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Energy Efficiency Projects *in CDM :*

Highlights from a UNIDO Seminar

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Content of this presentation

- Energy efficiency is crucial for climate change mitigation
- CDM is failing demand side energy efficiency in industry
- Lack of replicable methodologies is a constraint
- Most industrial efficiency projects fall under 60GWh energy savings limit for SSC
- Barriers to SSC projects continue to exist
- Non-financial barriers should be addressed in technical work

Why focus on Energy Efficiency?

End use efficiency is crucial for climate change mitigation…

- Current trend in GHG emissions is unsustainable: World Energy Outlook for 2006 anticipates more than doubling of energy-related CO2 emissions from 1990 to 2030;

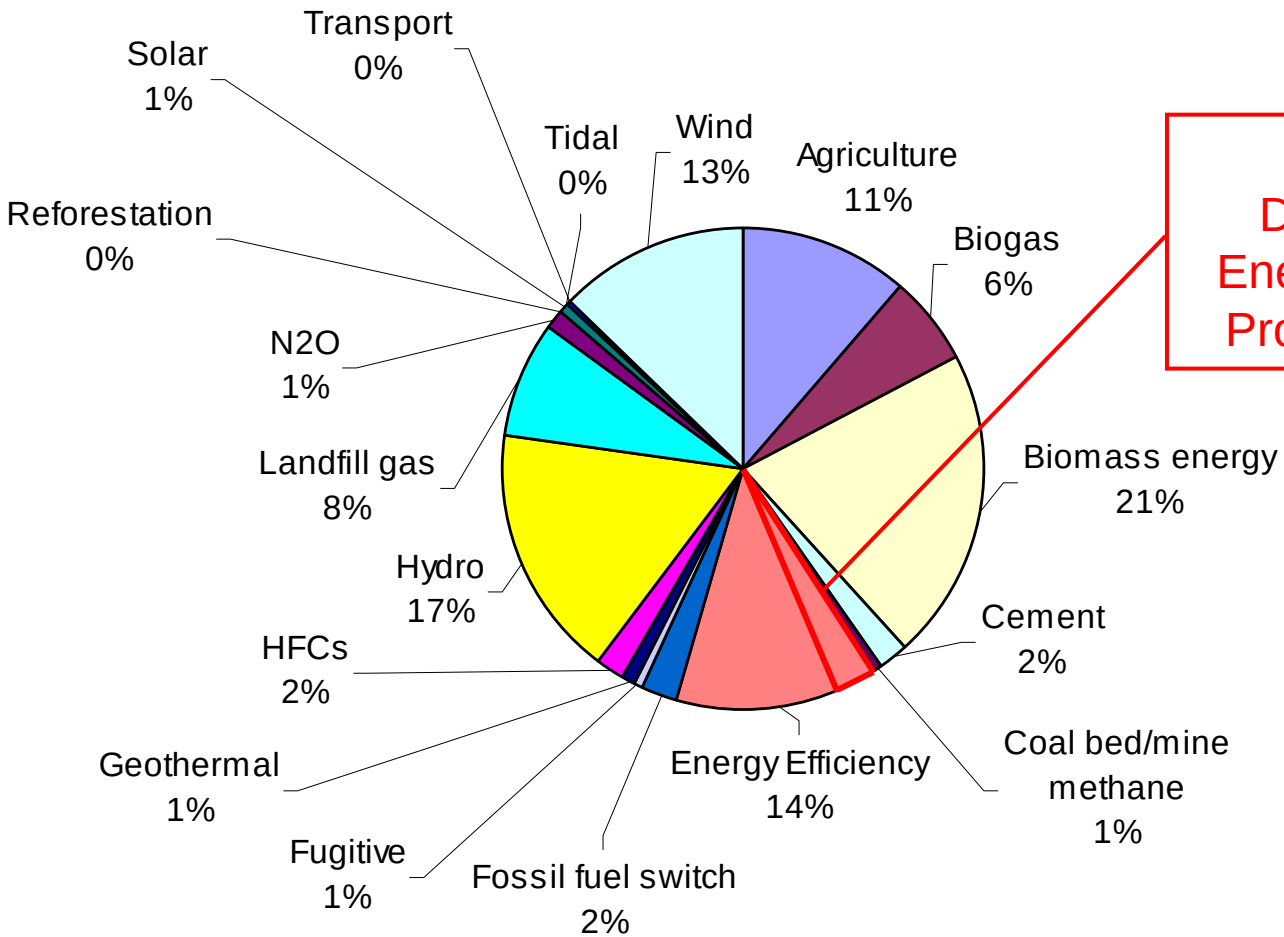
- Recent energy scenarios (e.g. IEA, IPCC) converge in demonstrating that demand-side energy efficiency will have to carry most of the weight in climate mitigation; end use efficiency accounts for 65 per cent of energy-related CO2 abatement in 2030

- CDM (and JI) have been expected to address barriers to energy efficiency, particularly financial barrier. A number of countries (e.g.. China) made energy efficiency a national priority

CDM has not so far has not met expectations with regard to demand side energy efficiency

- Among the approved CDM projects (827), on-site generation CHP and waste heat/gas to energy projects are well represented (about 10 per cent)
- Only 13 small-scale and 8 large-scale projects aim at improving the efficiency of energy end-use (i.e. Sectoral Scope 3)
- The approved end use energy efficiency projects represent only slightly more than 2 per cent of total number of registered projects

Registered Projects by Sector



Registered Demand-side Energy Efficiency Projects = 2.5**%!**

Lack of replicable approved methodologies is a constraint …

One of the barriers to energy efficiency projects in CDM is lack of suitable approved baseline and particularly monitoring methodologies for large-scale projects: 5 large scale methodologies approved:

AM17 Steam system efficiency improvements

AM18 Steam system optimization

AM20 Water pumping efficiency

AM38 Efficiency of electric arc furnaces

AM46 Distribution of efficient light bulbs

AMS-II.C. Demand-side energy efficiency activities for specific technologies

AMS-II.D Energy efficiency and fuel switching measures in industrial facilities

AMS-II.E. Energy efficiency and fuel switching measures for buildings

Methodologies (cont'd)

Energy efficiency methodologies category suffers from high rate of rejection

11 methodologies rejected: petrochemical industry, smelter upgrade, cement, unitary equipment replacement, brewery optimization, process energy integration, efficient utilization of energy in fuel, power and steam form, advanced SCADA control systems and energy management)

Most common reasons for rejection: failure to select appropriate project scope/specify how methodology can be applied in different sectors; provide a procedure to select baseline scenario, define project boundary;specify data and assumptions; account for planned replacement and free riders; take account of all factors that could effect future emissions; distinguish between energy efficiency markets, e.g. retrofit, planned replacement and new equipment)

Approved methodology scopes reflect market niches of large buyers; little incentive for developers to invest in energy efficiency methodologies

Most industrial efficiency projects could be conducted under the new 60GWh limit

While a large number of small-scale projects have been registered in other project categories, the industrial demand side efficiency small scale projects are only 13 (1.5 per cent of the total);

Yet, this project category is particularly relevant for industrial energy efficiency projects that deal with motor and industrial system efficiency improvements under the CDM

Given a very small scale of vast majority of industrial energy efficiency projects (<10kTCO2e), the transaction costs of PDD remain a key consideration for their development, even with approved small scale methods and simplified modalities and procedures

Barriers to SSC industrial energy efficiency projects continue to exist

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Why don't we see more SSC industrial energy efficiency projects?

- Lack of awareness of energy efficiency opportunities in host country industrial sector;
- Unfamiliarity with CDM and scopes and procedures under SSC category;
- Access to finance for underlining investment/lack of knowledge on how to structure financial package using carbon financing;
- Burden of preparation of PDD falls on to individual enterprise/not their core business activity;
- CERs may not cover transaction costs;

Non-financial barriers: Additionality in energy efficiency projects

- To qualify for CDM, energy efficiency project must demonstrate additionality;
- The fact that investment in energy efficiency is cost effective, should not be taken to mean that the project is non-additional: on the contrary the fact that such investment was not made is a sign that there are barriers;
- List of barriers in additionality tool and combined tool do not contain specific barriers to demand side energy efficiency projects;
- More work on barrier analysis is needed

Non-financial barriers: Discrete equipment vs. systems approach

Energy efficiency in some types of equipment is relatively independent, but more often than not taking systems approach can bring greater energy efficiency savings potential

Although some approved methodologies take both, systems and discrete equipment approaches (AM17, AM18, AM20), methodologies for more complex system optimization projects in cement and building efficiency have been rejected

Due to lack of approved methodologies that address systems, project developers chose to focus on the retrofit of discrete equipment to avoid methodological difficulties of addressing complete systems, even though much greater CER generation would be possible by taking system approach

Programmatic CDM should reflect the nature of programmes that target energy efficiency

Programmatic CDM is a new concept and hopes have been expressed that it would help the uptake of CDM projects;

Its current definition states that:

"A local/regional/national policy or standard cannot be considered as CDM project activity, but that project activities under a programme of activities can be registered as a single CDM project activity"

In other words, the adoption of a standard cannot be submitted as CDM project, but the activities that constitute the actual implementation of that standard should be considered as CDM

Addressing uncertainty and error to maintain environmental integrity

Rigor must be maintained, but balanced against results

Rigor means taking care of error for M&V activities and defining a level of expected reliability of energy savings and emission reductions;

There is a great number of knowledge embodied in existing and approved standards and protocols and standards, such as IPMVP, ISO 14064-2, WBCSD Accounting and Reporting Standard, utility developed and approved M&V protocols

Greater guidance is needed to bring this knowledge into the process

For more information

Issue Papers/Presentations/Logistics

http://www.unido.org/en/doc/61189

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Thank you!