



CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE

Core Theme Series Report:
Concerted Action Energy
Efficiency Directive

2

Public sector – public buildings and public purchasing

Tadeusz Skoczkowski, Warsaw University of Technology;
Polish National Energy Conservation Agency, Poland

July 2015

Content

1	Introduction and context	3
2	'Default' approach	4
3	'Alternative' approach to art. 5 in practice	8
4	Encouraging other bodies to follow central government's exemplary role in building renovation (art. 5.7)	13
5	Energy efficiency in historical buildings, places of worship and buildings owned by the armed forces – Article 5(2)	18
6	Implementing Article 6 in public purchasing of products, services and buildings	23
7	Concluding remarks	29
	Legal disclaimer	30

1 Introduction and context

The Concerted Action for the Energy Efficiency Directive (CA EED) supports implementation of the Directive 2012/27/EU (EED) by fostering the exchange of information and experiences among Member States with regards of the implementation of the Directive. This report summarises work carried out by the Concerted Action for the Energy Efficiency Directive (CA EED) Core Theme 2 between January 2013 and March 2015. Core Theme 2 looks at the public sector (PS) – public buildings and public purchasing. The objective of the work was to survey, discuss and draw conclusions on some topics of importance related to the exemplary role of the PS as a leader in promoting energy efficiency.

The new Energy Efficiency Directive – like the Energy Services Directive before it – states explicitly that public bodies at national, regional and local level should fulfil an exemplary role as regards energy efficiency. It imposes on the public sector several concrete obligations to make the sector a real leader in energy efficiency improvements. Moreover, it sets very tight deadlines for several activities, making the EED even more challenging for Member States.

This demand for exemplary initiative and efforts from the public sector falls mainly into two categories: the exemplary role of public bodies' buildings (art. 5) and purchasing by public bodies (art. 6).

The implementation of art. 5 has been discussed within the CA EED around the following themes:

- 1 'Default' approach.
- 2 'Alternative' approach to art. 5. In practice, this focused on issues related to the establishment of the inventory and on initial information concerning the two approaches foreseen in art. 5.
- 3 Encouraging other bodies to follow central government's exemplary role in renovation of buildings (art. 5(7)).
- 4 Exemption of implementation of art. 5(1) allowed by art. 5(2). An attempt was made to find out whether and why MS used exemptions, and what their motives were in making such decisions.

The second issue of interest was to review whether and how MS apply art. 6. An attempt to gather, enhance and deepen the knowledge and practice of implementation of Art. 6 was made. The topic of purchasing by public bodies was already analysed by the Concerted Action ESD at the Plenary Meeting (PM) in Copenhagen, March 2012, and is summarised in the report 'How to boost energy efficient public procurement?' The current report builds on the previous findings.

This report aims to inform and support the work of people within the public sector and national bodies involved in the implementation of EED, especially those from public authorities directly involved in dealing with art. 5 and art. 6 implementation and practice. Alongside central government representatives, stakeholders from regional and local levels should also be able to benefit from this report. It should also serve as a database for model examples to inspire the readers.

2 'Default' approach

Article 5 of the EED permits two approaches – the 'default' and the 'alternative' – and various flexibility mechanisms. The approach chosen by each Member State (MS) will determine their way of meeting their target, but both approaches should lead to an equivalent improvement in the energy performance of buildings. It was therefore interesting to find out how many MS have chosen each approach and the reasons for their decision.

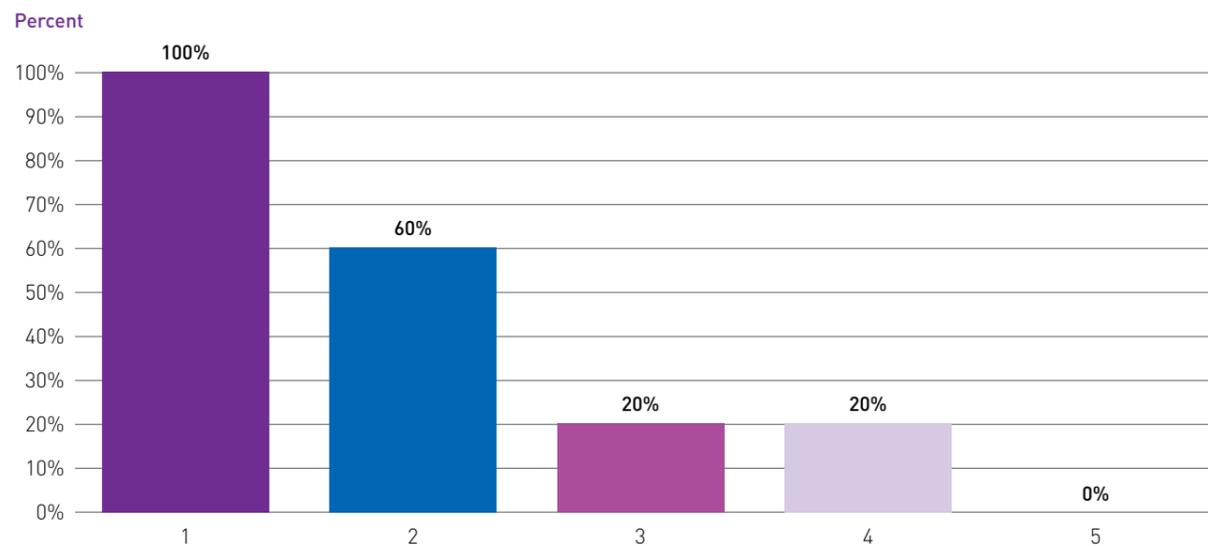
The 'default' approach is laid out in art. 5(1). It stipulates that each MS shall ensure that, as from 1 January 2014, 3% of the total floor area of heated and/or cooled buildings owned and occupied by its central government is renovated each year to meet at least the minimum energy performance requirements set by Directive 2010/31/EU (EPBD). For the purposes of this, by 31 December 2013, MS shall establish and make publicly available an inventory of heated and/or cooled central government buildings with a total useful floor area over 500 m² and, as of 9 July 2015, over 250 m², excluding some exempted buildings. The inventory shall contain the following data: (a) the floor area in

m²; and (b) the energy performance of each building or relevant energy data.

Under the 'alternative' approach, which is described in art. 5(6), MS may decide to 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 art. 5(1), reported on an annual basis.

The obligation to renovate central government buildings in the EED complements the requirements in the EPBD, which require MS to ensure that when existing buildings undergo major renovation their energy performance is upgraded so that they meet minimum energy performance requirements. The results from the questionnaire showed that the overwhelming majority of CA EED national representatives had a clear understanding of art. 5. The questionnaire also provided insights on the reasons why the 'default' approach (fig. 1) was preferred.

Figure 1: Reasons why MS have chosen the default approach (as opposed to the alternative approach)



1 It seems to be easier from a technical point of view.

2 It seems to be easier from an organisational point of view.

3 It seems to be cheaper.

4 It seems to be flexible to reach the target in time.

5 Other.

The following conclusions were drawn from the CA questionnaire and discussions at the CA EED Plenary meeting in Dublin in March 2013:

- At that time, knowledge and experience of art. 5 was being steadily accumulated but was not sufficient to secure smooth and secure implementation in the majority of MS.
- Inventory creation is a complex and costly task best carried out by central government. The process of art. 5 implementation should therefore be initiated, governed and monitored by central governments.
- The CA participants reported few needs for clarification of the requirements of art. 5.
- The process of preparing the inventory of central government buildings is different across the MS. At that time, a few countries were well advanced, but a few were still in the conceptual phase of preparation.
- The possible exemptions laid out in art. 5(2) were generally seen as second-order priorities, but should not automatically be seen as insignificant to the EED energy efficiency targets (art. 3).
- At that time, relatively few countries had decided whether to choose the 'default' or the 'alternative' approach. The reasons provided for choosing a particular approach are varied and country-specific. Further work is required to identify more objective, cost-benefit based criteria.
- For the 'alternative' approach, establishment of the central government building inventory is not obligatory but is strongly recommended.

The report presented to the Working Group and subsequent discussions led to the following recommendations:

- MS should continue to develop their individual approaches in order to optimise how they will reach the renovation objectives set in art. 5.
- The possible exemptions in art. 5(2) should be carefully examined at national level and presented to relevant bodies, e.g. military forces, architecture or historical heritage supervision authorities or religious societies. They should be presented as a win-win-opportunity enabling energy cost reduction. Training on possible, applicable energy saving measures is recommended.
- Assessment of the cost-effectiveness of renovating public buildings should include broader social and environmental considerations. The assessment of costs and benefits should be communicated across society to explain to citizens the reasons why government is spending public resources on its own building stock.
- As cost-effectiveness of approach seems to be the most important criterion when choosing between the 'default' and the 'alternative' approach, further elaboration of the issue is needed at the EU level as well as within each MS. MS should take into account national resources, experience and conditions.
- Where possible, existing building stock databases, public or private, should be used as bases for the inventory required by art.5. Some good examples of such databases were reported (e.g. by the Czech Republic [\(to be found at the CA EED web site\)](#), Croatia, the UK).
- The art. 5 inventory should serve other purposes and therefore its scope should be enriched by providing additional data, i.e. reduction of CO₂ emissions, energy intensity of the building measured in terms of one occupant or visitor. The idea of providing energy intensity and energy saving potential rather than floor area in m² was supported. Linking with energy audit databases seems to be realistic and helpful. A Geographical Information System (GIS) was suggested as an example of a flexible and appropriate instrument.

- The work undertaken by central government should be promoted and communicated effectively to regional and local governments at the earliest possible stage to stimulate action at these levels. The use of a local energy agency is essential for effective and low-cost diffusion of information from central to local level.
- Based on their experience of renovating public buildings, MS 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. The Covenant of Mayors is an example of a good framework for this.

- Methods for estimating savings potential under the 'alternative' approach and for calculating savings stemming from measures other than renovations should be further elaborated as they play an essential role in the 'alternative' approach.
- The MS in which the EED and the EPBD are implemented separately – or are only loosely connected – should consider closer co-operation as the potential for synergy effects is large and, in some MS, remains untapped.
- As the renovation obligations set in art. 5 require substantial and stable long-term funding, secure adequate financial resources are of primary importance for MS governments. EED implementation should be carried out in close coordination with art. 4 implementation (national buildings renovation strategies and plans). The provisions of art. 20 of the EED should be considered¹.

Good practice examples

Several good practice examples were reported during the working group, including:

✓ The Czech Republic:

Producing an inventory of central government buildings. This provided details on the inventory being operated in the Czech Republic, e.g. how has been the inventory structured? Who are the ministers or public bodies responsible/involved in the process of inventory preparation? What types of data have been included?

✓ Poland:

An effective scheme for financing public building restoration; competitive criteria for project selection, transparent procedures; strict rules of monitoring of results. This case study also gave extensive information on different financial schemes provided by the National Fund of Environmental and Water Management.

3 'Alternative' approach to art. 5 in practice

Under the 'alternative' approach stipulated in art. 5(6), MS may decide to take other cost-effective measures to achieve, by 2020, an amount of energy saving at least equivalent to that required in art. 5(1) in eligible buildings owned and occupied by their central government. These measures may include deep renovations and actions resulting in occupant behaviour change, and savings are to be reported on an annual basis.

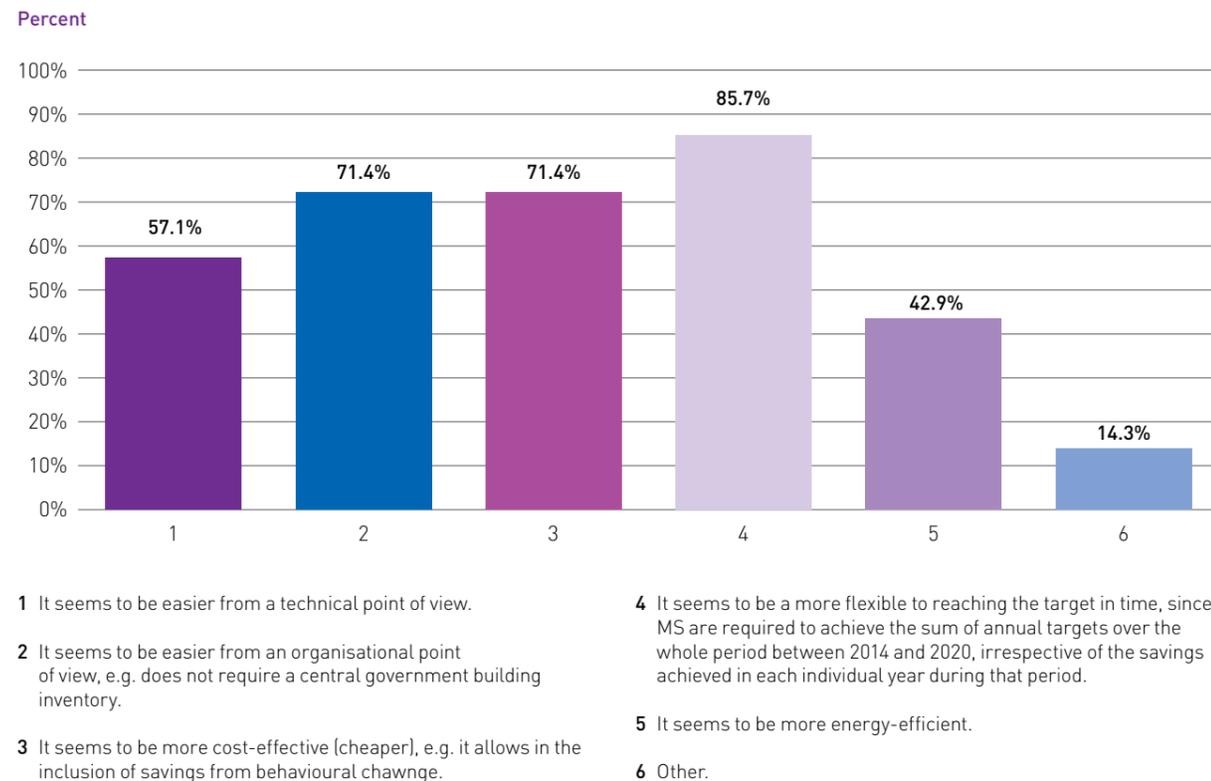
The most frequently cited reason for choosing the 'alternative' approach was the assumption that it seems to be a more flexible approach to reaching the target in time. MS are required to achieve the sum of annual targets over the whole period between 2014 and 2020, irrespective of the savings achieved in each individual year during that period (fig. 2).

The issues on the 'alternative' approach were studied at the Plenary Meeting in Vilnius in October 2013. Inter alia the following topics were discussed:

- 1 Insight into the 'alternative' approach as understood by MS.
- 2 The reasons why the 'alternative' approach has been chosen (as opposed to the 'default' approach).
- 3 Measures that have already been chosen and/or are planned under the 'alternative' approach.
- 4 Comparison and value of the two approaches, taking into account different criteria e.g. technical complexity, resources required, flexibility, costs.

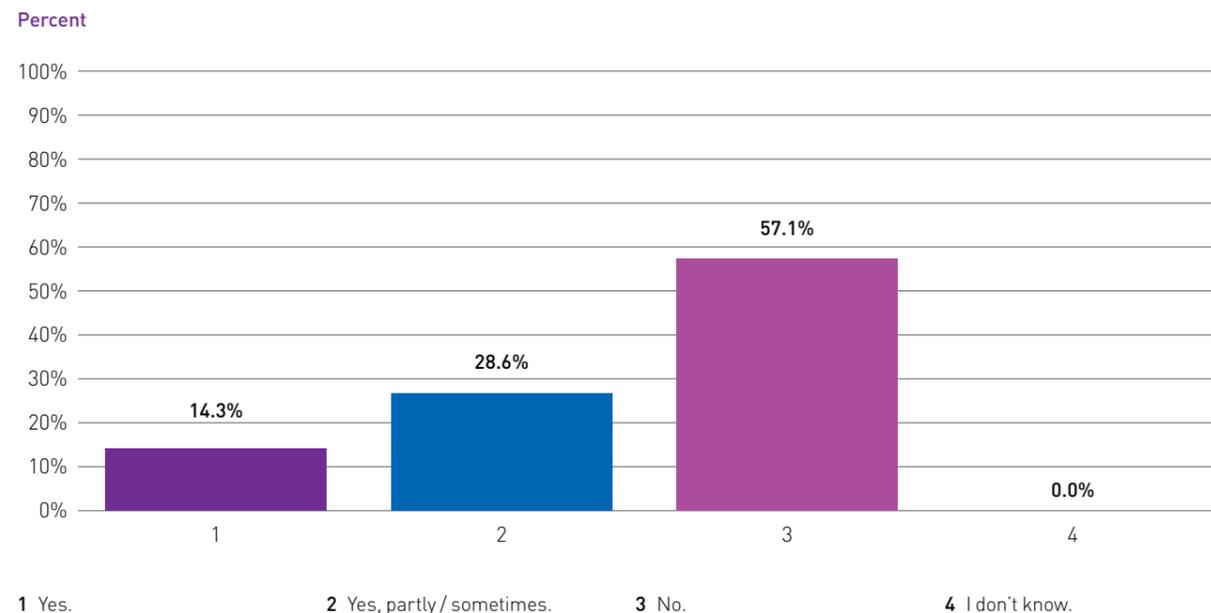
¹ Article 20 Energy Efficiency National Fund, Financing and Technical Support, p. 5. Member States may allow for the obligations set out in Article 5(1) to be fulfilled by annual contributions to the Energy Efficiency National Fund of an amount equal to the investments.

Figure 2: Since your country has chosen the alternative approach, please specify the reasons why (as opposed to the default approach)



MS also reported very limited experience in their country with the purchase of energy performance contracts and/or energy service companies (ESCOs) that may be applicable in art. 5 implementation (fig. 3).

Figure 3: Do you have any experience with the purchase of energy performance contracts and/or energy service companies (ESCOs) that may be applicable in art. 5 implementation?



The working group reached the following conclusions as regards the use of the alternative approach for art. 5:

- The implementation of art. 5 poses a real challenge for MS. In a majority of MS, the process is likely to be delayed compared to the schedule set in the EED. For instance, MS representatives listed several factors which they considered to be crucial for the successful implementation of art. 5. As many as four of these factors were ranked almost equally: political support, well-coordinated administrative infrastructure, human and financial resources and main stakeholders.
- Possessing reliable data related to art. 5 was considered a prerequisite. There is a general shortage of information on the number of buildings belonging to central government that fall within the scope of the obligation, energy consumed and potential energy savings.
- At the time of writing (March 2013), only a few MS have already decided which approach they will take. 2 have decided on the 'default' approach and 4 on the 'alternative', totalling 6 Member States. The vast majority are still in the process of making a decision (80% altogether).²
- Discussion about the pros and cons of the two eligible approaches provided some interesting and highly practical conclusions. For instance, one of the UK CA EED participants was of the opinion that it is better to let each individual body decide how to meet the target. Representatives from NL also found the 'alternative' approach better since according to them it offers more flexibility, is more cost effective and enables use of the existing legal framework.
- It was remarked that, in countries where minimum energy performance standards of buildings are already in use, it is very likely that the payback time of deep renovation in already refurbished building stock would be unacceptably long.
- It was raised that in those MS where the average energy consumption in buildings is high in comparison to the most advanced countries in the EU, which may show a need for more costly investments, the 'default' approach should be chosen and accompanied by the allocation of sufficiently high funds within the EU cohesion policy to cover the costs of the '3%' renovation.
- Cost effectiveness is no doubt one of the major criteria when choosing between the permissible options. However, other criteria should also be used to enable a more in-depth overview of the energy – or rather, more broadly sustainable – condition of every specific building under consideration. For example, it should be taken into account whether the building has an energy manager, energy monitoring and management system or whether full information and long-time energy consumption statistics are available.
- MS choosing the 'alternative' approach plan to use the whole spectrum of eligible measures; i.e. deep and shallow renovation and behavioural change measures are being considered.
- Finding an adequate methodology to measure savings resulting from behavioural change remains a challenge. A few MS representatives reported that their country possess a suitable approach, such as bottom-up methodology, smart metering or direct feedback from occupants.
- Again, it was confirmed that joint implementation of the EED and the EPBD encounters a common barrier in many MS, namely the fact that the two directives are being implemented in different governmental organisational units and usually by two different ministers.

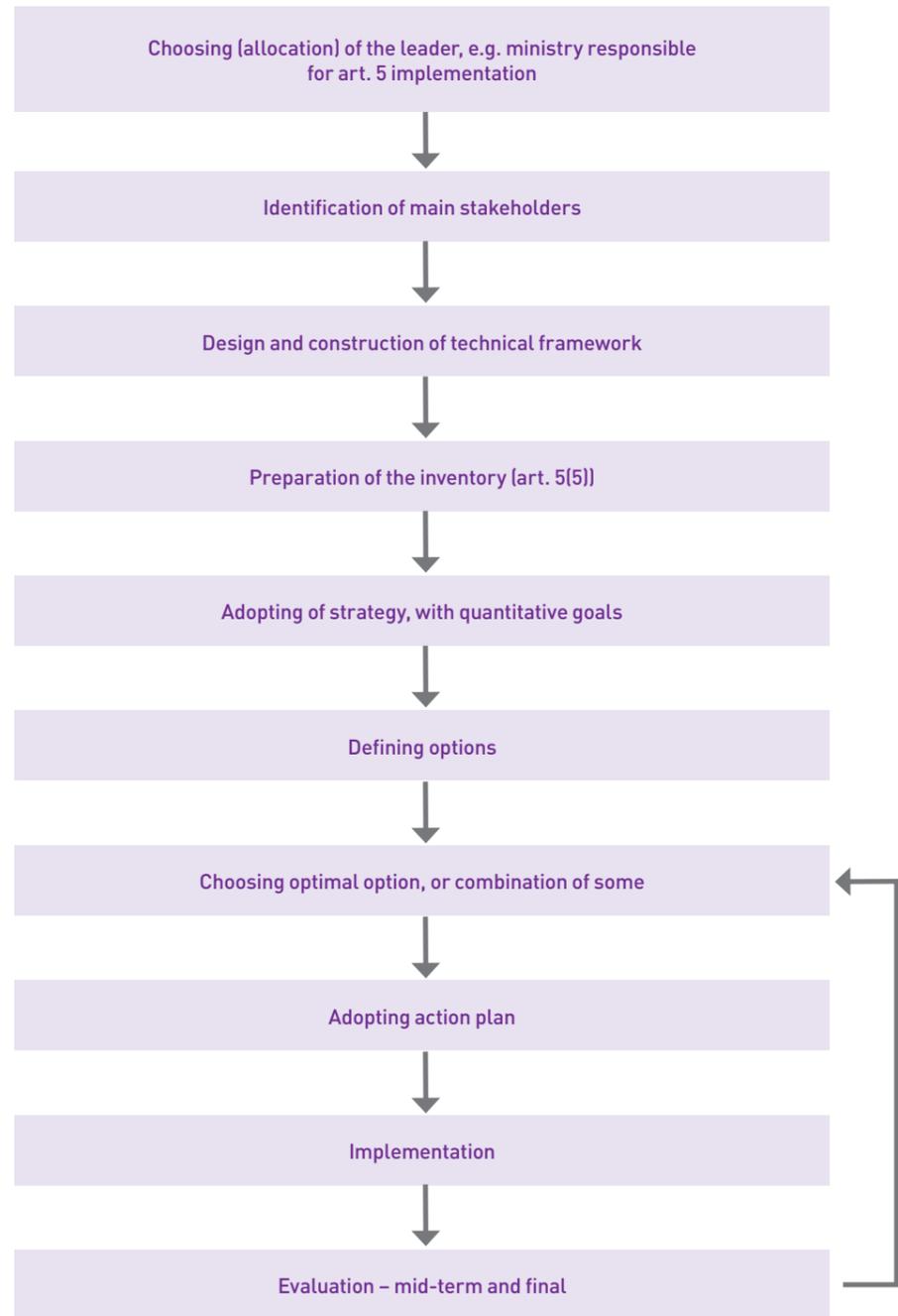
Finally, the working group produced the following recommendations on art 5:

- Obligations for the public sector stipulated in art. 5 still pose a challenge for the majority of the MS. These obligations should be further investigated and discussed, and best practices should be exchanged among MS.
- MS should try to implement different directives in a coherent way, assuring synergy and avoiding duplication where possible. To accomplish this, procedural and organisational changes within governmental units may be required.

² Claudia CANEVARI, DG ENER.C.3, Athens, PM CA ESD, 27 March 2014, provided the following information on the latest state on implementation of art. 5 as on 31 December 2013 'Article 5, notification of alternative approach (17) or publication of inventory (4)'

✓ The CA participants recommended the action plan for art. 5(6) effective implementation as depicted in fig. 4.

Figure 4: Action plan for effective implementation of art. 5(6) of the EED



4 Encouraging other bodies to follow central government’s exemplary role in building renovation (art. 5.7)

The EED stipulates that public bodies should play an exemplary role in energy efficiency through the renovation of buildings owned or occupied by central governments (art. 5) or by ensuring that central governments purchase only products, services and buildings with high energy performance, meeting specified conditions (art. 6). Both articles also contain obligations for MS to encourage public bodies at regional and local level to follow central government’s exemplary role (art. 5(7) and art. 6(3) respectively).

Work carried out and presented at the Plenary Meeting in Athens, March 2014, was focused on the encouraging role of central governments as set out in art. 5(7) only, that is, concentrating on building renovation at regional and local level exclusively. Social housing bodies governed by public law were not included in the scope of this Working Group.

According to the results of the Working Group questionnaire, the main stimuli for renovating public buildings in MS are the two main EU directives addressing energy efficiency, namely the EPBD³ and the EED⁴ (fig. 5), with the first and main booster being implementation of the EPBD.

Article 5(7) provides a list of measures that can be used in this process:

- 1 adopt an energy efficiency plan, either standalone 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 art. 5. paragraphs 1, 5 and 6.
- 2 put in place an energy management system, including energy audits, as part of the implementation of their plan.
- 3 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.

³ 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.

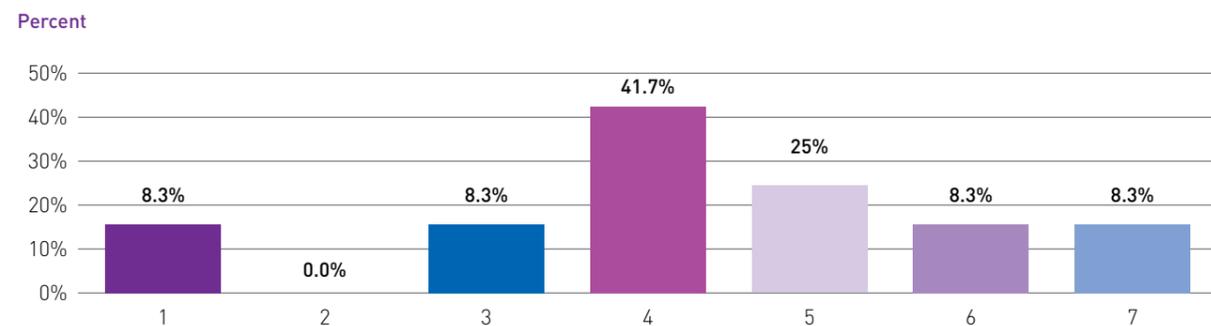
⁴ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2012/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, OJ L 315, 14.11.2012.

Figure 5: Reasons for renovation of public buildings induced or encouraged by central government as stipulated by art. 5



- | | |
|---|---|
| 1 Yes, it has been started by the EPBD and is ongoing independently from the EED. | 4 No, but it is planned to start in the near future as part of implementation of the EED. |
| 2 Yes, it has been started by the EED (art. 4 or/and art. 5). | 5 No, it has not been planned to start in the near future. |
| 3 Yes, it has been started by the EPBD and then has been invigorating by the EED. | 6 I don't know. |

Figure 6: Measures already implemented or planned to be implemented in the near future by central government to encourage public bodies at regional or local level to renovate public buildings as stipulated by art. 5 (top-down approach)



- | | |
|---|--|
| 1 Adoption of an energy efficiency plan, freestanding or as part of a broader climate or environmental plan, containing specific energy saving and efficiency objectives and actions. | 4 A combination of any of the above measures. |
| 2 Putting in place an energy management system, including energy audits, as part of the implementation of their plan. | 5 Any of the above measure(s) supported by additional measure(s). Please specify the additional measure in the comments box below. |
| 3 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. | 6 No such measures have been undertaken or are planned to be launched in the near future. |
| | 7 I don't know. |

The working group reached the following conclusions as regards the implementation of art. 5(7):

- 62% of MS have started renovating their public buildings, all within the frame of EPBD and/or EED implementation.
- Most central governments are planning to use energy efficiency plans, Energy Management Systems (EMS) and Energy Performance Contracting with ESCOs to encourage public bodies at national, regional and local level to renovate their public buildings. However, only a few participants reported the use of EMS including energy audits as a standalone measure.
- The majority of CA EED participants declared that the measures listed in art. 5(7) already offer a wide range of options and do not see the need for further ones. However, some suggested additional measures such as: compulsory energy audits in PS, energy meters installation, sharper and stricter criteria in deep renovations, Voluntary Agreements, 'green' public procurement, subsidies, partnerships, best practices, monitoring and reporting.
- Behavioural changes are promoted by the implementation of awareness and information campaigns for public employees.
- The Covenant of Mayors has been cited by most of the countries as an initiative that can play a supportive role in art. 5 implementation. Also, national energy agencies have been identified as organisations that can provide technical advice and consultancy to governments for the implementation of art. 5. The European Energy Service Initiative (EESI) has also been identified since it has widely promoted the implementation of Energy Performance Contracting (EPC).
- Right combination of measures and their matching are essential, e.g. money and funding schemes.

A number of recommendations were also proposed:

- MS should try to set individual targets for the renovation of public buildings to be implemented by administrations and the services under their responsibility, as well as monitoring and reporting commitments.
- In the top-down case, the possibility of hiring ESCOs and EPC implantation should be further investigated.
- Since several other measures have been indicated as contributing to fulfilling art. 5, it seems appropriate to investigate the connections between the measures implemented at local level and the energy performance improvement of the governmental buildings.
- Attention should be paid to overcoming the weaknesses of both approaches in art. 5, that may suffer from a lack of financial resources and the scarcity of technical skills in the PS.
- Projects launched by central governments should further be fostered and developed by local stakeholders.

Good practice examples

The following good examples were demonstrated:

✓ Broad scope of central government initiative

- **Bulgaria:** Encouraging public buildings' renovation in Bulgaria (BG). This provided a description of measures used to support public building renovation in Bulgaria, e.g. legislative framework, energy efficiency plans and building audits, energy management system, energy efficiency measures, financial support.
- **Greece:** The 'EXIKONOMO' project (GR). The project aims to improve energy efficiency at a local level/in municipalities, to promote energy saving activities with direct applicable results and to increase the awareness of citizens and managers of local authorities regarding energy saving and protection and sustainable management of the urban environment.

✓ Working EPC scheme launched by central government and developed at local level

- **Portugal:** EED and Eco.AP (PT). This described an energy efficiency programme within the public administration of Portugal. It included details of the main measures used an energy manager in all central government bodies; development of the barometer Eco.AP in order to evaluate the energy efficiency of the central government sector; development of energy performance contracts in the buildings/equipment with an higher energy consumption (or inefficiency); development of energy efficiency action plans for the remaining buildings or equipment.

✓ Bottom-up tool for building management, demonstrating allocation of incentives

- **Netherlands:** Green Lease Menu (NL). A briefing on a specialised tool for owners and users to make buildings more sustainable (including use, facility management, and exploitation).

5 Energy efficiency in historical buildings, places of worship and buildings owned by the armed forces – Article 5(2)

Article 5 'Exemplary role of public bodies' buildings' of the EED permits two approaches: the 'default' (Art.5(1)) and the 'alternative' (Art. 5(6)). For the obligation outlined in Art. 5(1) some exemptions were introduced in the areas where its implementation may at least be difficult, unrealistic or even impossible.

This issue of exemptions was addressed in Art. 5(2) which states that MS may decide not to set or apply the requirements referred to in Art. 5(1) to the following categories of buildings:

- 1 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.
- 2 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.

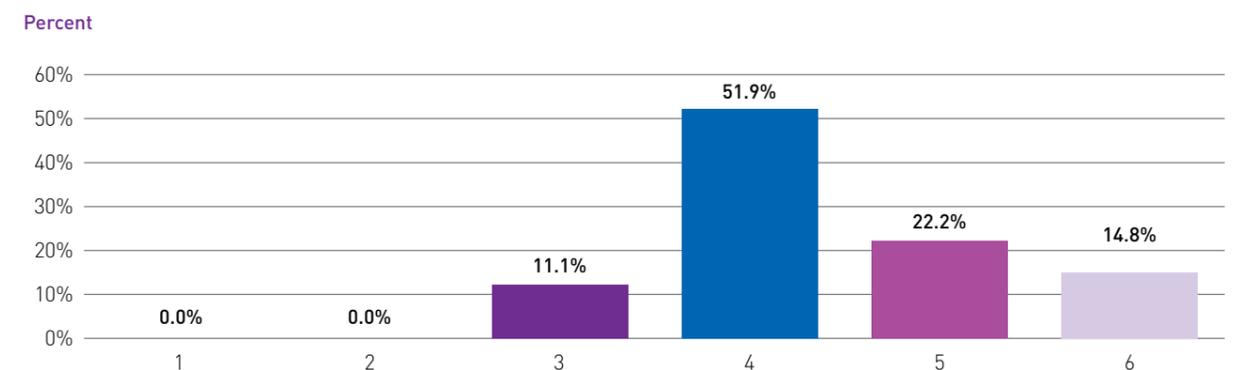
3 Buildings used as places of worship and for religious activities.

Thus Art. 5(2) allows for exemptions of buildings falling within the above-mentioned categories.

Article 5 implementation in the specific areas, namely in historical buildings, the defence sector, and places of worship (later referred to as 'the three areas') is affected by many complex issues (see points 1, 2, and 4 below).

Availability and reliability of data on energy consumption in the three areas is rather scarce. For example awareness of the availability of such data in the religious buildings is presented in fig. 7.

Figure 7: Answers given to the question 'Are the exact data on energy consumption in worship buildings in your country known?'



1 Yes, known, substantial in the energy consumption.

2 Yes known, and negligible in the energy consumption.

3 No, unknown, but can be considered substantial.

4 No, unknown, but can be considered negligible.

5 I don't know.

6 Other.

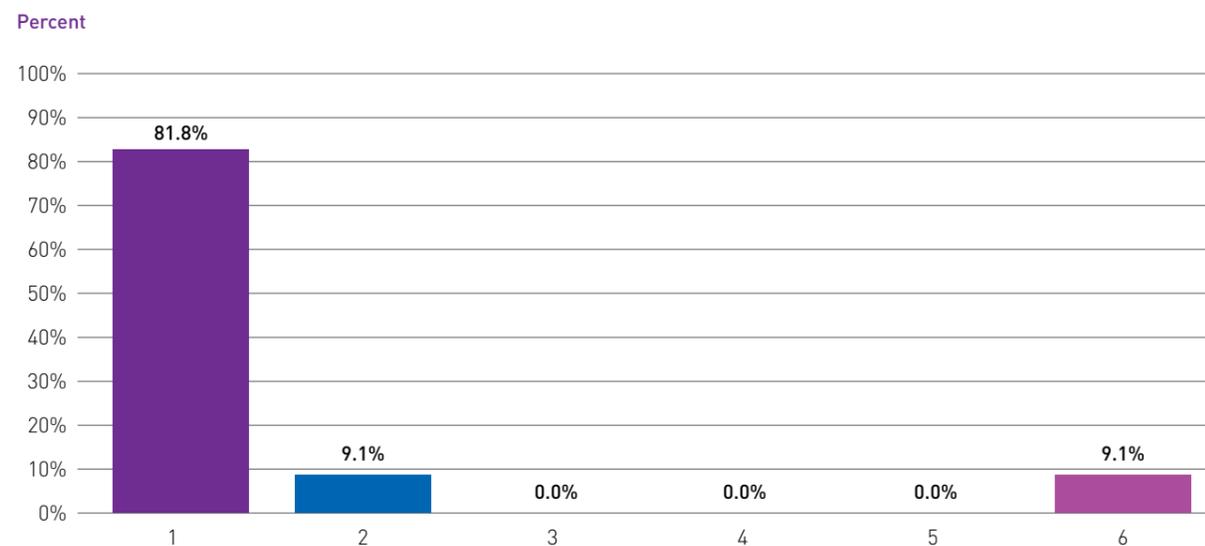
The general feeling is that in these areas EE is not a priority in most of the MS (at least in 25 out of the 27 who responded the questionnaire), especially in historical buildings, and therefore it is not a driver when interventions in the buildings are under design and implementation.

The main barriers in undertaking EE measures in the three areas were identified. Apart from typical barriers some specific were also added e.g. fear of endangering the architectural or/and historical characteristics of the buildings, the upfront investments needed is not

proportionate to the economic benefits achievable from related energy savings, due to the specific architectural requirements involved in refurbishment of such buildings, military security reasons are a significant factor and hinder the design and implementation of EE improvement (EEI) measures.

11 MS have chosen the 'default' approach and 10 of them asked for the exemptions under Art. 5(2), primarily for the defence sector buildings, and then for both the historical and worship buildings (fig. 8).

Figure 8: Answers given to the question 'Are the exact data on energy consumption in worship buildings in your country known?'



1 Yes, for all three.

3 Yes, for one.

5 I don't know.

2 Yes, for two.

4 No, for none.

6 Other, please specify.

6 MS out of the 16 that have chosen the alternative approach have undertaken or planned measures to implement Art. 5 in the three areas; when there is no target specifically addressing these types of buildings, an overall target is set for all.

The defence sector is the sector with the highest rate of implementation, with 13 MS that are in the process of undertaking EEI measures in this area. Historical buildings followed in second place with a range of 10 MS active on EEI.

NEEAPs in some countries have already envisaged EEI measures in buildings of the three areas.

Recommendations

It has been concluded that the issue under consideration is, despite the variety of above mentioned comments and constraints, quite sensitive and worth studying further.

Despite identification of barriers and constraints it was assumed that the potential for EEI of buildings in the three areas is not insignificant:

- A thorough assessment of the EE potential in buildings in these categories might be advisable.
- Similarly, the set-up of energy management systems (EMS), based on the positive experiences provided by a few MS, in the three areas could be a useful undertaking.
- A deeper knowledge of the actual energy consumption of the buildings belonging to the categories in question would strengthen the attention of governments to this issue.
- Priority should be given to EEI measures that can be tackled more easily, and with a better cost/benefit ratio (cost-effectiveness).
- All buildings, except the strategic ones, should comply with the national standards set up for EE.
- Funds could come from the combination of the budgets of each ministry assigned to the maintenance of the building, and from the budget of the ministry responsible for energy, and allocated to public sector buildings renovation.
- Since energy data is generally lacking, while setting up the saving objectives it could be appropriate to express them in percentage of savings (e.g. 15%) rather than in m² or kWh.
- A pragmatic approach, based on a balance between comfort, costs and protection of historical heritage could be pursued via ad hoc legislative measures that target both heritage and energy matters.
- EE is not a driver in monumental buildings, but is essential in historical ones when we consider the buildings as subjects for energy consumption reduction.

• In all cases and in a short-medium term timespan, an integrated approach that considers the requirements not only of the EED but also of the EPBD and the Renewable Energy Source Directive (RES-D) is strongly advisable.

• Thorough assessment of a project is recommended, e.g. deeper knowledge of the actual energy consumption makes untypical ESCO projects less risky, for example in theatres.

• This runs alongside the recommendation to concentrate (or 'consolidate'?) efforts among the different institutions involved, who usually have different interests, approaches and scopes for the buildings involved.

• It is necessary to identify financing mechanisms for building renovations that meet both the needs of the PS and of the financing entities, and encourage the banks to adapt their strict financing rules to be more suitable for energy efficiency schemes.

• It was noted that buildings can be defence operated and also historic, be large/remote/mobile, resource demanding (cooling/heating), and of bespoke design.

• Although the majority of MS do include military and historic buildings in their energy efficiency programmes, 10 countries have opted for exemptions. Religious buildings or places of worship do not generally offer potential for energy efficiency (they are used infrequently and are not well heated) and are therefore often outside the scope of energy efficiency programmes.

It should not be forgotten that, despite their relatively low energy consumption, the three areas have a large impact on society and may play an essential role in raising public awareness on the importance of energy efficiency.

An issue worth further investigation was suggested, namely the utilisation of financing facilities (such as those from the European Investment Bank), alongside an associated evaluation of pros and cons.

Good practice examples

✓ Some model projects include (to be downloaded from www.ca-eed.eu):

- **Netherlands** – Energy efficiency in historical buildings and buildings owned by the armed forces.
- **Italy** – Historic Building Protection and Energy Efficiency: the pilot case of Serravalle, the historic centre of Vittorio Veneto, Italy.
- **European Defence Agency** – Defence Buildings – Some Unique Challenges.
- **Czech Republic** – Reconstruction of the National Theatre in Prague.
- **Italy** – Il Caso Di Serravalle.
- **Italy** – Applicability and feasibility to implement new funding mechanisms: CERTUS Project.

Other cases and examples of projects:

✓ 1. UK examples are available at:

- webarchive.nationalarchives.gov.uk/20130109092117/http://decc.gov.uk/assets/decc/11/tackling-climate-change/saving-energy-co2/6922-a-guide-to-financing-energy-efficiency-in-the-publ.pdf
- www.quaker.org.uk/sustainability-grants
- www.churchandcommunityfund.org.uk
- www.nationalchurchestrust.org

✓ 2. Examples of EE improvement interventions in NL:

A structural programme for energy saving for 850 buildings owned by the armed forces and for 350 national historical buildings (part of the alternative approach, 2% energy saving per year), among which:

- Rijksmuseum.
- Van Gogh Museum (BREEAM very good certificate).
- Menu Green Lease (www.platformduurzamehuisvesting.nl/english).

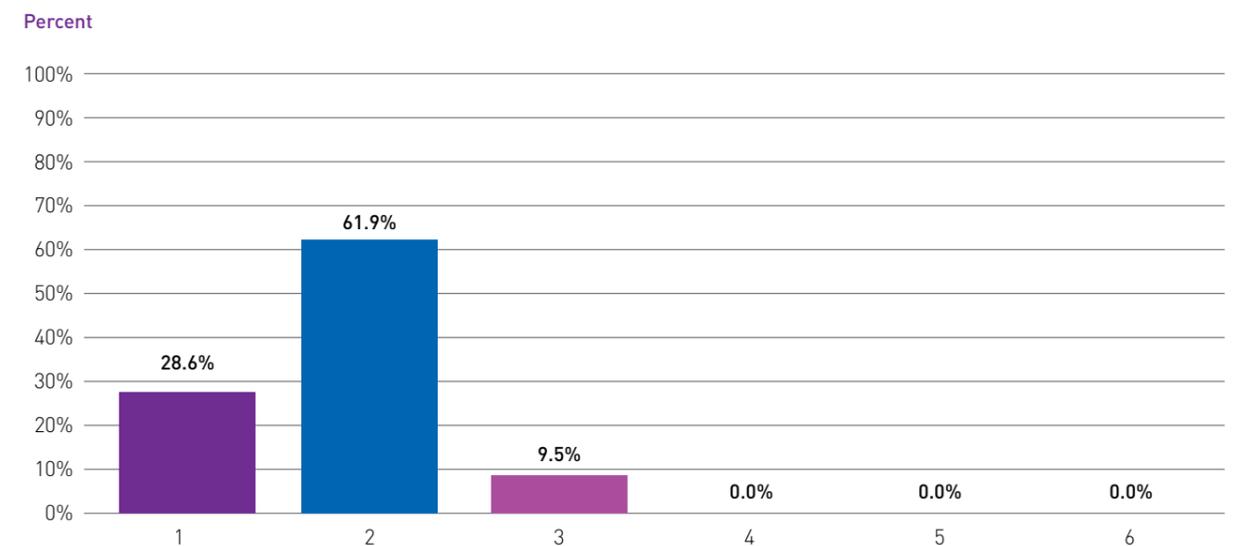
6 Implementing Article 6 in public purchasing of products, services and buildings

Article 6 of the EED addresses the issue of purchasing made by public bodies.

Article 6(1) states that MS shall ensure that central governments purchase only products, services and buildings with high energy efficiency performance, in so far as is consistent with cost effectiveness, economic feasibility, wider sustainability, technical suitability and sufficient competition. Article 6(3) also imposes an obligation to encourage regional and local public bodies to follow the exemplary role of their central governments in purchasing. Specific energy efficiency requirements for purchasing products, services and buildings by central government are laid down in Annex III of the EED.

In the majority of MS, the requirement for central governments to purchase only products, services and buildings with high energy efficiency performance (Article 6(1)) is considered either as 'very important' (29%) or 'fairly important' (62%). It can be concluded that the idea of purchasing energy efficiency products and services at a central government level is well established, and considered an important mechanism for increasing energy efficiency (fig. 9).

Figure 9: Answers given to the question 'Are the exact data on energy consumption in worship buildings in your country known?'



1 Very important.

3 Rather unimportant.

5 I do not know.

2 Fairly important.

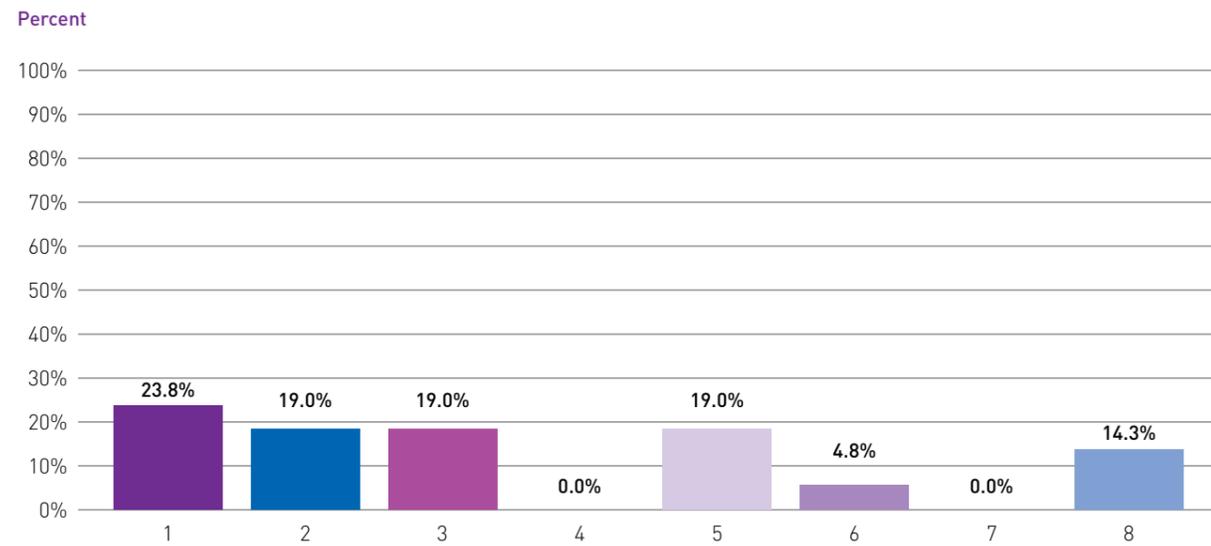
4 Completely unimportant.

6 Other.

The impact of the EED on new activities in energy efficient public procurement is very visible: 5 MS undertook new activities in direct response to Article 6. 4 others have continued the ones already in place,

presumably at least partly induced under the ESD. In 8 other MS, new activities are being planned, among which 4 are in direct response to Article 6. Only in 1 MS are there no activities and none are planned (fig. 10).

Figure 10: Answers given to the question 'Regarding article 6 of the EED, what activities have been undertaken in your country as a direct implementation of the article?'



- 1 New activities have been undertaken as a direct implementation of art. 6.
- 2 New activities have been undertaken but not as a direct implementation of art. 6.
- 3 No new activities, but the previous ones have been continued.
- 4 There are no activities at all.
- 5 There are not activates but they are being planned.
- 6 There are not activates and they are not being planned.
- 7 I don't know.
- 8 Other.

The main barriers to energy efficient public procurement (EEPP) were restated: lack of skills and practical know-how among public procurers on EEPP; lack of clear guidance and a shortage of practical toolkits; and unclear criteria for public procurement assessments. However, some positive practical examples were given that may indicate progress is being made, at least in a few specific areas. The issue of EEPP is steadily gaining importance, political and public interest and support, although a critical mass has not yet been reached to make a real breakthrough.

It was striking that in their answers to the survey MS did not mention Public-Private Partnerships (PPP) which may indicate that this widely promoted financing mechanism is not commonly considered in the context of public procurement, and proving once again that the public and private sectors fail to co-operate in energy efficiency projects.

Recommendations

EEPP can cut across the whole of society if properly developed and has the power to change the way we think and live our lives. Yet Article 6 is hard to implement in practice: its efficient implementation requires mutual understanding and close co-operation among all stakeholders.

Furthermore, 'cost-effectiveness' should also look at the longer-term benefits for the procurer itself in terms of energy efficiency and energy savings. This can mean solutions that are more expensive to purchase at the beginning are the most cost-effective in the longer term: these are life cycle costs for the procurer.

It is a common belief that to make EEPP a success it is necessary to introduce a legally binding obligation at the EU level. Obligatory EEPP could mobilise additional resources and serve as a stimulus for a transition to a more sustainable market. Policy makers should continue to develop further skills in EEPP to foster demand-side policy and enable full market power within the public sector.

EEPP promotes certain products and services but excludes others from the market. Risks of anti-competitive market rules must be taken into account when setting energy efficient criteria in public procurement. Central governments have a leading role in creating suitable legislative frameworks and providing instruments such as model contracts, financial schemes and guidance, and promoting best solutions.

It was confirmed that energy efficiency criteria should be introduced into public procurement rules as an element under the broadly understood term 'sustainability', as this is much better received by politicians and society than 'energy efficiency'. Energy efficiency criteria should be combined with other green criteria while establishing national frameworks of EEPP to get common acceptance and to mitigate the risk of market distortion. The involvement of the research and development sector and other stakeholders (e.g. manufacturers, trade chambers) is essential from the very beginning.

There is still a need to explain to regional and local administrations the role of EEPP as a means of local development, e.g. due to low public sector costs, manufacturing of more competitive products or delivering energy services.

As 'the lowest cost' is the most widely used criterion in public procurement procedures, 'cost-effectiveness' should be interpreted more widely to include indirect benefits to the procuring entity, such as external societal costs of energy use.

Many MS believe that EEPP should be further promoted and more widely exploited in PPP programmes. Synergies should be sought when implementing all energy efficiency focused Directives, and supported by closer co-operation among different European, national and regional initiatives, e.g. among different Concerted Actions.

Lack of knowledge and experience remains a weak point and deserves further development. It is of paramount importance to be able to select, disseminate and transfer best practice solutions.

Good practice examples

The inclusion of all stakeholders is well understood as a prerequisite to success. MS reported several programmes or actions that involved large number of stakeholders.

✓ Italy – Consip, the Italian Central Body of Purchasing promoting energy efficiency under EED implementation

- Consip offers consultancy and project design services. The company handles projects including strategic designs. These projects have developed over time technical, legal and project management skills.
- Consip is a competence centre specialising in all phases of the procurement value chain; it stands beside public administrations both in the procurement strategic planning phase and in the real purchasing phase, by providing e-procurement tools, assistance and consultancy.
- Consip relies on about 300 employees, with an average age of 43 years. 83% of the employees are university graduates and 50% of them are women.
- The entire action of Consip is based on core values such as innovation, transparency, competence and competition.

✓ Ireland – Procurement of energy related equipment, services and facilities in Ireland

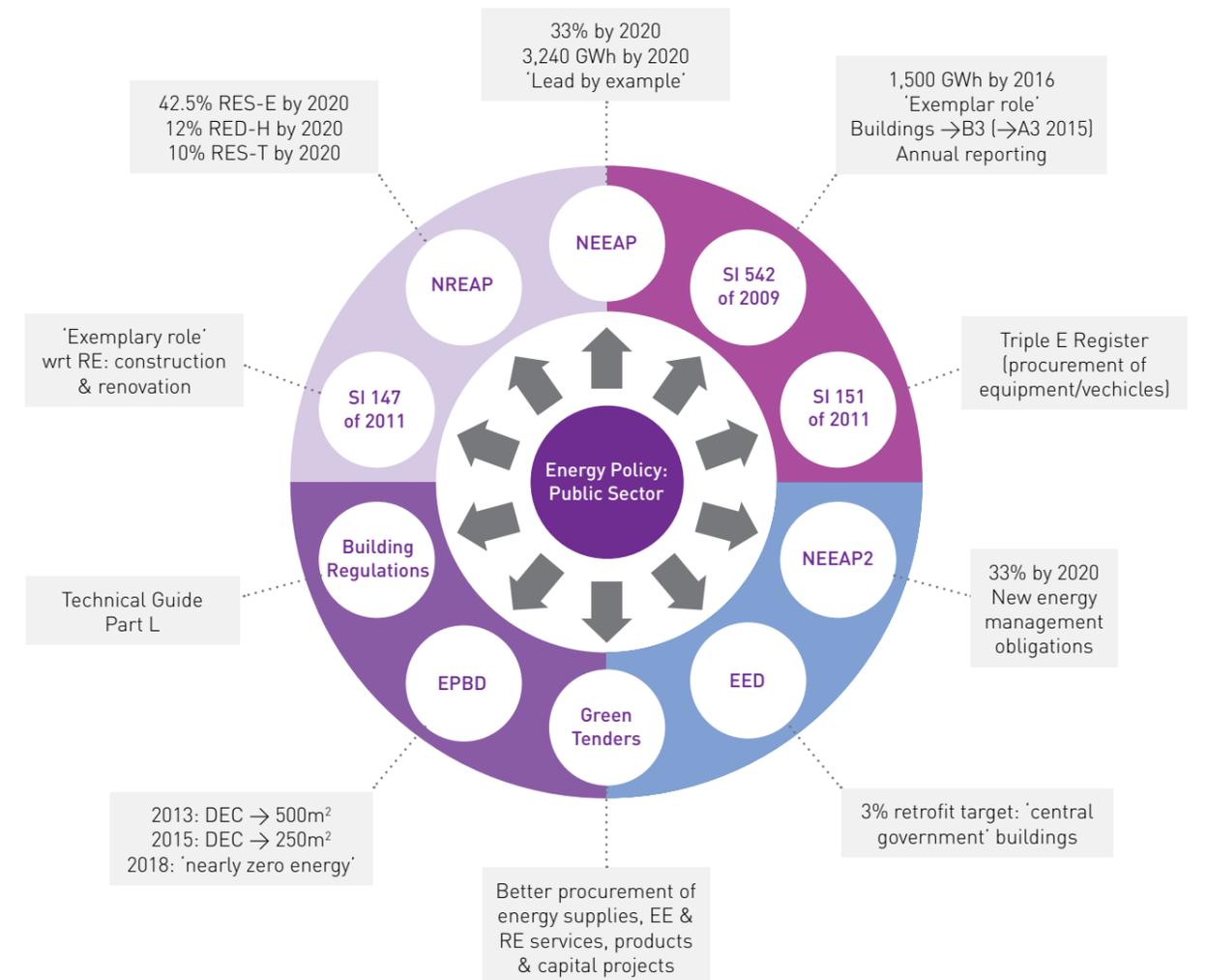
Some important remarks were presented based on the Irish experience:

- Shift from buying products (e.g. lamps) to buying services (e.g. lighting).
- Integrated energy service framework contracts. Registration of energy efficient products is mandatory for purchases by government.

The four energy related elements of Green Public Procurement:

- Purchasing energy supplies.
- Purchasing energy using equipment.
- Purchasing energy services.
- Purchasing new facilities / buildings etc.

Figure 11: Policy and legal obligations around the public sector in Ireland



www.seai.ie/Your_Business/Public_Sector/Funding_Finance_Procurement/Public_Sector_Procurement_Requirements/Public_Sector_procurement_requirements.html

 **Netherlands – Rewarding Energy Efficiency with Public Procurement**

Implementation strategy for the Dutch procurement practice of central government

Key to success:

- Start as early as possible.
- Shift from technical requirements to functional requirements.
- Minimum criteria are mandatory; reward criteria are voluntary.
- National public expertise centre offers support for national and local governments.
- If you start thinking about sustainability too close to the purchasing decision you will be too late to make real impact.

Ask questions such as:

- Do you need a building with 1 000 workplaces or a building in which 1 000 persons can work?
- Do you need a car or a transport service?
- Do you need extra cars or can you use the existing car fleet more efficiently?
- Don't forget the contract phase (dialogue with the supplier, monitoring, bonus / penalty).
- A possible risk of the EED is that public bodies focus too much on the specific provisions within the EED.

7 Concluding remarks

All parts of work presented above dealt with the role of the public sector in demonstrating its exemplary role in increasing energy efficiency. They created an EU-wide panorama of the process of implementation of art. 5 and art. 6 of the EED.

Concerning art. 5, they demonstrated how different the practical ways of implementation chosen by MS are, while reinforcing that cost-effectiveness appeared to be the most important criteria when choosing between the 'default' and the 'alternative' approach. They also showed that MS have in general no problems with interpretation and understanding their roles as stipulated in art. 5. The concern of energy efficiency in historical buildings, places of worship and buildings owned by the armed forces receives also much attention despite its rather small energy saving potential.

Article 6 on public purchasing of products, services and buildings is considered as powerful tool in market transformation and demonstration of the leading role of the public sector.

The CA EED activities on art. 5 and art. 6 also revealed that MS are trying to build as much as possible on their current knowledge, experience and infrastructure and a large number of working examples on successful implementations were presented during plenary meetings. They constitute the real value of the meetings by providing model solutions to be implemented in other MS.

The important, or even crucial, role of regional and local authorities in the EED implementation has been proven once again. This finding supports the necessity of co-operation between different levels, and the need

for establishing frameworks, platforms and other channels of information and experience exchange between different stakeholders. When implementing the provisions in art.5 and art. 6 that refer to encouragement of work at a lower than national level (e.g. regional or local), a synergetic combination of activities of different scales should be fostered to bring added value.

Impact and possible co-operation and co-ordination with the EPBD inspired works were also discussed. It was generally concluded that, where possible, MS should seek synergy between the implementation of the two directives. A wide area of convergence and synergy between the two was considered obvious. It was also commonly agreed that the process of implementation should not necessarily be a top-down process since the activities undertaken at regional and local level may also substantially contribute to meeting the objectives of art. 5 and art. 6. This made the bottom-up approach highly praised and valued during the meetings. A couple of programmes launched locally were considered as valuable bottom-up contributions to the national level effort.

MS show great interest in practical working examples demonstrating possible ways and methods of implementation. Not all of them can be called 'best' or 'model' solutions since some revealed problems encountered and did not bring the expected results, however the lessons learnt are worth presenting and discussing.

Discussions in CT 2 as well as in other CT revealed the necessity of combining different provisions of the EED into horizontal topics, and that joint WG across different CTs need to be set up to tackle them effectively.

Legal Disclaimer

The sole responsibility for the content of this report lies with the authors.

It does not necessarily reflect the opinion of the European Union or the Member States. Neither EASME nor the European Commission are responsible for any use that may be made of the information contained therein.

The Concerted Action for the Energy Efficiency Directive (CAEED) was launched with support from the Intelligent Energy Europe (IEE) in spring 2013 to provide a structured framework for the exchange of information between the 28 Member States and Norway during their implementation of the Energy Efficiency Directive (EED).

For further information please visit www.eed-ca.eu or email caeed@ca-eed.eu



Co-funded by the Intelligent Energy Europe
Programme of the European Union