

DIRECTIVE 2010/31/EU of 19 May 2010 on the energy performance of buildings

Incorporated and adapted by Ministerial Council Decision 2010/02/MC-EnC of 24 September 2010 amending Decision 2009/05/MC-EnC of 18 December 2009 on the implementation of certain Directives on Energy Efficiency.

*The adaptations made by Ministerial Council Decision 2010/02/MC-EnC are highlighted in **bold and blue**.*

Article 1

Subject matter

1. This Directive promotes the improvement of the energy performance of buildings within the **Energy Community**, taking into account outdoor climatic and local conditions, as well as indoor climate requirements and cost-effectiveness.
2. This Directive lays down requirements as regards:
 - (a) the common general framework for a methodology for calculating the integrated energy performance of buildings and building units;
 - (b) the application of minimum requirements to the energy performance of new buildings and new building units;
 - (c) the application of minimum requirements to the energy performance of:
 - (i) existing buildings, building units and building elements that are subject to major renovation;
 - (ii) building elements that form part of the building envelope and that have a significant impact on the energy performance of the building envelope when they are retrofitted or replaced; and
 - (iii) technical building systems whenever they are installed, replaced or upgraded;
 - (d) national plans for increasing the number of nearly zero-energy buildings;
 - (e) energy certification of buildings or building units;
 - (f) regular inspection of heating and air-conditioning systems in buildings; and
 - (g) independent control systems for energy performance certificates and inspection reports.
3. The requirements laid down in this Directive are minimum requirements and shall not prevent any **Contracting Party** from maintaining or introducing more stringent measures. Such measures shall be compatible with the Treaty on the Functioning of the European Union. They shall be notified to the **Secretariat**.

Article 2

Definitions

For the purpose of this Directive, the following definitions shall apply:

1. "building" means a roofed construction having walls, for which energy is used to condition the indoor climate;
2. "nearly zero-energy building" means a building that has a very high energy performance, as determined in accordance with Annex I. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby;
3. "technical building system" means technical equipment for the heating, cooling, ventilation, hot water, lighting or for a combination thereof, of a building or building unit;
4. "energy performance of a building" means the 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;
5. "primary energy" means energy from renewable and non-renewable sources which has not undergone any conversion or transformation process;
6. "energy from renewable sources" means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases;
7. "building envelope" means the integrated elements of a building which separate its interior from the outdoor environment;
8. "building unit" means a section, floor or apartment within a building which is designed or altered to be used separately;
9. "building element" means a technical building system or an element of the building envelope;
10. "major renovation" means the renovation of a building where:
 - (a) the total cost of the renovation relating to the building envelope or the technical building systems is higher than 25% of the value of the building, excluding the value of the land upon which the building is situated; or
 - (b) more than 25% of the surface of the building envelope undergoes renovation; **Contracting Parties** may choose to apply option (a) or (b).
11. "European standard" means a standard adopted by the European Committee for Standardisation, the European Committee for Electrotechnical Standardisation or the European Telecommunications Standards Institute and made available for public use;
12. "energy performance certificate" means a certificate recognised by a **Contracting Party** or by a legal person designated by it, which indicates the energy performance of a building or building unit, calculated according to a methodology adopted in accordance with Article 3;
13. "cogeneration" means simultaneous generation in one process of thermal energy and electrical and/or mechanical energy;

14. “cost-optimal level” means the energy performance level which leads to the lowest cost during the estimated economic lifecycle, where:

(a) the lowest cost is determined taking into account energy-related investment costs, maintenance and operating costs (including energy costs and savings, the category of building concerned, earnings from energy produced), where applicable, and disposal costs, where applicable; and

(b) the estimated economic lifecycle is determined by each **Contracting Party**. It refers to the remaining estimated economic lifecycle of a building where energy performance requirements are set for the building as a whole, or to the estimated economic lifecycle of a building element where energy performance requirements are set for building elements.

The cost-optimal level shall lie within the range of performance levels where the cost benefit analysis calculated over the estimated economic lifecycle is positive;

15. “air-conditioning system” means a combination of the components required to provide a form of indoor air treatment, by which temperature is controlled or can be lowered;

16. “boiler” means the combined boiler body-burner unit, designed to transmit to fluids the heat released from burning;

17. “effective rated output” means the maximum calorific output, expressed in kW, specified and guaranteed by the manufacturer as being deliverable during continuous operation while complying with the useful efficiency indicated by the manufacturer;

18. “heat pump” means a machine, a device or installation that transfers heat from natural surroundings such as air, water or ground to buildings or industrial applications by reversing the natural flow of heat such that it flows from a lower to a higher temperature. For reversible heat pumps, it may also move heat from the building to the natural surroundings;

19. “district heating” or “district cooling” means the distribution of thermal energy in the form of steam, hot water or chilled liquids, from a central source of production through a network to multiple buildings or sites, for the use of space or process heating or cooling.

Article 3

Adoption of a methodology for calculating the energy performance of buildings

Contracting Parties shall apply a methodology for calculating the energy performance of buildings in accordance with the common general framework set out in Annex I.

This methodology shall be adopted at national or regional level.

Article 4

Setting of minimum energy performance requirements

1. **Contracting Parties** shall take the necessary measures to ensure that minimum energy performance requirements for buildings or building units are set with a view to achieving cost-optimal levels. The energy performance shall be calculated in accordance with the methodology referred to in Article 3. Cost-optimal

levels shall be calculated in accordance with the comparative methodology framework referred to in Article 5 once the framework is in place.

Contracting Parties shall take the necessary measures to ensure that minimum energy performance requirements are set for building elements that form part of the building envelope and that have a significant impact on the energy performance of the building envelope when they are replaced or retrofitted, with a view to achieving cost-optimal levels.

When setting requirements, **Contracting Parties** may differentiate between new and existing buildings and between different categories of buildings.

These requirements shall take account of general indoor climate conditions, in order to avoid possible negative effects such as inadequate ventilation, as well as local conditions and the designated function and the age of the building.

A **Contracting Party** shall not be required to set minimum energy performance requirements which are not cost-effective over the estimated economic lifecycle.

Minimum energy performance requirements shall be reviewed at regular intervals which shall not be longer than five years and, if necessary, shall be updated in order to reflect technical progress in the building sector.

2. **Contracting Parties** may decide not to set or apply the requirements referred to in paragraph 1 to the following categories of buildings:

(a) buildings officially protected as part of a designated environment or because of their special architectural or historical merit, in so far as compliance with certain minimum energy performance requirements would unacceptably alter their character or appearance;

(b) buildings used as places of worship and for religious activities;

(c) temporary buildings with a time of use of two years or less, industrial sites, workshops and non-residential agricultural buildings with low energy demand and non-residential agricultural buildings which are in use by a sector covered by a national sectoral agreement on energy performance;

(d) residential buildings which are used or intended to be used for either less than four months of the year or, alternatively, for a limited annual time of use and with an expected energy consumption of less than 25% of what would be the result of all-year use;

(e) stand-alone buildings with a total useful floor area of less than 50 m².

Article 5

Calculation of cost-optimal levels of minimum energy performance requirements

1. The Commission shall establish by means of delegated acts in accordance with Articles 23, 24 and 25 by 30 June 2011 a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements.

The comparative methodology framework shall be established in accordance with Annex III and shall differentiate between new and existing buildings and between different categories of buildings.

2. **Contracting Parties** shall calculate cost-optimal levels of minimum energy performance requirements using the comparative methodology framework established in accordance with paragraph 1 and relevant

parameters, such as climatic conditions and the practical accessibility of energy infrastructure, and compare the results of this calculation with the minimum energy performance requirements in force.

Contracting Parties shall report to the **Secretariat** all input data and assumptions used for those calculations and the results of those calculations. The report may be included in the Energy Efficiency Action Plans referred to in Article 14(2) of Directive 2006/32/EC. **Contracting Parties** shall submit those reports to the **Secretariat** at regular intervals, which shall not be longer than five years. The first report shall be submitted by **30 June 2013**.

3. If the result of the comparison performed in accordance with paragraph 2 shows that the minimum energy performance requirements in force are significantly less energy efficient than cost-optimal levels of minimum energy performance requirements, the **Contracting Party** concerned shall justify this difference in writing to the **Secretariat** in the report referred to in paragraph 2, accompanied, to the extent that the gap cannot be justified, by a plan outlining appropriate steps to significantly reduce the gap by the next review of the energy performance requirements as referred to in Article 4(1).

4. The **Secretariat** shall publish a report on the progress of the **Contracting Parties** in reaching cost-optimal levels of minimum energy performance requirements.

Article 6

New buildings

1. **Contracting Parties** shall take the necessary measures to ensure that new buildings meet the minimum energy performance requirements set in accordance with Article 4.

For new buildings, **Contracting Parties** shall ensure that, before construction starts, the technical, environmental and economic feasibility of high-efficiency alternative systems such as those listed below, if available, is considered and taken into account:

- (a) decentralised energy supply systems based on energy from renewable sources;
- (b) cogeneration;
- (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources;
- (d) heat pumps.

2. **Contracting Parties** shall ensure that the analysis of alternative systems referred to in paragraph 1 is documented and available for verification purposes.

3. That analysis of alternative systems may be carried out for individual buildings or for groups of similar buildings or for common typologies of buildings in the same area. As far as collective heating and cooling systems are concerned, the analysis may be carried out for all buildings connected to the system in the same area.

Article 7

Existing buildings

Contracting Parties shall take the necessary measures to ensure that when buildings undergo major renovation, the energy performance of the building or the renovated part thereof is upgraded in order to meet minimum energy performance requirements set in accordance with Article 4 in so far as this is technically, functionally and economically feasible.

Those requirements shall be applied to the renovated building or building unit as a whole. Additionally or alternatively, requirements may be applied to the renovated building elements.

Contracting Parties shall in addition take the necessary measures to ensure that when a building element that forms part of the building envelope and has a significant impact on the energy performance of the building envelope, is retrofitted or replaced, the energy performance of the building element meets minimum energy performance requirements in so far as this is technically, functionally and economically feasible.

Contracting Parties shall determine these minimum energy performance requirements in accordance with Article 4.

Contracting Parties shall encourage, in relation to buildings undergoing major renovation, the consideration and taking into account of high-efficiency alternative systems, as referred to in Article 6(1), in so far as this is technically, functionally and economically feasible.

Article 8

Technical building systems

1. **Contracting Parties** shall, for the purpose of optimising the energy use of technical building systems, set system requirements in respect of the overall energy performance, the proper installation, and the appropriate dimensioning, adjustment and control of the technical building systems which are installed in existing buildings. **Contracting Parties** may also apply these system requirements to new buildings.

System requirements shall be set for new, replacement and upgrading of technical building systems and shall be applied in so far as they are technically, economically and functionally feasible.

The system requirements shall cover at least the following:

- (a) heating systems;
 - (b) hot water systems;
 - (c) air-conditioning systems;
 - (d) large ventilation systems;
- or a combination of such systems.

2. **Contracting Parties** shall encourage the introduction of intelligent metering systems whenever a building is constructed or undergoes major renovation, whilst ensuring that this encouragement is in line with point 2 of Annex I to Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity. **Contracting Parties** may furthermore encourage, where appropriate, the installation of active control systems such as automation, control and monitoring systems that aim to save energy.

Article 9

Nearly zero-energy buildings

1. **Contracting Parties** shall ensure that:

(a) by **30 June 2021**, all new buildings are nearly zero-energy buildings; and

(b) after **30 June 2019**, new buildings occupied and owned by public authorities are nearly zero-energy buildings.

Contracting Parties shall draw up national plans for increasing the number of nearly zero-energy buildings. These national plans may include targets differentiated according to the category of building.

2. **Contracting Parties** shall furthermore, following the leading example of the public sector, develop policies and take measures such as the setting of targets in order to stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings, and inform the **Secretariat** thereof in their national plans referred to in paragraph 1.

3. The national plans shall include, *inter alia*, the following elements:

(a) the **Contracting Party's** detailed application in practice of the definition of nearly zero-energy buildings, reflecting their national, regional or local conditions, and including a numerical indicator of primary energy use expressed in kWh/m² per year. Primary energy factors used for the determination of the primary energy use may be based on national or regional yearly average values and may take into account relevant European standards;

(b) intermediate targets for improving the energy performance of new buildings, by 2015, with a view to preparing the implementation of paragraph 1;

(c) information on the policies and financial or other measures adopted in the context of paragraphs 1 and 2 for the promotion of nearly zero-energy buildings, including details of national requirements and measures concerning the use of energy from renewable sources in new buildings and existing buildings undergoing major renovation in the context of Article 13(4) of Directive 2009/28/EC and Articles 6 and 7 of this Directive.

4. The **Secretariat** shall evaluate the national plans referred to in paragraph 1, notably the adequacy of the measures envisaged by the **Contracting Party** in relation to the objectives of this Directive. The **Secretariat**, taking due account of the principle of subsidiarity, may request further specific information regarding the requirements set out in paragraphs 1, 2 and 3. In that case, the **Contracting Party** concerned shall submit the requested information or propose amendments within nine months following the request from the Secretariat. **Following its evaluation, the Secretariat may propose a recommendation to the Ministerial Council.**

5. The **Secretariat** shall by **31 December 2013** and every three years thereafter publish a report on the progress of **Contracting Parties** in increasing the number of nearly zero-energy buildings. On the basis of that report the **Secretariat** shall develop an action plan and, if necessary, propose measures to increase the number of those buildings and encourage best practices as regards the cost-effective transformation of existing buildings into nearly zero-energy buildings.

6. **Contracting Parties** may decide not to apply the requirements set out in points (a) and (b) of paragraph 1 in specific and justifiable cases where the cost-benefit analysis over the economic lifecycle of the

building in question is negative. **Contracting Parties** shall inform the **Secretariat** of the principles of the relevant legislative regimes.

Article 10

Financial incentives and market barriers

1. In view of the importance of providing appropriate financing and other instruments to catalyse the energy performance of buildings and the transition to nearly zero-energy buildings, **Contracting Parties** shall take appropriate steps to consider the most relevant such instruments in the light of national circumstances.

2. **Contracting Parties** shall draw up, by **30 June 2013**, a list of existing and, if appropriate, proposed measures and instruments including those of a financial nature, other than those required by this Directive, which promote the objectives of this Directive.

Contracting Parties shall update this list every three years. **Contracting Parties** shall communicate these lists to the **Secretariat**, which they may do by including them in the Energy Efficiency Action Plans referred to in Article 14(2) of Directive 2006/32/EC.

3. The **Secretariat** shall examine the effectiveness of the listed existing and proposed measures referred to in paragraph 2 as well as of relevant Union instruments, in supporting the implementation of this Directive. On the basis of that examination, and taking due account of the principle of subsidiarity, the **Secretariat** may provide advice < ... > as regards specific national schemes and coordination with Union and international financial institutions. The **Secretariat** may include its examination and possible advice or recommendations in its report on the National Energy Efficiency Plans referred to in Article 14(5) of Directive 2006/32/EC.

4. The **Secretariat** shall, where appropriate, assist upon request **Contracting Parties** in setting up national or regional financial support programmes with the aim of increasing energy efficiency in buildings, especially of existing buildings, by supporting the exchange of best practice between the responsible national or regional authorities or bodies.

5. In order to improve financing in support of the implementation of this Directive and taking due account of the principle of subsidiarity, the Commission shall, preferably by 2011, present an analysis on, in particular:

(a) the effectiveness, the appropriateness of the level, and the actual amount used, of structural funds and framework programmes that were used for increasing energy efficiency in buildings, especially in housing;

(b) the effectiveness of the use of funds from the EIB and other public finance institutions;

(c) the coordination of Union and national funding and other forms of support that can act as a leverage for stimulating investments in energy efficiency and the adequacy of such funds for achieving Union objectives.

On the basis of that analysis, and in accordance with the multiannual financial framework, the Commission may subsequently submit, if it considers this appropriate, proposals with respect to Union instruments to the European Parliament and the Council.

6. **Contracting Parties** shall take account of the cost-optimal levels of energy performance when providing incentives for the construction or major renovation of buildings.

7. The provisions of this Directive shall not prevent **Contracting Parties** from providing incentives for new buildings, renovations or building elements which go beyond the cost-optimal levels.

Article 11

Energy performance certificates

1. **Contracting Parties** shall lay down the necessary measures to establish a system of certification of the energy performance of buildings. The energy performance certificate shall include the energy performance of a building and reference values such as minimum energy performance requirements in order to make it possible for owners or tenants of the building or building unit to compare and assess its energy performance.

The energy performance certificate may include additional information such as the annual energy consumption for non-residential buildings and the percentage of energy from renewable sources in the total energy consumption.

2. The energy performance certificate shall include recommendations for the cost-optimal or cost-effective improvement of the energy performance of a building or building unit, unless there is no reasonable potential for such improvement compared to the energy performance requirements in force.

The recommendations included in the energy performance certificate shall cover:

(a) measures carried out in connection with a major renovation of the building envelope or technical building system(s); and

(b) measures for individual building elements independent of a major renovation of the building envelope or technical building system(s).

3. The recommendations included in the energy performance certificate shall be technically feasible for the specific building and may provide an estimate for the range of payback periods or cost-benefits over its economic lifecycle.

4. The energy performance certificate shall provide an indication as to where the owner or tenant can receive more detailed information, including as regards the cost-effectiveness of the recommendations made in the energy performance certificate. The evaluation of cost effectiveness shall be based on a set of standard conditions, such as the assessment of energy savings and underlying energy prices and a preliminary cost forecast. In addition, it shall contain information on the steps to be taken to implement the recommendations. Other information on related topics, such as energy audits or incentives of a financial or other nature and financing possibilities may also be provided to the owner or tenant.

5. Subject to national rules, **Contracting Parties** shall encourage public authorities to take into account the leading role which they should play in the field of energy performance of buildings, *inter alia*, by implementing the recommendations included in the energy performance certificate issued for buildings owned by them within its validity period.

6. Certification for building units may be based:

(a) on a common certification of the whole building; or

(b) on the assessment of another representative building unit with the same energy-relevant characteristics in the same building.

7. Certification for single-family houses may be based on the assessment of another representative building of similar design and size with a similar actual energy performance quality if such correspondence can be

guaranteed by the expert issuing the energy performance certificate.

8. The validity of the energy performance certificate shall not exceed 10 years.

9. The Commission shall, by 2011, in consultation with the relevant sectors, adopt a voluntary common European Union certification scheme for the energy performance of non-residential buildings. That measure shall be adopted in accordance with the advisory procedure referred to in Article 26(2). **Contracting Parties** are encouraged to recognise or use the scheme, or use part thereof by adapting it to national circumstances.

Article 12

Issue of energy performance certificates

1. **Contracting Parties** shall ensure that an energy performance certificate is issued for:

- (a) buildings or building units which are constructed, sold or rented out to a new tenant; and
- (b) buildings where a total useful floor area over 500 m² is occupied by a public authority and frequently visited by the public. On **30 September 2015**, this threshold of 500 m² shall be lowered to 250 m².

The requirement to issue an energy performance certificate does not apply where a certificate, issued in accordance with either Directive 2002/91/EC or this Directive, for the building or building unit concerned is available and valid.

2. **Contracting Parties** shall require that, when buildings or building units are constructed, sold or rented out, the energy performance certificate or a copy thereof is shown to the prospective new tenant or buyer and handed over to the buyer or new tenant.

3. Where a building is sold or rented out in advance of construction, **Contracting Parties** may require the seller to provide an assessment of its future energy performance, as a derogation from paragraphs 1 and 2; in this case, the energy performance certificate shall be issued at the latest once the building has been constructed.

4. **Contracting Parties** shall require that when:

- buildings having an energy performance certificate,
- building units in a building having an energy performance certificate, and
- building units having an energy performance certificate,

are offered for sale or for rent, the energy performance indicator of the energy performance certificate of the building or the building unit, as applicable, is stated in the advertisements in commercial media.

5. The provisions of this Article shall be implemented in accordance with applicable national rules on joint ownership or common property.

6. **Contracting Parties** may exclude the categories of buildings referred to in Article 4(2) from the application of paragraphs 1, 2, 4 and 5 of this Article.

7. The possible effects of energy performance certificates in terms of legal proceedings, if any, shall be decided in accordance with national rules.

Article 13

Display of energy performance certificates

1. **Contracting Parties** shall take measures to ensure that where a total useful floor area over 500 m² of a building for which an energy performance certificate has been issued in accordance with Article 12(1) is occupied by public authorities and frequently visited by the public, the energy performance certificate is displayed in a prominent place clearly visible to the public.

On **30 September 2015**, this threshold of 500 m² shall be lowered to 250 m².

2. **Contracting Parties** shall require that where a total useful floor area over 500 m² of a building for which an energy performance certificate has been issued in accordance with Article 12(1) is frequently visited by the public, the energy performance certificate is displayed in a prominent place clearly visible to the public.

3. The provisions of this Article do not include an obligation to display the recommendations included in the energy performance certificate.

Article 14

Inspection of heating systems

1. **Contracting Parties** shall lay down the necessary measures to establish a regular inspection of the accessible parts of systems used for heating buildings, such as the heat generator, control system and circulation pump(s), with boilers of an effective rated output for space heating purposes of more than 20 kW. That inspection shall include an assessment of the boiler efficiency and the boiler sizing compared with the heating requirements of the building. The assessment of the boiler sizing does not have to be repeated as long as no changes were made to the heating system or as regards the heating requirements of the building in the meantime.

Contracting Parties may reduce the frequency of such inspections or lighten them as appropriate, where an electronic monitoring and control system is in place.

2. **Contracting Parties** may set different inspection frequencies depending on the type and effective rated output of the heating system whilst taking into account the costs of the inspection of the heating system and the estimated energy cost savings that may result from the inspection.

3. Heating systems with boilers of an effective rated output of more than 100 kW shall be inspected at least every two years.

For gas boilers, this period may be extended to four years.

4. As an alternative to paragraphs 1, 2 and 3 **Contracting Parties** may opt to take measures to ensure the provision of advice to users concerning the replacement of boilers, other modifications to the heating system and alternative solutions to assess the efficiency and appropriate size of the boiler. The overall impact of this approach shall be equivalent to that arising from the provisions set out in paragraphs 1, 2 and 3.

Where **Contracting Parties** choose to apply the measures referred to in the first subparagraph, they shall submit to the **Secretariat** a report on the equivalence of those measures to measures referred to in paragraphs 1, 2 and 3 of this Article by **30 June 2013** at the latest. **Contracting Parties** shall submit these reports to the **Secretariat** every three years. The reports may be included in the Energy Efficiency

Action Plans referred to in Article 14(2) of Directive 2006/32/EC.

5. After receiving the national report from a **Contracting Party** about the application of the option as described in paragraph 4, the **Secretariat** may request further specific information regarding the requirements and equivalence of the measures set out in that paragraph. In that case, the **Contracting Party** concerned shall present the requested information or propose amendments within nine months.

Article 15

Inspection of air-conditioning systems

1. **Contracting Parties** shall lay down the necessary measures to establish a regular inspection of the accessible parts of air-conditioning systems of an effective rated output of more than 12 kW. The inspection shall include an assessment of the air-conditioning efficiency and the sizing compared to the cooling requirements of the building. The assessment of the sizing does not have to be repeated as long as no changes were made to this air-conditioning system or as regards the cooling requirements of the building in the meantime.

Contracting Parties may reduce the frequency of such inspections or lighten them, as appropriate, where an electronic monitoring and control system is in place.

2. The **Contracting Parties** may set different inspection frequencies depending on the type and effective rated output of the air-conditioning system, whilst taking into account the costs of the inspection of the air-conditioning system and the estimated energy cost savings that may result from the inspection.

3. In laying down the measures referred to in paragraphs 1 and 2 of this Article, **Contracting Parties** shall, as far as is economically and technically feasible, ensure that inspections are carried out in accordance with the inspection of heating systems and other technical systems referred to in Article 14 of this Directive and the inspection of leakages referred to in Regulation (EC) No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases.

4. As an alternative to paragraphs 1, 2 and 3 **Contracting Parties** may opt to take measures to ensure the provision of advice to users on the replacement of air-conditioning systems or on other modifications to the air-conditioning system which may include inspections to assess the efficiency and appropriate size of the air-conditioning system. The overall impact of this approach shall be equivalent to that arising from the provisions set out in paragraphs 1, 2 and 3.

Where **Contracting Parties** apply the measures referred to in the first subparagraph, they shall, by **30 June 2013** at the latest, submit to the Secretariat a report on the equivalence of those measures to the measures referred to in paragraphs 1, 2 and 3 of this Article. **Contracting Parties** shall submit these reports to the Secretariat every three years. The reports may be included in the Energy Efficiency Action Plans referred to in Article 14(2) of Directive 2006/32/EC.

5. After receiving the national report from a **Contracting Party** about the application of the option as described in paragraph 4, the **Secretariat** may request further specific information regarding the requirements and equivalence of the measures set in that paragraph. In this case, the **Contracting Party** concerned shall present the requested information or propose amendments within nine months.

Article 16

Reports on the inspection of heating and air-conditioning systems

1. An inspection report shall be issued after each inspection of a heating or air-conditioning system. The inspection report shall contain the result of the inspection performed in accordance with Article 14 or 15 and include recommendations for the cost-effective improvement of the energy performance of the inspected system.

The recommendations may be based on a comparison of the energy performance of the system inspected with that of the best available feasible system and a system of similar type for which all relevant components achieve the level of energy performance required by the applicable legislation.

2. The inspection report shall be handed over to the owner or tenant of the building.

Article 17

Independent experts

Contracting Parties shall ensure that the energy performance certification of buildings and the inspection of heating systems and air-conditioning systems are carried out in an independent manner by qualified and/or accredited experts, whether operating in a self-employed capacity or employed by public bodies or private enterprises.

Experts shall be accredited taking into account their competence.

Contracting Parties shall make available to the public information on training and accreditations. **Contracting Parties** shall ensure that either regularly updated lists of qualified and/or accredited experts or regularly updated lists of accredited companies which offer the services of such experts are made available to the public.

Article 18

Independent control system

1. **Contracting Parties** shall ensure that independent control systems for energy performance certificates and reports on the inspection of heating and air-conditioning systems are established in accordance with Annex II. **Contracting Parties** may establish separate systems for the control of energy performance certificates and for the control of reports on the inspection of heating and air-conditioning systems.

2. The **Contracting Parties** may delegate the responsibilities for implementing the independent control systems.

Where the **Contracting Parties** decide to do so, they shall ensure that the independent control systems are implemented in compliance with Annex II.

3. **Contracting Parties** shall require the energy performance certificates and the inspection reports referred to in paragraph 1 to be made available to the competent authorities or bodies on request.

Article 19

Review

The Commission, assisted by the Committee established by Article 26, shall evaluate this Directive by 1 January 2017 at the latest, in the light of the experience gained and progress made during its application, and, if necessary, make proposals.

Article 20

Information

1. **Contracting Parties** shall take the necessary measures to inform the owners or tenants of buildings or building units of the different methods and practices that serve to enhance energy performance.

2. **Contracting Parties** shall in particular provide information to the owners or tenants of buildings on energy performance certificates and inspection reports, their purpose and objectives, on cost-effective ways to improve the energy performance of the building and, where appropriate, on financial instruments available to improve the energy performance of the building.

At the request of the **Contracting Parties**, the **Secretariat** shall assist **Contracting Parties** in staging information campaigns for the purposes of paragraph 1 and the first subparagraph of this paragraph, which may be dealt with in Union programmes.

3. **Contracting Parties** shall ensure that guidance and training are made available for those responsible for implementing this Directive. Such guidance and training shall address the importance of improving energy performance, and shall enable consideration of the optimal combination of improvements in energy efficiency, use of energy from renewable sources and use of district heating and cooling when planning, designing, building and renovating industrial or residential areas.

4. The Commission is invited to continuously improve its information services, in particular the website that has been set up as a European portal for energy efficiency in buildings directed towards citizens, professionals and authorities, in order to assist **Contracting Parties** in their information and awareness-raising efforts. Information displayed on this website might include links to relevant European Union and national, regional and local legislation, links to Europa websites that display the National Energy Efficiency Action Plans, links to available financial instruments, as well as best practice examples at national, regional and local level. In the context of the European Regional Development Fund, the Commission shall continue and further intensify its information services with the aim of facilitating the use of available funds by providing assistance and information to interested stakeholders, including national, regional and local authorities, on funding possibilities, taking into account the latest changes in the regulatory framework.

Article 21

Consultation

In order to facilitate the effective implementation of the Directive, **Contracting Parties** shall consult the stakeholders involved, including local and regional authorities, in accordance with the national legislation

applicable and as relevant. Such consultation is of particular importance for the application of Articles 9 and 20.

Article 22

Adaptation of Annex I to technical progress

The Commission shall adapt points 3 and 4 of Annex I to technical progress by means of delegated acts in accordance with Articles 23, 24 and 25.

Article 23

Exercise of delegation

1. The powers to adopt the delegated acts referred to in Article 22 shall be conferred on the Commission for a period of five years beginning on 8 July 2010. The Commission shall make a report in respect of the delegated powers not later than six months before the end of the five-year period. The delegation of powers shall be automatically extended for periods of an identical duration, unless the European Parliament or the Council revokes it in accordance with Article 24.
2. Without prejudice to the deadline referred to in Article 5(1), the powers to adopt the delegated acts referred to in Article 5 shall be conferred on the Commission until 30 June 2012.
3. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the **Ministerial Council, who shall put it on the agenda of its next meeting.**
4. The powers to adopt delegated acts are conferred on the Commission subject to the conditions laid down in Articles 24 and 25.

Article 24

Revocation of the delegation

The Ministerial Council may object to the application of a delegated act to the Contracting Parties of the Energy Community at the meeting following notification. If, at that meeting, the Ministerial Council has not objected to the delegated act, it shall become binding on the Contracting Parties, subject to possible adaptation. If the Ministerial Council objects to a delegated act, it shall not be applicable in the Energy Community. The Ministerial Council shall state the reasons for objecting to the delegated act.

Article 25

Objections to delegated acts

1. The European Parliament or the Council may object to a delegated act within a period of two months from the date of notification.

At the initiative of the European Parliament or the Council that period shall be extended by two months.

2. If, on expiry of that period, neither the European Parliament nor the Council has objected to the delegated act it shall be published in the Official Journal of the European Union and shall enter into force on the date stated therein.

The delegated act may be published in the Official Journal of the European Union and enter into force before the expiry of that period, if the European Parliament and the Council have both informed the Commission of their intention not to raise objections.

3. If the European Parliament or the Council objects to a delegated act, it shall not enter into force. The institution which objects shall state the reasons for objecting to the delegated act.

Article 26

Committee procedure

1. The Commission shall be assisted by a Committee.

2. Where reference is made to this paragraph, Articles 3 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

Article 27

Penalties

Contracting Parties shall lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. **Contracting Parties** shall communicate those provisions to the **Secretariat** by **31 March 2013** at the latest and shall notify it without delay of any subsequent amendment affecting them.

Article 28

Transposition

1. **Contracting Parties** shall adopt and publish, by **30 September 2012**¹ at the latest, the laws, regulations and administrative provisions necessary to comply with Articles 2 to 18, and with Articles 20 and 27. They shall apply those provisions as far as Articles 2, 3, 9, 11, 12, 13, 17, 18, 20 and 27 are concerned,

¹ In accordance with the Accession Protocol, the corresponding date for Georgia is 30 June 2019.

from **31 March 2013** at the latest.

They shall apply those provisions as far as Articles 4, 5, 6, 7, 8, 14, 15 and 16 are concerned, to buildings occupied by the public authorities from **31 March 2013** at the latest and to other buildings from **30 September 2013** at the latest.

They may defer the application of Article 12(1) and (2) to single building units that are rented out, until **31 March 2016**. This shall however not result in fewer certificates being issued than would have been the case under the application of the Directive 2002/91/EC in the **Contracting Party** concerned.

When **Contracting Parties** adopt measures, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. They shall also include a statement that references in existing laws, regulations and administrative provisions to Directive 2002/91/EC shall be construed as references to this Directive. **Contracting Parties** shall determine how such reference is to be made and how that statement is to be formulated.

2. **Contracting Parties** shall communicate to the **Secretariat** the text of the main provisions of national law which they adopt in the field covered by this Directive.

Article 29

Repeal

Directive 2002/91/EC, as amended by the Regulation indicated in Annex IV, Part A, is hereby repealed with effect from 1 February 2012, without prejudice to the obligations of the **Contracting Parties** relating to the time limit for transposition into national law and application of the Directive set out in Annex IV, Part B. References to Directive 2002/91/EC shall be construed as references to this Directive and shall be read in accordance with the correlation table in Annex V.

Articles 30 and 31

Entry into force and Addressees²

This Decision [2010/02/MC-EnC] enters into force upon its adoption and is addressed to the Contracting Parties.

The Secretariat shall monitor and review the implementation of Directive 2010/31/EU in the Contracting Parties and shall submit a progress report to the Permanent High Level Group by 31 March 2013.³

² The text displayed here corresponds to Article 3 of Decision 2010/02/MC-EnC.

³ The text displayed here corresponds to Article 1(4) of Decision 2010/02/MC-EnC.

ANNEX I

Common general framework for the calculation of energy performance of buildings (referred to in Article 3)

1. The energy performance of a building shall be determined on the basis of the calculated or actual annual energy that is consumed in order to meet the different needs associated with its typical use and shall reflect the heating energy needs and cooling energy needs (energy needed to avoid overheating) to maintain the envisaged temperature conditions of the building, and domestic hot water needs.

2. The energy performance of a building shall be expressed in a transparent manner and shall include an energy performance indicator and a numeric indicator of primary energy use, based on primary energy factors per energy carrier, which may be based on national or regional annual weighted averages or a specific value for on-site production.

The methodology for calculating the energy performance of buildings should take into account European standards and shall be consistent with relevant Union legislation, including Directive 2009/28/ EC.

3. The methodology shall be laid down taking into consideration at least the following aspects:

(a) the following actual thermal characteristics of the building including its internal partitions:

- (i) thermal capacity;
- (ii) insulation;
- (iii) passive heating;
- (iv) cooling elements; and
- (v) thermal bridges;

(b) heating installation and hot water supply, including their insulation characteristics;

(c) air-conditioning installations;

(d) natural and mechanical ventilation which may include air-tightness;

(e) built-in lighting installation (mainly in the non-residential sector);

(f) the design, positioning and orientation of the building, including outdoor climate;

(g) passive solar systems and solar protection;

(h) indoor climatic conditions, including the designed indoor climate;

(i) internal loads.

4. The positive influence of the following aspects shall, where relevant in the calculation, be taken into account:

(a) local solar exposure conditions, active solar systems and other heating and electricity systems based on energy from renewable sources;

(b) electricity produced by cogeneration;

(c) district or block heating and cooling systems;

(d) natural lighting.

5. For the purpose of the calculation buildings should be adequately classified into the following categories:

- (a) single-family houses of different types;
- (b) apartment blocks;
- (c) offices;
- (d) educational buildings;
- (e) hospitals;
- (f) hotels and restaurants;
- (g) sports facilities;
- (h) wholesale and retail trade services buildings;
- (i) other types of energy-consuming buildings.

ANNEX II

Independent control systems for energy performance certificates and inspection reports

1. The competent authorities or bodies to which the competent authorities have delegated the responsibility for implementing the independent control system shall make a random selection of at least a statistically significant percentage of all the energy performance certificates issued annually and subject those certificates to verification.

The verification shall be based on the options indicated below or on equivalent measures:

- (a) validity check of the input data of the building used to issue the energy performance certificate and the results stated in the certificate;
- (b) check of the input data and verification of the results of the energy performance certificate, including the recommendations made;
- (c) full check of the input data of the building used to issue the energy performance certificate, full verification of the results stated in the certificate, including the recommendations made, and on-site visit of the building, if possible, to check correspondence between specifications given in the energy performance certificate and the building certified.

2. The competent authorities or bodies to which the competent authorities have delegated the responsibility for implementing the independent control system shall make a random selection of at least a statistically significant percentage of all the inspection reports issued annually and subject those reports to verification.

ANNEX III

Comparative methodology framework to identify cost-optimal levels of energy performance requirements for buildings and building elements

The comparative methodology framework shall enable **Contracting Parties** to determine the energy performance of buildings and building elements and the economic aspects of measures relating to the energy performance, and to link them with a view to identifying the cost-optimal level.

The comparative methodology framework shall be accompanied by guidelines outlining how to apply this framework in the calculation of cost-optimal performance levels.

The comparative methodology framework shall allow for taking into account use patterns, outdoor climate conditions, investment costs, building category, maintenance and operating costs (including energy costs and savings), earnings from energy produced, where applicable, and disposal costs, where applicable. It should be based on relevant European standards relating to this Directive.

The Commission shall also provide:

- guidelines to accompany the comparative methodology framework; these guidelines will serve to enable the **Contracting Parties** to undertake the steps listed below,
- information on estimated long-term energy price developments.

For the application of the comparative methodology framework by **Contracting Parties**, general conditions, expressed by parameters, shall be laid down at **Contracting Party** level.

The comparative methodology framework shall require **Contracting Parties** to:

- define reference buildings that are characterised by and representative of their functionality and geographic location, including indoor and outdoor climate conditions. The reference buildings shall cover residential and non-residential buildings, both new and existing ones,
- define energy efficiency measures to be assessed for the reference buildings. These may be measures for individual buildings as a whole, for individual building elements, or for a combination of building elements,
- assess the final and primary energy need of the reference buildings and the reference buildings with the defined energy efficiency measures applied,
- calculate the costs (i.e. the net present value) of the energy efficiency measures (as referred to in the second indent) during the expected economic lifecycle applied to the reference buildings (as referred to in the first indent) by applying the comparative methodology framework principles.

By calculating the costs of the energy efficiency measures during the expected economic lifecycle, the cost-effectiveness of different levels of minimum energy performance requirements is assessed by the **Contracting Parties**. This will allow the determination of cost-optimal levels of energy performance requirements.