



BUILDING A BETTER FUTURE: IMPLEMENTING THE ENERGY-SAVING BUILDING CODE IN HYDERABAD

With skyrocketing energy demand, limited energy supply, rapid urbanization and increasing pollution levels, India critically needs energy solutions. Energy efficiency is an immediate solution, locking in energy savings in India's growing cities. To reap energy savings, Hyderabad and Telangana State are moving forward with India's first online system to ensure energy savings in buildings.

Buildings account for more than 30% of India's electricity consumption, and the total built space in the country is growing at a tremendous rate. The Energy Conservation Building Code (ECBC), launched by the Ministry of Power's Bureau of Energy Efficiency (BEE), has the potential to transform the way buildings are constructed and to unleash significant energy savings. Building more efficient buildings is also a central strategy to achieve India's climate target to reduce emissions intensity by 33 to 35 percent from 2005 levels by the year 2030 as part of the Paris Agreement.

Taking the lead on energy savings, the states of Telangana and Andhra Pradesh adopted mandatory energy conservation building codes for commercial buildings in 2014, applicable to both states after bifurcation. The Administrative Staff College of India (ASCI) and the Natural Resources Defense Council (NRDC) collaborated with state and city officials as knowledge partners to develop the code and to guide it through official adoption, and now we are working together to launch a city-wide compliance system that can be scaled across the state and country.

KEY FEATURES OF THE ENERGY CONSERVATION BUILDING CODE IN TELANGANA STATE AND ANDHRA PRADESH

The code applies to any commercial building or building complex that has a plot area of 1,000 square meters or more or a built up area of 2,000 square meters or more.

- Buildings of a certain type, such as multiplexes, hospitals, hotels, and convention centers, must comply with the ECBC, irrespective of their built up area.

- The code offers a Star Rating system using a single star rating mandatory with "prescriptive method" or "whole building performance method" for all commercial buildings. For two stars or more, officials can award incentives, such as expediting the building approval process for construction and occupancy.
- Code compliance will be verified to state and city officials through third-party assessors during the building design approval stage and after construction.



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HYDERABAD – A GROWING COMMERCIAL CITY

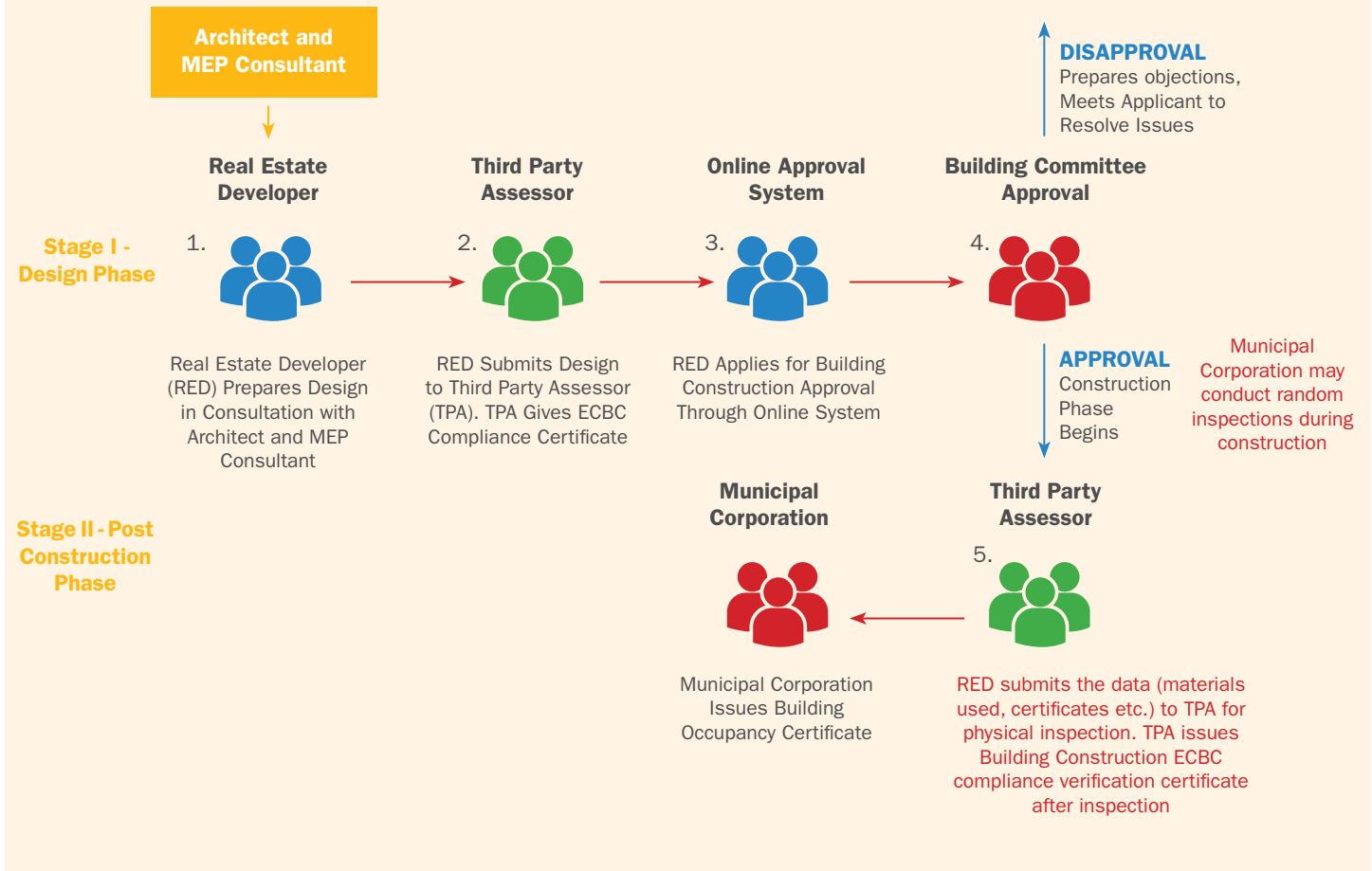
The city of Hyderabad is a hub for leading Indian and multi-national hi-tech companies, including IT and IT-enabled services, software consulting, and business process outsourcing firms. Currently, as the joint capital of Telangana and Andhra Pradesh, Hyderabad also has many government office buildings and administrative services. New building construction is expanding in Hyderabad and across the region. Commercial office space in Hyderabad, already at 64 million square feet as of 2015, is projected to almost double by 2022. Additionally, about 5 million square feet of commercial mall space is expected to be operational by 2022. Since this rapid growth in buildings will exponentially increase energy demand, there is a window of opportunity now to construct energy efficient buildings that will lock in energy savings for years to come, boost economic growth through greater energy access, and reduce pollution.

ECBC COMPLIANCE FRAMEWORK IN TELANGANA

The Government of Telangana has adopted a two-tiered approach to code compliance. Third-party assessors, trained and empaneled by the government, inspect the building in two stages to ensure effective compliance.

- Stage I – Design Phase: Third-party assessors review the drawings and specifications and then issue an ECBC compliance certificate.
- Stage II – Post-Construction Phase: Third-party assessors review the ECBC compliance forms and conduct a physical inspection of the building to ensure ECBC compliance with the submitted plans and simulation report.

HYDERABAD ECBC APPROVAL PROCESS & STEPS



A STRATEGY FOR CODE IMPLEMENTATION

The Government of Telangana, with the support of key stakeholders, is moving ahead to pilot a multi-step process to implement the ECBC in the state. Led by a steering committee, the state has developed a three-pronged strategy for effective implementation of the code, including awareness and capacity building; integration with the building approval process, and technical and expert support.

1. AWARENESS AND CAPACITY BUILDING

To increase capacity, more than 700 architects, engineers, and experts have received training on the ECBC in both Telangana and Andhra Pradesh. Telangana State, ASCI, and NRDC, along with experts at the Indian Institute of Information Technology (IIIT), have also conducted workshops to increase capacity among builders, designers, engineers, architects, and other stakeholders on the code compliance process. The state government has also launched a Certification Program

to certify a pool of 100 ECBC experts as third-party assessors in Telangana who can augment the technical capacity around code compliance. To raise awareness among real estate developers, architects, building occupants, and key stakeholders, Telangana is advertising in newspapers and trade publications about the energy saving requirements.

2. INTEGRATING THE ECBC WITH BUILDING APPROVAL FORMS AND PROCESSES

Telangana is developing an online building approval system for the ease of owners and builders and to fast-track building approval across the state. The ECBC Technical Committee in Telangana State have reviewed and examined the existing building approval forms to determine how to integrate ECBC compliance, and the online system is being modified to do so in a seamless manner. Once it is fully operational, the online system can be replicated in local bodies across the state and beyond, thus rapidly scaling implementation of the code.

SIMPLE ADDITION TO BUILDING APPROVAL FORM INTEGRATING ECBC

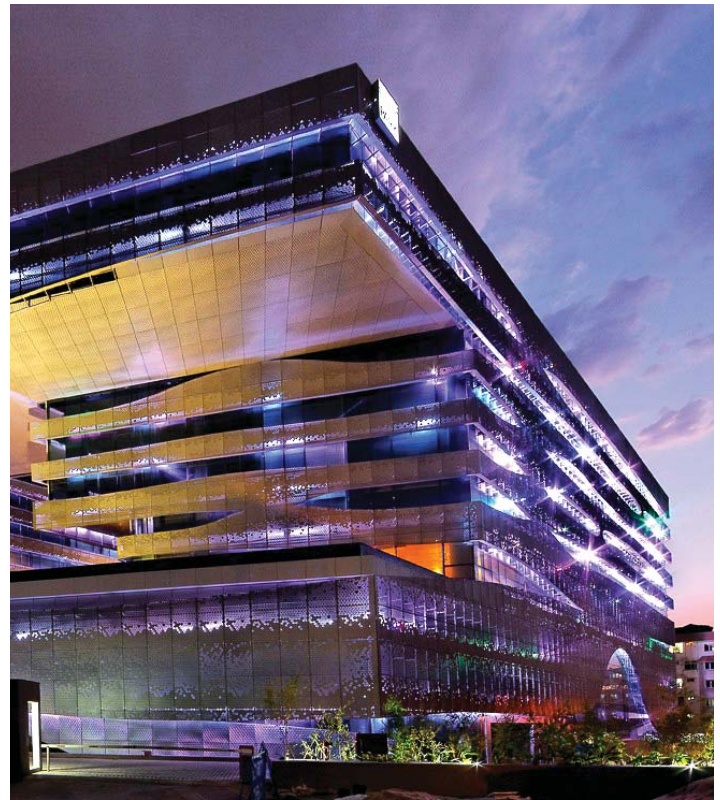
C				
DETAILS OF BUILDER / LICENSED PERSONNEL				
S. No.	Name	Address	License No.	Validity
1 Builder / Developer			
2 Architect/Engineer/Surveyor			
3 Structural Engineer			
4 ECBC Empanelled TPA			

3. TECHNICAL AND EXPERT SUPPORT

To assist early building projects, Telangana has created an ECBC Technical Cell, which will provide technical support and expertise on specific aspects of the code and will develop resources such as Frequently Asked Questions. The Cell includes representatives from ASCI, NRDC, and IIIT, who are working directly on early projects in Hyderabad and who are simultaneously operationalizing and improving the process for future applications.

LOOKING AHEAD

As Hyderabad and Telangana State lead the country in implementing the building energy code, ASCI and NRDC continue to support their governments as knowledge partners to make efficient buildings a reality. With the help of extensive stakeholder consultations, Hyderabad's implementation framework has been designed specifically for the building construction and approval processes in local, urban bodies in India so that it can be replicated in other cities across the country, thereby helping India to achieve its goals of clean energy and economic prosperity.



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