Energy Performance of Buildings: Implementation, Next Steps

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Legal framework


Energy Efficiency Directive 2012/27/EU (EED)

Directive on renewable energy sources (2009/28/EC)

Directives on ecodesign and energy labelling (2009/125/EC and 2010/30/EU)
Specific legal framework for buildings

DIRECTIVE 2010/31/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 19 May 2010
on the energy performance of buildings
(recast)

COMMISSION DELEGATED REGULATION (EU) No 244/2012
of 16 January 2012

Energy performance of buildings

Calculated or measured amount of energy needed to meet the energy demand associated with a typical use of the building, which includes, inter alia, energy used for heating, cooling, ventilation, hot water and lighting

EPBD-recast (2010/31/EU), Article 2(4)
Energy efficiency in buildings
Today's legislative instruments

- Energy performance certification of buildings (EPCs)
  - Issue, handover, quality control
  - Display in public buildings

- New buildings
  - Major renovation

- Existing buildings
  - Envelope and technical systems

- Building elements
  - Envelope and technical systems

- Recast EPBD
  - Directive 2010/31/EU

- EED
  - Directive 2012/27/EU

- Nearly-zero energy
  - 3% renovation for central government
  - Longterm renovation roadmaps

- National plans

- Cost-optimum energy performance requirements

- ED & ELD
  - Directives 2009/125/EC
  - 2010/30/EU

- Energy performance of building products

- Existing buildings
  - Major renovation

- New buildings

- Energy efficiency in buildings

- National plans
The EPBD is the main instrument addressing building efficiency

Energy performance approach:

- Minimum performance standards for buildings with strengthened requirements for existing stock
- Energy Performance Certification
- Nearly zero-energy building targets for new buildings

Underpinned by a benchmarking system to improve the level of ambition and keep it under review
Efficiency requirements in the building codes have an impact

Specific consumption per dwelling, energy price and income

Source: Odyssee/Enerdata
... but implementation is yet insufficient

With efforts for the EPBD concentrating on:

- Strengthening local and regional verification of national building codes
- Accurately informing consumers of the energy performance of buildings for sale or rent;

In combination with making full use of available financing in particular ESIF
Overview of the EPBD

Art.2 Definitions
Art.3 Calculation methodology
Art.4-7 Setting and ensuring minimum energy performance requirements at cost-optimal level
Art.8 Requirements for technical building systems
Art.9 Introduction of nearly Zero-Energy Buildings
Art.10 Financial incentives and market barriers
Art.11-13 Energy Performance Certificates
Art.14-15 Regular inspection of heating and cooling systems
Art.16-18 Reporting, independent experts and quality control
Calculation methodologies for the energy performance of buildings

→ General framework of Annex I

→ Standardised European tool-kit prepared under mandate M/480
  → Set of standards in finalisation (Public enquiry)
  → COM supports CEN's initiative to define a CEN preferred option
    → support the voluntary certification scheme for non-residential buildings
    → exemplify the framework for national annexes
Setting and ensuring minimum requirements

→ New buildings
   → Art.4(1) and Art.6

→ Existing buildings that undergo a major renovation
   → Art. 2(10): 2 options to define "major renovation"
   → Art. 4(1) and Art.7 (1st and 2nd subparagraphs)

→ Retrofitted/replaced building elements part of the building envelope
   → Art. 4(1) and Art.7 (3rd and 4th subparagraphs)

→ Technical building systems
   → Art. 8
Cost optimal level for requirements

→ Aimed at ensuring high ambition level in MS
→ Reports from Member States were due by March 2013
→ Communication on the state of progress in preparation
Nearly Zero Energy Buildings

*Member States shall ensure that:*

- *After 31 December 2018,* new buildings occupied and owned by public authorities are nearly zero energy buildings
- *After 31 December 2020* all new buildings occupied are nearly zero energy buildings

*Legal obligation + national plans for increasing the number of nearly zero energy buildings*
Positive trend towards NZEB targets
Progress towards NZEB targets

National values of primary energy use in kWh/m²/y:

- Residential buildings: ranges between 33 kWh/m²/y and 95 kWh/m²/y, with the majority of Member States target aiming at 45 or 50 kWh/m²/y
- Hospitals and other non-residential buildings remain a challenge in several Member States, with values up to 270 kWh/m²/y.
Results on onsite share renewables

Simulated shares of onsite renewables on total primary energy demand in different European regions and building categories
Improving renovation rates and depths to nearly zero-energy levels

Figure 6: Main policies and measures in support of mayor renovations to NZEBs in Member States
Financing

- EC report on financial support for energy efficiency in buildings [*COM 2013(225)*]

- Cohesion policy funding to allocate minimum **EUR 23 billion** to energy efficiency / renewable energy sources and urban transport (doubling current allocations)

- Horizon 2020 **EUR 5.6 billion** is to be allocated to research and innovation in "Secure, clean and efficient energy" **EUR 840 million** to energy efficiency alone

- LIFE + funding: **EUR 450 million** in 2014 – 2017 – Energy Efficiency an important part
Energy performance certificates
Create asset value in addition to energy savings

Effect of one-letter or equivalent improvement in EPC rating across a selection of European property markets (see also notes in the main report)

- Vienna
- Lower Austria
- Flanders
- Brussels
- Wallonia
- Marseille
- Lille
- Ireland: cities
- Ireland: rest
- Oxford: Current rating
- Oxford: Potential rating

Legend:
- Prices
- Rents
Enforcement mechanisms

Rules on penalties for all obligations

- Minimum requirements
- Issue, display of EPCs
- Inspections and inspection reports

Penalties must be:

- Effective,
- Proportionate, and
- Dissuasive
Independent control system

- Compliance with energy performance certification
- Compliance with regular inspection of heating and air-conditioning schemes
- Opportunity to collect valuable data on the existing building stock
Important matters (1)

Coverage

- All "shall" obligations must be covered
- Flexibility with "may" clauses

Scope

- Exclusion of certain building categories (EPBD, Art.4(2)) is a closed list and only applies to:
  - EPBD, Art.4(1) Setting of minimum energy performance requirements
  - EPBD, Art.12(1), (2), (4), (5) Issue of energy performance certificates
Important matters (2)

Definitions

- Room for adaptation to national specificities
- **BUT** unambiguous and ensuring the minimum scope of the EPBD (ex. Buildings, major renovation)

Clear-cut conditions must be specified at national level if conditionalities of EPBD ("technically, functionally and economically feasible") are being used.

- EPBD, Art. 7 and 8 Setting minimum requirements for existing buildings and technical systems
- EPBD, Art. 15(3) Ensure consistent inspections
Important matters (3)

*Delegation by empowerment for secondary legislation is possible* **BUT**

- Clear framework, incl. deadlines, must be specified in the law

**Penalties**

- Obligation of the law must be covered by penalties in the law
- "Delegation" for secondary legislation must at the same time require establishment of the subsequent penalties
Ressources for implementation
Some challenges...

**Effective implementation of the current framework**

- Proper transposition and full implementation of the EPBD
- Guidance and additional support on NZEB, assessment of long term renovation strategies, guidelines on cost-optimal regulation
- Address the non-residential sector through the common EU voluntary certification scheme

**Looking forward**

- Greater and more effective use of the European Structural and Investment Funds and other funding (EIC, H2020 etc.)
- Stimulate demand (through EPBD standards, a robust implementation of existing rules, e.g. on reliability of EPCs)
- Do more to deliver building renovation and energy efficiency at building and district levels
- Heating and Cooling Strategy
The Energy Union
[COM(2015)80]

Where we want to go:
Secure, sustainable, competitive, affordable energy for every European

What this means:
Energy security, solidarity and trust
A fully integrated internal EU-wide energy market
Energy efficiency as an energy source in its own right
Transition to a low-carbon society
Research, innovation and competiveness

How we want to reach it:
5 GUIDING DIMENSIONS
15 CONCRETE ACTIONS
43 INITIATIVES

Source: Directorate-General for Energy
3 Energy efficiency

Rethink energy efficiency as an energy source in its own right

This means increasing energy efficiency, in particular in the building sector, and promoting an energy-efficient and decarbonized transport sector as well as efficient products.
Concrete actions for energy efficiency

- **Energy Efficiency Directive**
- **European Performance of Building Directive**
- **Strengthened financial instruments**
- **Energy Labelling & Ecodesign Directives**

**Heating and Cooling**

*Source: Directorate-General for Energy*
Thank you for your attention

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