



# Deepening & Widening of PAT Scheme and Provisions of EC Act Applicable to DCs



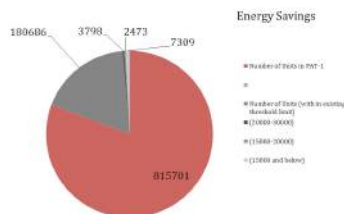
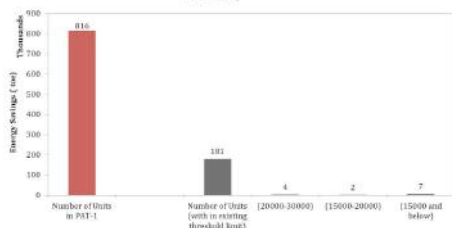
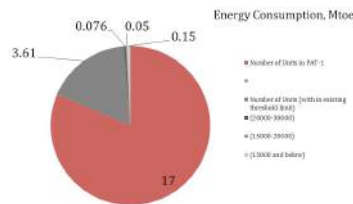
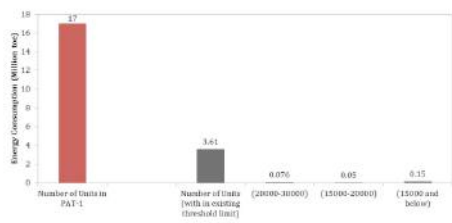
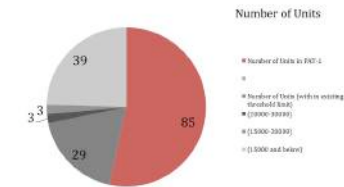
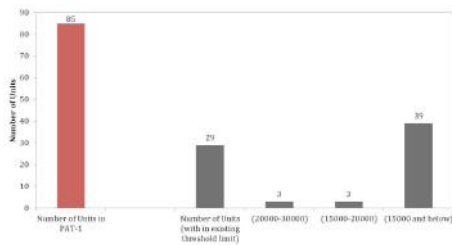
## Deepening & Widening of PAT Scheme

# Deepening of PAT

Sr. No.	Sector
1	Aluminum
2	Cement
3	Chlor-Alkali
4	Fertilizer
5	Pulp & Paper
6	Thermal Power
7	Iron & Steel
8	Textiles

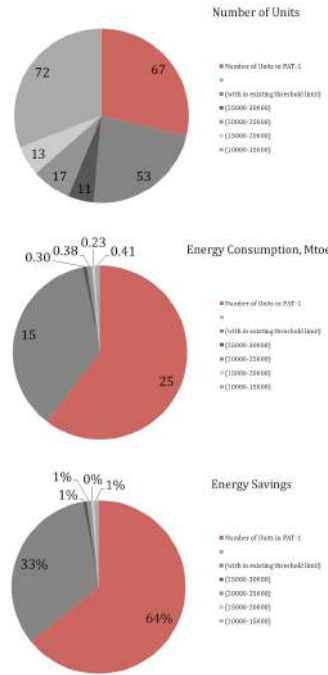
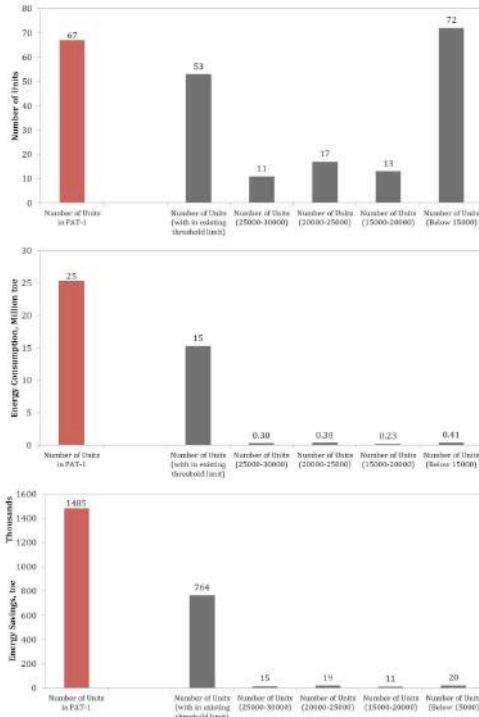
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## Cement



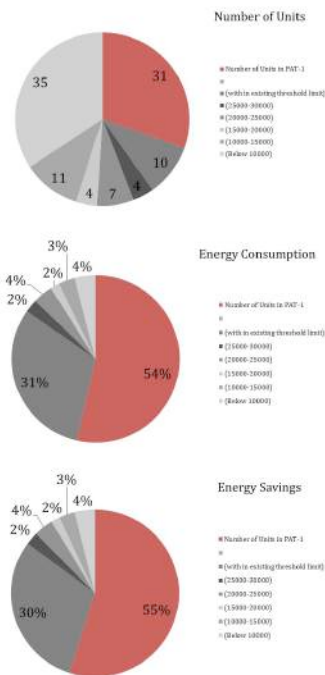
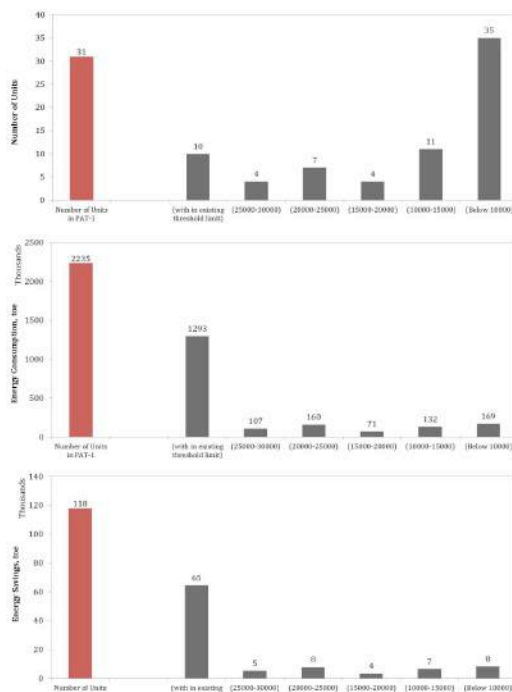
Significant scope of additional saving 22% from 29 units without Deepening

# Iron and Steel



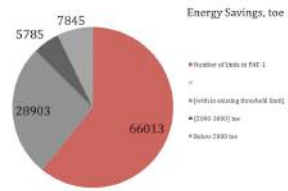
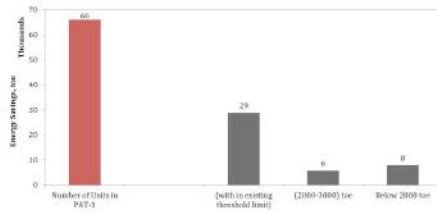
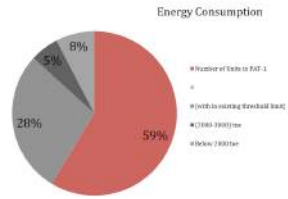
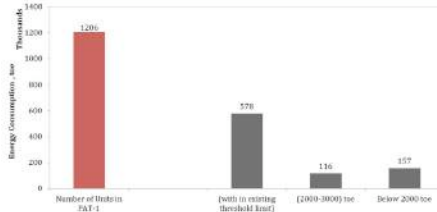
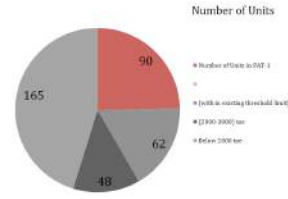
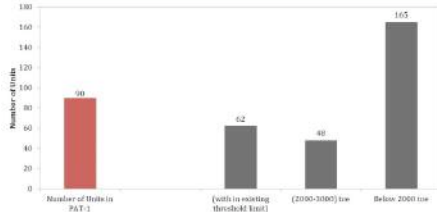
Significant scope of additional saving 51% from 53 units without Deepening

# Pulp and Paper



Significant scope of additional saving ~55% from 10 units without Deepening  
 With Deepening there are scope of adding 12% more saving from this sector

# Textile



Without Deepening, Scope of 62 adding new units; adding 44% more savings

# Summary

Sector	Existing Threshold limit (toe)	Number of DCs in PAT-I	Same Threshold limit (toe)	Number of plants proposed for PAT	Savings from plants in TOE
<b>Cement</b>	30,000	85	30,000	29	180,686
<b>Steel</b>	30,000	67	30,000	59	773,864
<b>Pulp and Paper</b>	30,000	31	30,000	9	64,629
<b>Textile</b>	3,000	90	3,000	69	28,333
<b>Total</b>		<b>273</b>		<b>166</b>	<b>1,047,512</b>

# Widening of PAT

## Schedule to EC Act: List of Energy Intensive Industries and other establishments

- Aluminium;
- Fertilizers;
- Iron and Steel;
- Cement;
- Pulp and paper;
- Chlor Akali;
- Sugar;
- Textile;
- Chemicals;
- Railways;
- Port Trust;
- Transport Sector (industries and services);
- Petrochemicals, Gas Crackers, Naphtha Crackers and **Petroleum Refineries**;
- Thermal Power Stations**, hydel power stations, **electricity** transmission companies and **distribution companies**;
- Commercial buildings or establishments;

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# Widening of PAT

Sector	Threshold limit
Petroleum Refineries	Annual Energy consumption of <b>90,000 mtoe</b> or above.
Electricity Distribution Sectors	Annual AT&C loss of 1000 MU/ 86,000 TOE or above
Railways	All zonal railways having <b>traction</b> annual energy consumption of 70,000 mtoe and above.  Workshop/production units having annual energy consumption of 30000 mtoe or above

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## PAT- Way forward (PAT Cycle II)

- Deepening of PAT (existing sectors): Inclusion of more units from existing sectors
  - About 170 new DCs from four sectors (I&S, P&P, Cement and Textiles)
  - Over 100 - 110 new DCs from four sectors (TPP, Chlor-Alkali, Fertilizer and Aluminum)
- Widening of PAT: Inclusion of more units from new sectors
  - New sectors: Refinery, Railways and Electricity DISCOMS
  - About 175 new DCs

PAT Cycles	No. of Units	Share of total energy consumption (2009-10 Level)	Sectors covered
Cycle I (2012-13 to 2014-15)	478 DCs	36%	8
Cycle II (2016-17 to 2018-19)	900-950 DCs	50%	11

### Baseline Fixation and Target Setting

#### Old DCs in Existing Sector

##### ▶ MEA Reports Review

Engagement of Agencies for review and analysis of Form- 2 and MEA reports

##### ▶ Baseline Fixation

Un-normalised Baseline SEC fixation through M&V Pro-forma

##### ▶ Review of National Commitments

Review of Sector Specific National Policies on Energy Savings and International commitment (INDC/Regulatory/Govt. Policies etc.)

##### ▶ Workshops

##### ▶ Trading

Notification of trading regulations

Workshops for familiarization

ESCerts trading

#### New DCs in Existing Sector

##### ▶ Workshops

Workshops for filling up Data I the Pro-forma and Target Fixation methodology

##### ▶ Data Collection

Pro-forma Filling by DCs

##### ▶ Verification Audit and Review

#### New DCs in New Sectors

##### ▶ Workshop

Inception Workshop for DCs (Railways, Refinery and DISCOMs)

##### ▶ Sector Specific Pro-forma

Development of Sector Specific Form I and Pro-forma for new sectors(The pro-forma integrated with Normalisation factors)

##### ▶ Data Collection and Verification Audit

#### New DCs in New Sectors

##### ▶ Workshop

6 nos of Workshop on Form I-, Pro-forma, Baseline fixation & Target Setting

##### ▶ Normalisation

Development and preparation of Normalisation document for New Sectors

# Provisions of EC Act Applicable to DCs

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## Energy Conservation Act 2001

- **Enacted in October 2001**
- **Become effective from 1st March 2002**
- **Bureau of Energy Efficiency (BEE) operationalized from 1<sup>st</sup> March 2002.**

### **MISSION OF BEE**

*Develop policy and strategies with a thrust on self regulation and market principles, within the overall framework of the EC Act with the primary objective of reducing energy intensity of the Indian economy.*

## DESIGNATED CONSUMERS

( Energy Intensive Industries and other Establishments)

*(A mandatory programme to focus on energy efficiency improvement in organized sectors such as energy intensive industries and commercial sector through establishment of energy management system, capacity building of energy professionals, implementation of energy audits, establishments of specific energy consumption norms and support to consumers on providing information on authentic energy data )*

- Schedule to EC Act provides list of 15 energy intensive industries and other establishments to be notified as designated consumers (DC). A DC to
  - Appoint or designate certified energy manager
  - Submit Annual Energy consumption return
  - Get energy audit conducted by an accredited energy auditor
  - Implement techno-economic viable recommendations
  - Comply with energy consumption norms and standards



## Schedule of the EC Act

- Aluminium;
- Fertilizers;
- Iron and Steel;
- Cement;
- Pulp and paper;
- Chlor Akali;
- Sugar;
- Textile;
- Chemicals;
- Railways;
- Port Trust;
- Transport Sector (industries and services);
- Petrochemicals, Gas Crackers, Naphtha Crackers and Petroleum Refineries;
- Thermal Power Stations, hydel power stations, electricity transmission companies and distribution companies;
- Commercial buildings or establishments;



## Notification of Designated Consumers

**Among 15 Energy Intensive Industries, 9 industries & establishments have been notified as Energy Intensive Industries as specified in the Schedule to the Energy Conservation Act, 2001 (52 of 2001), having annual energy consumption as indicated against each industry, as Designated consumers for the purposes of the EC Act:-**

	<b>Criteria for Notification for a Industry as Designated Consumer</b>
1)	Thermal Power Stations- 30,000 metric tonne of oil equivalent (MTOE) per year and above
2)	Fertilizer- 30,000 metric tonne of oil equivalent (MTOE) per year and above
3)	Cement- 30,000 metric tonne of oil equivalent (MTOE) per year and above
4)	Iron & Steel- 30,000 metric tonne of oil equivalent (MTOE) per year and above
5)	Chlor-Alkali- 12,000metric tonne of oil equivalent (MTOE) per year and above
6)	Aluminium- 7,500 metric tonne of oil equivalent (MTOE) per year and above
7)	Railways- One traction substation in each Zonal Railway , Production units and Workshops of Indian Railways having total annual energy consumption of 30,000 MTOE or more under Ministry of Railways
8)	Textile-3,000 metric tonne of oil equivalent (MTOE) per year and above
9)	Pulp & Paper-30,000 metric tonne of oil equivalent (MTOE) per year and above

## DESIGNATED CONSUMERS- MAJOR PROVISIONS

- 14 (e) specify, having regard to the intensity or quantity of energy consumed and the amount of investment required for switching over to energy efficient equipments and capacity or industry to invest in it and availability of the energy efficient machinery and equipment required by the industry, any user or class of users of energy as a designated consumer for the purposes of this Act;
- (g) establish and prescribe such energy consumption norms and standards for designated consumers as it may consider necessary;
- (h) direct, having regard to quantity of energy consumed or the norms and standards of energy consumption, the energy intensive industries specified in the Schedule to get energy audit conducted by an accredited energy auditor in such manner and intervals of time as may be specified by regulations;



- (i) to get energy audit conducted by an accredited energy auditor;
- (k) to furnish to the designated agency, in such form and manner and within such period, the information with regard to the energy consumed and action taken on the recommendation of the accredited energy auditor;
- (l) to designate or appoint energy manger and submit a report on the status of energy consumption at the end of the every financial year to designated agency;
- (n) to comply with energy consumption norms and standards;
- (o) direct any designated consumer, who does not fulfill the energy consumption norms and standards prescribed under clause (g), to prepare a scheme for efficient use of energy and its conservation and implement such scheme keeping in view of the economic viability of the investment in such form and manner as may be prescribed;

## **POWER OF STATE GOVERNMENT UNDER EC ACT**

### **Section 15:**

**The State Government may, by notification, in consultation with the Bureau**

- (a) designate any agency as designated agency to coordinate, regulate and enforce provisions of this Act within the State;**
- (b) direct, any designated consumer to furnish to the designated agency, in such form and manner and within such period as may be specified by rules made by it, information with regard to the energy consumed by such consumer;**
- (c) specify the matters to be included for the purposes of inspection under sub-section (2) of section 17;**

## **The Energy Conservation (Amendment) Act , 2010**

### **Main Amendments**

- The Central Government may issue the energy savings certificate to the designated consumer whose energy consumption is less than the prescribed norms and standards in accordance with the procedure as may be prescribed.
- The designated consumer whose energy consumption is more than the prescribed norms and standards shall be entitled to purchase the energy savings certificate to comply with the prescribed norms and standards.
- The Central Government may, in consultation with the Bureau, prescribe the value of per metric ton of oil equivalent of energy consumed.

## Number of Designated Consumers (DCs) as notified under Indian Energy Conservation Act

Industry Sector	Annual Energy Consumption Norm to be DC (toe)	No. of Identified DCs
Aluminum	7500	10
Cement	30000	85
Chlor-Alkali	12000	22
Fertilizer	30000	29
Pulp & Paper	30000	31
Thermal Power	30000	144
Iron & Steel	30000	67
Textiles	3000	90

## Next Steps



## Plan of Activities

Sr. No.	Activity Details	Time Frame
1	Notification of DCs	Sep 2015
2	Consultation with stakeholders via workshop	Aug 2015
3	Technical Committee formation/Normalization Committee formation	Sep 2015
4	Performa design/design of Form 1 with stakeholders and normalization parameters (Testing of form1 with units)	Oct 2015
5	Finalization of normalization parameters by Expert Committee	June 2016
6	Workshop after finalizing Form 1 (data)	Nov 2015
7	Data collection/verification by 3rd party/agency	Jan 2015
8	Draft target setting methodology & approach by expert	Nov 2015
9	Finalizing point 8 by committee	Dec 2015
10	Notification of SEC targets	31st March '16

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