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ADOPTION, COMPLIANCE, ENFORCEMENT
for ENERGY EFFICIENCY in BUILDINGS

Newsletter

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ECBC India

ECBC 2017 (Energy Conservation Building Code) was launched by Hon'ble Minister (IC) for Coal, Mines, NRE and Power on 19th June, 2017 at Delhi and is applicable for large commercial buildings with connected load of 100 kW and above or 120 kVA and above. ECBC focuses on building envelope, mechanical systems and equipment including heating, ventilating, and air conditioning (HVAC) system, interior and exterior lighting systems, electrical system and renewable energy, and also takes into account the five climates zones (Hot Dry, Warm Humid, Temperate, Composite and Cold) present in India.

The ECBC was developed by an Expert Committee, set up by India's Bureau of Energy Efficiency, with support and guidance from United

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Position Paper 6 - Roles of manufacturers and suppliers of construction products and services

Within EU Member States in general, manufacturers and suppliers of construction products and services took a very positive attitude to the adoption and implementation of the EPBD. This was a natural expectation, given that the Directive, and the consequential building energy codes required to be adopted by Member State authorities, required a greater use of higher specification products, many of which had been readily available for several years (for example, triple glazing, solar control products, condensing boilers, smarter controls, LED lighting, heat pumps and other renewables). However, given the near-term goal of achieving nearly zero energy buildings (NZEB) by around 2020, this has been, and continues to be, a significant challenge.

Suppliers of building materials, energy using equipment and energy efficiency services in the EU construction and renovation sector play a key role in ensuring quality buildings with good energy performance. While operating individually within a competitive market, within the EU they have also been represented by many industry associations, and hence have been delivering a number of roles in assisting the implementation and effectiveness of the EPBD, acting both individually and collectively. These have included:

Advocacy:

- Campaigning role, industry advertising, promotional activities and published studies/ position papers to highlight awareness and benefits of more energy efficient products and systems to their potential customers – architectural and engineering specifiers, building contractors, developers, State bodies – and to policy makers.
- Actively engaging in ongoing dialogue with Member State authorities and with the EU Commission as part of such campaigning.
- Responding to all opportunities provided by the consultative mechanisms of both EU and Member State authorities in relation to regulatory and other policy proposals.

Elements

- **Context**
 - EPBD implementation: the four-stage process
 - The building industry supply chain
 - The market change agenda
 - Scope: Products and Services
- **Roles of Industry and Industry Associations**
 - Overview of roles
 - Industry associations
- **Role in Advocacy and Consultation**
- **Role in Preparing the Market**
- **Capacity Building Role in Compliance**
- **Role in Innovation and Competitiveness**
 - New concepts, tools, skills and innovation

Market preparation and wider awareness:

- Addressing attitudes of building industry players specifically to energy codes and certification, highlighting the benefits.
- Representative bodies playing an active role on Standards development committees at EU and Member State level, and/or in their industry consultations.

Assisting compliance:

- Product manuals, guidance manuals with illustrated compliant construction solutions, software tools, assisting skills development of professionals (architects and engineers) in relation to applying their products and systems within the energy performance calculation methodology, including for example 'accepted construction details' to avoid cold bridging or air leakage.
- Training facilities such as training and 'knowledge centres' for both professionals and trades – blocklayers, plasterers, glaziers, heating technicians, electrical technicians – with practical demonstrations of code compliant constructions.

Company innovation and competitiveness:

- Participation in research and product/ service innovation projects and networks at national and EU level – for both newbuild and renovation.
- Similarly, participation in energy efficiency demonstration projects highlighting cost-effective methods of compliance.
- The creation of new service specialisations – energy performance certifiers, building energy performance modelling, thermal bridge modelling, air leakage testing.
- Early certification of innovative products and services.
- Continuous improvement culture within industry in upgrading product performance and overall quality.

In its own competitive interest, the construction supply sector has thus played, and continues to play, an active role in the drive to upgrade energy and overall quality performance standards within the building industry ecosystem.

Overall, the contribution of the construction supply sector activities in relation to advocacy, promoting awareness, building product labelling schemes and innovation have complemented its initiatives to support compliance of building designs and constructions with building energy codes.

CONCLUSIONS

Across EU Member States, the overall supply chain of the building industry – and particularly manufacturers and suppliers of building products, equipment and services - have been actively supportive of EPBD implementation. This was a natural expectation, given that the Directive, and the consequential building energy codes required to be adopted by Member State authorities, required a greater use of higher specification products, many of which had been readily available for several years (for example, triple glazing, solar control products, condensing boilers, smarter controls, LED lighting, heat pumps and other renewables).

Suppliers of construction materials, energy using equipment and energy efficiency services play a key role in ensuring quality buildings with good energy performance.

- Company innovation and competitiveness
- EU level RD&D projects
- **Indications of Impact**
- Code of Practice/ Conduct
- **Conclusion**

While operating individually within a competitive market, they have also been represented by many industry associations. Together they have played a number of roles in assisting the adoption, compliance and market impact of the EPBD. These have included advocacy at the levels of national and EU policy making, publicising the benefits of energy efficient buildings, promoting energy performance certificates (EPCs), providing practical technical help in preparing the market for improved energy efficiency standards required by the EPBD, practical tools and skills development to assist compliance with the EPBD requirements, continuous product research, innovation and improvement to gain competitive advantage, through internal RD&D and through collaborative participation in national and EU RD&D support programmes.

At both national and EU level a number of energy efficient product and equipment manufacturing associations have participated in such RD&D programmes, developed new product solutions (in which embedded ICT technologies are playing an increasingly influential role), taken initiatives on training the workforce and indeed often have campaigned for even more ambitious energy performance requirements than have been adopted by Member States under the Directive.

Within the EU, there has been a history of building energy codes embedded in regulation and for developers this has tended to result in increased costs initially. However, as such codes create a level playing field in the market they do not distort competition, and the societal rationale is clear in the same way as applies to health and safety regulations. Indeed, history has shown that strengthened building energy codes drive industry adaptiveness and innovation, from the level of the product manufacturer/ supplier (through R&D) to developer/ builder and, and for countries such as Denmark it has gained several of their companies competitive advantage in international markets.

Visible indications of the collective contribution of such initiatives in assisting higher specifications and performance are now becoming evident, particularly in the newer cohorts of the building stock in Europe.

Project Partners:



EXERGIA Energy & Environment Consultants



PricewaterhouseCoopers Private Limited India



Center for Environmental Planning and Technology University (CEPT)

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(Cont'd from page 1) States Agency for International Development (USAID) and significant inputs from various other stakeholders such as practicing architects, consultants, educational institutions and other government organizations. The successful implementation of the code requires development of compliance procedures (compliance forms and development of field-test compliance forms and procedures), in addition to building capacity of architects/designers/builders/contractors and government official in States and Urban and Local Bodies (ULBs). It is also dependent on availability of materials and equipment that meet or exceed performance specifications specified in ECBC. The ECBC provides design norms for:

- **Building envelope, including thermal performance requirements for walls, roofs, and windows;**
- **Lighting system, including daylighting, and lamps and luminaire performance requirements;**
- **HVAC system, including energy performance of chillers and air distribution systems;**
- **Electrical system; and**
- **Water heating and pumping systems, including requirements for solar hot-water systems.**