Implementation of Energy Conservation Building Code (Hyderabad Model)
ECBC in Andhra Pradesh and Telangana: Work that went into the code, and next steps


- Extensive stakeholder consultations and awareness building about ECBC
- Formation of a steering committee and a technical committee to inform process and adapt ECBC to local bylaws
- Notification of ECBC through amendment to G.O.M.S.168 i.e., G.O.M.S. 30 dt. 28.01.2014.
- Implementation of ECBC in the state of Andhra Pradesh and newly formed Telangana

- Empanelment of architects - completed
- Training completed – more than 750 government officials, real estate developers and architects in AP and Telagnana

- Extensive Workshops on Energy Efficiency
- Government Announced Code Process
- Intensive Stakeholder Discussions
- Government Announced Code will be Enacted Soon
- Notification through G.O.M.S.30
- Statewide Capacity Building
- Code Operational in Telangana & Andhra Pradesh
Government approach for ECBC adoption

- Government of AP (before bifurcation) has constituted a technical committee vide G.O.Rt. No. 1328 dt. 04-10-12 for preparation of state ECBC
- Objectives of Technical Committee
  - Review the existing government orders and initiatives on energy efficiency
  - Compare the requirements of the ECBC with existing orders and initiatives. Identify the changes required in the acts and building bye laws to make the ECBC mandatory
  - Describe implementation of the roadmap for ECBC adoption in Andhra Pradesh with a focus on
    - building bylaws modification,
    - ECBC compliance mechanism,
    - capacity building and training, and
    - demonstration projects
  - Incorporate lessons from other states that have adopted the ECBC
Government approach for ECBC adoption

- Government of AP (before bifurcation) has constituted a technical committee vide G.O.Rt. No. 1328 dt. 04-10-12 for preparation of state ECBC
- Constitution of Technical Committee
  - Chairman
    - Principal Secretary (Municipal Administration and Urban Development Department)
  - Member Convener and Secretary
    - Prof Srinivas Chary Vedala, ASCI
  - Members
    - Principal Secretary (Energy)
    - VC and MD (SDA)
    - Commissioner (GHMC)
    - Chairman, HMDA
    - Chief Engineer (Roads and Buildings)
    - Director (Town and Country Planning)
    - Energy Economist (BEE)
    - Prof Rajkiran Bilolikar
    - Prof Vishal Garg, IIIT
  - Invitee Members
    - CREDAI (Confederation of Real Estate Developers Association of India)
    - APREDA (AP Real Estate Developers Association)
Outcome of Technical committee

• Technical Committee prepared a roadmap for adoption of the ECBC in the state within the state’s existing legal framework, based on the Technical Committee’s analysis and expert recommendations.

• The Committee submitted its report for adoption of ECBC along with suggested changes in GO 168 – which is basically talks about municipal Building Rules in AP

• Further, Government of AP, based on the technical committee recommendations, has announced mandatory Energy Conservation Building Code (ECBC) for all commercial buildings and Non-Residential buildings that have plot area of more than 1000 square meters or built up area of 2000 square meters and certain categories of buildings such as multiplexes, hospitals, hotels and convention centers irrespective of their built up area through G.O.M.S.30 dt. January 28, 2014.
Building Approval Process – Hyderabad Model
ECBC Implementation status

• For effective implementation of ECBC and achieve higher level of compliance following activities were completed in the state with the support of Administrative Staff College of India (UNDP-GEF-BEE funding)
  – Empanelment of Third Party Assessors for ECBC compliance verification and issuing the certificate. 42 Third Party Assessors are empanelled.
  – More than 750 participants which includes government officials from town & country planning, municipal bodies, electricity utilities etc. and private people like Architects, Real Estate Developers and Engineers etc. are trained in the state of Andhra Pradesh as part of capacity building.
Further Action

• Setting up Technical Committee (set by GO 1328) for ECBC implementation at each ULB Level
• Strengthen the implementation framework
• Strengthen the Third Party Assessors framework by defining rules and regulation
• Directions for Commercial building approval committees at each ULB level to scrutinize ECBC as *15c of GO 168 in the application forms*
• Strengthen the Online Building Approval System by Incorporation of ECBC in an effective way
• Promotion and outreach plan for ECBC
Step 1 Formation of Technical Sub-Committee for regular review of ECBC compliance

A core group of representatives to lead the implementation of critical tasks

- Commissioner – ULB
- Chief City Planner - ULB
- VC & MD / CEO – TNREDCL/SECM (SDA)
- Director TCPO (Town and Country Planning office)
- Representative from Electricity Utilities
- Roads and Buildings Representative
- ASCI – IIIT - NRDC
GHMC Building Application - ECBC incorporation

- Provisions for ECBC empanelled TPA are to be incorporated in Part I, table C point 4 of building application form of GHMC as shown below

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Details of Builder / Licensed Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Builder / Developer</td>
</tr>
<tr>
<td>2</td>
<td>Architect/Engineer/Surveyor</td>
</tr>
<tr>
<td>3</td>
<td>Structural Engineer</td>
</tr>
<tr>
<td>4</td>
<td>ECBC Empanelled TPA</td>
</tr>
</tbody>
</table>

Administrative Staff College of India
**GHMC Building Application- ECBC incorporation**

- Provisions for ECBC compliance documents (compliance report) in Part I, table E, point 33 of building application form of GHMC as shown below

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>Undertaking Rs. 100/- Non judicial stamp paper duly stating whether the construction is taken up by the owner. <em>(G.O.Ms.No.541 MA, dt: 17.11.2000)</em></td>
</tr>
<tr>
<td>27</td>
<td>Declaration-Cum-Undertaking on Rs. 100/- Non Judicial Stamp Paper from the Owner and Builder. <em>(G.O.Ms.No.541 MA, dt: 17.11.2000)</em></td>
</tr>
<tr>
<td>28</td>
<td>Undertaking on Rs. 100/- NIS by Owner, Builder, Architect, Structural Engineer (Duly Notarised). <em>(G.O.Ms.No.541 MA, dt: 17.11.2000)</em></td>
</tr>
<tr>
<td>29</td>
<td>Undertaking on Rs. 100/- NJS paper jointly by owner and Builder seeking Occupancy Certificate. (Duly Notarised). <em>(G.O.Ms.No.541 MA, dt: 17.11.2000)</em></td>
</tr>
<tr>
<td>30</td>
<td>Joint undertaking on Rs. 100/- Non Judicial Stamp paper for not stocking Building materials on road margin not to enclose balconies, usage of parking, payment of special sanitation charges, garbage charges and not to increase number of units. <em>(G.O.Ms.No.541 MA, dt: 17.11.2000)</em></td>
</tr>
<tr>
<td>32</td>
<td>Undertaking on Rs. 20/- NJS paper for handing over road widening portion wherever applicable.</td>
</tr>
<tr>
<td>33</td>
<td>ECBC compliance report issued by empanelled Third Party Assessor <em>(as per G.O.M.S. 30 MA&amp;UD, dt 28.01.2014)</em></td>
</tr>
</tbody>
</table>
**GHMC Building Application- ECBC incorporation**

- Provisions for ECBC compliance certificate (issued by empanelled TPA) in Part III table A, point 13 of building application form of GHMC as shown below

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>NOC from AAI, wherever applicable</td>
</tr>
<tr>
<td>7</td>
<td>NOC Fire Services &amp; Emergency Department, wherever required</td>
</tr>
<tr>
<td>8</td>
<td>Structural stability certificate issued by CE, GHMC</td>
</tr>
<tr>
<td>9</td>
<td>NOC of Commissioner of Police, wherever required</td>
</tr>
<tr>
<td>10</td>
<td>NOC of Traffic Assessment Report from Traffic Police, wherever required</td>
</tr>
<tr>
<td>11</td>
<td>NOC from Heritage Conservation Committee</td>
</tr>
<tr>
<td>12</td>
<td>Report from Irrigation/Revenue Department in case of lands abut water bodies, Water courses &amp; nalas</td>
</tr>
<tr>
<td>13</td>
<td>ECBC Compliance Certificate issued by Empanelled TPA</td>
</tr>
</tbody>
</table>
Step 2 – Online Building Approval System Updation

ECBC Component should be strengthened in the online building application system of ULBs - First time in India

GHMC already uploaded the same and few screen shots are here...
Incorporation of ECBC in GHMC online Building Approval System
Incorporation of ECBC in GHMC online Building Approval System

<table>
<thead>
<tr>
<th>Application Type:</th>
<th>Locality:</th>
<th>No. of Storey’s: NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application Form</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Site is the part of LRS approved?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>8 Latest market value issued by sub registrar concerned in rupees per sq. yards, duly incorporating the site under reference in the part of survey number/piece of land/unapproved layout?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>9 Contour plan to be submitted in the list of drawing.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>10 Revenue sketch issued by the Tahsildar concerned duly incorporating the site under reference in the survey number (if site is part of survey number)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>11 Risk insurance policy as per G.O. Ms. No. 168 MA &amp; UD dt: 07-04-2012 rule 5 (18)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>12 Undertaking as per the G.O.Ms. No. 168 MA &amp; UD dt: 07-04-2012, Rule 5(19)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>13 Declaration Certificate by the Architect</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>14 Whether the proposed height of the building is more than 10 Mt.?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>15 Whether the site is falling within the vicinity of Raw water channel/ pipe line of Krishna, Godavari, Osman Sagar &amp; Manjeera Water?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>16 Whether proposed site falls within the distance of 1000 Mt. from Military Airport?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>17 Whether proposed site/building falls in special regulation area as Jubilee Hills or Banjara Hills?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

For Commercial Building with plot area more than 1000 sq meters or built up area more than 2000 sq meter, or if the building is a Multiplex, Hospital, Hotel or Convention Center, then irrespective of built up area; ECBC checklist to be enabled. ECBC checklist to be enabled.
Incorporation of ECBC in GHMC online Building Approval System

Application Form

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Document Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No data found</td>
</tr>
</tbody>
</table>

In case "If site/building is greater than 1000 Sq. Meters then ECBC Check list to be enabled.?", hold true then you would require to submit following additional document(s):
Incorporation of ECBC in GHMC online Building Approval System
Step 3 Building Approval Committee

A dedicated ULB-ASCI-IIIT resource included in Commercial Building Application Committee meetings for handholding support to ULBs

• Reviewing submitted projects
• Answering queries on ECBC requirements and process
• Ensuring ECBC compliance requirements are fulfilled
• Tracking and reporting progress
Step 4 Framework for Third Party Verification

- Equip ULBs for ECBC compliance
- Create pool of minimum ECBC experts with certification
- Entrust institutional support to ULBS for effective implementation of ECBC
Andhra Pradesh and Telangana Case – Key Lessons and Roadmap

• **Lesson 1**
  – Creating a sense of urgency for ECBC at the highest level – Preferably at the Chief Secretary level

• **Lesson 2**
  – Institutional complexity and ownership in implementation of ECBC
  – *Garrent Hardin's 'Tragedy of Commons'*

• **Lesson 3**
  – Code adaptation – Should be made applicable to town planning
  – ULB involvement

• **Lesson 4**
  – Incentives are split in the sector – create incentive structure for builders

• **Lesson 5**
  – Code should be made mandatory – linked to reforms

• **Lesson 6**
  – Capacities to support change at the state level
  – Third party assessment for ECBC
Thank You

Rajkiran V. Bilolikar,
Associate Professor, Energy Area,
Administrative Staff College of India,
Bella Vista, Raj Bhavan Road,
Hyderabad - 500082

T: +91 40 6653 4390
F: +91 40 6653 4356
M: +91 9704087888

rajkiran@asci.org.in