

PROPERTY PLUS

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Energy-efficient buildings provide effective means to achieve global climate and sustainability goals

Building a sustainable future

The Energy Management Centre - Kerala (EMC) has called for strict implementation of the Energy Conservation Building Code (ECBC).

The ECBC, launched in May 2007 by the Union Power Ministry's Bureau of Energy Efficiency, envisages minimum requirements for energy-efficient design and construction of buildings. State Governments may modify the code to suit local needs.

In Kerala, any building or building complex intended for commercial purposes, having a connected load of 100kW or more, or a contract demand of 120kVA or more, or having an air-conditioned area of 500 sq.m. or more, should comply with the Kerala State Energy Conservation Building Code (KSECBC).

The Energy Efficient Building Cell established in the EMC provides technical assistance to implement the ECBC. The EMC trains engineers and architects in designing energy-efficient buildings. A cadre of Building Energy Efficiency Experts (BEEE), empanelled by the



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EMC, helps the public in the design of buildings that comply with the ECBC.

"Adhering to the code is now mandatory in Kerala. Owners of existing buildings too are encouraged to follow

the guidelines," says Dinesh Kumar, Joint Director, EMC, Kerala.

The code will usher in a major change. "Two thirds of the total building stock the country is projected to have by 2030 are yet to be built. New buildings signal a growing energy demand. Occupant comfort needs to be retained while combating climate change," he adds.

Changes on the horizon

According to a report from the International Energy Agency (IEA) and the United Nations Environmental Programme, the building sector in India is not geared to

achieve the United Nations' Sustainable Development Goals and climate goals set out in the 2015 Paris Agreement. Carbon emissions from buildings have been increasing. Greenhouse gas emissions have risen 7% since 2010.

The building sector could account for more than 50% of global energy use by 2060 if its energy efficiency was not improved, stated the report.

The goal of the Paris agreement is to limit global warming to below 2 degrees Celsius, preferably to 1.5, compared to pre-industrial levels. To achieve a climate-neutral world by mid-century, countries are striving to reach global peaking of greenhouse gas emissions.

Coal-based thermal power sector is one of the country's biggest emitters of carbon dioxide (CO2). It accounts for 1.1 gigatonne of CO2 emission every year and 2.5% of global greenhouse gas emissions.

In India, electricity from thermal energy is the dominant source of power. It constitutes nearly 62.86% of the total installed capacity in the

country as on October 31, 2019.

More emissions

More power consumed thus means more greenhouse-gas emission. Residential buildings and the commercial sector account for 70% of power consumption in Kerala.

"If we make the residential buildings and commercial establishments energy-efficient, they will contribute to lesser greenhouse-gas emission," he says. "The solution lies in natural daylight integration and better ventilation in buildings so that less electricity is used for lighting and artificial cooling."

The EMC has been creating awareness about this among architects, engineers and the general public. Star-rated appliances and simple options such as painting the exterior in light shades and roofs with SRI (solar reflective index) paint can help. "The people of Kerala need to adopt an energy-efficient lifestyle," he says. "This will improve energy security as well as protect the environment for future generations," he adds.

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Reduce your electricity bill by 25%

- Switch OFF lights and appliances not in use
- Set your Air Conditioner temperature to 24°C. Reducing each 1°C will increase energy by 4% extra
- Clean your Air-conditioner filter once in a month and improve cooling at No additional Electricity Cost
- Avoid hot wash mode in Washing machines and save energy by 75%
- Set Ceiling fan speed to point 3 and save energy by 25 to 40%
- Clean your gas burners regularly and save LPG by almost 25%
- Clean the ceiling fan blades regularly and improve ventilation at No additional Electricity Cost
- Install a roof top Solar Power Plant and cut down your Electricity Bill
- To reduce the artificial lighting requirement in the building, make use of natural light and use light coloured paints for room
- Ensure natural ventilation and cross ventilation inside the rooms for better thermal comfort and reduced energy consumption for cooling

CHEAPEST SOLUTION → EXPENSIVE SOLUTION



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