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**COMMISSION STAFF WORKING DOCUMENT**

**Interpretative note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EC, and repealing Directives 2004/8/EC and 2006/32/EC**

**Article 5: Exemplary role of public bodies' buildings**

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## ARTICLE 5: EXEMPLARY ROLE OF PUBLIC BODIES' BUILDINGS

### A. INTRODUCTION

1. Article 5 of Directive 2012/27/EU of 25 October 2012 on energy efficiency<sup>1</sup> ('the EED' or 'the Directive') requires Member States to ensure that, as from 1 January 2014, 3% of the total floor area of central government-owned and –occupied heated or cooled buildings is renovated each year to meet the minimum energy performance requirements that each Member State has set in application of Article 4 of the Energy Performance of Buildings Directive (2010/31/EU, also the 'EPBD')<sup>2</sup>. Two alternative approaches are also foreseen.
2. This note aims to provide guidance to Member States on how to apply Article 5 of the EED. The note states the views of the Commission, is not legally binding and is without prejudice to the case-law of the Court of Justice and its development.

### B. SCOPE OF THE OBLIGATION

3. Article 2(9) of the EED defines '*Central government*' as '*all administrative departments whose competence extends over the whole territory of a Member State*'. In putting this definition into practice, Member States can draw on:
  - Annex IV of the Public Procurement Directive (2004/18/EC<sup>3</sup>), which includes a list of central government bodies in all Member States;
  - The data on public accounts which Eurostat collects on the basis of Council Regulation 479/2009/EC on the application of the Protocol on the excessive deficit procedure annexed to the Treaty establishing the European Community<sup>4</sup>.

The Guidance to Council Regulation 479/2009/EC, ESA95<sup>5</sup> (European system of national and regional accounts), defines central government in point S.1311 as: '*[...] All administrative departments of the State and other central agencies whose competence extends normally over the whole economic territory, except for the administration of social security funds. Included in sub-sector S.1311 are those non-profit institutions which are controlled and mainly financed by central government and whose competence extends over the whole economic territory*'..

This definition differs from that used in the EED in that the latter does not refer explicitly to '*central agencies*' and does not exclude '*administrative departments for the administration of social security funds*'. Member States could therefore, in principle, use the lists of central government bodies specified for the purposes of Council Regulation 479/2009/EC as a possible reference for establishing which institutions fall within the scope of Article 5 of the EED, while taking into account the differences mentioned above.

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<sup>1</sup> Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2012/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, .OJ L 315, 14.11.2012, p. 1

<sup>2</sup> Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (recast), OJ L 153, 18.6.2010, p.13

<sup>3</sup> OJ L 134, 30.4.2004, p. 114–240

<sup>4</sup> OJ L 145,10.6.2009,.p.1

<sup>5</sup> <http://circa.europa.eu/irc/dsis/nfaccount/info/data/esa95/en/een00081.htm>.

4. As indicated, the Commission guidance on Council Regulation 479/2009/EC clarifies that for the purposes of that Regulation 'central government' consists of those non-profit institutions which are controlled and mainly financed by central government and whose competence extends over the whole economic territory. Thus central government is not limited to ministries but includes the entities which are directly dependent on them in terms of authority (*i.e.* are not fully autonomous) and financing. Council Regulation 479/2009/EC and the accompanying guidance provide possible criteria for Member States for defining 'central government' within the context of the EED – but its use is not compulsory, as the EED does not include any references to Council Regulation 479/2009 nor to Annex IV of the Public Procurement Directive.
5. When establishing the scope of the obligation under Article 5 of the EED, Member States should take into account Recital 17 of the EED which provides that '[...] *The obligation to renovate floor area of central government buildings should apply to the administrative departments whose competence extends over the whole territory of a Member State. When in a given Member State and for a given competence no such relevant administrative department exists that covers the whole territory, the obligation should apply to those administrative departments whose competences cover collectively the whole territory.*' This may be relevant for those Member States where for certain competences (such as health or education) there are no central/national government authorities which would exert control or would be the main provider of financing. As the EED does not define what those competences are, this leaves flexibility for Member States to define them. It should be noted, however, that as a recital this text has an explanatory purpose and does not alter the definition included in Article 2(9).

#### **C. ESTABLISHING THE BASIS FOR CALCULATING THE TARGET (INVENTORY OR ALTERNATIVE)**

6. Member States have a choice of two methods to meet the obligations of Article 5. The 'default' approach is laid out in Article 5(1) and the 'alternative' approach in Article 5(6). As the two approaches are expected to lead to an equivalent targeted improvement in the energy performance of buildings, the chosen approach will mainly determine the way in which this target is reached.
7. Under the 'default' approach the energy performance and surface<sup>6</sup> of all buildings to which Article 5 applies will need to be specified in a publicly available inventory as set out in Article 5(5), excluding however buildings exempted on the basis of Article 5(2). This task will be facilitated by the fact that Member States are already required, under Article 12 of the EPBD, to issue energy performance certificates for buildings occupied by a public authority and frequently visited by the public. This requirement under the EPBD applies as of 9 January 2013 to buildings with a total useful floor area above 500 m<sup>2</sup>, and as of 9 July 2015 above 250 m<sup>2</sup>. In line with Article 11 of the EPBD, these energy performance certificates must 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;
  - Recommendations for the cost-optimal or cost-effective improvement of the energy performance of a building or building unit.
8. The energy performance certificates will therefore allow Member States to establish which buildings do not meet minimum energy performance requirements and what measures need to be undertaken to bring the buildings up to the required efficiency.

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<sup>6</sup> This discussion document uses the word '*surface*' as the equivalent of '*total useful floor area*'.

9. Two provisions of the Directive give flexibility when using the 'default' approach:
- Article 5(3) allows a Member State that has renovated more than 3% of the total floor area of central government buildings in a given year to count the excess in any of the three previous or following years;
  - Article 5(4) allows a Member State to count towards the annual renovation rate of central government buildings:
    - New buildings occupied and owned as replacement for specific central government buildings demolished in any of the two previous years; or
    - Buildings that have been sold, demolished or taken out of use in any of the two previous years due to more intensive use of other buildings.
10. Under the 'alternative' approach set out in Article 5(6) the target can be calculated on the basis of appropriate standard values for the energy consumption – expressed in kWh or other energy units – of identified reference central government buildings before and after renovation and according to estimates of the surface of the central government stock. The 3% saving target under the alternative approach is cumulative, meaning that Member States are required to achieve the sum of annual targets over the whole period between 2014 and 2020, irrespective of the savings achieved in each individual year during that period. Furthermore, in line with Article 5(6), all the savings have to be achieved within central government buildings.
11. The main principle laid down by the Directive is that the target set for the 'alternative' approach must be equivalent to the 'default' approach. The Directive allows the level of energy savings that the 'default' approach would generate to be estimated on the basis of standard values. Although establishing an inventory is not mandatory under the alternative approach, it should be noted that the best way of ensuring equivalence is to use the inventory referred to in Article 5(5) as the basis for calculating the 'alternative' target (*i.e.* expressed in terms of energy saved, and not in terms of renovated surface). This being the case, Member States may wish to establish and use the inventory, irrespective of whether they choose to reach the target using the 'alternative' or 'default' approach.
12. If Member States instead choose to use standard values for the calculation of the 'alternative target' they may use the elements provided by the EPBD and the associated "cost-optimal" methodology<sup>7</sup>, namely:
- Types of reference buildings;
  - Reference values for energy consumption of each type of reference building before renovation;
  - Reference values for cost-optimal energy consumption of each type of reference building with the defined energy efficiency measures applied.
13. The 'defined energy efficiency measures' under the cost-optimal methodology will include only those that address the building envelope, building elements and technical systems. Therefore, savings resulting from behavioural changes would need to be measured/estimated using other reliable methods, such as surveyed savings or metered savings.
14. The alternative approach allows the combining of different ways of reducing energy consumption in central government buildings (behavioural changes, 'deep' renovations, 'shallow' renovations, etc.).

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<sup>7</sup> Commission Delegated Regulation (EU) No 244/2012 of 16 January 2012 supplementing directive 2010/31/EU by establishing a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements.

15. The EED foresees that Member States can use certain flexibility mechanisms provided in Articles 5(3) and 5(4) for the purposes of the 'default' approach. Although the use of these is not expressly allowed under the alternative approach, the way in which the target is to be achieved under the latter approach nevertheless makes it possible to use them. Article 5(6) provides that, under the 'alternative' approach, Member States will have to achieve by 2020 an amount of savings that is at least equivalent to that required under Article 5(1). That means that the target under the 'alternative' approach is cumulative, and therefore – as under Article 5(3) – it will be possible to count in the target for a given year the excess of savings achieved in previous or following years. Similarly, since the target under the alternative approach will be established by multiplying the energy consumption of relevant buildings by their surface, the flexibilities provided for under Article 5(4) (replacing inefficient buildings with efficient ones and relocating staff to a smaller space) will *de facto* also be available in this case.

#### D. EXEMPLIFICATIONS OF OPTIONS FOR FULFILLING THE TARGET

16. The examples below aim to illustrate in a practical way how the target can be established and achieved under the 'default' and 'alternative' approaches set out in Article 5 of the EED. The symbols and figures included there are purely illustrative.
17. **Example 1. Default approach with the different flexibility mechanisms applied**
18. **Calculation of the target**

Building	Surface (in m <sup>2</sup> )	Rating	Buildings below minimum for new built/major renovation (assumed to be B)	Total surface of buildings below minimum
1	2000	B		
2	10000	C	v	10000
3	7200	D	v	7200
4	600	B		
5	30000	E	v	30000
6	3000	A		
7	300	E	v	300
8 <sup>8</sup>	600	E	v	
				Total: 47500

In this example the target for one given year will be:  $3\% * 47500 = 1425 \text{ m}^2$ .

19. In line with Article 5(1), fifth subparagraph, Member States have to prioritise the renovation of buildings with the poorest energy performance, where cost-effective and technically feasible. Cost-effectiveness should in principle be ensured by the fact that the targeted level of energy performance can be based on the cost-optimal methodology under the EPBD.

<sup>8</sup> In this example it is assumed that building 8 was sold in the two previous years by the central government authorities, hence its surface does not count in the 'denominator' (total surface of buildings owned and occupied by central government on 1 January not meeting minimum EPBD requirements).

20. Under the scenario in Example 1, this means that buildings 5 and 7 need to be prioritised. However, at the same time, Article 5(4) allows Member States to count towards the annual renovation rate new buildings occupied and owned as replacements for specific central government buildings demolished in any of the two previous years or buildings that have been sold, demolished or taken out of use in any of the two previous years due to more intensive use of other buildings. Assuming that building 4 was built as replacement for a specific central government building demolished in the previous two years, its surface can be counted towards the target. Assuming that building 8 was sold in the two previous years and its staff were relocated to buildings 1 to 7, its surface can also be counted in the target. Counting these two buildings will imply that the remaining target for that year is 225 m<sup>2</sup> (1425 – (600 + 600)).
21. The two following options for meeting the target therefore arise:
- Option 1: Renovate building 7. The annual target will be met.
- Option 2: Renovate building 5. Given its surface, it will be possible to count savings resulting from this renovation in this year and the three following years.
22. **Example 2. Alternative approach: calculation of the target using estimates and standard values and options for meeting it**
23. **Calculation of the target**

a. Types of reference public buildings	b. Energy consumption (kWh/m <sup>2</sup> )	c. Energy consumption with the defined energy efficiency measures applied (kWh/m <sup>2</sup> )	d. Total estimated surface for given category of buildings expressed in 1000 m <sup>2</sup>	Total energy saving (GWh) Calculation: (b-c)*d/1000
Offices	360	250	500000	55000
Educational buildings & hospitals	200	150	200000	10000
Residential	150	100	500000	25000
Other	100	70	300000	9000
'denominator' under alternative approach				99000

Result: In this example, the annual target will therefore be: 3% \* 99000 GWh = 2970 GWh.

24. As indicated in section 3 of this paper, Member States may also find it convenient use the inventory to establish the alternative target. In that case, a similar formula as in the table above would apply:

$$\sum \frac{(b-c)}{d}$$

where:

'b' is the energy consumption of each building not meeting EPBD requirements;  
'c' is the minimum consumption required under EPBD;

'd' is the surface of each building not meeting EPBD requirements.

25. **Sub-option one under alternative approach: reaching the target by reaping full cost-effective saving potential on the basis of deep renovations**

<b>a. Types of reference public buildings</b>	<b>b. Energy consumption (kWh/m<sup>2</sup>)</b>	<b>c. Energy consumption after reaping the full cost-effective saving potential (kWh/m<sup>2</sup>)</b>	<b>d. Renovated surface (1000 m<sup>2</sup>)</b>	<b>Total energy saved (GWh) Calculation: (b-c)*d/1000</b>
Offices	360	20	5000	1700
Educational buildings & hospitals	170	20	1000	150
Sport facilities	150	20	5000	650
Other	100	20	5800	470
Target				2970

Result: the annual target was achieved by renovating about 1% of the floor area (column 'd' in the first table in Example 2 divided by column 'd' in second table in Example 2) to nearly zero-energy consumption level (in this case assumed to be 20 kWh/m<sup>2</sup>).

26. **Sub-option two under alternative approach: reaching the target on the basis of behavioural changes**

<b>a. Types of reference public buildings</b>	<b>b. Energy consumption (kWh/m<sup>2</sup>)</b>	<b>c. Energy consumption after the introduction of behavioural changes (kWh/m<sup>2</sup>)</b>	<b>d. Surface of buildings where behavioural changes need to be introduced (1000 m<sup>2</sup>)</b>	<b>Total energy saved (GWh) Calculation: (b-c)*d/1000</b>
Offices	360	324	47222	1700
Educational buildings & hospitals	170	153	8823	150
Sport facilities	150	135	43000	650
Other	100	90	47000	470
Target				2970

Result: assuming that behavioural changes on average lead to a 10% reduction of energy consumption, they would have to be introduced in about 10% of the buildings owned and occupied by central government (column 'd' in the first table in Example 2 divided by column 'd' in third table in Example 2).



## ANNEX. RELEVANT PROVISIONS OF THE DIRECTIVE (RECITALS, ARTICLES 2, 5, 20, ANNEX XIV)

### Recitals

(15) The total volume of public spending is equivalent to 19 % of the Union's gross domestic product. For this reason the public sector constitutes an important driver to stimulate market transformation towards more efficient products, buildings and services, as well as to trigger behavioural changes in energy consumption by citizens and enterprises. Furthermore, decreasing energy consumption through energy efficiency improvement measures can free up public resources for other purposes. Public bodies at national, regional and local level should fulfil an exemplary role as regards energy efficiency.

(17) The rate of building renovation needs to be increased, as the existing building stock represents the single biggest potential sector for energy savings. Moreover, buildings are crucial to achieving the Union objective of reducing greenhouse gas emissions by 80 95 % by 2050 compared to 1990. Buildings owned by public bodies account for a considerable share of the building stock and have high visibility in public life. It is therefore appropriate to set an annual rate of renovation of buildings owned and occupied by central government on the territory of a Member State to upgrade their energy performance. This renovation rate should be without prejudice to the obligations with regard to nearly-zero energy buildings set in Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings . The obligation to renovate central government buildings in this Directive complements that Directive, which requires Member States to ensure that when existing buildings undergo major renovation their energy performance is upgraded so that they meet minimum energy performance requirements. It should be possible for Member States to take alternative cost efficient measures to achieve an equivalent improvement of the energy performance of the buildings within their central government estate. The obligation to renovate floor area of central government buildings should apply to the administrative departments whose competence extends over the whole territory of a Member State. When in a given Member State and for a given competence no such relevant administrative department exists that covers the whole territory, the obligation should apply to those administrative departments whose competences cover collectively the whole territory.

(18) A number of municipalities and other public bodies in the Member States have already put into place integrated approaches to energy saving and energy supply, for example via sustainable energy action plans, such as those developed under the Covenant of Mayors initiative, and integrated urban approaches which go beyond individual interventions in buildings or transport modes. Member States should encourage municipalities and other public bodies to adopt integrated and sustainable energy efficiency plans with clear objectives, to involve citizens in their development and implementation and to adequately inform them about their content and progress in achieving objectives. Such plans can yield considerable energy savings, especially if they are implemented by energy management systems that allow the public bodies concerned to better manage their energy consumption. Exchange of experience between cities, towns and other public bodies should be encouraged with respect to the more innovative experiences.

### Article 2

#### Definitions

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

[...]

(8) 'public bodies' means 'contracting authorities' as defined in Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts;

(9) 'central government' means all administrative departments whose competence extends over the whole territory of a Member State;

(10) 'total useful floor area' means the floor area of a building or part of a building, where energy is used to condition the indoor climate;

(11) 'energy management system' means a set of interrelated or interacting elements of a plan which sets an energy efficiency objective and a strategy to achieve that objective;

[...]

(25) 'energy audit' means a systematic procedure with the purpose of obtaining adequate knowledge of the existing energy consumption profile of a building or group of buildings, an industrial or commercial operation or installation or a private or public service, identifying and quantifying cost-effective energy savings opportunities, and reporting the findings;

## Article 5

### Exemplary role of public bodies' buildings

1. Without prejudice to Article 7 of Directive 2010/31/EU, each Member State shall ensure that, as from 1 January 2014, 3 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government is renovated each year to meet at least the minimum energy performance requirements that it has set in application of Article 4 of Directive 2010/31/EU.

The 3 % rate shall be calculated on the total floor area of buildings with a total useful floor area over 500 m<sup>2</sup> owned and occupied by the central government of the Member State concerned that, on 1 January of each year, do not meet the national minimum energy performance requirements set in application of Article 4 of Directive 2010/31/EU. That threshold shall be lowered to 250 m<sup>2</sup> as of 9 July 2015.

Where a Member State requires that the obligation to renovate each year 3 % of the total floor area extends to floor area owned and occupied by administrative departments at a level below central government, the 3 % rate shall be calculated on the total floor area of buildings with a total useful floor area over 500 m<sup>2</sup> and, as of 9 July 2015, over 250 m<sup>2</sup> owned and occupied by central government and by these administrative departments of the Member State concerned that, on 1 January of each year, do not meet the national minimum energy performance requirements set in application of Article 4 of Directive 2010/31/EU.

When implementing measures for the comprehensive renovation of central government buildings in accordance with the first subparagraph, Member States may choose to consider the building as a whole, including the building envelope, equipment, operation and maintenance.

Member States shall require that central government buildings with the poorest energy performance be a priority for energy efficiency measures, where cost-effective and technically feasible.

2. Member States 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 owned by the armed forces or central government and serving national defence purposes, apart from single living quarters or office buildings for the armed forces and other staff employed by national defence authorities;

(c) buildings used as places of worship and for religious activities.

3. If a Member State renovates more than 3 % of the total floor area of central government buildings in a given year, it may count the excess towards the annual renovation rate of any of the three previous or following years.

4. Member States may count towards the annual renovation rate of central government buildings new buildings occupied and owned as replacements for specific central government buildings demolished in any of the two previous years, or buildings that have been sold, demolished or taken out of use in any of the two previous years due to more intensive use of other buildings.

5. For the purposes of paragraph 1, by 31 December 2013, Member States shall establish and make publicly available an inventory of heated and/or cooled central government buildings with a total useful floor area over 500 m<sup>2</sup> and, as of 9 July 2015, over 250 m<sup>2</sup>, excluding buildings exempted on the basis of paragraph 2. The inventory shall contain the following data:

- (a) the floor area in m<sup>2</sup>; and
- (b) the energy performance of each building or relevant energy data.

6. Without prejudice to Article 7 of Directive 2010/31/EU, Member States may opt for an alternative approach to paragraphs 1 to 5 of this Article, whereby they take other cost effective measures, including deep renovations and measures for behavioural change of occupants, to achieve, by 2020, an amount of energy savings in eligible buildings owned and occupied by their central government that is at least equivalent to that required in paragraph 1, reported on an annual basis.

For the purpose of the alternative approach, Member States may estimate the energy savings that paragraphs 1 to 4 would generate by using appropriate standard values for the energy consumption of reference central government buildings before and after renovation and according to estimates of the surface of their stock. The categories of reference central government buildings shall be representative of the stock of such buildings.

Member States opting for the alternative approach shall notify to the Commission, by 31 December 2013, the alternative measures that they plan to adopt, showing how they would achieve an equivalent improvement in the energy performance of the buildings within the central government estate.

7. Member States shall encourage public bodies, including at regional and local level, and social housing bodies governed by public law, with due regard for their respective competences and administrative set-up, to:

- (a) adopt an energy efficiency plan, freestanding or as part of a broader climate or environmental plan, containing specific energy saving and efficiency objectives and actions, with a view to following the exemplary role of central government buildings laid down in paragraphs 1, 5 and 6;
- (b) put in place an energy management system, including energy audits, as part of the implementation of their plan;
- (c) use, where appropriate, energy service companies, and energy performance contracting to finance renovations and implement plans to maintain or improve energy efficiency in the long term.

## Article 20

### Energy Efficiency National Fund, Financing and Technical Support

[...]

5. Member States may allow for the obligations set out in Article 5(1) to be fulfilled by annual contributions to the Energy Efficiency National Fund of an amount equal to the investments

required to achieve those obligations.

[...]

## ANNEX XIV

### General framework for reporting

#### PART 1. General framework for annual reports

The annual reports referred to in Article 24(1) provide a basis for the monitoring of the progress towards national 2020 targets. Member States shall ensure that the reports include the following minimum information:

[...]

The second and subsequent reports shall also include points (b) to (e):

[...]

(c) the total building floor area of the buildings with a total useful floor area over 500 m<sup>2</sup> and as of 9 July 2015 over 250 m<sup>2</sup> owned and occupied by the Member States' central government that, on 1 January of the year in which the report is due, did not meet the energy performance requirements referred to in Article 5(1);

(d) the total building floor area of heated and/or cooled buildings owned and occupied by the Member States' central government that was renovated in the previous year referred to in Article 5(1) or the amount of energy savings in eligible buildings owned and occupied by their central government as referred to in Article 5(6);

[...]

#### PART 2. General framework for National Energy Efficiency Action Plans

National Energy Efficiency Action Plans referred to in Article 24(2) shall provide a framework for the development of national energy efficiency strategies.

The National Energy Efficiency Action Plans shall cover significant energy efficiency improvement measures and expected/achieved energy savings, including those in the supply, transmission and distribution of energy as well as energy end-use. Member States shall ensure that the National Energy Efficiency Action Plans include the following minimum information:

[...]

3. Specific information related to this Directive

3.1. Public bodies (Article 5)

National Energy Efficiency Action Plans shall include the list of public bodies having developed an energy efficiency plan in accordance with Article 5(7).