Manual of European Environmental Policy

The following pages are a section from the Manual of European Environmental Policy written by the Institute for European Environmental Policy.

The Manual was published by Earthscan/Routledge from 2010 to 2012. It was designed as an on on-line interactive reference work and annual printed versions were also produced.

This section is the text of the Manual as published in 2012. It is therefore important to note the following:

- The contents have not been updated since 2012 and no guarantee is given of the accuracy of the contents given potential subsequent developments.
- The sections include links to external websites (e.g. to legal texts). These links continue to work as long as those links are not broken by those websites.
- The sections also include the original links that enabled interactivity within the published on-line version of the Manual. These links no longer work.

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Energy performance of buildings

Formal reference	
Directive 2010/31/EU (OJ L153 18.6.2010)	Directive 2010/31 of 19 May 2010 on the energy performance of buildings (recast of Directive 2002/91/EC)
Proposed 13.11.2008 - COM(2008)780	
2002/91/EC (OJ L1 04.01.2003)	Directive 2002/91/EC on the energy performance of buildings
Proposed 11.5.2001 – COM(2001)226	
Legal base	
Directive 2010/31/EU	Article 194(2) TFEU
Directive 2002/91/EC	Article 192 TFEU (originally Article 175(1) TEC)
Binding dates	
Formal compliance	
Directive 2010/31/EU	9 July 2012
Directive 2002/91/EC	4 January 2006

Purpose of the Directive

The objective of the Directive is to promote an improvement in the energy performance of buildings in the EU. The Directive does not set out Community-wide standards for the energy efficiency of buildings, rather it sets out a common framework and lays down a number of requirements to ensure that action is taken by Member States. The Directive is one of the Community's measures to combat climate change.

Summary of the Directives

Directive 2002/91/EC

Scope

The Directive applies to all buildings, but only new buildings and those undergoing major renovation are subject to minimum energy performance requirements. Member States are, however, allowed to exempt historic and religious buildings, small buildings and holiday homes from energy performance requirements, if they so wish.

Application of energy performance requirements

Member States are required to apply a methodology to calculate the energy performance of buildings based on a general framework set out in an Annex to the Directive. The Annex is to be reviewed at least every two years, but no revision has been made so far. The methodology has to include at least the thermal characteristics of the building, its heating, air-conditioning

and ventilation, as well as the source of its energy. The detailed methodology, however, is to be set either at the national or regional level. A building's energy performance has to be expressed in a transparent manner and may refer to CO_2 emissions.

The Directive also requires Member States to set minimum standards for the energy performance of buildings, although these can be differentiated between new and existing buildings. The standards must take into account general indoor climate conditions, as well as external local conditions, and are to be reviewed at least every five years, and updated to take into account technical progress. New buildings are to meet these standards and the feasibility of systems, such as combined heat and power (CHP), has to be considered for larger new buildings. For existing buildings, Member States must ensure that when a large building undergoes major renovation, its energy performance is improved to meet minimum standards where feasible.

Energy performance certificate

An energy performance certificate is to be made available to owners or occupiers of buildings, when these are constructed, sold or rented. This will highlight the building's energy performance and include references to benchmarks to enable comparisons with other buildings and recommendations for cost-effective ways of improving energy efficiency. In public buildings, this certificate is to be prominently displayed.

Energy consumption of boilers and air-conditioning systems

Member States are also required to lay down requirements for reducing the energy consumption and CO_2 emissions resulting from the use of boilers and air-conditioning systems. For air-conditioning systems, Member States are required to ensure that regular inspections of these systems take place and that appropriate advice is then given with respect to improvements, possible replacement or alternative solutions.

For boilers, Member States are given two alternatives, one of which also focuses on inspections. In this option, Member States must ensure that regular inspections occur and that the appropriate advice is given. For larger boilers, inspections must occur at least every two years and for boilers over 15 years old, a one-off inspection is required to assess the system and recommend replacements or alternative options for reducing energy consumption. The second option for boilers focuses on the provision of advice, which may include inspections. Whichever option is chosen the impact should be broadly equivalent to that which would have arisen from the other option.

Experts and information

Members States must ensure that the certification of buildings and the inspection of boilers and air-conditioning systems are undertaken independently by qualified and/or accredited experts. If there is a lack of such experts for these activities, a Member State may have an additional three years, that is until January 2009, to apply fully the relevant provisions. Member States must also ensure that users of buildings are informed regarding the different ways of improving the energy performance of buildings and the Commission has offered to assist in the staging of such information campaigns, if the Member States so wish.

Review

A Committee is set up to help the Commission evaluate the Directive and to make proposals for its amendment, if necessary. In particular, the possibility of introducing requirements for the renovation of smaller buildings should be considered, as well as further general incentives for improving the energy efficiency of buildings. The Annex of the Directive that sets out the general methodological framework for measuring the energy performance of buildings is to be reviewed at regular intervals.

Directive 2010/31/EU

Directive 2010/31/EU, recasting 2002/91/EC introduced a number of important new features:

- The deletion of the threshold of 1,000 m^2 for buildings undergoing major renovation to meet minimum performance standards set accordance with Article 4 was retained (Article 7).
- A requirement for the Commission is to establish, by 30 June 2011, a 'comparative methodology framework' for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements (Article 5). Member States will be required to calculate cost-optimal levels of minimum energy performance requirements using this approach and to compare the results of the calculation to their own minimum performance requirements. This shall be reported to the Commission at no longer than five years interval. The first such report is to be submitted by 30 June 2012. To the extent that these differ from the cost-optimal levels, Member States will have to explain this in the report, and outline how the gap will be closed. Thus the application of the EU-wide formula has been moved forward in spite of some Member State concern.
- A requirement for Member States to lay down rules for penalties for infringements on the national provisions adopted to implement the Directive. These shall be communicated to the Commission by two years and six months after the entry into force of the Directive (Article 27).
- Provisions in relation to the inspections of heating and air-conditioning system and the introduction of a new requirement that these should result in inspection reports to be handed over to the owner or tenant of the building. The provisions apply to boilers of and effective rated output of more than 20 kW and to air conditioning systems of an effective rated output of more than 12 kW (Articles 14, 15, 16).
- A requirement for the Member States draw up by 30 June 2011 a list of existing, and if appropriate, proposed measures and instruments including those of a financial nature, other than those required by the Directive, to promote the objectives of the Directive (Article 10 (2)). This can be reported in the context of the requirements for an Energy Efficiency Action Plan under Article 14(2) of Directive 2006/32/EC (see section on . energy end use efficiency and energy services).
- A requirement for the Commission to present an analysis on the Structural Funds and framework programmes that were used for increasing energy efficiency in buildings, as well as funds from EIB and other public finance institutions, and the coordination of Community and national funding. This should be done preferably by 2011 (Article 10 (3)).

- Requirements on Member States in relation to nearly zero energy buildings. The Directive adopted a definition of 'nearly zero energy' buildings to mean buildings that have a very high energy performance, determined in accordance with Annex 1 (setting out a common general framework for the calculation of energy performance of buildings). The nearly zero or very low amount of energy required should to a very significant extent be covered by energy from renewable sources, including renewable energy produced on-site or nearby (Article 2). Member States shall ensure that by 31 December 2020, all new buildings are nearly zero energy buildings, and that after 31 December 2018, public authorities that occupy and own a new building shall ensure that the building is a nearly zero energy building. Member States are required to draw up plans for increasing the number of nearly zero energy buildings. Moreover, Member States shall develop policies and take measures such as targets in order to stimulate the transformation of buildings that are refurbished into nearly zero energy buildings. The public sector is reserved a special role to lead the way. While there are no targets for turning existing buildings into nearly zero energy buildings, there is a clear requirement on Member States to address the issue.
- While 'intelligent meters' will not be compulsory for new buildings, Member States will be required to encourage their introduction whenever a building is constructed or undergoes major renovation (Article 8).

Development of the Directives

Directive 2002/91/EC

In its Energy Efficiency Action Plan of 2000, the Commission highlighted the need for action to improve energy efficiency as the Community's scope for amending energy supply in the short-term was limited. In response to this plan, the Energy Council twice called on the Commission to take action on energy efficiency, particularly in the residential and tertiary sectors. Further, the European Climate Change Programme explored the potential for improved energy efficiency in a number of areas, with the energy performance of buildings being a particular focus. A breakdown of total energy demand in the EU at the time showed that over 40 per cent was from the residential and commercial sectors, most of which was building-related. However, a review of the situation in different Member States showed a divergence of approaches. The Commission indicated that there was scope for improvement, at least in some Member States, estimating that 25 per cent of existing energy consumption could be saved.

The Commission therefore felt that it would be beneficial to take action on the energy performance of buildings. However, prior to the proposal's publication, in early 2001 there was some discussion within the College of Commissioners as to what form it should take. Some Commissioners preferred the adoption of a non-binding Recommendation on the basis of subsidiarity arguing that the issue was for Member States to address, whereas the Commissioner responsible for the proposal, energy and transport Commissioner Loyola de Palacio, preferred a Directive. After a meeting of the College at which the proposal was discussed, the Commissioners took the unusual step of publishing a draft of the proposal and inviting further comments. A team of five Commissioners including de Palacio and environment Commissioner Margot Wallström then developed the draft toning down the

language slightly regarding dates and specifications, in return for an agreement to bring forward a proposal for a Directive.

The proposal was eventually published in May 2001 and was welcomed by EuroAce, the European Alliance of Companies for Energy Efficiency in Buildings, which particularly welcomed the information provision requirements in the proposal, although UK Ace felt that the proposal could have gone further, for example, in requiring the recommendations of energy certificates to be followed through.

The Development of the proposal itself was relatively uncontroversial. Most of Parliament's amendments in its first reading improved the proposal's consistency or definitions. However, it also called on the Commission to consider the possibility of extending the scope of the Directive in the future to consider renovations of smaller buildings and called for publicity campaigns, both of which were accepted by the Council and the Commission. The main point of contention was the transposition deadlines. The Commission had proposed that all the Articles should come into operation by the end of 2003, but the Parliament, in its first reading in February 2002, extended this to three years after the entry into force of the Directive. The Council then proposed that this date be 2004, with a possible four year extension if a Member State lacked the necessary expertise. In its second reading in October, the Parliament proposed that this extra period be shortened to three years, which was accepted by the Council, thus making conciliation negotiations unnecessary. The Directive came into force on its publication in the Official Journal on 4 January 2003.

Directive 2010/31/EU

In 2005 the Dutch government called for renegotiation of the Directive. In a statement released in late August, the Netherlands pointed out that the implementation of the Directive would have high administrative costs, and that the cabinet was reluctant to implement it ‘in the short term’. It also contacted the European Commission to see if the law could be adapted. No other Member State though followed the Netherlands. In its conclusions of the December 2005 meeting[2], the Transport, Telecommunication and Energy Council urged all Member States to ‘effectively apply’ the EU Building Energy Performance Directive. Such an admonition appeared to be aimed at softening the Dutch position.

In October 2006, the Action Plan for Energy Efficiency: Realizing the Potential was adopted by the Commission[3]. In order to reap the full potential in the buildings sector, the Action Plan contained a set of five measures in support of the implementation and amendment of the Energy Performance of Buildings Directive:

- A proposal to expand role for the public sector to demonstrate new technologies and methods.
- A proposal to lower significantly the threshold for minimum performance requirements for major renovations, thus extending the requirements to include a majority of existing buildings.
- A proposal for EU minimum performance requirements (kWh/m^2) for new and renovated buildings and some components (such as windows), with a target for new buildings to approach the level of passive houses from 2015. To support the target for new buildings, the Commission proposed to develop a deployment strategy for very low energy (or passive) houses in collaboration with the building sector.

- A consideration of proposing binding requirements to install passive heating and cooling technologies.
- A proposal for measures for Member States to provide financing for highly cost-effective investments.

A public consultation on the recasting of the Energy Performance of Buildings Directive was undertaken by the Commission in 2008. It investigated, *inter alia*, possibilities to lower the 1,000 m^2 threshold and strengthen the provisions for energy performance certificates and for inspections of boilers and air conditioning systems.

Legislative changes to the existing Directive were proposed by the European Commission in November 2008. The Commission proposal (COM(2008)780) provided for deletion of the current 1,000 m^2 threshold above which existing buildings undergoing major refurbishment must meet minimum efficiency standards. EU-wide minimum efficiency standards for buildings were not included, leaving Member States free to continue setting them at national level. However, it was proposed to develop benchmarking system to allow comparison between national energy performance requirements and cost-optimal levels across the EU. Other proposed changes included a requirement for Member States to produce national roadmaps for low energy/carbon buildings and passive houses by mid-2011; a new requirement for EU states to set up penalties for non-compliance with the law; clarification and simplification of the wording of certain provisions; strengthening of requirements on energy performance certificates (to be used in all sales and rent advertising); and an improvement of the inspection of boilers and heating systems. Compared to a previous draft presented in October 2008[4], the proposal put more emphasis on the leading role of the public sector, by inviting Members States to set separate targets for this sector to help stimulate the development of low- and zero-energy public buildings.

The proposal was presented to EU governments in February 2009. While the initial reaction was positive, several large Member States were apparently concerned about the application of minimum national efficiency standards to all buildings undergoing major renovations[5]. Some Member States also suggested that some of the Commission's ambitions were premature. This included the proposals for a mandatory EU-wide formula to calculate cost-optimal minimum efficiency standards from 2017, penalties for non-compliance, and inspection of heating systems as well as boilers. Governments also pointed to practical difficulties such as calculating zero or low CO_2 buildings in cases where electricity is used for heating.

A first reading vote in the European Parliament's Industry Committee took place in April 2009. MEPs put forward some more ambitious proposals. The Committee adopted amendments concerning the creation of an EU energy efficiency fund, to be created by 2014 and based on contributions from the EU budget to finance efficiency improvements in buildings. A new Annex was included listing seven financing instruments, including VAT reductions, direct subsidies, loans and grant schemes for energy products and efficient measures. Of these, Member States would have to adopt at least two to promote energy efficiency nationally. The Commission's proposal to apply minimum national energy efficiency standards to all buildings undergoing a major renovation was approved, but cost-optimal standards were requested to be set according to a common EU methodology, rather than using governments' own calculations. The Committee also proposed a 2019 deadline by which all new buildings built in the EU would have to have a net zero energy consumption, and that smart electricity meters should be made compulsory in all new buildings. The Parliament's plenary backed the Industry Committee proposals with a large majority.

There was a concern among some Member States that several of the proposed amendments at first sight appeared overly ambitious and unrealistic[6]. In a later Council draft[7] published in July, a number of issues continued to be controversial, including the proposal to stop Member States providing fiscal incentives for the construction and renovation of buildings that fail to meet national efficiency standards after 2014. Concerns were also raised regarding the lack of clarity in some parts of the proposal, and on the risks of undue administrative burdens (for example in the case governments were to ensure that alternative energy systems are considered for installation before new buildings are built). Furthermore, some of the proposed implementation deadlines in the law were considered 'much too soon'.

Trialogue meetings between the Parliament, Council and Commission began in September 2009. On November 17, a political agreement was achieved.

Implementation of the Directive

Information on the measures taken by the Member States to transpose Directive 2002/91/EC can be found in their national execution measures.

Several Member States did not make significant progress in the implementation of the Directive, and have chosen to delay implementation until 2009, by applying a clause in the Directive which allowed Member States to delay implementation for three years when there was a lack of 'accredited experts' to produce energy certificates.

A report by the European energy network (ENR)[1] revealed that up to 2007, the implementation of the Directive had been slow. For instance, only 80 per cent of Member States had energy performance standards in place, only two-thirds had set up calculation methodology, and only 20 per cent had fully operational Energy Performance Certificates.

Enforcement and court cases

Two cases have been concluded by the European Court of Justice concerning Directive 2002/91/EC. They are concerned with failed transposition by Member States:

- C-342/07 17.01.2008. This was a judgement against Greece for failure to transpose the Directive within the prescribed time limit.
- C-22/09 29.10.2009. This was a judgement against Luxembourg for failure to transpose the Directive within the prescribed time limit.

Further developments

Annex III of Directive 2010/31/EU requires that Member States shall calculate energy performance according to the following steps: definition of reference buildings; definition of energy efficiency measures; assessment of final and primary energy needed; and calculation of the global costs of the measures in line with the net present value concept. The Commission is required to establish by 30 June 2011 a comparative framework methodology for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements and a guidance document which will explain to Member States how to use the methodology framework. This will take the form of a delegated act. To

support the preparation of this act, DG ENER organised an expert workshop on 16 March 2011. A meeting document outlines the questions raised by the Commission in seeking expert input on this issue.

In February 2012, the Commission launched a consultation on how the financial support for energy efficiency measures aimed at improving the energy peformance of buildings, both at EU and at national/regional/local level, could be improved. Contributions were invited until 18 May 2012.

Related legislation

The following legislation interacts with the Directive:

- Directive 2006/32/EC on energy end-use efficiency and energy services, which states that certification of the energy efficiency of buildings is considered equivalent to an energy audit for micro, small and medium-sized firms.
- Council Directive 89/106/EEC on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products requires construction works and their heating, cooling and ventilation installations to be designed and built in such a way that the amount of energy required in use will be low, having regard to the climatic conditions of the location and the occupants.
- Directive 2005/32/EC establishing a framework for the setting of Ecodesign requirements for energy-using products.

References

1 European Energy Network (2008) Implementation of the EU Energy Performance of Buildings Directive – A Snapshot Report.

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3 European Commission (2006) *Action Plan for Energy Efficiency: Realising the Potential*, Brussels, 20.07.2006.

4 European Commission (2008) Draft Proposal for a Recast of the Energy Performance of Buildings Directive (2002/91/EC), Brussels, Version of 1 October 2008.

5 ENDS Europe (2009) EU states raise doubts over greener building plans, 16 February 2009.

6 Council of the European Union (2009) Progress report. 8989/09 Inter institutional File: 2008/0222 (COD) 2008/0221 (COD) 2008/0223 (COD), Brussels, 29 May 2009.

7 Council of the European Union (2009) Proposal for a Directive of the European Parliament and of the Council on the energy performance of buildings (recast). 10580/09 Inter institutional File: 2008/0223 (COD), Brussels, 30 June 2009.