

Background Paper

Sustainable Energy Technology at Work (SETatWork) project
Co-funded by the EU under the 7th Framework Programme

"Matchmaking event between CDM project developers & EU stakeholders in the field of Energy Efficiency (EE) and Energy Saving Technologies (EST)"

**15-16 March 2010,
Inspire Hall, Hotel Le Meridien, New Delhi, INDIA**

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Background

The developmental trajectory in the post-industrial revolution world has always been closely associated with increasing use of continuously advancing technologies. An effective utilization and expansion of resource endowments, central to industrial development, has been made possible by the advancements in the field of innovations concerning development and deployment of modern technologies. It is no wonder, therefore, that countries which have yet to realize their full development potential are so keen on technological progress.

Historically countries have achieved various levels of technological advancements in a step-by-step manner, even though individual experiences have been different with respect to the success of their efforts. As a result different countries enjoy different levels of technological strengths. So far the efforts have been driven by purely economic imperatives i.e. higher productivity and growth, competitiveness, cost effectiveness, economies of scale and so on. While these concerns are critical, and play an important role in technological choices, the challenges posed by climate change require countries to speed-up their technological transitions. This is more relevant to countries which are already in the transition phase. An additional constraint imposed on their technological trajectory is that the technologies these countries are to promote have to also advance environmental sustainability in addition to allowing efficient use of resources and enhancing productivity.

The challenge of climate change has made a case for international cooperation to promote the deployment of efficient technologies, in addition to a greater national focus on modern technology. It has become essential that future economic development requires increasingly lesser resources, while ensuring practices that do not add to the green house gases' (GHGs) concentration in the atmosphere. In this context renewable energy and energy efficient technologies have become the key. While the renewable energy options are clearly the preferred strategy, the concerned technologies are yet to either mature or become economically viable so that they can be deployed at the required scale. Thus, the deployment of the most efficient available technologies is essential for immediate action and buying time for making renewable options economically viable. This, in turn implies need for international flow of energy efficient technologies from one country to another.

SETatWork: The Project

The project **SETatWork - Sustainable Energy Technologies at Work** aims to promote international flow of technologies through collaboration and partnerships between organisations in European Union (EU), Asia, and South America, supported by the EC's Seventh Framework Programme (FP7). The main objective of the project is to identify the areas

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of common interest between the EU and other developing countries on the basis of which industries and governments benefit from each-other's experience, in addition to identifying the concrete and precise technologies in which business in developing countries can benefit from business in EU, and addressing issues relating to their transfer. In the process EU companies can benefit from meeting their emission targets by low cost interventions in developing countries. Overall, the project aims to achieve following objectives:

- To extract key lessons from market activities and promotional work focusing on energy efficiency and savings in order to identify how to inspire market actors and carbon market regulators,
- To catalyse sound market operations in terms of technology uptake by assisting ETS companies in identification of energy efficiency and saving opportunities,
- To promote the use of energy efficiency, energy saving and other sustainable energy technologies by identifying and promoting good practice case studies,
- To identify existing and potential energy efficiency and saving projects in EU ETS industry sectors as a basis for subsequent match-making,
- To identify CDM projects in China, India, South East Asia, Latin America/Brazil and Chile within the given technology scope,
- To support technology transfer from Europe and local sustainable development
- To organise match-making events as forums for bringing rational use of energy (RUE) in industry based projects into practice and to bring parties together in order to catalyse realisation of projects and business deals - the SETatWork project's facilitator function

To identify the training needs of EU ETS industries and provide both technical and management training in order to assist industries to rationalize and reduce their use of energy

The Indian Context

India's developmental imperatives are rooted in low per capita energy consumption as compared to OECD countries. India consumed 510 kg of oil equivalent (kgoe) per person of primary energy in 2006 compared to 7740 in USA and the world average of 1800.¹ The country's pursuit of its developmental goals and its plans for maintaining high economic growth would inadvertently call for a rapid increase in commercial energy required to fuel the higher levels of economic activity as well as accommodate rising energy aspirations concomitant with higher levels of urbanisation and adoption of modern lifestyles. Most of this demand is going to come from the industry sector which is the highest energy consumer followed by the transport and

¹ Draft NMEEE document, BEE, Government of India.

residential sectors. On the supply side, coal, oil and natural gas are the three primary commercial energy sources. Coal is the largest source of energy accounting for a share of 53% in the total commercial energy supply. While these energy resources add to the challenge of climate change, the overall resource augmentation and growth in energy supply have not kept pace with the increasing demand and, therefore, India continues to face serious energy shortages.

Thus India faces a twin challenge of narrowing the energy demand-supply gap and avoiding GHG emissions. Given that the energy service demand growth rates will keep on increasing because of accelerated industrialization, urbanization, and an emerging consumer society, energy efficiency across all sectors of the economy is essential to enable decoupling of energy supply growth from economic growth, while ensuring that energy service demands are met. In response, there have been many initiatives to promote energy efficiency in India. For example, the Energy Conservation Act (2001) established a national Bureau of Energy Efficiency (BEE) with the objective of improving EE in various sectors. BEE has developed EE labels for refrigerators and other electrical appliances, conducted mandatory energy audits of large energy-consuming industries, developed demand-side management programs, and established benchmarks for industrial energy use. The Act empowers the State Governments to facilitate and enforce efficient use of energy and its conservation through their respective State Designated Agencies in consultation with the BEE. Similarly the Integrated Energy Policy (IEP) lays emphasis on energy conservation and efficiency, particularly through Demand Side Measures (DSM). It estimates that 15% energy saving is possible by such interventions. Under the National Action Plan on Climate Change (NAPCC), the Ministry of Power and the BEE are in the process of drafting the National Mission on Enhanced Energy Efficiency (NMEEE), which is expected to be adopted soon.

However, these domestic initiatives are likely to face major challenge in availability and accessibility of efficient technologies. Transaction costs involved in identification of suitable technologies and suppliers pose a significant hurdle in the process. In the context of international technology transfer, this process is rather complicated. It is evident in the fact that despite having the maximum number of registered CDM projects, the instances of international technology transfer from other countries to India are comparatively less. Considering that about 60% of the demand-side energy efficiency projects registered in CDM are in India, limited transfer of technology transfer indicates that that India might be losing out on the potential of energy efficiency enhancement that is available. It is this caveat that the project SET@Work aims to address through the 'Match-Making Event'.

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The match-making event

The global society is faced with a huge challenge in order to meet the threat given by global warming. **SETatWork** aims to meet this challenge through the collaboration and partnerships between organisations in EU, Asia and South America. A key project task consists in identifying Clean Development Mechanism (CDM) projects in markets in China, India, South East Asia (focus on Thailand), Africa and Latin America (focus on Chile) in combination with the transfer of European technology and know-how. Part of this activity will be to promote concepts like CDM programmatic approaches that imply good perspectives for improving the CDM, especially in the field of energy efficiency.

It is to meet his objective that the event has been organized. The event aims to not only reach to the potential CDM project developers but also to invite the project developers who have successfully got their projects registered to share their experience and interact with the carbon credit buyers. The project also highlights the good case studies spread across the target countries for further dissemination. The specific objective of the event is to create a platform for close interaction between:

1. CDM project developers in India,
2. Sellers and buyers of carbon credits,
3. Sustainable Energy Technology providers and
4. Industries in EU-ETS

by highlighting the technologies needed and the technologies available in developed countries to promote energy efficiency in India by facilitating Business-to-Business (B2B) meetings. The event will also identify key project developers whose profile will be shared with the consortium to facilitate further interactions.

The participants will also be informed about the facilities available on the project website at <http://www.setatwork.eu> wherein they can register their company and benefit from the technological interventions available.