



# New Initiatives in Building Energy Efficiency

## Why in News

Recently, “**Aiming for Sustainable Habitat: New Initiatives in Building Energy Efficiency 2021**” was launched by the [Bureau of Energy Efficiency \(BEE\)](#).

- These initiatives **seek to enhance energy efficiency in the building sector** and were launched as part of 'Azadi Ka Amrut Mahotsav'.

## Bureau of Energy Efficiency

- The BEE is a **statutory body** established through the [Energy Conservation Act, 2001](#) under the **Union Ministry of Power**.
- 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**.

## Key Points

- **Initiatives Launched:**
  - **Eco Niwas Samhita 2021:**
    - It is an [Energy Conservation Building Code for Residential Buildings \(ECBC-R\)](#) to give a further fillip to India's energy conservation efforts.
    - It specifies code compliance approaches and minimum energy performance requirements for building services, and verification framework with [Eco Niwas Samhita 2021](#).
  - **Hand Book for Learning:**
    - The web-based platform '**The Handbook of Replicable Designs for Energy Efficient Residential Buildings**' as a learning tool, which can be used to create a pool of ready-to-use resources of replicable designs to construct energy-efficient homes in India.
  - **Online Directory of Building Materials:**
    - Creating an Online Directory of Building Materials that **would envisage the process of establishing standards for energy efficient building materials**.
  - **NEERMAN Awards:**
    - **NEERMAN Awards**, (National Energy Efficiency Roadmap for Movement towards Affordable & Natural Habitat) were announced, with the **goal of encouraging**

**exceptionally efficient building designs** complying with BEE's Energy Conservation Building Codes.

◦ **Online Star Rating Tool:**

- It **provides performance analysis to help professionals** decide the best options to pick for energy-efficiency of their homes.
- It was launched for **Energy Efficient Homes**, created to improve energy-efficiency and reduce energy consumption in individual homes.

◦ **Training:**

- Training of over 15,000 Architects, Engineers and Government officials on **Energy Conservation Building Code (ECBC) 2017** and **Eco Niwas Samhita 2021**.

▪ **Significance:**

- The **building sector is the second largest consumer of electricity** after industry but it is expected to become the **largest energy consuming sector by 2030**.
- These initiatives will **help enhance the energy-efficiency levels in residential buildings across the country**, thereby leading to sustainable habitation.
  - The initiatives will go a long way to **make India more energy-efficient**.

## Energy Efficiency in India

▪ **Energy Efficiency:**

- Energy efficiency means **using less energy to perform the same task** - that is, **eliminating energy waste**.
- Energy efficiency **brings a variety of benefits:** reducing [GreenHouse Gas \(GHG\)](#) emissions, reducing demand for energy imports, and lowering our costs on a household and economy-wide level.

▪ **Transition:**

- India's energy sector is set for a transition with recent developmental ambitions of the government e.g. [175 GW of installed capacity of renewable energy by 2022](#), 24X7 Power for all, [Housing for all by 2022](#), 100 [smart cities mission](#), promotion of e-mobility, electrification of railway sector, 100% electrification of households, Solarization of agricultural pump sets, and promotion of clean cooking.

▪ **Potential of Energy Efficiency:**

- Energy Efficiency **has the maximum GHG abatement potential** of around 51% followed by renewables (32%), biofuels (1%), nuclear (8%), carbon capture and storage (8%) as per the **World Energy Outlook (WEO 2010)**.
  - World Energy Outlook (WEO) is the flagship publication of the [International Energy Agency](#).
- India can **avoid building 300 GW of new power generation up to 2040** with implementation of ambitious energy efficiency policies.

▪ **Positives:**

- Successful implementation of Energy Efficiency Measures contributed to electricity **savings of 7.14% of total electricity consumption of the country** and emission **reduction of 108.28 million tonnes of CO<sub>2</sub> during 2017-18**.

▪ **Other initiatives to Promote Energy Conservation and Energy Efficiency:**

◦ **PAT Scheme:**

- [Perform Achieve and Trade Scheme \(PAT\)](#) is a market based mechanism to enhance the cost effectiveness in improving the Energy Efficiency in Energy Intensive industries through certification of energy saving which can be traded.

- It is a part of the National Mission for Enhanced Energy Efficiency (NMEEE), which is one of the eight missions under the [National Action Plan on Climate Change \(NAPCC\)](#).
- **Standards and Labeling:**
  - The scheme was **launched in 2006** and is currently invoked for equipments/appliances Room Air Conditioner (Fixed/VariableSpeed), Ceiling Fan, Colour Television, Computer, Direct Cool Refrigerator, Distribution Transformer, Domestic Gas Stove, General Purpose Industrial Motor, LED Lamps, Agricultural Pumpset, etc.
- **Energy Conservation Building Code (ECBC):**
  - It was developed for **new commercial buildings in 2007**.
  - It sets **minimum energy standards for new commercial buildings** having a connected load of 100kW (kilowatt) or contract demand of 120 KVA (kilovolt-ampere) and above.
- **Demand Side Management:**
  - DSM is the **selection, planning, and implementation of measures** intended to have an influence on the demand or customer-side of **the electric meter**.

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