of the Kyoto Protocol; and promoting attainment of the objective of the Convention.

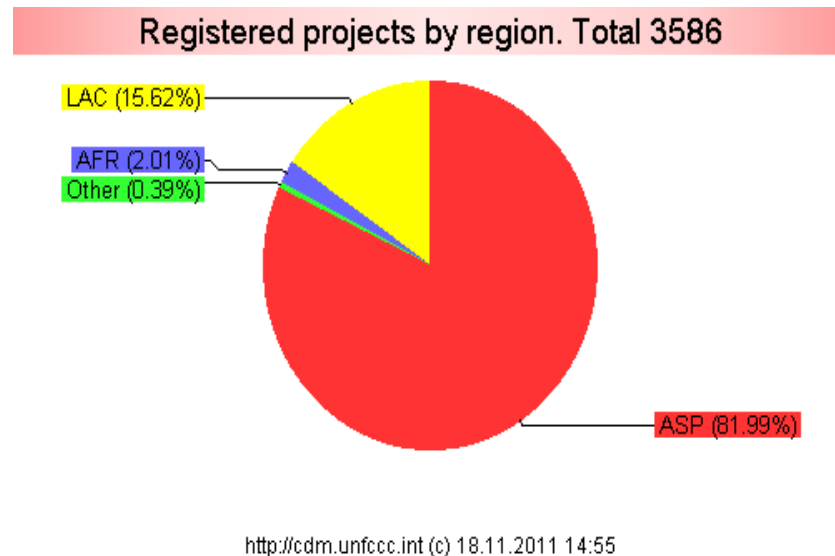
The CDM allows emission-reduction projects in developing countries to earn certified emission reduction CERs which can be traded or used by industrialized countries to meet part of their Kyoto targets. Therefore the CDM is an offset mechanism. The COP serving as a meeting of Parties to the Kyoto Protocol (CMP) has instituted a regulatory framework comprising of the EB and the National Designated Authority (DNA).

The EB regulates the environmental aspects of the CDM and has an elaborate structure to support its work. All CDM projects must undergo a rigorous public and transparent registration and issuance process, and are also expected to contribute to sustainable development of host country Parties. Developing country Parties wishing to participate in the CDM must have a DNA to regulate the contribution of CDM projects to sustainable development. The DNAs issue letters of approval (LoA), a legal instrument, transferring ownership of CERs to the listed project participants.

The EB has registered more than 3,500 projects and these are expected to generate CERs amounting to more than 2.7 billion tonnes of CO₂ equivalent by the year 2012. Although the CDM is rated as a successful mechanism, the distribution of registered CDM projects is skewed to advanced developing countries with the LDCs and African countries having the least number of registered CDM projects. Figure 1 shows the dominance of the Asian region in the implementation of the CDM. Significant differences exist among countries within regions with China dominating the Asian and Pacific.

The LDCs and some African countries are characterized by high level of poverty and low level of development. The population of these countries is not able to meet the basic human needs such as access to clean and safe water, adequate energy for cooking and lighting because of a host of barriers. These barriers include low income, poor infrastructure such as electricity grid and high cost of technology e.g. more

efficient appliances. It should be noted that people in low-income countries have demand for these services which is not met. This situation is commonly referred to as *suppressed demand*.



Key: LAC - Latin America and the Caribbean, ASP - Asia and the South Pacific, AFR - Africa

Figure 1: Distribution of Registered CDM Projects by Region

SUPPRESSED DEMAND

Suppressed demand is a desire to consume a product or service but due to barriers this desire is not met. In simple language suppressed demand is the unmet demand. These barriers include low income, poor infrastructure and technology. The consumption of these amenities is therefore curtailed. These barriers are discussed in paragraphs below.

Infrastructure barrier

A consumer may have the capacity to consume a product or service but cannot consume because of poor infrastructure e.g. inaccessible grid or inaccessible water supply network. In such a case the demand to consume electricity or water remains suppressed until the grid or the water supply network becomes available. When the grid or water supply network becomes available then the consumer will connect and his desire to consume the electricity or water will be met.

Low income barrier

In low income communities resources are allocated according to the priority allotted to basic human needs. For instance basic human needs such as food and health services are given higher priority while basic human needs such as education and energy for lighting are allotted a lower priority. The demand for energy for lighting is suppressed and remains so until the household income increases. The demand for

lighting energy may also be suppressed due to high initial cost of technology. A constrained income household may fix only one incandescent bulb thus limiting his energy consumption. As income increases the household may allocate more resources for electricity and will therefore increase the number of bulbs thus increasing his energy consumption. This suppressed demand is commonly referred to as the *income effect*.

Technology barrier

Technology barrier may be due to high initial cost or lack of capacity to absorb a technology. For example compact fluorescent light bulb (CFLs) consume less electricity than incandescent lamps and therefore cheaper in the medium and longer term. However, the initial cost of a CFL is higher than incandescent lamp and therefore the consumer may not shift to the new technology because of the initial high cost of the CFLs. The demand of the consumer for CFL is suppressed because of the initial high cost of the technology. This situation is also referred to as low level of technology penetration.

This situation could be alleviated by increasing penetration of the more efficient technology through policy measures such as tax reduction on the technology. With increase in income or policy incentives CFL price will become affordable to the consumer and therefore enabling her/him to shift to a more efficient technology thus making savings on electricity consumption. The resulting savings may be used to either meet other basic human needs or increase energy consumption by buying more CFLs. In the case of the use of the savings to increase energy consumption this situation is referred to as take-back effect or rebound-effect. Take-back effect increases project emissions and must therefore be taken into account.

The above barriers may also have a combined effect. A combination of low incomes and high unit costs of technology means the consumer cannot afford sufficient energy for basic needs. This is the energy cost effect. It is a combination of physical access to an energy source or technology with a high unit cost of existing energy services.

Impact of Suppressed Demand on CDM

The computation of certified emission reduction (CERs) requires establishment of baseline (situation before the project activities) and monitoring of project activities including related activities, which result in emissions if applicable. Activities of the project and its impacts must be monitored in a transparent way through collection and recording of data as prescribed in the monitoring plan of the methodology to support the calculation of the project and leakage emissions. The CERS is the difference between baseline and project emissions, including leakage emissions associated with the activities of the project. This data will also be used by an independent entity (designated operational entity) to verify the claims of the project owner.

In low-income countries the consumption of a household may be constrained by income, technology and infrastructure barriers or a combination of the three. The desire of such households to meet their basic human needs remain constrained by these barriers. Figure 2 illustrates a hypothetical energy consumption of a household. The Fig. gives the following curves:

- Desired consumption curve, a proxy to the minimum service level of energy for lighting;
- Actual consumption (constrained consumption) curve; and
- Intervention (project consumption) curve; this illustrates the impact of the intervention (project) on the household energy consumption.

Most CDM methodologies use the constrained consumption curve, so called actual consumption, as the reference point (baseline) thus disadvantaging such projects. The computation of the carbon credits is based on the difference between the constrained consumption and the intervention consumption. Therefore the quantity of carbon credits is much lower and not attractive to investors. This approach ignores the fact that energy consumption of the household will inevitably increase with increase in income or increase in penetration level of more efficient lighting technologies. It could be argued that CDM projects reward polluters rather than those who take action to avoid emissions i.e. shifting to cleaner development path or low carbon development. The carbon credits should take into account suppressed demand; this would increase the quantity of carbon credits (difference between desired consumption and intervention consumption or **A-D**).

These countries should not pollute to access carbon financing. Avoided pollution must be recognized and accordingly rewarded. Therefore suppressed demand must be taken into account in low-income countries if CDM projects and other carbon market mechanisms are to contribute to sustainable development of these countries. It is important to note that implementation of the intervention with the suppressed demand complies fully with the sustainable development objective of the CDM. While there are methodological challenges the policy issues are clear and therefore Parties must continue to demand methodological responses to the suppressed demand issue.

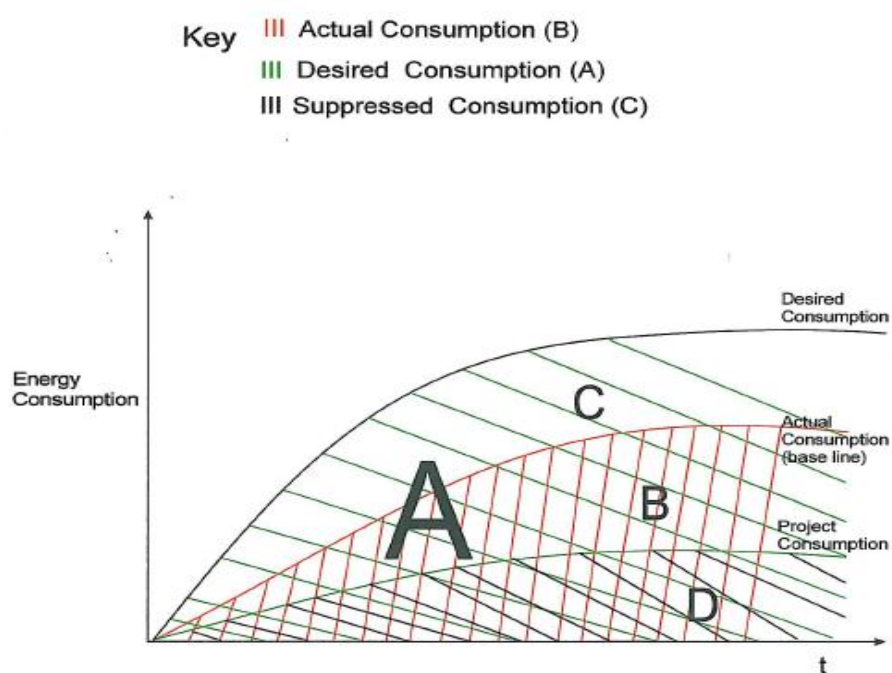


Figure 2. Impact of suppressed demand on CDM Project

The inclusion of suppressed demand in CDM projects will make them attractive as well as contributing to social and economic development and benefits to people in these countries. Projects, which take suppressed demand into account have direct social benefits by generating income that allows poorer groups to purchase goods and services; increase consumption of goods and services; connect to electricity grid and transportation services. Projects such as renewable energy, low-emission waste management, efficient production process and efficient vehicles or infrastructure have social benefits. Increase in CERs by inclusion of suppressed demand will promote more private sectors with strong social responsibility policy to support implementation of such projects.

Despite the uncertainties of the Kyoto Protocol and by implication the CDM, the European Union has taken a decision to continue buying CERs from LDC projects registered after 2012. LDCs should take full advantage of this opportunity by actively engaging in implementation of CDM projects. Suppressed demand is prevalent in LDCs. Actions to include suppressed demand in baseline and monitoring methodologies will increase the opportunity for LDCs to participate in the implementation of CDM projects. Also taking action on suppressed demand is consistent with the objective of the Convention and the Kyoto Protocol as well as other multilaterally agreed development goals including the Millennium Development Goals. Indeed such actions are cost effective because they respond to several multilateral agreements.

The Response to Suppressed Demand

The Procedures and Modalities of the CDM (Marrakech Accords) implicitly recognize suppressed demand. It is referred to as a “***scenario where future anthropogenic emissions by sources are projected to rise above current levels due to specific circumstance of the host Party***”. This recognition did not lead to immediate action. However, suppressed demand is now gaining recognition and acceptance.

The Conference of the Parties serving as a meeting of Parties to the Kyoto Protocol (CMP) in its decision 2/CMP.5 paragraph 35 encouraged the Executive Board to explore the possibility of including suppressed demand in baseline and monitoring methodologies. The CMP at its sixth session noted the action of the CDM Executive Board to address the suppressed demand issue and reiterated its call to CDM Executive Board to further explore the possibility of including suppressed demand in baseline and monitoring methodologies. Inclusion of suppressed demand in baseline and monitoring methodologies will make CDM projects more attractive, particularly in poor countries, thus contributing to sustainable development in low-income communities.

Although the action of the EB is positive, it must be operationalized in order to realize its full potential. This positive action of the EB must be brought to fruition through accelerated skills enhancement. The CMP may wish to allot some small start-up funds, which can be supplemented by voluntary contribution by Parties to fast track skills enhancement to apply the guidelines on suppressed demand as well as formulation of CDM projects. Indeed such an action would complement the EB loan scheme. While the EB is taking action the LDCs and African countries must also take action by applying the guidelines on suppressed demand in development of CDM projects. CSOs, particularly those already supporting CDM project development in these countries, and other institutions can play a key role in catalysing action on application of the guidelines on suppressed demand in LDCs and African countries.

The draft reports and presentation of this work to the LDCs and African groups at CMP7 in Durban enabled these groups to actively participate in the negotiations on suppressed demand. LDCs and African countries must take advantage of the opportunities through initiation activities.

Outcome of the CMP7

The CMP7 welcome the work undertaken by the EB to adopt guidelines on suppressed demand and requested the EB to accelerate the implementation of the guidelines on suppressed demand in baselines and monitoring methodologies, prioritizing those that are more applicable to LDCs, Small Island Developing States (SIDS), African countries and countries underrepresented in the CDM.

The CMP7 also requested the Secretariat, in consultations with the CDM Executive Board and in collaboration with the Nairobi Framework partners to enhance its

support for countries underrepresented in the CDM, particular LDCs, SIDS and African countries, by providing support, subject to workload and availability of resources, for inter alia:

- Skills enhance and training to assist designated national authorities, applicant and designated operational entities and project participants with regard to technical matters related to the CDM;
- Institutional strengthening through inter alia, support to designated national authorities in the development and submission of standardized baselines and micro scale renewable energy technologies that are automatically defined as additional; and
- Activities of designated national authorities and stakeholders in the implementation of the guidelines on standardized baselines and suppressed demand.

The CMP7 also requested the EB to allocate funds to support the activities of the secretariat in carrying out this work.

Although the paragraphs on regional distribution in the CMP7 decision, which contain the issues of suppressed demand, could have been stronger the outcome of CMP7 is positive and these groups of countries should take full advantage of this decision by enhancing their capacity on CDM project formulation and more specifically using the approved guidelines on suppressed demand. Generally there is good will to assist these countries.

Conclusion

In low-income countries suppressed demand is closely linked with poverty levels. Recognizing suppressed demand and taking action to include it in baselines and monitoring methodologies will improve the opportunity for low-income countries to participate in the implementation of the CDM. Indeed it provides an opportunity for income constrained communities to improve their living conditions through meeting their basic human needs. This clearly means that sustainable development is not being achieved; in that human needs are not being satisfied.

The actions taken by the CMP and the CDM executive Board are positive but must be implemented to realize their full potential. These positive actions must be brought to fruition by fast-tracking capacity building which must include:

- Skills enhancement;
- Institutional strengthening; and
- Systems development and their application (development of procedures and modalities and their application).

While the EB is taking action the LDCs and African countries must also take action by applying the guidelines on suppressed demand in development of CDM projects.

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