Alliance for an Energy Efficient Economy

The Draft EIA Notification 2020

The Scope of inclusion of Energy Efficiency for Buildings

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About AEEE

Alliance for an Energy Efficient Economy (AEEE) is a policy advocacy and energy efficiency market enabler with a not-for-profit motive. AEEE advocates energy efficiency as a resource and collaborates with industry and government to transform the market for energy-efficient products and services, thereby contributing towards meeting India's goals on energy security, clean energy and climate change. AEEE collaborates with diverse stakeholders such as policymakers, government officials, business and industry, consumers, researchers, and civil society organizations. We believe that our work speaks for itself and we hold Respect, Integrity and Synergy as central to our efforts.

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1. overview of eia Notification

Environmental Impact Assessment is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts (both positives and negatives). For streamlining the process, the Government of India in the erstwhile Ministry of Environment and Forests through its EIA notification 2006, imposed certain conditions and thresholds on the undertaking of some projects or expansions or modernisation of such projects entailing capacity addition, in any part of India (listed in the Schedule to the EIA Notification 2006) unless prior environmental clearance has been accorded by the Ministry or the State Level Environment Impact Assessment Authority or District Level Environment Impact Assessment Authority, as the case may be, in accordance with the procedure specified in the EIA Notification, 2006 and subsequent amendments.

Subsequently, there have been several amendments issued to the EIA Notification 2006 from time to time for streamlining the process, decentralisation and implementation of the various orders of Hon'ble High Courts and National Green Tribunal. The EIA Notification 2006 was aimed at realising necessary environmental safeguards by assessing environment impacts due to the proposed projects, that require prior environment clearance at the planning stage itself; by making an attempt to make the process more transparent and expedient through implementation of online system, delegations, rationalization, decentralisation of the process. On 23rd March 2020, the Ministry of Environment, Forest and Climate Change (MoEFCC) invited comments on a new draft EIA Notification. The draft is proposed to replace the 2006 Notification.

1.1. Buildings and Construction Sector and Environmental Clearance

In 2018, MoEFCC in its draft notification dated 13th March 2018 (S.O. 1132 (E)) aimed to streamline the permissions for buildings and construction sector while simultaneously strengthening efforts to improve environment through greater objectivity and transparency. The notification as a part of Environmental Conditions for Buildings and Constructions identified the following medium:

- topography and natural drainage
- water conservation, rainwater harvesting and ground water recharge
- waste management
- energy
- air quality and noise
- green cover
- top solid preservation and reuse (for projects between 20,000 and 50,000 square meters)
- transport (for projects between 20,000 and 50,000 square meters)

To further set in place energy efficiency, the standard Environmental Clearance conditions for Building and Construction projects/ Townships and Area Development projects, the following Statutory compliances were laid in Office Memorandum (F. No. 22-34/2-18-IA.III) dated 4th January 2019:

1. The project proponent shall follow the ECBC/ ECBC-R prescribed by BEE, MoP strictly.

Point V titled "Energy Conservation Measures", lays down the following components:

1. Compliance with the ECBC of BEE shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the state ECBC.
2. Outdoor and common area lighting shall be LED.
3. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
4. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before commissioning.
5. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local bye-laws requirements, whichever is higher.

Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

However, the current draft incoherently gauges the environmental impact of lifecycle energy usage of buildings and township projects. It fails to set in place a coherent policy framework to regulate the energy usage in buildings and promote energy efficiency. It relies extensively on pe-certified market-based rating mechanisms, which may or may not align be complied with post contrition. The clauses do not align with the spirit of Ministry of Power's Energy Conservation Building Code (ECBC), recognised by the Energy Conservation Act, 2001.
The suggestive addendums here build upon the recognition to the environmental impact of buildings and townships. Recognising the need to implement a standard code across buildings in the country, the addendum suggests three possible ways of complying with it:

- ECBC compliance certificate approved by local authority;
- A provisional ECBC compliance certificate based on the internal checklist-based process of the appraisal committee that will be developed by MoEFCC with inputs from BEE;
- a Green building certificate (no pre-certification allowed)

1.2. Present Policy Landscape covering Energy Efficiency in buildings in India

Buildings have a significant impact on environment through both embodied energy in the materials used for construction of buildings and the operational energy consumed by the building during its lifetime. Hence, it is imperative to identify strategies to mitigate the negative environmental impacts of the buildings sector. One of the ways of reducing environment impact of buildings could be to enhance energy efficiency of buildings while ensuring thermal comfort for all. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration to optimise daylighting and careful treatment of thermal mass etc. shall be incorporated in the building design. The scope of coverage should include parameters such as: Building envelope, Lighting, HVAC and Solar water heating systems, Electrical distribution inside buildings and Renewable energy. These parameters have been detailed out in the following existing policy documents in India and must to be referred to encourage the first principles-based approach to reduce the environmental impact in the building design and construction industry, to bring consistency in the policy formulation and implementation of Govt of India across all ministries:

a) India Cooling Action Plan, Ministry of Environment, Forest and Climate Change
b) Energy Conservation Building Code- 2017, Bureau of Energy Efficiency, Ministry of Power
c) Eco Niwas Samhita (ECBC-R)- 2018, Bureau of Energy Efficiency, Ministry of Power

2. Present Clauses on Buildings in the EIA Notification

The item number 42 in the schedule of projects, focuses on buildings. Building Construction and Area Development Projects fall under the categories B1 and B2, that means, that the ultimate onus of providing environmental clearance of the projects lies with the state government. **The minimum area identified for the project requiring EC is 20,000 sq metres.**

42	Project	Category with threshold limit			Conditions if any
		A	B1	B2	
	Building Construction and Area Development projects		>1,50,000 sq. mtrs. of built-up area and or total land area of > 50 hectare	(i) >20,000 sq. mtrs. and <50,000 sq. mtrs. of built-up area	Note 1. Projects under (i) and (ii) of Column (5) shall not be referred to Appraisal Committee.
				(ii) > 50,000 sq. mtrs. and < 1, 50,000 sq. mtrs. of built-up area projects having provisional 'certificate of green building'* or relating to industrial sheds, educational institutions, hospitals and hostels for educational institutions	2. Any change in the intended use, prior- permission from the Regulatory Authority for amendment in the prior- EP shall be obtained. All such cases shall be referred to Appraisal Committee.
				> 50,000 sq. mtrs. and < 1, 50,000 sq. mtrs. of built-up area	Note: Projects under Column (5) shall be referred to Appraisal Committee
				>1,50,000 sq. mtrs. of built-up area	

* Certificate of Green Building" means certificate issued under the rating programmes of Green Rating for Integrated Habitat Assessment (GRIHA); Indian Green Building Council (IGBC); Leadership in Energy and Environmental Design (LEED) India, Excellence in Design for Greater Efficiencies (EDGE) or any other third-party green building rating system as recognised by the Ministry, from time to time; In case a developer gets EIA clearance for a building project based on the undertaking that the building will be certified green but fails to seek the certification, the developer must come back to seek EIA compliance all over again and failure to do so will lead to a significant penalty by the ministry.

2.1. Present Policy Landscape covering Energy Efficiency in buildings in India

Based on the rigorous analysis of the draft EIA Notification 2020, we have identified the following gaps or redundancies in the context of assessing the environmental impact of buildings and promoting energy efficiency during building's lifecycle.

Clause/ Section Number	Clause	Gaps
6	**Expert Appraisal Committee** The appraisal committee shall consist of the professionals with 15+ years of experience from the following fields: • Environment Quality • Sectoral Project Management • Environment Impact Assessment Process • Risk Assessment or Occupational health • Life Science (Floral and Faunal Management) or Forestry or Wildlife or Marine Science • Environmental Economics with experience in project appraisal • Pollution prevention and mitigation or environmental sciences • Public administration or management covering various developmental sectors and environment issues • Environmental laws • Social Impact assessment or Rehabilitation and Resettlement	The Committee should include a qualified professional from the building design and construction sector with a sound and comprehensive understanding of building science for assessing the environmental impact of buildings. Buildings have a significant impact on environment through both embodied energy in the materials used for construction of buildings and the operational energy consumed by the building during its lifetime. It is imperative to include a built environment (building sciences) expert in the environmental appraisal committee. The expert will take into consideration the life-cycle environmental impacts of the buildings and ensuring the buildings meet the specific standards from public health/ energy efficiency/ environmental standards while referencing other relevant GoI Acts, Codes and Standards.
42	**Buildings and Area Based Development** For projects falling in category B2 and >1,50,000 sq meters of area, having provisional 'certificate of green building' are exempted from being referred to appraisal committee.	a) Compliance with the Energy Conservation Building Code (ECBC- latest version) of Bureau of Energy Efficiency, Ministry of Power shall be ensured in commercial buildings. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. b) Compliance with the Eco-Niwas Samhita (ENS latest version, sometimes also referred to as ECBC-R) of Bureau of Energy Efficiency, Ministry of Power shall be ensured in all residential projects. Buildings/ townships in the States which have notified their own ENS, shall comply with the State ENS. In mixed-use development coming under the ambit of EIA Notification, residential development shall comply with the ENS and the commercial buildings and systems shall comply with the ECBC.

Clause/ Section Number	Clause	Gaps
		c) In states where, ECBC notification has not taken place: self-certification of compliance with ECBC and ENS should be undertaken. The proposed expert in the appraisal committee can ensure necessary checks and balances for ensuring compliance post construction. If necessary, an expert committee appointed by the MoEFCC in collaboration with Bureau of Energy Efficiency, can be set up to come up with clear and unambiguous checklist to be followed to ensure compliance with the above process.
Annexure X	**Generic Structure of Environment Impact Assessment Report**	Within the EIA Structure, there should be a sub-heading (row) on Energy Efficiency. The Content of the Energy Efficiency shall focus on building life-cycle energy consumption, energy savings and compliance to energy efficiency codes (ECBC, ECBC-R).
Appendix III	**CHECK LIST OF ENVIRONMENTAL IMPACTS** **Building materials and energy conservation**	The present checklist misses out on several ECBC requirements and it is important to mention the “checklist to achieve ECBC compliance as per the latest version of ECBC”.