



# PERFORM, ACHIEVE & TRADE (PAT) SCHEME

## *Update & Evolution*

Hyatt Regency, Pune, Maharashtra

**PAT Overview**

## Perform, Achieve and Trade (PAT) – WHY?

### National Action Plan on Climate Change (NAPCC)

#### – Nation Mission for Enhanced Energy Efficiency (NMEEE)

- Perform Achieve and Trade (PAT)
- Market Transformation for Energy Efficiency (MTEE)
- Energy Efficiency Financing Platform (EEFP)
- Framework for Energy Efficient Economic Development (FEEED)

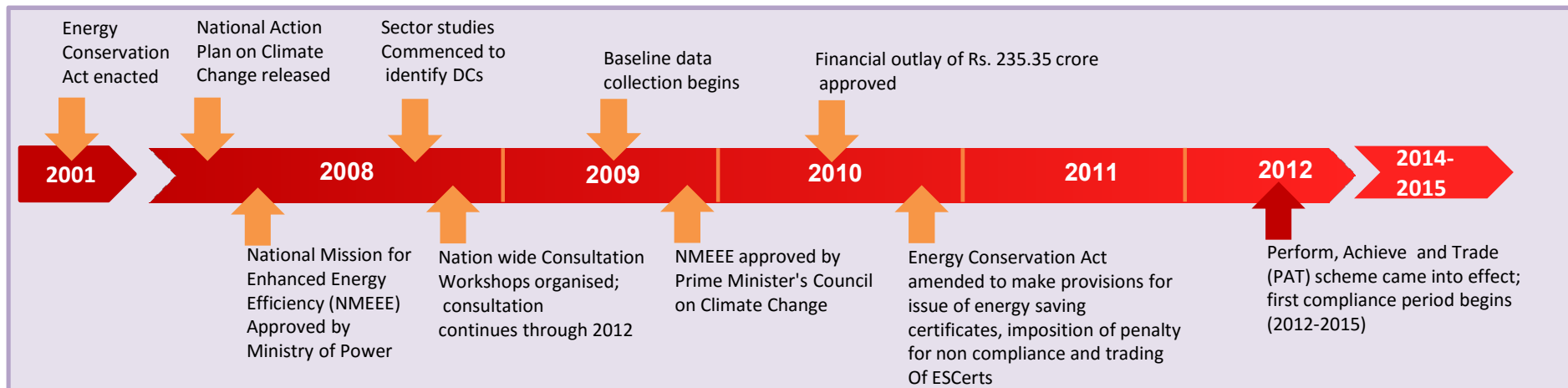


## Intended Nationally Determined Contributions (INDCs)

- To put forward and further propagate a healthy and **sustainable way of living** based on traditions and values of **conservation and moderation**.
- To adopt a **climate friendly and a cleaner path** than the one followed hitherto by others at corresponding level of economic development.
- To reduce the emissions intensity of its GDP by **33 to 35** percent by **2030** from 2005 level.
- **Enhanced Energy Efficiency**
  - **Industry**
    - **Perform, Achieve and Trade**

## Genesis of PAT

**Perform Achieve and Trade (PAT):** A regulatory instrument to reduce specific energy consumption in energy intensive industries, with an associated market based mechanism to enhance the cost effectiveness through certification of excess energy saving which can be traded.



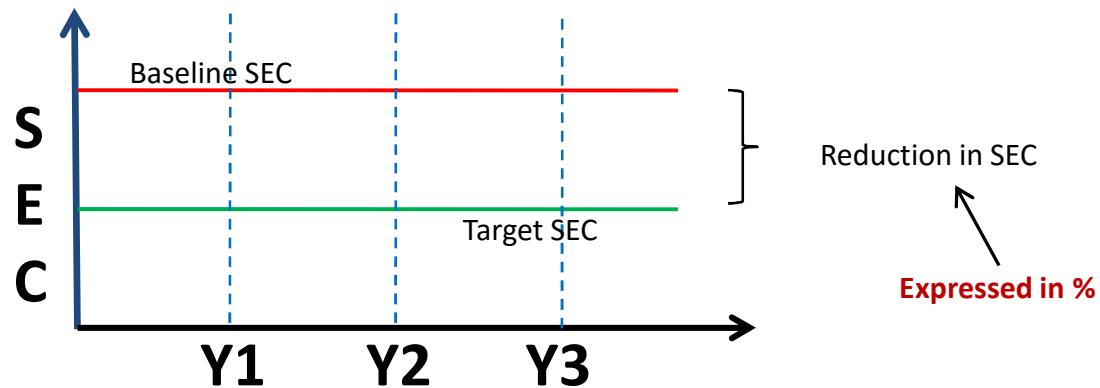
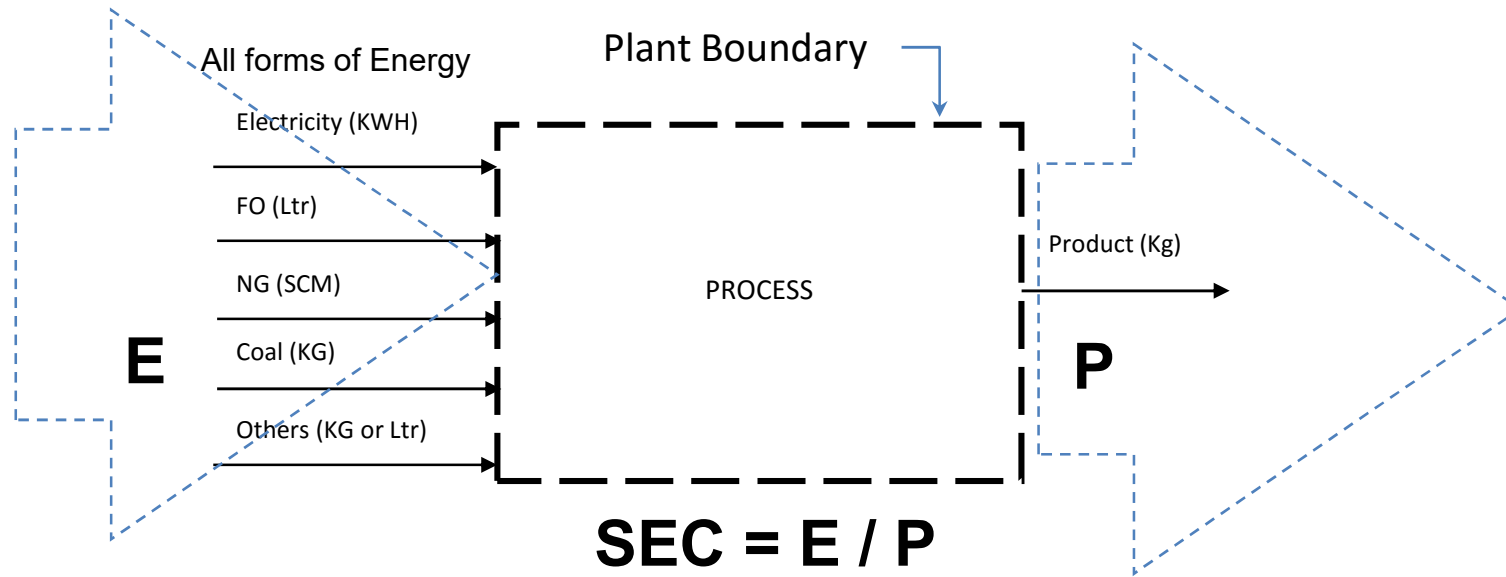
## PAT Cycle I- Notified Sectors

| S. NO. | Sectors         | 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  |
|        | <b>Total</b>    | <b>478</b>            | <b>164.97</b>                           | <b>100%</b>           | <b>6.686</b>   |

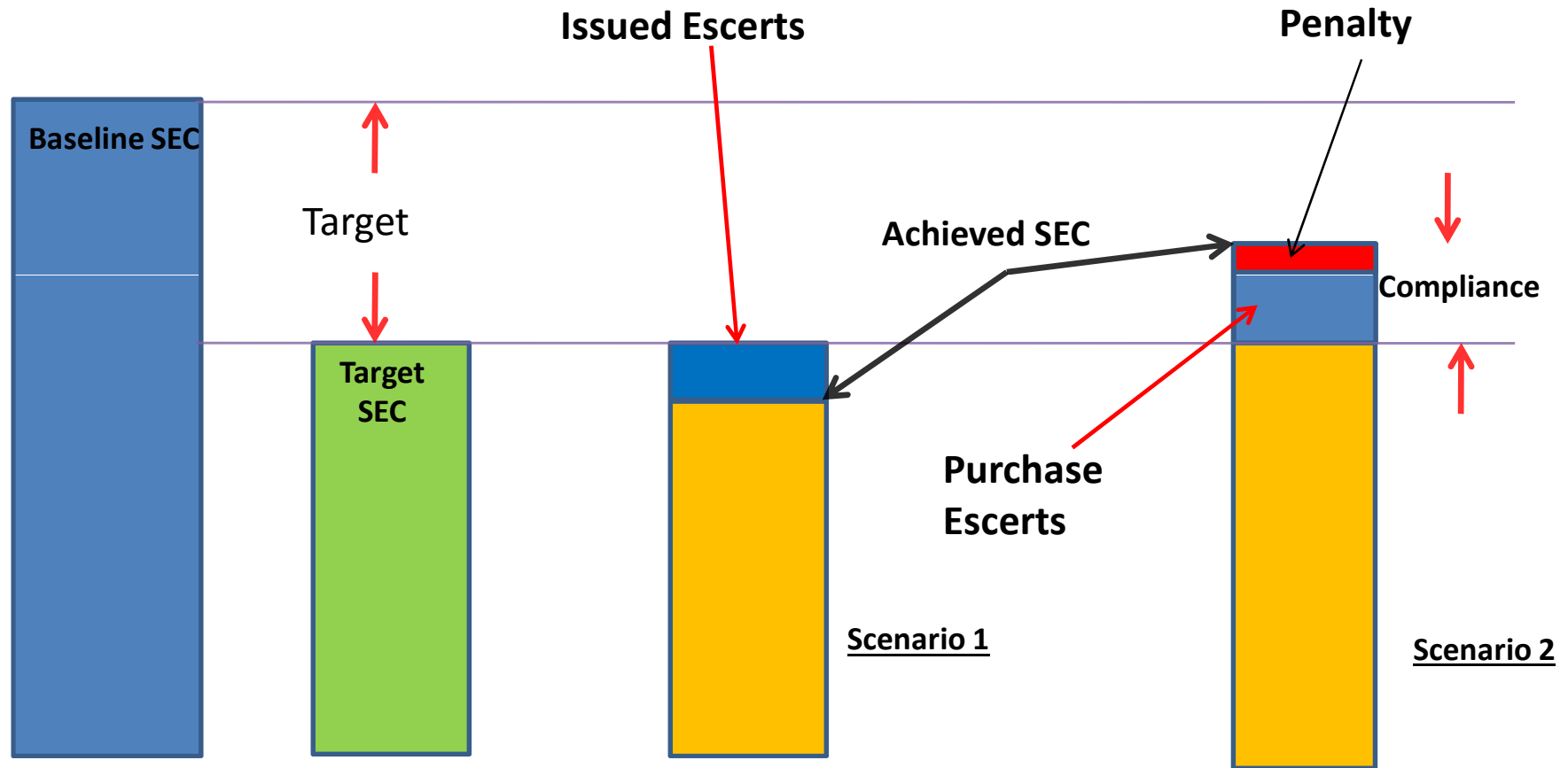
## PAT- Salient features

- Regulatory instrument linked with market mechanism
  - Certification of energy saving
- Consultative approach
  - Ministries/DCs/Associations/FIs/Research Organizations
- Outreach/ Capacity Development
  - Workshops/Seminars/ Visits
- “Self – competing”
  - Unit specific targets
- Relative responsibility
  - Less target for more efficient and more for less efficient
- Supports improvement in energy management system
  - measurement, recording and reporting

## Gate-to-Gate concept

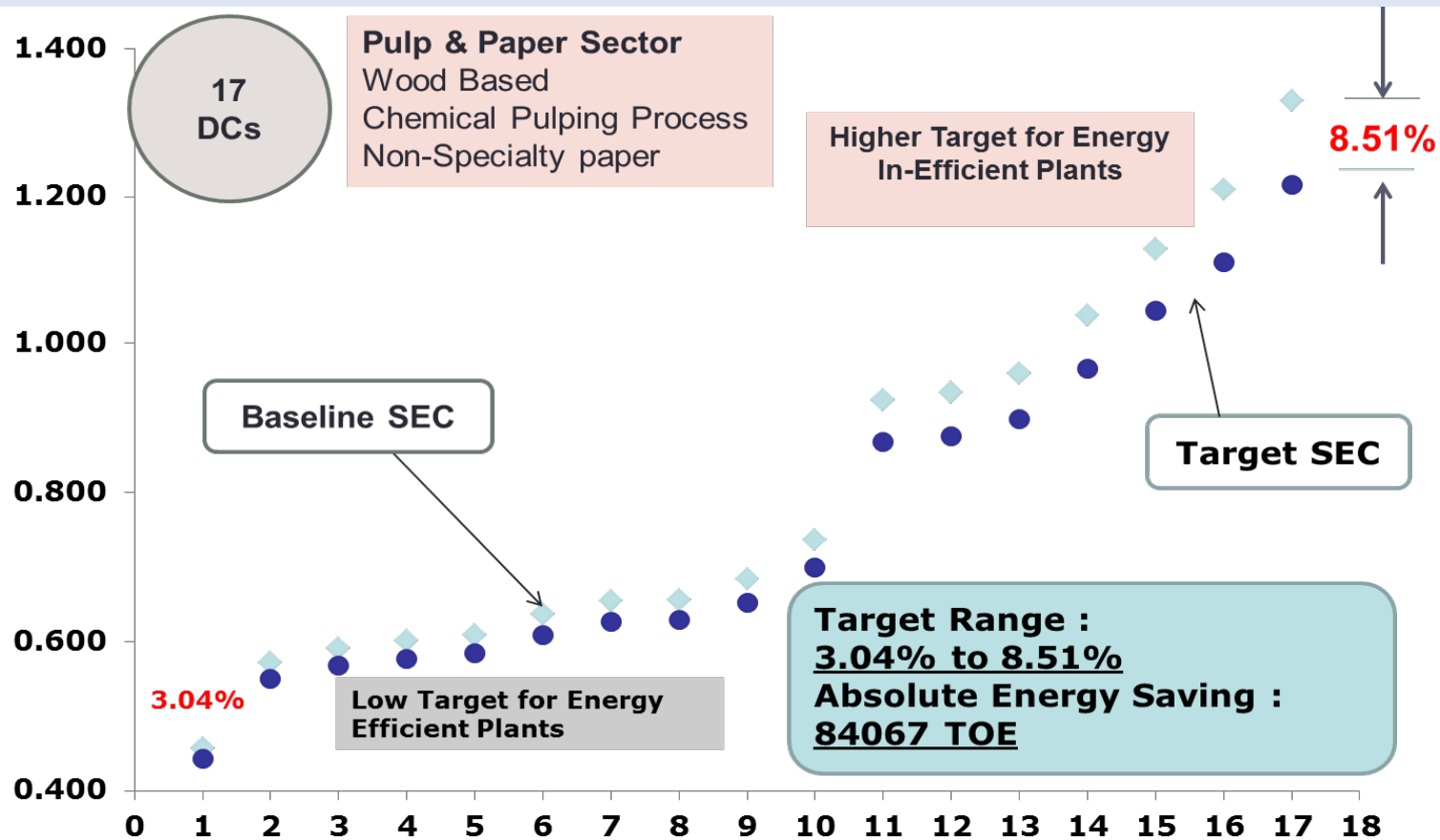


# Concept of Target, Compliance, ESCerts & Penalty





# Bandwidth in Specific Energy Consumption within sectors



Target is Plant Specific ..... Less for Energy Efficient and more for Inefficient Plants

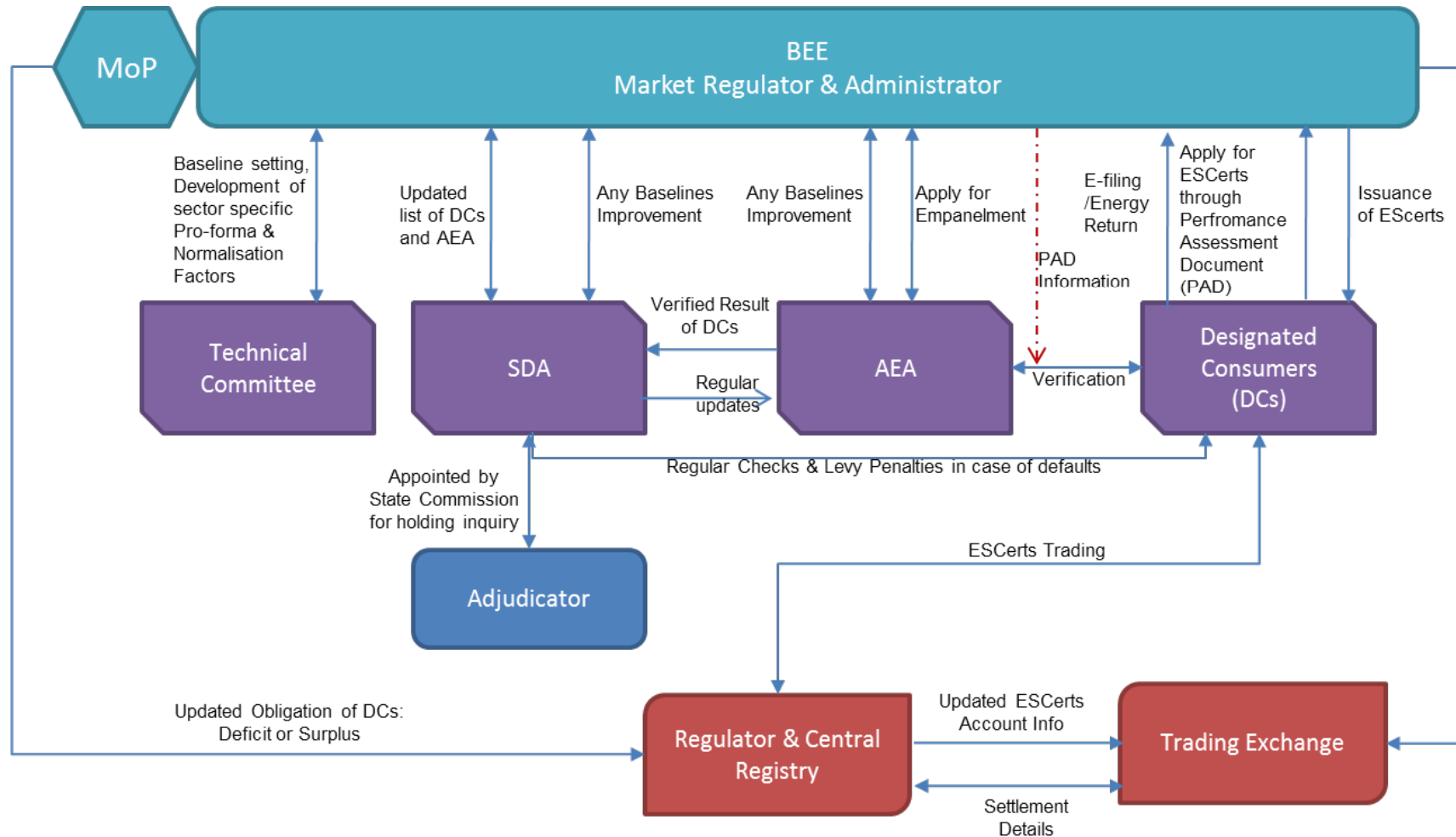
# Market Design

- **ESCerts are issued**
  - When energy efficiency improvements surpass targets
  - With 1 mToE = 1 ESCert
  
- **Banking of ESCerts allowed during each cycle**
  - 1st cycle ESCerts to 2nd cycle
  - 2nd cycle ESCerts to 3rd cycle
  
- **Partial issuance of ESCerts was also considered**

## Normalization

- Definition
  - “Normalisation” means a process of rationalization of energy and production data of Designated Consumer to take into account changes in quantifiable terms that impact of energy performance under equivalent conditions’.
    - It is a streamlining process by which any DC is not subjected to undue advantage or disadvantage due to factors beyond the control of the DC
- Process
  - Formation of sectoral/sub-sectoral technical committee
  - Consultation with stakeholders
  - Identification of factors
  - Integration with reporting format - proforma
  - Validation with real data

# Institutional Structure

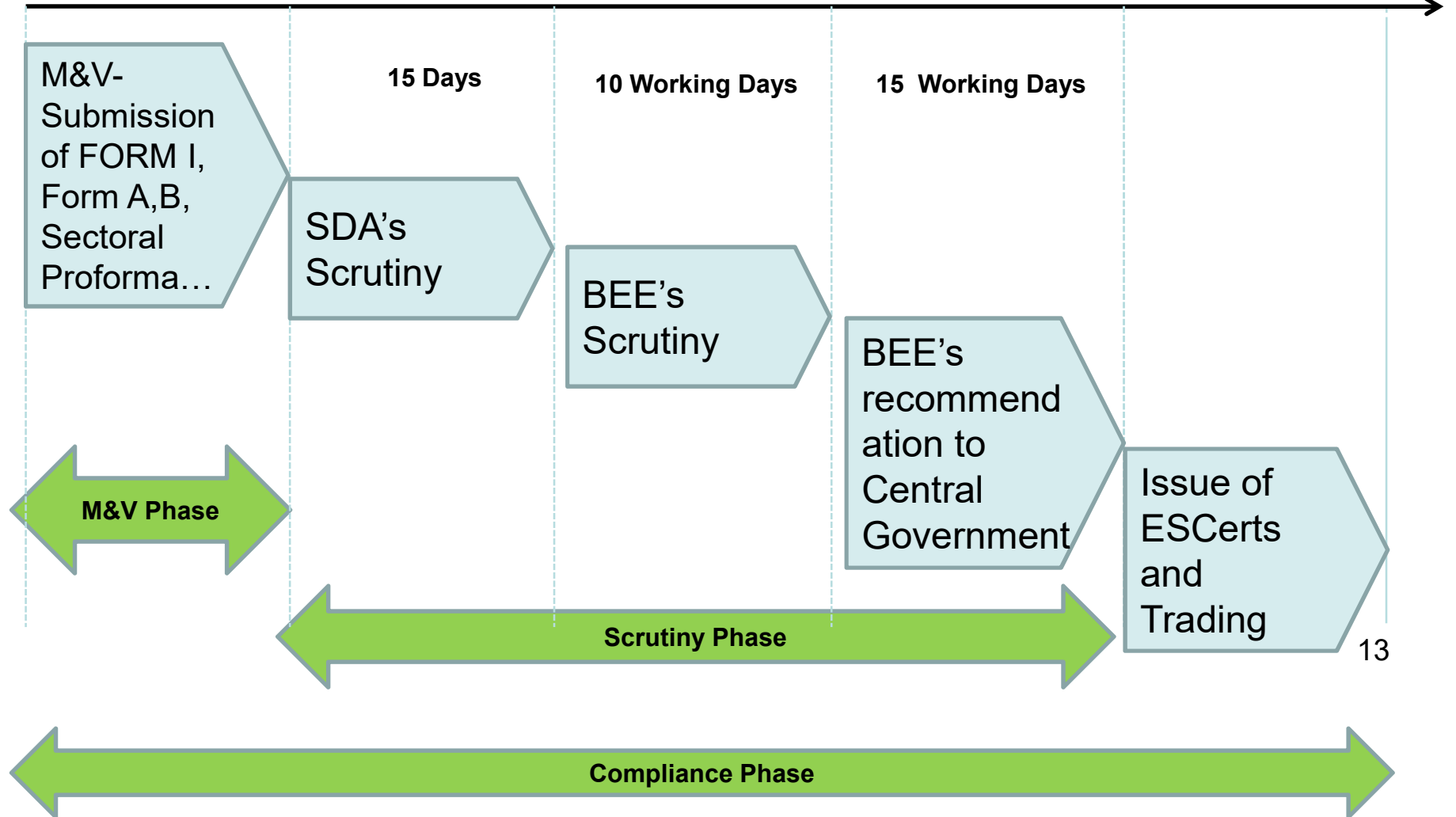


# Key Timelines

1st April

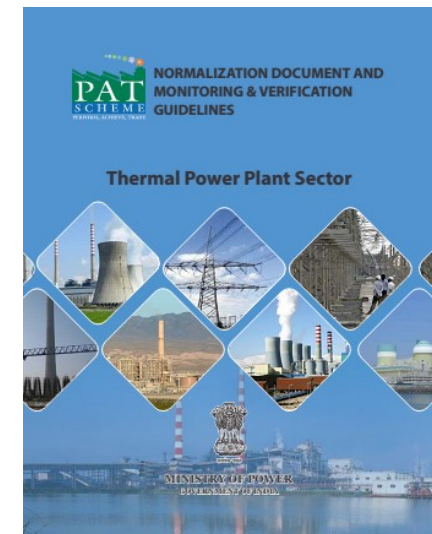
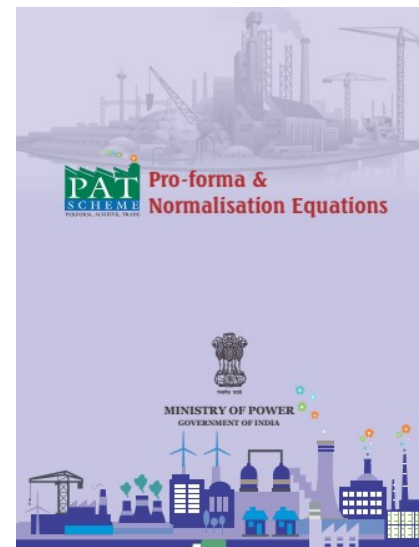
30th June/14th Aug (PAT Cycle I)

30th Nov.



## PAT- Evolution

- Reporting Formats: Pro-forma
- Normalization
- Integration
- Documentation
- Communication
- Adoption
- Evaluation



## PAT Cycle I Experience – Need for Amendments

- New entities, processes etc. inserted/ defined
- Notified timeline for comprehensive monitoring, reporting and verification was extended
  - Deadline for submission of Performance Assessment Document extended by 45 days
- Need to link Inspection Rules, 2010 with Check verification under PAT to increase the domain of SDAs in the process of check verification
- Capacity of stakeholders
  - Need for building of Capacity of AEAs/SDAs/BEE desired
- Quality of Verification reports
  - Lack of clarity on proforma and normalization
  - Non-adherence to M&V guidelines
  - Poor documentation w.r.t. external factors
  - Incomplete substantiation of energy savings reported

## PAT Cycle I Experience – Need for Amendments

- Removal of rules related to early issuance of ESCerts
  - No DCs applied for early issuance
  - Proposal for rolling cycle
- Changes in the target setting methodology
  - To factorize the historical trend of sectoral efficiency improvement
  - National Policy objectives
- Changes in the baseline setting methodology
  - To accommodate the variations in capacity utilization
  - Single year based baseline fixation
- Data reporting
  - Provision of disaggregated data is discontinued to avoid potential misuse
- Normalization factors
  - To provide legal sanctity to normalization factors- added as schedule to the Rules



## PAT- Way forward (PAT Cycle II)

- Deepening of PAT (existing sectors): Inclusion of more units from existing sectors
  - About 150 -200 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.)

## PAT- Way forward (PAT Cycle II)

### 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

## PAT- Way forward (PAT Cycle II)

### 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**

- ▶ **Workshop**

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

- ▶ **Normalisation**

Development and preparation of Normalisation document for New Sectors

## PAT- Way forward

- Analysis of M&V reports
- Analysis of MEA reports
- Analysis of INDCs and other Sectoral Targets
- Baseline setting for PAT Cycle II
- Target Setting for PAT Cycle II
- Notification of Targets for PAT Cycle II
- Impact Study of PAT Cycle I
- Development of Standard Operating Procedures (SOPs)
- Vision Document for Subsequent PAT Cycles



MINISTRY OF POWER  
GOVERNMENT OF INDIA



**Thank you**