



Report on Energy Efficiency Measures

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Why in News

Recently the Ministry of Power and New & Renewable Energy released a report on the **“Impact of energy efficiency measures for the year 2018-19”**.

Key Points

- **Agency Involved:** The report was prepared by a third party **agency PWC Ltd**, who was engaged by Bureau of Energy efficiency (BEE).
- **Methodology:** Since 2017-18, every year BEE has been appointing a **third party expert agency** which compares the estimated and actual energy consumption due to various energy efficiency schemes.

The study assesses the **resultant impact of current schemes at national as well as state level** for the financial year and compares it with a situation where the same were not implemented.
- **Objective:** To **evaluate the performance and impact of all the key energy efficiency programmes in India**, in terms of total energy saved and the **related reduction in the CO₂ emissions**.
- **Key Findings**
 - **Electricity Saving: Implementation of various energy efficiency schemes** have led to total electricity savings to the tune of 113.16 Billion Units in 2018-19, which is **9.39% of the net electricity consumption**.
 - **Energy Saving:** The total energy savings achieved in 2018-19 is 23.73 Mtoe (million Tonne of Oil Equivalent), which is 2.69% of the total primary energy supply (estimated to be 879.23 Mtoe in India).
 - **Emission Reduction:** These efforts have also contributed in reducing 151.74 Million Tonnes of CO₂ emissions, whereas last year this number was 108 Million Tonnes of CO₂.

- **Flagship Programmes:** This year the study has identified the following major programmes, viz. **Perform, Achieve and Trade Scheme, Standards & Labelling Programme, UJALA Programme, Municipal Demand Side Management Programme.**
- **Perform, Achieve and Trade Scheme**
 - It is a **market-based mechanism** to further accelerate as well as incentivize energy efficiency in the large energy-intensive industries.
 - The **Energy Savings Certificates (ESCerts)** were introduced in India in 2011 under the **Perform, Achieve Trade scheme (PAT)** by the Bureau of Energy Efficiency (BEE) under the National Mission of Energy Efficiency.
 - 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.
 - This market- based mechanism is facilitated through the trading of **Energy Savings Certificates (ESCerts)** which are issued to those plants who have overachieved their targets.
 - Those plants which under achieve their targets are entitled to purchase ESCerts through **two power exchanges - Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL).**
 - The scheme is unique in many ways, particularly from a developing country's perspective since it creates a **market for energy efficiency** through tradable certificates ESCerts, by allowing them to be used for meeting energy reduction targets.
- **Standards & Labelling Programme**
 - A key objective of this programme by BEE is to provide the consumer an **informed choice about the energy saving** and thereby **the cost saving potential of the relevant marketed product.**
 - The programme targets display of energy performance labels on high energy end use equipment & appliances and lays down minimum energy performance standards.
- **Unnat Jyoti by Affordable LEDs for All (UJALA)**
 - It was launched in **2015** with a target of replacing 77 crore incandescent lamps with LED bulbs and to nullify the high-cost of LEDs that acted as a barrier previously in the adoption of energy-efficient systems.
 - The scheme was implemented to set up a phase-wise LED distribution.
 - The **objective** is to promote efficient lighting, enhance awareness on using efficient equipment that will reduce electricity bills and preserve the environment.
 - It is the **world's largest domestic lighting project.**

- **Municipal Demand Side Management Programme**

- The Municipality Demand Side Management (Mu-DSM) programme of BEE was initiated during the Eleventh five year plan(2007-2012).
- The basic objective of the project is to improve the **overall energy efficiency** of the Urban Local Bodies (ULBs), which could lead to substantial savings in the electricity consumption, thereby resulting in cost reduction/savings for the ULBs.

Bureau of Energy Efficiency (BEE)

- The BEE is a **statutory body** established through **Energy Conservation Act, 2001** under the Ministry of Power, Government of India.
- It assists in **developing policies and strategies** with the primary objective of **reducing the energy intensity** of the Indian economy.
- BEE coordinates with designated consumers, designated agencies, and other organizations to identify and utilize the existing resources and infrastructure, in performing its functions.

Background

- Pledge: India has pledged in the **Conference of the Parties (COP21)** of the **United Nations Framework Convention on Climate Change (UNFCCC)** to bring down the energy intensity of its economy by **33 to 35% compared to 2005 levels by 2030**.
 - Energy intensity is the **amount of energy required** to produce one unit of Gross Domestic Product (GDP).
 - High energy intensities indicate a high cost of converting energy into GDP. Whereas, low energy intensity indicates a lower cost of converting energy into GDP.
- **Achievement:** With its energy efficiency initiatives India has already reduced the energy intensity of its economy by **20% compared to 2005 levels**.
- **Significance:** Energy efficiency **reducing greenhouse gas emissions, reducing demand for energy imports, and lowering costs** on a household and economy-wide level.

Source: PIB