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CDM Executive Board /
UNFCCC Secretariat
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Call for Inputs

Proposal for an enhanced barrier test for project activities that have a potentially high profitability without CER revenues

Ladies and Gentlemen

We believe that any Executive Board work on an enhanced barrier test should exclude the retrofit market. This is because retrofit projects always face additional cost, financial & related risk barriers, which the CDM (via investment or CER revenues) can help to overcome, including:

- Capital cost of new equipment purchase (baseline would be continued use of existing equipment with no new equipment purchase cost);
- Project identification (e.g., audit), engineering and procurement-related costs that would not accrue under the baseline;
- Lost revenue from plant downtime during installation of new equipment;
- Performance risks associated with discretionary retrofits (plant managers are extremely reluctant to make modifications to properly functioning systems unless absolutely necessary, as there is always the risk that the new systems will not work optimally from the outset, leading to potential problems with product quality or delivery obligations, additional system engineering expense, etc.)

In other words, even if retrofit projects have relatively short payback periods, they still face additional cost, financial and risk barriers not faced in the baseline scenario that the CDM can help to overcome.

With respect to enhanced barrier analysis for greenfield projects, the draft text suggests that demonstration of “first-of-a-kind” can substantiate the validity of barriers. Two comments on this:

- This would appear to be already an element of the required “common practice test”, so perhaps the common practice test should be integrated into the barrier analysis.
- “First-of-a-kind” is too restrictive and other benchmarks should also be accepted (e.g., codes and standards; market penetration rate below a



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more reasonable threshold; key performance indicators). Market transformation is certainly not achieved by a single demonstration project – and the concept of “first-of-a-kind” is almost impossible to apply to anything but single technologies (not to systems, which would lend themselves to key performance indicator benchmarking).

In general, the draft gives too little guidance to both project developers and DOEs on what evidence is acceptable to demonstrate the validity of barriers, so it will be extremely difficult to apply in practice. More guidance should therefore be provided before approving such a proposal.

Most importantly, we recommend that the CDM Executive Board develop with expert input a dedicated tool to demonstrate the additionality of greenfield end-use efficiency projects/programs using barrier analysis for integration into large-scale methodologies, and exclude end-use efficiency projects from any requirement to apply a generic enhanced barrier test. Fewer than 20 Sectoral Scope 3 (“energy demand”) projects (only 10 of which are large-scale) have been registered to date, despite their huge cost-effective potential – and one of the major barriers has been the difficulty of demonstrating to the satisfaction of the CDM authorities that such projects are additional. Instead of making it even more difficult for end-use efficiency projects to be registered, the Board should provide specific guidance on demonstration of additionality tailored to the on-the-ground practicalities of such projects.

Such a tool would have to adopt the basic premise that barriers to end-use efficiency exist, which is well documented and evidenced by the fact that investments in end-use efficiency are not being made, despite their short payback periods¹. Such a tool might include the following elements:

- A Checklist of relevant, generic barriers to end-use energy efficiency. The Checklist should include a description/justification of each barrier, drawing on the extensive documentation available in the published literature. This would mean that common barriers would be well-documented/justified once from the top down and that each project would then only need to provide evidence that a barrier selected from the Checklist applies in the specific project context (without having to justify each time that the barrier is real, which is a large source of inefficiency and inconsistency in the current framework).
- Top-down pre-determination of additionality, based on barrier analysis for important large-scale project types (e.g., utility DSM programs, ESCO or leasing schemes, energy efficiency financing facilities, government procurement and municipal infrastructure investment

¹ New results from government-funded audits in hundreds of US industrial installations have uncovered large energy-saving potential, with the vast majority having payback periods < 2 years – and this is a common story worldwide (www.eere.energy.gov/industry/saveenergynow/partners/results.cfm)



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- programs, rebate/financial incentive programs, incentives under voluntary agreements...) – or specific guidance on how to demonstrate barriers for such programs. Some initial considerations regarding demonstration of additionality of utility DSM programs have already been elaborated (Arquit Niederberger & Fry, 2007), see Annex.
- Specific documentation requirements for barrier analysis of other project types that can be met without new analysis (e.g., documentation on use of government or GEF funds to provide incentives for such types of projects/programs would indicate additionality; market research that demonstrates that the project technology has a higher up-front capital cost than the baseline technology; official documents that show that the technology to be used in the project activity is more efficient than a mandatory standard, voluntary label or other widely used benchmark level would demonstrate additionality).

Given that the Executive Board continues to explore approaches to create a more enabling environment for implementing energy efficiency project activities under the CDM and has requested the secretariat to initiate work on ways of facilitating registration of energy efficiency activities under the CDM modalities and procedures, it is important to give special consideration to the demonstration of additionality of end-use energy efficiency projects/programs, which has been one of the main barriers to methodology approval and CDM registration of such projects.

Energy efficiency is one of the few project types that has potential in countries worldwide, including the poorest, so development of a dedicated additionality tool for end-use efficiency projects could improve the chances of Least Developed Countries, Small Island Developing States and sub-Saharan African countries to leverage carbon finance in the context of their development strategies. Ironically it is often in the poorest countries and regions within countries that the highest prices are paid for energy services, when they are available at all, so efficient use of energy can go hand-in-hand with economic development and contribute to poverty alleviation.

Sincerely

Anne Arquit Niederberger

Annex: Arquit Niederberger, A., and T. Fry, *An Eye on Demand*, *Environmental Finance*, Special Supplement, S52, November 2007.

An eye on demand

The CDM has done little to encourage demand-side energy efficiency – despite its large potential and low cost. **Anne Arquit Niederberger** and **Terry Fry** consider what should be done

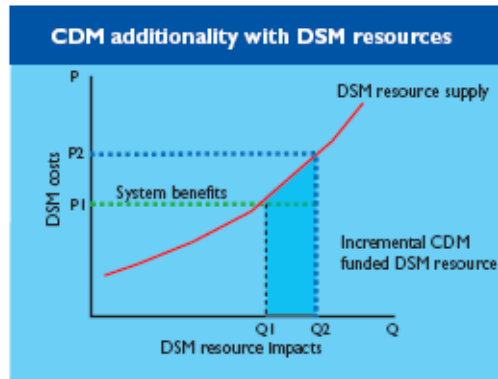
With the exception of waste heat/gas use in industry, the Clean Development Mechanism (CDM) has done little to encourage investment in energy efficiency, despite large, cost-effective mitigation potential.

The CDM Executive Board has recognised this problem and began targeted consideration of energy-efficiency projects under the CDM, including approaches to create a more enabling environment, at its 31st meeting. At EB 32 (June 2007), the board asked the UN Framework Convention on Climate Change secretariat to initiate work on ways of facilitating registration of such activities under the CDM. Simultaneously, the board has issued procedures and guidance for CDM programmes of activities (PoAs), which are potentially well suited to support large-scale energy-efficiency programmes (see pages S50–S51).

One promising vehicle for scaling up investment in end-use efficiency is implementation of demand-side management (DSM) programmes by utilities or other parties serving as the managing entity of a CDM PoA.

DSM is a term that was coined in the 1970s and refers to actions that influence the quantity or patterns of use of energy consumed by end users. Many DSM programmes were implemented after the 1973 energy crisis, and they are increasingly popular today for economic and environmental reasons, as well as to alleviate system reliability concerns due to rapidly growing (peak) demand, particularly in developing countries. The Indian Ministry of Power, for example, is planning a CDM programme to replace 400 million incandescent light bulbs with compact fluorescent lamps.

The benefits of broadly implemented programmes have led to policies that consider DSM as a utility system resource – on a par with supply-side generation resources – and which may complicate consideration of additionality under the CDM. The practice of DSM resource acquisition rests on definition of a 'total resource cost'



(TRC) test. The TRC measures the net costs of a demand-side management programme as a resource option, based on the total costs of the programme, including both the participants' and the utility's costs, compared to the avoided utility system capital investment and energy supply costs. A variant on the TRC test is the 'societal test', which includes the effects of externalities (eg, environmental, national security), and uses a different (societal) discount rate.

The figure illustrates the DSM resource acquisition dynamic and how CDM issues may interact. Utilities acquire DSM resources through broad programmes funded by systems benefits charges (SBC, sometimes also known as public goods charges) set at or below the level of avoided system costs. At an SBC price of P_1 , the utility system will expect to acquire a DSM resource of quantity Q_1 . Chinese officials, for example, are examining study recommendations that China's Jiangsu Province can acquire an "efficiency power plant" of more than 12,000MW over a 10-year period (and save more than 600,000 tons of carbon dioxide annually) by using utility-implemented SBC funds.

So how is utility DSM resource acquisition to be treated under the CDM? The CDM Executive Board decided at its 22nd session (in November 2005) to exempt national and sectoral policies that give comparative advantage to less emissions-intensive technologies (including pub-

lic subsidies to finance DSM programmes), if the policies were implemented after 11 November 2001.

However, the Executive Board has yet to articulate clearly how additionality issues in the context of SBC-funded DSM PoA will be addressed. There are two basic options to address additionality under the CDM for countries with DSM programmes already in place, consistent with the board's prior decision:

- declare all DSM resource acquisition from DSM programmes established after November 2001 to be additional; or
- limit CDM crediting to only those DSM resources acquired above the level that the available SBC funding would achieve. DSM experts have for years advocated SBC-funded policy implementation on the rationale that it simply levels the playing field for DSM resources to compete with traditional supply-side utility resources – rather than providing a comparative advantage. From the latter perspective, eligibility under the CDM might start at price P_1 and with the additional acquisition of DSM resources – made possible by additional CDM investment ($P_2 - P_1$) – defined as the difference in energy savings $Q_2 - Q_1$.

For countries that have not yet implemented DSM resource acquisition policies, their adoption should be encouraged under the CDM. This could be achieved by allowing full crediting of DSM resource acquisition, either indefinitely or for some predefined transitional period (after which the incremental resource approach would be applied). Appropriate exemptions could be made for lower per capita income countries.

It is important to facilitate carbon finance for energy efficiency investment and equally crucial that CDM credit markets value only additional emission reductions that would otherwise not have taken place. The optimal policy solution is worthy of further (and expeditious) discussion. The present lack of clarity creates a disincentive for countries to act on DSM policy and implementation, generating significant lost opportunities in terms of cost-effective energy savings and greenhouse gas emission reductions. Time is of the essence.

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