



## Mitigation Potential from India's Buildings

The GBPN

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India is in the midst of an unprecedented construction boom, with total floor area expected to increase four-fold by 2050. This will affect overall energy consumption and greenhouse gas emissions and have a considerable impact on energy and climate change policies at the national as well as global levels because of the size of India. This report analyses the buildings sector in India and some options for the future.

This report has two major aims: to examine India's potential for mitigation based on three scenarios developed for GBPN's examination of global mitigation potential; and to make a detailed examination of current buildings policies as well as the policy framework, including the implementation capacity.

A scenario analysis was produced by the Center for Climate Change and Sustainable Energy Policy (3CSEP) of the Central European University as part of a May 2012 study commissioned by the GBPN. The analysis shows that India's growth could easily see an increase in building energy consumption and CO<sub>2</sub> emissions of around 700% by 2050 if left unchecked. By adopting an ambitious approach, however, the increase could be limited to 200%. This approach would require incorporating current state-of-the-art know-how and technologies (i.e. best practice).

Considering the growth of population, floor area, comfort levels and migration to cities, keeping thermal energy use under a 200% increase compared to 2005 levels will be a huge task and will need a significantly more ambitious policy framework.

The report then considers such a policy framework in the context of the challenges for India. In 2007, the government's Bureau of Energy Efficiency released a nationwide commercial building energy-efficiency code, the Energy Conservation Building Code (ECBC). The code was revised in 2008 to cover an extended range of buildings. The ECBC must be adopted at the level of the state in India where it is implemented. To date, two states have mandated the code while six other states are in the process of adoption. The remaining states are expected to follow over the next year. Labelling of buildings - an important policy measure in all GBPN regions - is gaining momentum and recognised labels are being used on a voluntary basis. There are calls for a rating system in order to ensure compliance. This would help when dispersing incentives. Unfortunately, to date, financial incentives for buildings are still in an early state of development.

The report is essential reading for all analysts of the energy performance of buildings. There is a construction boom underway and if new buildings are not of the highest quality, there could be problems in the future. The challenge is stark: the savings potential is more than 5 times greater than the energy used by buildings in India today but if no action is taken India could face a growth in thermal energy demand in buildings of around 700%. Policy action is urgently needed and this report offers a rigorous examination of the options that the Indian government and all stakeholders have before them.