

Perform Achieve and Trade (PAT) scheme

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PAT scheme is a flagship programme of Bureau of Energy Efficiency under the National Mission for Enhanced Energy Efficiency (NMEEE). NMEEE is one of the eight national missions under the National Action Plan on Climate Change (NAPCC) launched by the Government of India in the year 2008.

What is PAT?

- PAT is 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.
- The energy intensive industries including the thermal power plants are the major players in this entire scheme of PAT.
- It refers to the calculation of Specific Energy Consumption (SEC) in the baseline year and projected SEC in the target year covering different forms of net energy going into the boundary of the designated consumers' plant and the products leaving it over a particular cycle.

About PAT scheme

- Under this scheme, reductions in specific energy saving targets are assigned to Designated Consumers (DCs) for a three year cycle.
- The target reduction for each DC is based on their current levels of energy efficiency, so that energy efficient DCs will have lower target of percentage reduction, as compared to less energy efficient DCs which will have higher targets.

- While calculating the specific energy consumption “gate-to-gate” approach is adopted, thereby including all energy consumption against the total production.
- A robust process of normalization is adopted to neutralize the impact on specific energy consumption due to factors beyond the control of participating DCs.
- Verification of the performance of DCs at the end of the cycle is carried out by a cadre of energy professional i.e. Accredited Energy Auditors who are empanelled with Bureau of Energy Efficiency.

PAT Cycles for Implementation of Scheme:

PAT Cycle-I (2012-13 to 2014-15)

- PAT Cycle-I was envisaged to reduce the SEC of 478 designated consumers (DCs) from eight energy intensive sectors viz. Aluminium, Cement, Chlor- Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power Plant and Textile.
- The overall energy saving targets for PAT Cycle –I was 6.686 Million Tonne of Oil Equivalent (MTOE) by the end of 2014-15.
- The achievement in PAT Cycle-I is 8.67 MTOE which is an over achievement of about 30 percent in comparison to the assigned targets.
- This energy saving translates in to avoiding about 31 million tonne of CO2 emission.
- **Issuance and Trading of ESCerts:**
 - Ministry of Power has already issued energy saving certificates (ESCerts) in lieu of energy saving beyond their targets and entitlement to purchase of ESCerts for compliance to meet their shortfall towards their targets.
 - The ESCerts could be traded at two energy exchanges that is Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL) or bought by other units under PAT who can use them to meet

- their compliance requirements.
- Units that are unable to meet the targets either through their own actions or through purchase of EScerts are liable to financial penalty under the Energy Conservation Act.
 - The trading infrastructure is currently under finalization and trading is expected to start in the month of April/May.

PAT Cycle –II (2016-17 to 2018-19)

- PAT scheme was expanded to new sectors and new DCs from the existing sectors. For PAT Cycle –II three new sectors viz. Railways, Refineries and Electricity Distribution Companies (DISCOMs) were included.
- PAT Cycle-II has been notified on 31st March, 2016 and aims to achieve an overall energy consumption reduction of 8.869 MTOE.
- Under PAT Cycle-II, energy reduction targets have been assigned and notified to 621 DCs (448 existing, 89 additional DCs from existing sectors and 84 DCs from new sectors viz. Railways, Electricity DISCOMs and Refineries) in 11 sectors (eight existing sectors and three new sectors).

PAT Cycle –III (2017-18 to 2019-20)

- PAT scheme is currently proposed to be implemented on rolling basis (i.e. annual inclusion of new DCs).
- In this context, the PAT Cycle III has been notified on 30th March, 2017 to be effective from 1st April, 2017 with inclusion of 116 new DCs.
- These 116 DCs consume energy about 35 MTOE while they have been assigned energy saving target of 1.06 MTOE at the end of the cycle at 2019-20

National Action Plan on Climate Change (NAPCC)

National Action Plan for Climate Change (NAPCC) is a

Government of India's programme launched in 2008 to mitigate and adapt to the adverse impact of climate change. The plan aims at fulfilling India's developmental objectives with focus on reducing emission intensity of its economy.

The 8 missions under NAPCC are as follows:

1. National Solar Mission
2. National Mission for Enhanced Energy Efficiency
3. National Mission on Sustainable Habitat
4. National Water Mission
5. National Mission for Sustaining Himalayan Ecosystem
6. Green India Mission
7. National Mission for Sustainable Agriculture
8. National Mission on Strategic Knowledge for Climate Change