



# National Mission for Enhanced Energy Efficiency

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# NATIONAL MISSION ON ENHANCED ENERGY EFFICIENCY (NMEEE)



- The National Action Plan on Climate Change was released by Honorable Prime Minister of India in June 2008
- The Action Plan Outlines **8 Missions** including National Mission on Enhanced Energy Efficiency (**NMEEE**)



## NMEEE – Four New Initiatives

Para 4.2 of the National Action Plan on Climate Change mandates:

- A market based mechanism to enhance cost effectiveness of improvements in energy efficiency in energy-intensive large industries and facilities, through certification of energy savings that could be traded. (**Perform Achieve and Trade**)
- Accelerating the shift to energy efficient appliances in designated sectors through innovative measures to make the products more affordable. (**Market Transformation for Energy Efficiency**)
- Creation of mechanisms that would help finance demand side management programmes in all sectors by capturing future energy savings. (**Energy Efficiency Financing Platform**)
- Developing fiscal instruments to promote energy efficiency (**Framework for Energy Efficient Economic Development**)



## Mission Goals



- Market-based approaches to unlock energy efficiency opportunities, estimated to be about Rs. 74,000 crores
- By 2014-15:
  - Annual fuel savings in excess of 23 million toe
  - Cumulative avoided electricity capacity addition of 19,000 MW
  - CO<sub>2</sub> emission mitigation of 98 million tons per year



# Mission Document Preparation Process

- Broadbased steering committee, with representation from various Ministries, CII, FICCI, NGOs, and academia
  - Two working groups prepared detailed approach papers
  - Consolidated approach paper put on BEE website for comments
  - NGO (Prayas Energy) organized public discussion on approach paper in Mumbai
  - Comments taken into account by subcommittees while finalizing mission document
  - Working group reports synthesized into draft Mission Document
- Review by Ministries; discussion in PMO; Document finalized after incorporating comments



# Perform, Achieve & Trade (PAT) Mechanism



- **Specific Energy Consumption (SEC) reduction targets for the 685 energy-intensive units which are designated consumers under the Energy Conservation Act**
  - Targets would be percentage reduction of current SEC
  - Percentage reduction requirement based on:
    - Current SEC as a ratio of the best in the sector
    - Mix of fuels used
  - Target setting for the power generation and fertilizer sectors through the existing tariff-setting processes
  - SEC measurement and verification by BEE through accredited auditors

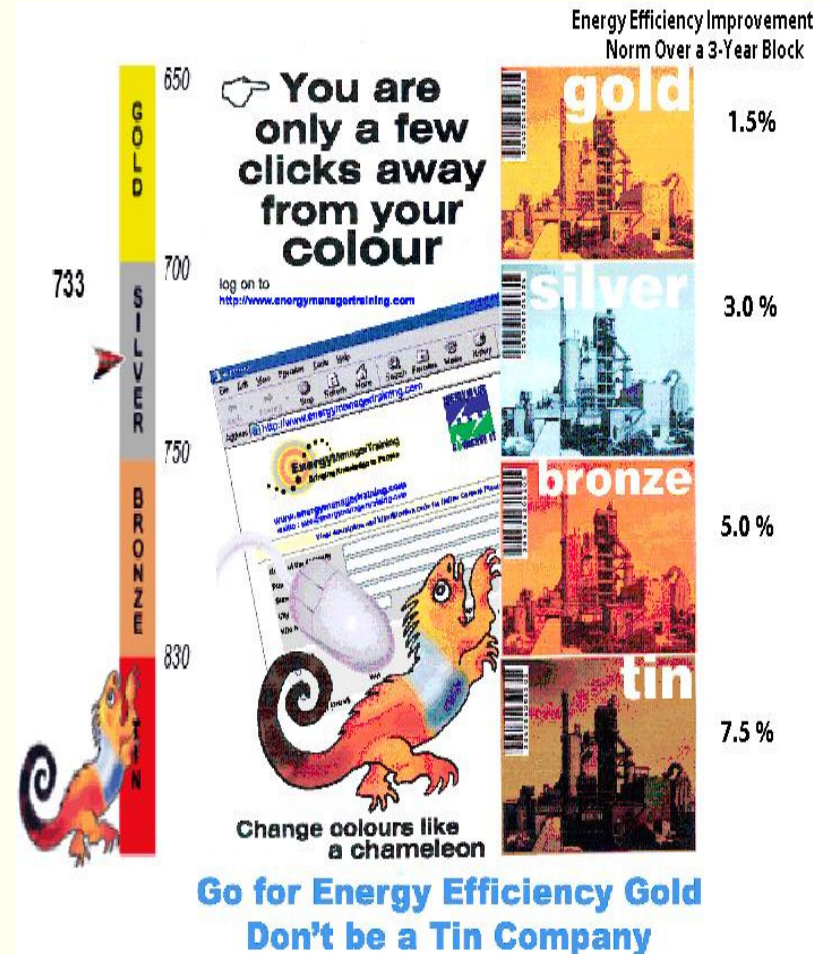
Industry Sector	No. of Identified DCs
Aluminum	11
Cement	92
Chlor-Alkali	21
Fertilizer	22
Pulp & Paper	70
Power	154
Iron & Steel	110
Textiles	197
Railways	8



# PAT - Setting Energy Consumption Norms



- Not feasible to define a single norm/standard unless there is significant homogeneity amongst units in a sector
- Energy efficiency improvement targets would have to be *almost* “unit specific”
- Bands of differential targets to be created within sectors
- Each DC mandated to reduce its SEC by a fixed percentage, based on its current SEC within the sectoral bandwidth





# PAT - Energy Savings Certificates will incentivize actions



- Issuance of Energy Savings Certificates (ESCerts) to units for energy-efficiency improvements in excess of their targets
- ESCerts can be traded, and used for compliance
- Trading can be carried out bilaterally, or on special platforms in the power exchanges
- Fungibility with Renewable Energy Certificates can be provided
  - Conversion factor (kWh to toe) to be determined
  - Joint group of agencies to agree to the linkage, compliance and reconciliation processes
- PAT mechanism would require amendments to the Energy Conservation Act
  - Designated consumers to be able to show compliance through procurement of ESCerts
  - Financial penalty for non compliance to be linked to quantum of non compliance





## PAT – current status



- 685 units in 9 energy intensive sectors notified as Designated Consumers under EC Act. They sectors are: Aluminum, Cement, Iron & Steel, Chlor Alkali, Thermal Power Plants, Fertilizer, Pulp & Paper, Textiles and Railways.
- The studies for fixing of targets in all 9 industrial sectors are underway and will be completed by Dec, 2010.
- The protocols for trading, monitoring and verification will be set up by Dec, 2010
- Notifications for Accredited Energy Auditors under examination
- Amendments to EC Act : Passed in Lok Sabha & Rajya Sabha



# Market Transformation for Energy Efficiency (MTEE)



- Leveraging international funds for promoting energy efficiency
  - Project preparation to utilise bi-lateral/multilateral funds for energy efficiency
- Implementing a National Energy-Efficiency CDM Roadmap
  - Public sector leadership and involvement for aggregation of projects
  - Programmes of Activity for Household lighting, Municipal DSM (Mu DSM), Agriculture DSM (Ag DSM), SME sector, Commercial Buildings sector and Distribution Transformers.
  - Preparation of new CDM Methodologies



## MTEEE – current status



- The Programme of Activities (PoA) to leverage CDM for agriculture and municipal sectors under development.
- The Bachat Lamp Yojana PoA got CDM registration in June 2010
- CDM Road map is under development and to be issued shortly
- New Program : Super Efficient Equipment Program (SEEP)



# Energy Efficiency Financing Platform (EEFP)



- Ensuring availability of finance at reasonable rates for energy efficiency project implementation- Expansion of EEFP to include other FIs and public and private sector banks
- Create demand for energy efficiency products, goods and services- awareness, public policy, facilitation/ stimulation by preparation of bankable projects and markets
- Promotion of ESCOs – accreditation by CRISIL/ ICRA
- Credible monitoring and verification protocols to capture energy savings
- Capacity building of banks and FIs



## EEFP – current status



- Energy Efficiency Services Ltd. (EESL) has been created as a corporate entity to provide market leadership
- 35 ESCOs have been rated; another 30 under consideration
- Investment-grade energy audits being prepared for government buildings, municipalities, and SMEs
- PTC India Ltd has commenced financing of ESCO based projects at Rashtrapati Bhavan, ESIC hospitals, AIIMS, and municipalities
- SIDBI has initiated exercise for financing projects in SMEs



# Framework for Energy-Efficient Economic Development (FEED)



- Providing comfort to lenders by provision of
  - Risk guarantee for performance contract Partial Risk Guarantee Fund (PRGF)
  - Venture Capital Fund for Energy Efficiency (VCFEE)
  - Initial seed capital from Government budget-can be expanded by contributions from other agencies as well.
  - The two instruments may be used for promoting energy efficiency in manufacturing of energy efficient products in SME sector, and financing of ESCO projects
  - Fund can be managed by the institutional framework of EESL
- Incentives to Central Public Sector Undertakings (CPSUs) to take up energy efficiency
  - Policy guidance to CPSUs to take up energy efficiency project-special parameter (to be called Energy Efficiency Performance Index (EEPI) on the line of KPI) may be added to the MoU guidelines from 2010-11
  - Promoting Energy Efficient Public Procurement



## FEED – current status



- Guidelines for procurement of energy efficient appliances and services by public authorities under consideration of Government
- To enhance energy efficiency measures at utility level, BEE is working with the DSM Working Group of the Forum of Regulators (FOR) to overcome regulatory barriers and enable utilities to undertake DSM. Draft report has been prepared and is to be discussed by FOR



# Overall investment in NMEEE and the Expected Impact



S.No	Initiative	Investment Estimated (Rs. crores)	Fuel Saving (Million tons of oil equivalent)	GHG Emissions saving (million tons)	Avoided Capacity (MW)
1	PAT	30,603	9.78	26.21	5623
2	DSM (including Agriculture DSM)	44,000	13.22	72.75	14335
	<b>Total</b>	<b>74,603</b>	<b>23.00</b>	<b>98.96</b>	<b>19,958</b>





***Thanks ....***