Third Regional Workshop on ECBC Implementation in States
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The Energy Conservation Building Code (ECBC) was launched by Ministry of Power, Government of India in May 2007, as a first step towards promoting energy efficiency in the building sector.

The purpose of the code is to provide minimum requirements for energy-efficient design and construction of building.

Code adoption is voluntary in the country and becomes mandatory in state after notification by respective state government.

India’s Nationally Determined Contribution (NDC) lists Enhancing EE through ECBC as one of most imp. mitigation strategy.

Source: BEE & UNDP_GEF
ABOUT ECBC

**ECBC developed under EC ACT 2001**, wherein **power to implement** is with both center & state

Sets minimum energy standards for new **commercial buildings** having a connected load of 100kW or contract demand of 120 KVA and above

So far, **10 states** have **notified ECBC** and establishment of **ECBC cells in 5 states**

**Trained 89 ECBC Master trainers** and **3300 building sector stakeholders**

**Identified six institutes for supporting training and capacity building**

Source: BEE & UNDP_GEF
Any building that is used for neither residential, manufacturing, nor agricultural purposes, such as:

- Office buildings
- Hotels
- Restaurants
- Retail mall and shops
- Hospitals
- Educational Institutes
ECBC NOTIFICATION STATUS

**CATEGORY 1: ECBC NOTIFIED**

10 States/UTs
Rajasthan, Odisha, **Uttarakhand**, UT of Puducherry, **Andhra Pradesh**, **Punjab**, **Telangana**, Haryana, West Bengal, and Karnataka

**CATEGORY 2: ECBC AMENDED**

10 States/UTs
Uttar Pradesh, Kerala, Chhattisgarh, Gujarat, Tamil Nadu, Maharashtra, Bihar, Himachal Pradesh, Madhya Pradesh, and Delhi

**CATEGORY 3: NO ACTION**

Source: UNDP-GEF

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The ECBC provides design norms for:

- **Building envelope** (thermal performance requirements for walls, roofs & windows)
- **HVAC system** (energy performance of chillers and air distribution systems)
- **Lighting system** (lamps performance requirements, automatic controls)
- **Electrical system**
- **Water heating and pumping systems**

Source: BEE
ENERGY EFFICIENCY MEASURES

CHEAPEST SOLUTION

PASSIVE BUILDING DESIGN (walls, roofs, windows)

USE OF EFFICIENT SYSTEMS (HVAC, lighting)

USE OF RENEWABLE ENERGY (Solar PV)

Building Design and Construction Phase

Post Building Construction

Lock-in period of ~ 30-50 years
BAU commercial buildings have energy performance index (EPI) of 200-400 kWh/sqm/year

Energy efficient buildings have shown EPI between 80-100 kWh/sqm/year, in some cases as less as 13 kWh/sqm/year
<table>
<thead>
<tr>
<th>Approaches</th>
<th>Mandatory Requirements</th>
<th>Flexibility</th>
<th>Expert Knowledge</th>
<th>Use of Energy Simulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescriptive</td>
<td>Required</td>
<td>Low</td>
<td>Low</td>
<td>No</td>
</tr>
<tr>
<td>Performance based – Whole Building Approach</td>
<td>Required</td>
<td>High</td>
<td>High</td>
<td>Yes</td>
</tr>
</tbody>
</table>
ROLE OF STAKEHOLDERS: ACHIEVING TECHNICAL COMPLIANCE

Building envelope (thermal performance requirements for walls, roofs & windows)

HVAC system (energy performance of chillers and air distribution systems)

Lighting system (daylighting, and lamps & luminaire performance requirements)

Electrical system

Water heating and pumping systems

During Construction

• ARCHITECTS
• MEP CONSULTANTS
• GREEN BUILDING/ECBC CONSULTANTS
ECBC Administrative Requirements

- Code development and updation
- Amend ECBC to meet State requirements
- Notification of ECBC in State
- Enforcement – Compliance check

Roles:
- Technical Experts
- State Officials
- Third Party Assessors
THANK YOU

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