India’s residential sector floor area is expected to rise to 21.9 billion m² in next 10 years from 15.3 billion m² in 2017. However, there is a housing shortage, estimated at 18.78 million & 43.67 million units in urban and rural areas respectively for the period 2012-17. The Pradhan Mantri Awas Yojana (Urban) (PMAY-U), launched to bridge this gap, had proposed the construction of 12 million units by 2022. This provides an opportunity to evaluate, demonstrate and build housing that also focuses on providing thermal comfort hence, minimizing energy and resource use.

Housing that is built as part of PMAY will last 40-60 years and decisions taken today will have an impact on the level of comfort that these dwellings provide to its occupants and the energy use, costs and associated carbon emissions over the lifetime of the building. Presently, residential buildings accounts for 24% of the total energy consumption, and it will increase rapidly if no intervention is done. Hence, there is a need of a robust implementation framework to holistically address the building sector and its growing resource needs.

The Energy Conservation Building Code for Residential Sector (ECBC-R) was launched in December 2018 by the Minister of Power. Part I, sets minimum building envelope performance standards to limit heat gains and heat losses, for adequate natural ventilation and daylight potential. Part II, focusing on EE in electro-mechanical equipment for building operation, RE generation, embodied energy of materials, is under development. Implementation of ECBC-R will have the potential for energy savings of 125 billion units of electricity per year by 2030, which is equivalent to about 100 million ton of CO₂ emission.

PMAY-U, Government of India’s flagship program aiming to provide affordable housing to urban and rural poor. Launched in 2015, the PMAY-U is targeting to build approximately 12 million dwelling units by 2022, out of which only 2% is constructed, 6% is under construction and 32% is sanctioned. Recent studies show that, government is well on track to realize the goal of 10 million dwelling units by 2022 which leaves a very narrow timeframe to grab this opportunity for building energy efficient and thermally comfort houses.

The project will support Indian State governments to adopt appropriate sustainable buildings policies and energy codes that aid the India’s Nationally Determined Contribution commitments to reduce the emissions intensity of its GDP by 33 to 35 percent by 2030 from 2005 level and exceed India’s commitments to climate action.
ABOUT AEEE

AEEE is a policy advocacy and energy efficiency (EE) market enabler with a not-for-profit motive. It is the only organization in India that works on creating awareness about energy efficiency as a resource. It advocates for data-driven, evidence-based EE policies that will unleash innovation and entrepreneurship within the country to create an energy-efficient economy. Through incisive activities, AEEE’s mission is to be a partner in India’s transformation into a global leader in the field of energy efficiency, and shape India as one of the most attractive markets for companies with the best available energy-efficient technologies.

KEY STAKEHOLDERS

Critical Stakeholders
- Policy Makers
- Manufacturers
- Professionals
- Occupants

Private Stakeholders
- Architects
- Energy Consultants
- MEP Consultants
- Developers
- End users
- Construction Companies

Central Government
- Ministry of Power
- Ministry of Housing and Urban Affairs
- TCPO
- BMTPC
- NIUA
- NHB
- HUDCO

State Government
- Urban Development & Town Planning Dept.
- Public Works Dept.
- Dept. of Energy
- State Level Nodal Agencies

Local Government
- Urban Local Bodies (ULB)
- City Level Technical Cell (CLTC)
- Municipalities/Corporations

OUR METHODOLOGY

Phase 1 (Aug 2019 – Jan 2020)
- Identification of state and city with consultation with relevant stakeholders
- Identification of administrative procedures for inclusion of ECBC-R
- Identification of feasible project under PMAY-U
- Identification of building materials relevant under ECBC-R
- Quantify benefits of ECBC-R at a city level

Phase 2 (Mar 2020 – Dec 2020)
- Technical assistance for the identified pilot project
- Proposed amendments to state regulations and standards
- Mainstream building materials as per ECBC-R requirements
- Develop a framework for scaling up at ULBs in different states in India