



## Telangana constructs energy efficient buildings to guarantee energy savings

**Government:** Telangana, India

**Region:** Asia-Pacific

**Sector:** Energy efficiency

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### Summary

The southern state of Telangana - the first Under2 Coalition member from India, is a major global information technology hub and has one of the 20 largest metropolitan areas of India. Despite rapid urbanization in the recent years, Telangana’s capital Hyderabad and other cities are yet to experience significant growth in construction.

Studies report that two-thirds of the buildings that will exist in Indian cities by 2030, are yet to be built, highlighting a significant opportunity for energy saving by constructing energy efficient buildings. A Global Building Performance Network study found that buildings account for around 35% of India’s energy consumption.

Recognizing this opportunity to save energy in new buildings, India’s central Ministry of Power’s Bureau of Energy Efficiency launched the Energy Conservation Building Code (ECBC) in 2007, as a minimum standard for energy efficiency in buildings. Seven Indian states have adopted and notified the code since it was first launched but compliance has been underwhelming. In 2017, Telangana became the first Indian state to embed the ECBC into its building approval system, thereby ensuring widespread compliance and guaranteed energy savings.

Telangana’s Municipal Administration and Urban Development department worked with the key city governments, real-estate developers, architects, engineers and energy experts to ensure code compliance through a multi-stakeholder engagement process. Several steps including creating a state-level steering committee, developing knowledge resources and building stakeholder capacity were undertaken to ensure compliance. In a move to lead by example, the state’s Municipal Administration and Urban Development Minister KT Rama Rao announced that 21 new government buildings under construction, would be ECBC compliant.

Hyderabad is home to businesses like Google, Microsoft, Oracle, Amazon, and our first RE100 member from India, Infosys – the first corporate campus in India to meet 100% of its electricity needs from renewables. By ensuring construction of energy-efficient buildings, the state can attract even more investment from companies that support sustainable business practices.

If states across India adopted the Energy Conservation Building Code (ECBC) and developers participated in strong programs for rating commercial buildings, an estimated 3,453 terawatt hours (TWh) of cumulative electricity could be saved by 2030, the equivalent of powering as many as 358 million Indian homes annually between 2014 and 2030 based on the current annual consumption level for electrified homes.



## Results

All new buildings in the state are expected to go through two rounds of certification. The building approval authorities will check the building at the pre-construction phase. After the construction is completed and the building is ready for occupation, it will again undergo another inspection to check for ECBC compliance in terms of energy efficiency of the building material and electrical equipment used in the building.

The Telangana government is expected to implement ECBC compliance with a phased approach. To begin with, the code is mandatory for all municipal corporations (more than 1 million people), followed by municipalities (more than a hundred thousand people).

## Enabling conditions

Some of the key enabling conditions for the successful implementation of the code include strong political will and leadership from the state government. The state government established a steering committee led by the state's municipal administration and urban development department. The steering committee also included representatives of city governments, public works department, road and building departments, academics, experts as well as the private sector real-estate developers. Knowledge partners to Telangana, the Administrative Staff College of India trained more than 600 city managers across the state and worked with architects, engineers and real-estate developers to build local capacity. The state prepared training materials and resources to simplify code compliance.

## Challenges

- **State division:** In 2014, the state of Andhra Pradesh split into two states – Telangana and Andhra Pradesh. Political and bureaucratic shuffles caused significant delay in implementing the ECBC.
- **Multi-stakeholder process:** The implementation process involved numerous stakeholders such as architects, government officials, real-estate developers, academicians, and officials from other government departments. It was a challenge to build consensus among stakeholders with diverse perspectives.
- **Market development:** Challenges were faced by the developers because of the high incremental cost of constructing energy efficient buildings. The market for energy efficiency in the building sector is still under developed in India, so building material availability was also a challenge.

## Key lesson learned

The Telangana ECBC compliance system is the first of its kind in India. Hyderabad is one to the fastest urbanizing cities in India and energy efficiency is the fastest, cleanest, and cheapest way to meet the city's growing energy needs. Through its multi-layered strategy to ease compliance, build capacity in various stakeholders and work with experts, Telangana has guaranteed energy savings for years to come.

## More information<sup>1</sup>

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Telangana and Andhra Pradesh are some of the fastest-growing regions in the country. In 2013 the demand for office space in Hyderabad was estimated to be 15 to 20 million square feet, up from less than 2 million square feet in 2005. Implementing energy efficient building measures in the two states could save enough energy by 2030 to power 8.9 million Indian households a year (this estimate was made before the state division in 2014)

<sup>1</sup> Source: NRDC's ECBC resource guide, Administrative Staff College of India (ASCI)