

# Perform, Achieve & Trade – A Market Mechanism to Enhance Industrial Energy Efficiency

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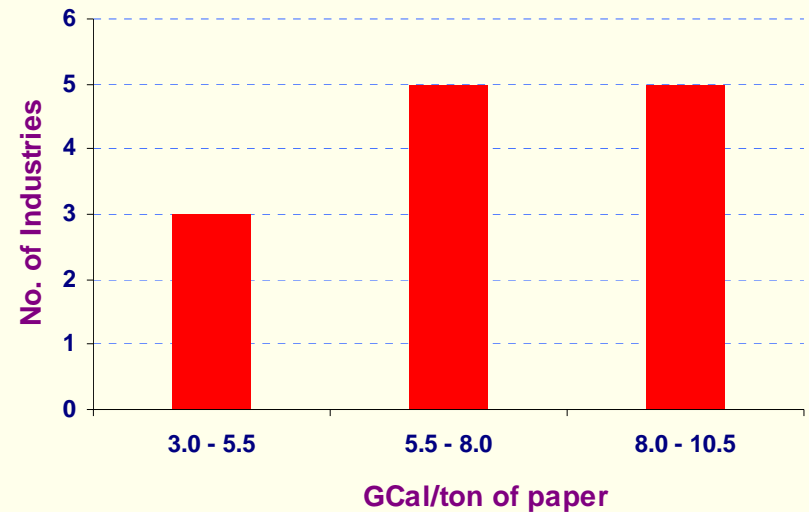
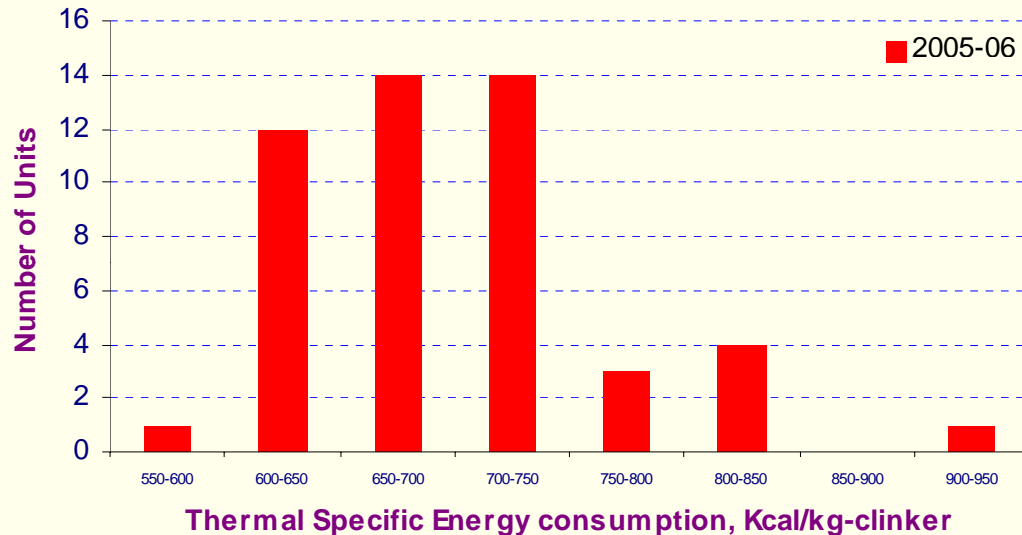
## Competition drives industrial energy efficiency, but ...

- Industry is risk averse to the early adoption of new technologies
- In developing countries, where new-plant addition rates are high,
  - Capacity expansion is often more profitable than investment in energy efficiency
  - Financially depreciated plants – which are older and less efficient – can compete with newer plants which have to be more efficient

## Reduce Energy Intensity of High Energy Consuming Units

- EC Act provides list of energy intensive industries and other establishments to be notified as designated consumers (DC)
- DCs are required to
  - Appoint or designate energy managers
  - Get energy audits conducted by accredited energy auditors
  - Implement techno-economically viable recommendations
  - Comply with energy norms
  - Submit report on steps taken

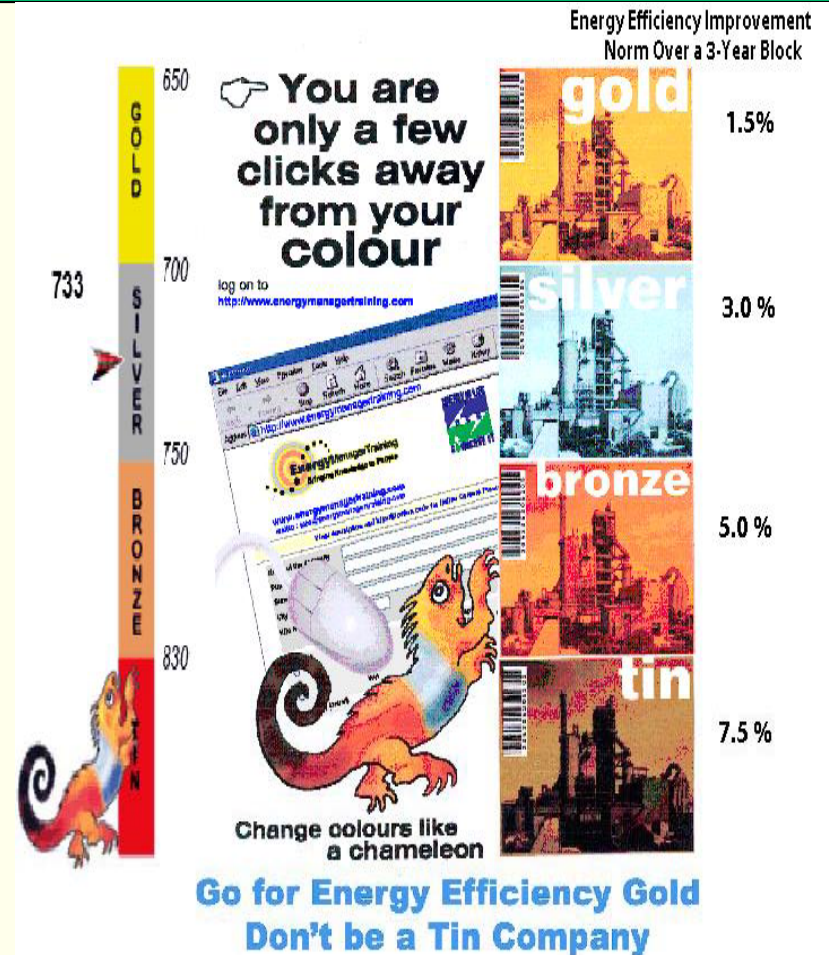
# Huge Diversity in Specific Energy Consumption within sectors



- Large bandwidth in specific energy consumption in all sectors
- In almost every sector, the most energy-efficient unit is also amongst the most efficient units in the world

# 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





## The National Mission on Enhanced Energy Efficiency – 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 714 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

## 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

- 714 units in 9 energy intensive sectors notified as Designated Consumers under EC Act. The sectors are: Aluminum, Cement, Iron & Steel, Chlor Alkali, Thermal Power Plants, Fertilizer, Pulp & Paper, Textiles and Railways.
- Baseline studies are underway and will be completed by June 2010.
- Methodology for target setting under preparation
- The protocols for trading, monitoring and verification will be set up by July, 2010
- Notifications for Accredited Energy Auditors under examination with Ministry of Law
- Amendments to EC Act to be introduced in this session of Parliament

## PAT – Next Steps

- Consultations with industry on
  - Boundaries for target setting in each sector, and associated measurement & verification protocols
  - Methodology for target setting
  - Design of the trading scheme
- Notification of targets and operational rules
- Notification of designated verifiers
- Creation of trading mechanism