Perform Achieve &Trade (PAT) Scheme

Looking Back and Way Forward

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ENERGY IS LIFE
BEE
CONSERVE IT

Knowledge Exchange Platform

Transmitting Knowledge through Best Practices

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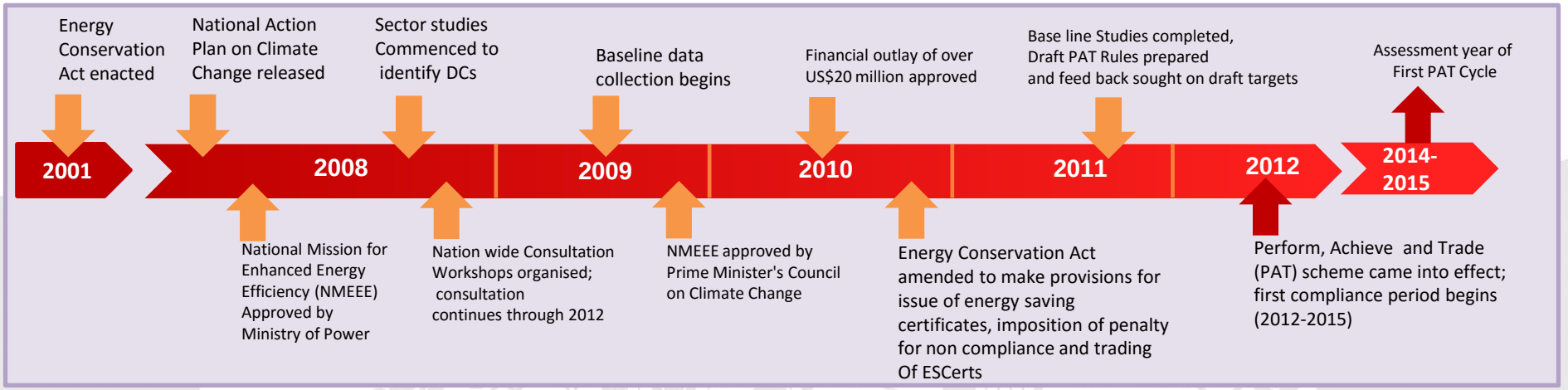
PAT Overview and Elements



HIGHLIGHTS

- Covers 478 Designated Consumer (DCs) in 8 energy intensive industry and Gate to Gate boundary concept adopted.
- Energy consumption of these plants was about 1/3rd of the total energy consumed in India in the baseline year (2009-10).
- Large variations in energy intensities of different units in almost every sector
- **Key Goal :Mandate Specific Energy Consumption improvement**
- Energy Intensity reduction target for each unit based on its current efficiency in base line (2009-10)
- Multi- cycle process –First PAT cycle till 2014-15
- Design based on extensive consultations over 2010-12

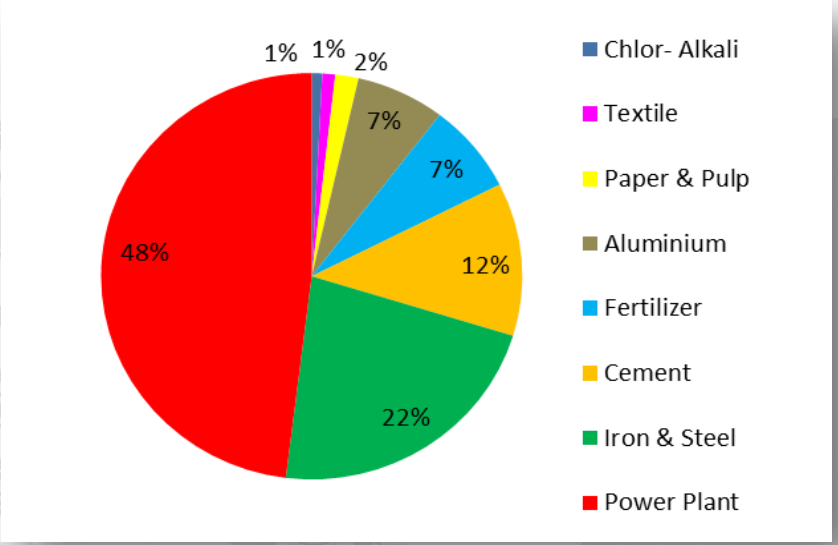
DCs

Aluminium
Cement,
Chlor-alkali,
Fertilizer,
Iron & Steel,
Paper & Pulp,
Textile and
Thermal Power Stations

National Target of Energy Saving –All Sectors

SNo	Sector	No. of Identified DCs	Annual Energy Consumption (Million toe)	Share Consumption (%)	Apportioned Energy Reduction For PAT Cycle-1 (Million toe)
1	Power (Thermal)	144	104.56	63.38%	3.211
2	Iron & Steel	67	25.32	15.35%	1.486
3	Cement	85	15.01	9.10%	0.815
4	Aluminium	10	7.71	4.67%	0.456
5	Fertilizer	29	8.20	4.97%	0.478
6	Paper & Pulp	31	2.09	1.27%	0.119
7	Textile	90	1.20	0.73%	0.066
8	Chlor- Alkali	22	0.88	0.53%	0.054
Total		478	164.97	100.00%	6.686

Sectoral Share in Energy Saving Target (%) (2012-15)



Reduction in India's CO2 emissions by 24 million tons / year in 2014-15.

Total EE Projects planned in 2012-15: 2057

Total anticipated investment : Rs. 27300 Crore

The direct benefit for the participating industries in this period is reductions in input costs related to energy of approximately Rs. 6800 Crore.

PAT Developments

Development of Normalization Factors, Monitoring , Verification and Trading

Development of new sector specific data Collection Form for Annual Energy Return with inbuilt SEC Calculation sheet ***-(Completed)***

Market place for Energy efficiency Instruments ***(Under Progress)***

Finalization of the overall structure for issuance of Escerts ***(Under progress)***

Development of Sector Specific Normalization Factors for

- ✓ Capacity Utilization or PLF
- ✓ Intermediary products
- ✓ Product Mix
- ✓ Power Mix
- ✓ Fuel and Raw material Availability
- ✓ Coal Quality
- ✓ APC linked with PLF and Coal Quality
- ✓ Sector Specific RM Quality
- ✓ Environmental Concern
- ✓ Natural Disaster & Unforeseen Circumstances

(Normalisation factors developed for DCs)

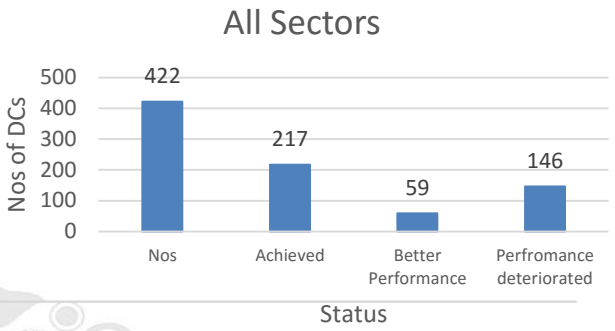
Mandatory Energy Audit and Identification of New DCs

Making energy audit mandatory for DCs to identify the energy saving potential in the existing and new plants ***(Notified on 27th May,2014)***

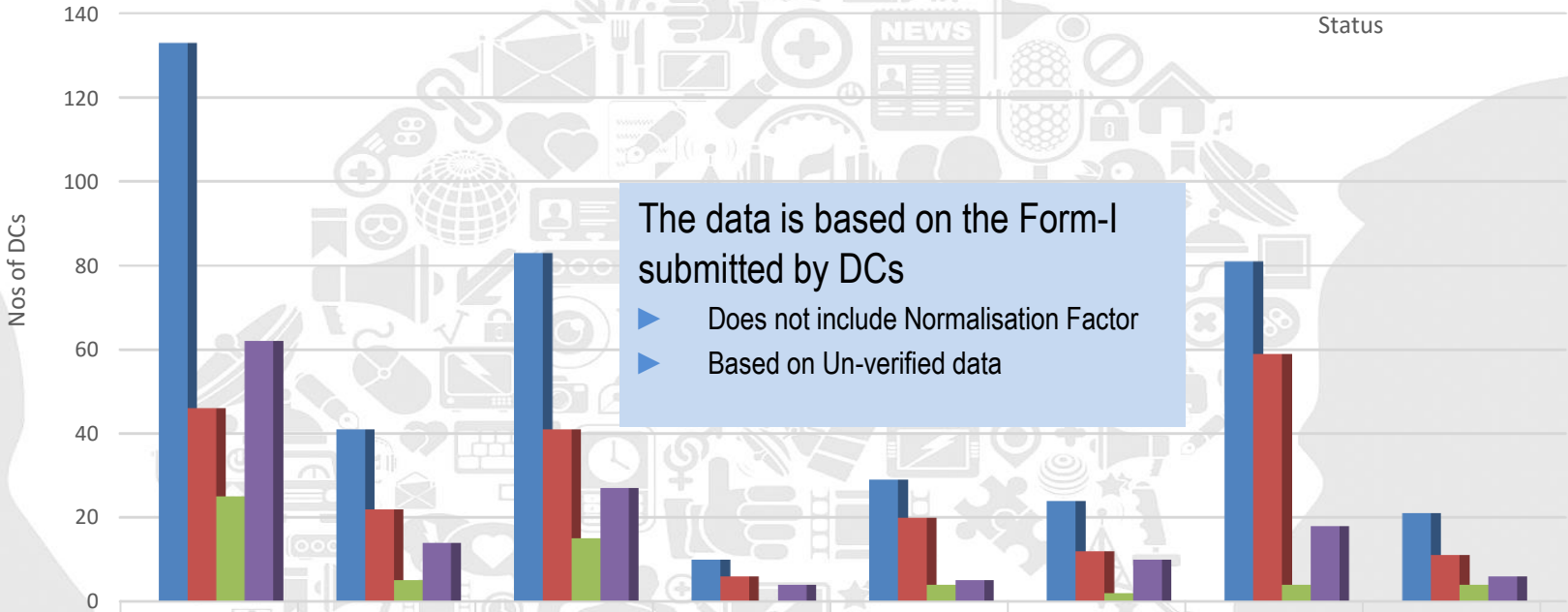
Identification of new DCs in 8 sectors

(Activities initiated)

Performance of DCs during 2013-14 (Unverified data)



Performance of DCs of TPPs during 2013-14
(Based on Form-I submitted by DCs)



	Power (Thermal)	Iron & Steel	Cement	Aluminium	Fertilizer	Pulp & Paper	Textile	Chlor- Alkali
Nos	133	41	83	10	29	24	81	21
Achieved	46	22	41	6	20	12	59	11
Better Performance	25	5	15	0	4	2	4	4
Perfromance deteriorated	62	14	27	4	5	10	18	6

The data is based on the Form-I submitted by DCs

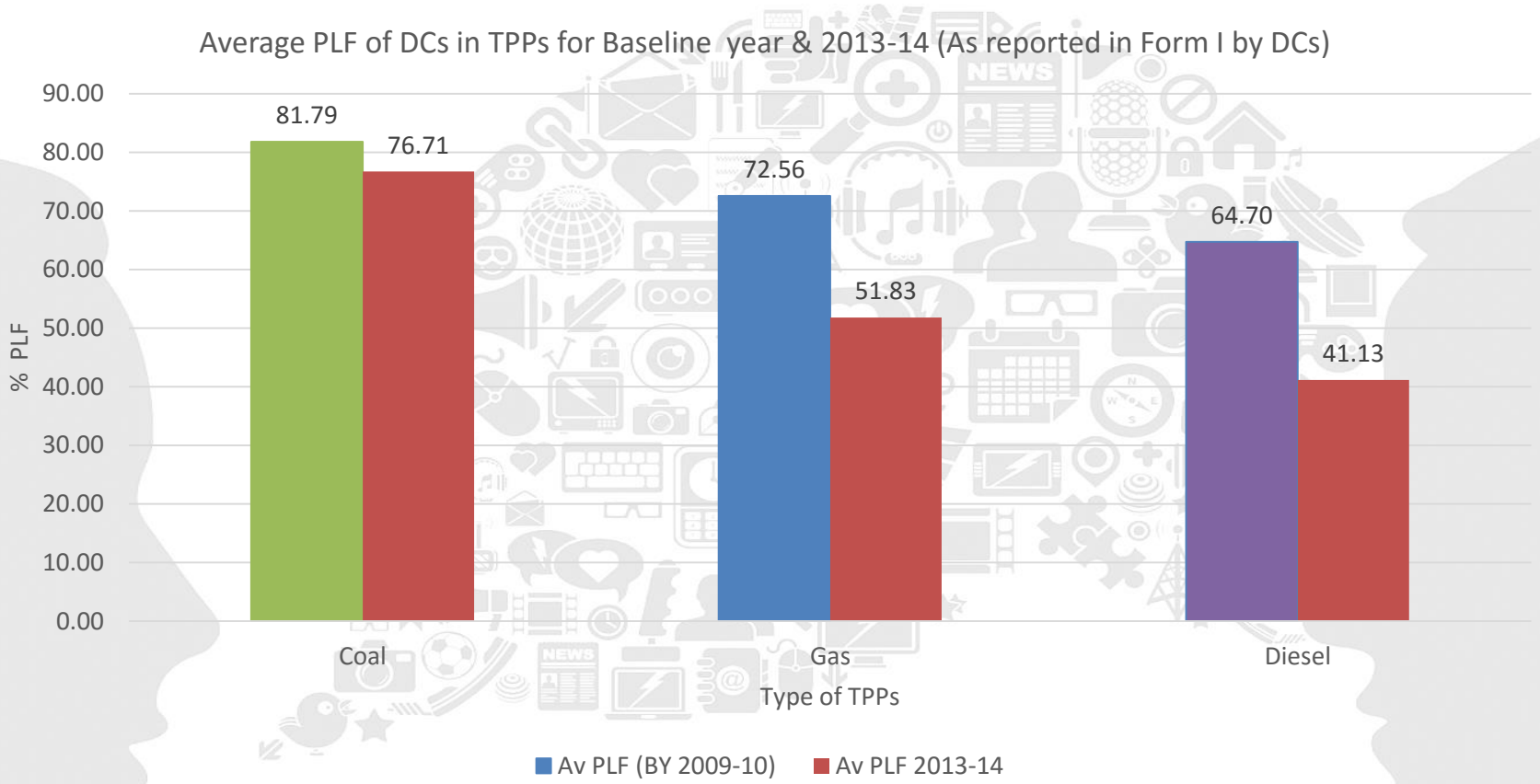
- Does not include Normalisation Factor
- Based on Un-verified data

65% has achieved their target or shown better performance than their baseline performance and achieved Net Energy saving of 4.12 mtoe

Performance of TPPs during 2013-14 (Unverified data)

Major Reason for Low PLF

- Non-Availability of Fuel
- Schedule un-availability



Ov'll deterioration of PLF from 80.59% to 74.9%

Way Forward

Document Prepared

- BEE ▶ **Sector Specific Pro-forma**
- BEE ▶ **Normalisation Formulae & Document**
- BEE ▶ **Monitoring and Verification (M&V) Guidelines**
- AEA ▶ **Reporting Format for M&V (Verification Report)**
- SDA ▶ **Check List**

Important Document for M&V

- ✓ Accepted Baseline Audit Report (Available with BEE and DC)
- ✓ Form 1 & Sector Specific Pro-forma
- ✓ Form A,B,C,D as covered in PAT rules
- ✓ Normalisation Factors Document available with BEE
- ✓ Normalisation Guidelines Document available with BEE
- ✓ Check List to be used by all stakeholders
- ✓ Reporting Format for EmAEA

Deepening

- ▶ **Study Initiated-** Lowering Threshold Limit
  - ▶ **Iron and Steel**
  - ▶ **Pulp & Paper**
- ▶ **Study Initiated-** for New DCs in existing 8 sectors

Widening

- ▶ **Study Initiated-**
  - ▶ **Railways**
  - ▶ **Refinery**
  - ▶ **Discom**

Trading

- ▶ **Trading Regulation**
- ▶ **Trading Structure**
- ▶ **Depository Interlinking**

Monitoring and Verification

- A reliable monitoring, reporting and verification (M&V) system forms the backbone of assessment process of the PAT scheme
- The objective of the M&V system is to streamline the activities to be carried out for verifying the energy performance achieved by the Designated Consumer in the target year.
- The Assessment of performance verification involves an independent evaluation of each activity undertaken by the DCs for compliance under PAT rules
- Verification plays a crucial role in maintaining the integrity of the scheme and ensuring transparent validation.

Monitoring

- Quarterly, Yearly and End of Cycle Data Monitoring by DCs
- Energy Efficiency Project Monitoring
- Internal Energy Audit Reports

Reporting

- Reporting the Annual data yearly from Baseline year to assessment year through different Forms
- Through Sector Specific Pro-forma & Form I
- Form A, Form B

Verification

- The verification process will ensure that the information and data in Form 1 and Pro-forma are free from material omissions, misrepresentations and errors
- The verification must be completed between 1st April to 30th June of the year, following the assessment year

Thank You