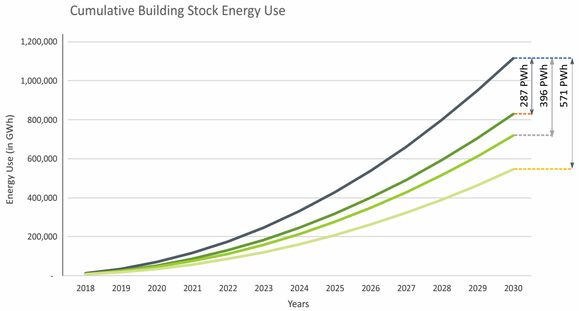

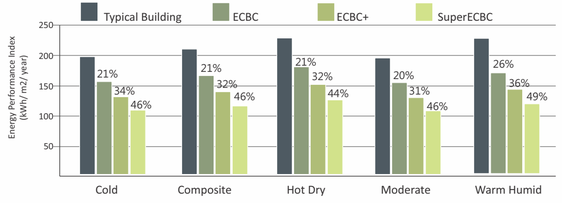

ECBC Implementation

While the ECBC was launched on a voluntary basis by BEE in 2007, its enforcement lies with the state governments and urban local bodies. The PACE-D TA Program assisted BEE in ECBC implementation in two focal states (Haryana and Rajasthan) by supporting the development of rules and regulations for ECBC compliance and building the capacity of the stakeholders. Towards this objective, the Program developed ECBC Implementation Action Plan for the states, conducted high-level stakeholder meetings in Haryana and Rajasthan and facilitated the formation of a state-level special task force for ECBC Implementation for Rajasthan. Haryana has already made ECBC mandatory as of March 2016.

ECBC Professional Certification Program

India has a large pool of architects and engineers who are currently designing energy efficient buildings, however few of them are familiar with ECBC requirements in its entirety. BEE proposes to address this challenge by establishing a professional certification program to build a competent cadre of professionals who can design, construct and certify ECBC compliant buildings.

The PACE-D TA Program supported BEE on this initiative and developed the “ECBC Certification Program Examination Reference Guide” which constitutes the study material for prospective applicants who plan to take part in the certification process. The Program also developed sample question papers for the examination.

About BEE

BEE is a statutory body under the Ministry of Power. It assists in developing policies and strategies with the primary objective of reducing energy intensity of the Indian economy. BEE co-ordinates with designated consumers, designated agencies and other organizations to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

About the USAID PACE-D TA Program

The USAID PACE-D TA Program is a part of the overall Partnership to Advance Clean Energy (PACE) initiative, the flagship program under the U.S.-India Energy Dialogue. The five year Program, implemented in collaboration with the Ministry of Power and Ministry of New and Renewable Energy, has three key components: energy efficiency, renewable energy and cleaner fossil technologies. The Program's focus is on institutional strengthening, capacity building, technology pilot projects, innovative financing mechanisms and increasing the awareness of clean energy technologies.

Apurva Chaturvedi
Senior Clean Energy Specialist
USAID/India
Email: achaturvedi@usaid.gov

www.pace-d.com www.facebook.com/PACEDTAProgram twitter.com/PACE_DTAProgram

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Energy Conservation Building Code 2017

USAID FROM THE AMERICAN PEOPLE

ENERGY IS LIFE BEE CONSERVE IT

GOVERNMENT OF INDIA MINISTRY OF POWER

Overview

India is experiencing an unprecedented construction boom. The buildings sector is expected to add 35 billion square meters of floor space by 2050. Commercial buildings account for nearly 10 percent of total energy consumption, with an expected annual grow rate of 8 percent.

With the objective of making buildings energy efficient, the Government of India launched the Energy Conservation Building Code (ECBC) in 2007 which was applicable to all commercial buildings in India with a connected load of 100 kW or above, or contract demand of 120 kVA or above. The U.S.-India bilateral Partnership to Advance Clean Energy-Deployment Technical Assistance (PACE-D TA) Program supported the Ministry of Power (MOP) and the Bureau of Energy Efficiency (BEE) in the technical update of the existing ECBC to reflect advancements in technologies and changing energy scenario of the country.

ECBC Technical Update

The BEE led the update of ECBC 2007 and was assisted by a technical team of building energy efficiency and renewable energy experts from the PACE-D TA Program. The update process was designed to be a participative exercise that responded to the concerns of the building sector and its stakeholders while maintaining the technical rigor that must accompany any enforceable building energy code. Five Working Groups, comprising leading building energy efficiency and renewable energy experts in the country, were constituted to oversee the code update process. The Working Group members were associated with the development of original ECBC and have also been instrumental in developing building energy codes internationally. Each Working Group was responsible for a building system under the scope of ECBC: building envelope, lighting and controls, comfort systems and controls, electrical and renewable systems.

ECBC 2017 - The Journey

- Identification of Update Priorities, Scope and Methodology
- Market Assessment - Baseline Analysis and Data Collection
- Stringency Analysis and Draft Recommendations
- Draft Code and Impact Analysis

ECBC 2017 was launched by Piyush Goyal, Minister of State (IC) for Power, Coal, New and Renewable Energy and Mines on June 19, 2017.

What's new in ECBC 2017?

Technology neutral

Energy efficiency requirements have been framed to provide architects and engineers artistic and technical freedom to use their preferred choice of technologies if the minimum efficiency requirements are satisfied by materials and technologies proposed for the proposed building.

Renewable energy integration

State governments in regions with significant renewable energy potential are now mandating regulations for solar rooftop photovoltaic and other systems. Providing arrangements for use of renewable energy systems is now mandatory in ECBC 2017. The code will now encourage building designs that can be adapted to installation of renewable energy systems with ease. The proportion of total electricity demand to be met through renewable energy systems increases with the efficiency level the project aspires.

Beyond code performance

ECBC 2017 is one of the first building energy codes to recognize improvements beyond code performance. ECBC 2017 has defined incremental, voluntary energy efficiency performance levels. There are now three levels of energy performance standards in the code: ECBC compliant building, ECBC+ building and Super ECBC building. Fulfilling requirements stipulated for ECBC level of efficiency is necessary for demonstrating compliance with the code. Other two levels are voluntary. Subsequent updates in ECBC will be focused on making ECBC+ and Super ECBC building the baseline of energy efficient buildings in the country.

Representative building typologies

Performance standards of the updated code are designed by testing their applicability to 16 different building types. These building typologies are derived from the National Building Code of India.

Passive design strategies

Passive design strategies like daylight, shading, low energy comfort systems and natural ventilation are given emphasis in ECBC 2017. The objective for this change is to encourage design with passive strategies the norm for buildings in India. Building energy codes hinge on climate responsive buildings that use local natural resources and climatic conditions to their advantage. Passive design strategies are one of the most effective methods to ensure that building designs and technologies are sensitive to the surroundings.

ECBC Impact

Energy Conservation Building Codes (ECBC) building codes are delivering significant and lasting energy savings in new construction where they have been implemented. ECBC are rightly considered as a pillar to any government energy efficiency and climate change policy. ECBC has to be regularly updated in response to the dynamics of the construction sector while helping countries better face current energy supply and climate change challenges.

ECBC benefits both the individual building owners and the society. Benefits to property owners include reduced energy costs and improved comfort (both thermal and visual). The benefits to society include reduced capital investments in energy supply infrastructure, reduced environmental impacts, improved electricity reliability, and more efficient use of resources.