

The leading role of the public sector in energy end-use efficiency in the EU: Where do we stand?

Veronika Czako
European Commission Joint Research Centre
Institute for Energy and Transport
Via Enrico Fermi 2749
21027 Ispra (VA)
Italy
Veronika.Czako@ec.europa.eu

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Abstract¹

The leading role of the public sector is a key element of EU end-use energy efficiency policy. Several Community level regulatory instruments, including the Energy Services Directive (ESD), the recast Energy Performance of Buildings Directive (EPBD) and the new Energy Efficiency Directive (EED) include provisions focusing on the public sector. Under the ESD member states of the EU shall ensure that the public sector fulfils an exemplary role in energy end-use efficiency. Furthermore, the ESD sets out a specific list of measures in public procurement, of which two must be identified and implemented by the member states. The recast EPBD provides for an earlier date of compliance with nearly zero-energy efficiency requirements of new buildings owned and occupied by public authorities. The new EED introduces a quantified refurbishment target for central government buildings. However, the rest of the public sector will not fall under this provision and is also excluded from energy efficiency requirements for purchasing products, services and buildings.

In the first section of the article a summary is provided of the key building blocks of EU energy efficiency policy that promote the leading role of the public sector. The second section of the paper contains an overview of progress against public sector

related ESD provisions based on information in the second National Energy Efficiency Action Plans (NEEAPs). In some cases the reports reflect shortfalls in implementing existing legislation for the wider public sector, including on energy efficient public procurement requirements. At the same time measures and packages of measures presented by some member states indicate more comprehensive action regarding the leading role of the public sector. The last section of the paper takes a look at the public sector relevant provisions of the new EED and proposes possible ways of strengthening them if progress against the 2020 energy saving targets is found to be insufficient.

Introduction

The public sector is highlighted as a key contributor in achieving sustainable energy and climate change policy targets of the EU. Parallel to the important role played by central government, cities and local authorities are increasingly being recognized as key contributors to achieving climate and sustainable energy targets. This is reflected by the emergence of city level sustainable energy and climate action as a separate topic on the agenda of international institutions [e.g. the World Bank, the Organisation of Economic Co-operation and Development (OECD) and the International Energy Agency (IEA)]. Furthermore, the number of cities of various sizes joining city networks for sustainable energy and climate action [e.g. the EU Covenant of Mayors, Energy Cities, International Council for Local Environmental Initiatives (ICLEI) and Climate Alliance] both within and outside of the EU is also an indicator of this trend.

The public sector may contribute to reductions in final energy use and reduction in greenhouse gas emission through modification of the operations of the public sector itself, as well

1. Disclaimer: The views expressed in this paper are those of the author and should not be regarded as the official views of the European Commission.

as through demonstration effects influencing the behaviour of citizens and private businesses. In the European Union several directives are in place, which contribute to the achievement of Community level climate and energy policy goals through the improvement of energy end-use efficiency. These regulatory instruments include the Energy Efficiency Directive (EED), the recast Energy Performance of Buildings Directive (EPBD) and the Eco-design and Labelling directives. As part of the evolving Community level energy end-use efficiency policy framework, the Energy Efficiency Directive repealed the earlier in force Energy Services Directive (ESD) and the Cogeneration Directive.

While regulatory instruments, such as EU directives are deemed as particularly effective in delivering desired energy and climate policy outcomes, their implementation faces several barriers. Based on their assessment of policy instruments contributing to greenhouse gas emission reductions in the buildings sector, Koepfel and Ürge-Vorsatz (2007) find that regulation can be a very effective policy tool, provided that there is enough administrative capacity for enforcement and the corruption level is low.

The paper uses qualitative methods to assess progress achieved through the application of regulatory instruments in energy end-use efficiency policy in the public sector of EU member states. The two main sources of information are the directives forming part of the energy efficiency policy framework of the EU, and reporting by the member states in the form of National Energy Efficiency Action Plans (NEEAPs) under the ESD. As part of the assessment, changes in public sector relevant provisions and connections between EU directives in the field of energy efficiency policy are highlighted.

The second NEEAPs submitted by the member states in 2011 serve as information source for an overview of progress regarding the leading role of the public sector in energy efficiency. Basing the assessment on the NEEAPs brings certain limitations. While most member states include information in their NEEAP on implemented or planned measures in the public sector, there are substantial differences between the depth of detail provided in measure descriptions. As a support tool the European Commission made available to member states a "Guide and template for the preparation of the second national energy efficiency action plans", the use of which was optional. Reporting on the exemplary role of the public sector is requested in a separate section of the template. Some member states (e.g. most New Member States) used the template for preparing the NEEAP, while others (e.g. the UK and Sweden) followed a different structure. Irrespective of the structure of reporting, the quality of information provided on the adoption details of ESD provisions focusing on the exemplary role of the public sector show considerable variation.

In a possible next stage of the research information communicated by member states in the second NEEAPs can be complemented by expert interviews. Areas where complementary sources and further research would be beneficial include implementation and enforcement, as well as wider influencing factors such as the level of corruption in the country.

Furthermore, assessing progress in terms of energy savings achieved and planned in the public sector faces barriers. Member states use different methodologies for assessing savings (including bottom-up calculations, top-down indicators, or the combination of the two), with differences in the level

of detail provided regarding data sources and the principles for calculating the savings. Therefore comparison between and aggregation of savings achieved by member states based on information provided in the second NEEAPs is problematic. Assessment of savings achieved and expected progress by 2020 in the public sector is further complicated by the fact that different member states use different sector classifications in their reports. For example Germany provides information on savings in the public sector supported by both bottom-up and top-down calculations, specifying real estate and street lighting as the main focus areas due to data availability. At the same time the UK provides information on energy savings achieved in the private and public sectors in a combined manner, communicating the results of measures and programmes targeting both the private and public sectors (including building regulations, financial incentives, products policy and information programmes) without specification of methodologies used. Taking the above limitations into account, the paper provides an overview of progress on the exemplary role of the public sector based on the self-reporting of member states on the adoption of the relevant articles of the ESD.

The paper is set out as follows: in the first section the key building blocks of EU energy efficiency policy are introduced, focusing on the exemplary role of the public sector. The second section contains an overview on progress against public sector related ESD provisions based on information provided by member states in the second NEEAPs under the ESD. The last section takes a look at the public sector relevant provisions of the new EED and proposes possible ways of strengthening these provisions if progress against the 2020 energy saving targets is found to be insufficient.

The EU energy efficiency policy framework and the public sector

Energy efficiency is regarded by the EU as a valuable means to address the triple challenge of improving energy security, combating climate change and overcoming the economic crisis. Furthermore, energy efficiency has been included among the headline targets of the "Europe 2020 Strategy", the ten-year growth strategy of the European Union, which focuses on jobs and smart, sustainable and inclusive growth (European Commission 2012). The objective has been set of saving 20 % of the EU's primary energy consumption by 2020 compared to projections.

The energy efficiency policy framework of the EU is constituted by several regulatory instruments focusing on different stages of the energy chain from generation through transmission and distribution to consumption. This paper focuses on legislation on energy end-use efficiency, particularly affecting energy use in the public sector.

Key instruments of EU energy efficiency policy include:

- the Energy Efficiency Directive (EED – Directive 2012/27/EU) repealing the Cogeneration Directive (2004/8/EC) and the Energy Services Directive (2006/32/EC)
- the Energy Performance of Buildings Directive (recast EPBD – Directive 2010/31/EU)
- the Labelling Directive (Directive 2010/30/EU)

- and the Eco-design Directive (Directive 2009/125/EC).

The EED and the recast EPBD are the cornerstones of the EU energy efficiency policy framework. They both emphasise the leading role that the public sector is to play in implementing energy efficiency policy in the EU. The new EED amends both the Labelling and the Eco-design Directives.

ENERGY SERVICES DIRECTIVE

The Energy Services Directive (ESD – Directive 2006/32/EC on energy end-use efficiency and energy services) has been a key element of the EU energy efficiency policy framework before it was repealed by the Energy Efficiency Directive on 25 October 2012. The ESD provides for a 9 % indicative energy savings target to be achieved by 2016, as well as concrete provisions on the exemplary role of the public sector. Article 5 of the ESD focuses on energy end-use efficiency in the public sector, promoting cost-effective measures consisting of both legislative initiatives and voluntary agreements from the national through the regional down to the local level.

Apart from ensuring that the public sector fulfils an exemplary role in energy end-use efficiency, the exemplary role and actions of the public sector shall be effectively communicated to citizens and companies. Furthermore, during public procurement at least two measures shall be used from the six-item list of eligible measures set out in Annex VI of the ESD. The six-item list of eligible energy efficient public procurement measures includes requirements:

1. concerning the use of financial instruments;
2. to purchase equipment and vehicles based on lists of energy-efficient product specifications;
3. to purchase equipment that has efficient energy consumption in all modes;
4. to replace or retrofit existing equipment and vehicles with the equipment listed in points (b) and (c);
5. to use energy audits and implement the resulting cost-effective recommendations;
6. to purchase or rent energy-efficient buildings or parts thereof.

Implementation of provisions on public procurement shall be facilitated through publishing guidelines on energy efficiency as a possible criterion in competitive tendering. Article 5 also requires that exchange of best practice should be facilitated and enabled between public sector bodies. Furthermore, a new or existing organisation shall be assigned with the administrative, management and implementing responsibility for the integration of energy efficiency improvements.

Member states of the EU were to report on the implementation of the above provision in their first and second National Energy Efficiency Action Plans (NEEAPs) that were to be submitted by mid-2007 and mid-2011 respectively.

ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

Parallel to the repealed ESD and the new EED, the recast EPBD also contains provisions requiring the public sector to fulfil a leading role in the field of energy performance of buildings.

Provisions of the recast EPBD that are relevant for the leading role of the public sector include Article 9.1, Article 9.2, Article 11.5 and Article 12.1. Article 9.1 requires that new buildings occupied and owned by public authorities are nearly zero-energy buildings after 31 December 2018, two years earlier than the date set for all buildings. Article 9.2 requires that following the leading example of the public sector, member states are to 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. Member states are to inform the Commission thereof in their national plans for increasing the number of nearly zero-energy buildings. The national plan for nearly-zero energy buildings may be included in the first National Energy Efficiency Action Plan under the EED (due on 30 April 2014). Article 11.5 requires from member states to encourage public authorities to take into account the leading role which they should play in the field of energy performance of buildings. This should be done by implementing the recommendations included in the energy performance certificate issued for buildings owned by the public sector, within the validity period of the certificate. As provided by Article 12.1(a) energy performance certificates are to be issued for buildings where a total useful floor area over 500 m² is occupied by a public authority and frequently visited by the public. The threshold shall be lowered to 250 m² on 9 July 2015.

Furthermore, according to Article 4 of the recast EPBD member states shall take the necessary measures to ensure that minimum energy performance requirements for buildings or building units are set with a view of achieving cost-optimal levels. The minimum energy performance requirements shall be reviewed at regular intervals, which shall not be longer than five years.

LABELLING AND ECO-DESIGN DIRECTIVES

Provision of the Eco-design Directive (2009/125/EC) and the Labelling Directive (2010/30/EU) also play a role in establishing the leading role of the public sector through their influence on public purchasing. The Eco-design Directive takes a life cycle approach aiming to reduce the environmental impact of products, including the energy consumption throughout their entire life cycle. Mandatory requirements for specific products are made in the form of related implementing measures. The Labelling Directive is implemented in the form of delegated acts laying down the details of the label and the fiche for different types of products, emphasizing the energy efficiency of the product. According to Article 9, where a product is covered by a delegated act, contracting authorities concluding public works, supply or service contracts shall endeavour to procure only such products which comply with the criteria of having the highest performance levels and belonging to the highest energy efficiency class.

Connections are established between the Labelling Directive and the Eco-design Directive with EED Article 6 on purchasing by public bodies and EED Annex III on energy efficiency requirements for purchasing products, services and buildings by central government.

ENERGY EFFICIENCY DIRECTIVE

The most recent element of the EU energy efficiency policy framework is the EED, adopted in October 2012, repealing the ESD and the Cogeneration Directive (2004/8/EC). The

EED contains legally binding measures and maintains the leading role of the public sector in energy efficiency among its provisions. Member states are required to set an indicative national energy efficiency target, based either on primary or final energy consumption, primary or final energy savings, or energy intensity. Furthermore, the first and second National Energy Efficiency Action Plans under the EED shall include reporting on progress towards and calculation/estimation of savings against the indicative 9 % energy savings target set under the ESD.

Main elements of the EED concerning the leading role of the public sector in energy efficiency include Article 5 on the renovation of central government buildings and Article 6 on public procurement.

Article 5 of the EED requires that from 1st January 2014 each member state renovates each year 3 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government to meet at least the minimum energy performance requirements set out in the recast EPBD. The 3 % rate shall be calculated on the total floor area of buildings with a useful floor area over 500 m² that do not meet the national minimum energy performance requirements. The renovation threshold is to be lowered to 250 m² as of 9 July 2015. Member states may choose to extend the 3 % renovation requirement to administrative departments at a level below central governments.

The inventory of heated and cooled central government buildings with a total useful floor area over 500 m² shall be made publicly available by 31 December 2013. The inventory shall contain the floor area in m² and the energy performance of each building or relevant energy data. Furthermore, in their second (to be submitted by 30th April 2014) and subsequent Annual Reports under the EED member states are to communicate in m² the 3 % central government building renovation target. Furthermore, in the second Annual Report (due by the 30th April 2014) they are to quantify the total floor area of all buildings heated and/or cooled owned and occupied by the central government that was renovated in 2013.

Furthermore, Article 5.7 calls for the encouragement of public bodies, including regional and local governments and social housing bodies to adopt energy efficiency plans, to put in place energy management systems and where appropriate use energy performance contracting. The energy efficiency plans can be freestanding or form part of a broader climate or environmental plan. It should contain specific energy saving and efficiency objectives, with a view to the 3 % annual renovation obligation reflecting the exemplary role of central government buildings.

Article 5 allows member states to opt for an alternative approach to achieve an equivalent amount of saving as would have been achieved through the implementation of the 3 % annual central government building renovation target. As part of the alternative approach member states may implement alternative measures, such as deep renovations and measures to achieve the behavioural change of occupants. Detailed description of alternative measures is to be provided in the second and subsequent Annual Reports under the EED.

Article 6 of the EED focuses on purchasing by public bodies. According to its provisions central governments are to purchase products, services and buildings with high-energy efficiency performance. The requirement is subject to consistency with cost-effectiveness, economical feasibility, wider sustainability,

technical suitability and sufficient competition. Furthermore, public bodies including at the regional and local level should be encouraged to engage in public purchasing activities in a similar manner. Public bodies are also encouraged to assess the possibility of concluding long-term energy performance contracts that provide long-term energy savings, when they are tendering service contracts with significant energy content. A further provision of the article is that the aggregate energy efficiency of a product package shall take priority over the energy efficiency of the individual products in public purchases.

Annex III of the EED outlines energy efficiency requirements for purchasing products, services and buildings by central government. Connections are established with the Labelling and Eco-design Directives. Furthermore, connection is made with the Agreement between the Government of the United States of America and the European Community on the coordination of labelling programmes, and with Community regulation on the labelling of tyres with respect to fuel efficiency.

Second NEEAP reporting on progress in the leading role of the public sector

REGULATORY CONTEXT

As part of fulfilling the reporting requirements under the ESD, member states were to submit their second National Energy Efficiency Action Plan (NEEAP) no later than 30 June 2011. According to the provisions of the ESD the NEEAPs are to include a description of energy efficiency improvement measures planned to reach the indicative energy savings targets, a description of measures to comply with the provision on the exemplary role of the public sector and description of information and advice measures to final customers. In this section an overview is provided on progress against public sector related ESD provisions (e.g. fulfilment of an exemplary role by the public sector in energy end-use efficiency, effective communication of the exemplary role and actions of the public sector, public procurement, and exchange of best practice between public sector bodies) based on reporting in the second NEEAPs.

NEEAPs were intended by the European Commission to serve as a platform for member states to evaluate and report on their energy savings, serving as a strategic document for the framing of national energy efficiency improvement efforts². However the style and detail of reporting in the second NEEAPs has shown considerable variation. Some member states (e.g. Germany and Finland) presented comprehensive plans including detailed description of measures and packages of measures, as well as information on funding sources and details of methodologies used for assessing energy savings. Some others have communicated isolated measures or measures only at the planning stage, or not enough detail on status of implementation of concrete actions (e.g. very short NEEAP giving the impression of incompleteness in the case of Portugal; large-scale transport measures without source of funding or implementing body specified in the case of Hungary).

2. As set out in the "Guide and template for the preparation of the second national energy efficiency action plans" prepared by the European Commission.

PUBLIC PROCUREMENT

The adoption of public procurement related provisions of the ESD shows considerable variation across the EU. About half of the member states communicated the adoption of at least two items from the six-item list of eligible measures listed in Annex VI of the ESD. Austria, Belgium, Cyprus, Denmark, Finland, Germany and Sweden went beyond minimum requirements by adopting more than the required two items. Good practices included Finland where three of the six eligible measures is requested to be implemented by central government and local councils part of an agreement scheme are committed to implement five of the six eligible measures. Information on publishing guidelines on energy efficiency and energy savings as possible criteria for competitive tendering has also been included in some NEEAPs (e.g. Austria, Belgium, Finland, Germany and Lithuania). Furthermore, Germany reported on the adoption of regulation on the highest energy efficiency criteria to be applied in public tenders. Consideration and high weighting of life-cycle costs in the award procedure has also been reported in the German second NEEAP.

At the same time, substantial issues remain regarding the implementation of energy efficient public procurement regulation in the EU. Overall, reporting in the second NEEAP by the 27 member states suggests that only half of them are taking steps to implement energy efficient public procurement relevant provisions of the ESD. A group of member states did not communicate clearly in the second NEEAP how they comply with public procurement related provisions of the directive. In these cases it was difficult to determine if and how the required two eligible measures are implemented. In some cases delays in implementation or pending approval of relevant legislation at the time of reporting was communicated. Even in the member states that reported on the adoption of two or more items from the list of six eligible measures, no comprehensive assessment was provided on the implementation of these measures and on how effective they are. Only few NEEAPs provided relatively more detail: e.g. Germany showed examples of successfully implemented procurement procedures and Finland presented a more detailed overview of public procurement requirements (regarding the government resolution on procurement of electricity, new construction, energy-consuming equipment and public transport).

EXCHANGE OF BEST PRACTICE

The majority of member states provided information in the second NEEAP on the exchange of energy efficiency improvement related best practice between public sector bodies. Good practices in this field include the Public Sector Energy Link in Ireland, which is a network for sharing information and real-life experience on energy management in the public sector. It includes an online platform as well as a series of workshops. As part of the Green Leaders scheme in Malta appointed Green Leaders have a duty to promote environmental awareness within their ministries. Green focal points are also appointed vertically along the administrative structure, providing better contact with staff members.

Some member states reported on exchange of best practice between public sector bodies in relation to sustainable energy action at the local authority level. In Finland the sharing of best practice between public sector institutions takes place through

the Local Government Climate Campaign coordinated by the Association of Finnish Local and Regional Authorities. Support is provided for the networking of experts from local councils taking part in the voluntary agreement scheme. Exchange of best practice through membership in the Covenant of Mayors (CoM) initiative of the European Commission was communicated in the Italian, Greek and Latvian second NEEAP. Parallel to CoM membership Romania also mentioned in the second NEEAP the role of the Energie Cities network.

OTHER LOCAL AUTHORITY LEVEL MEASURES

Apart from the exchange of best practice, other types of initiatives at the local authority level also emerged in the second NEEAPs. A system of voluntary energy efficiency agreements with local authorities was reported to be in place in Denmark and Finland. In Luxembourg the introduction of a quality management system for municipalities in the field of energy and climate protection policy was proposed by the government. Under the system implementing municipalities may benefit from financial and technical support from the state. In Ireland a 33 % energy saving target has been set for public sector bodies. A partnership programme was launched in 2009 providing an integrated support mechanism for implementation, also benefiting local authorities. In Sweden the Sustainable Municipalities Programme lays special emphasis on the establishment of sound political basis of local energy and climate policy initiatives. To achieve this aim as part of the programme networking and training opportunities are provided for leading politicians and officials at the municipality.

NEARLY-ZERO ENERGY BUILDINGS

Reporting on leading role of the public sector in EPBD implementation and nearly-zero energy buildings has not featured prominently in the second NEEAPs. Some member states addressed the issue and presented information on pilot projects for nearly-zero energy buildings (e.g. Finland and Bulgaria), and steps that should be undertaken to achieve transposition of the recast EPBD into national law (e.g. Bulgaria and Romania). At the same time communication on targets and strategies for nearly-zero energy buildings was not present in the reports.

ENERGY PERFORMANCE CONTRACTING, ESCOS

Measures supporting the expansion of energy performance contracting (EPCs) and ESCO activities in the public sector have been reported by Austria, Spain, Ireland and Poland. In Austria connection has been established between a comprehensive programme to refurbish over 200 federal property objects and the market for energy services. The implementation of energy service contracts in 330 buildings of the state administration has been reported by Spain, with plans for a further extension to 2,000 public energy consumers. Ireland communicated plans to roll-out ESCO pilot projects in local authorities. Poland put in place regulation allowing the participation of ESCOs in the newly established market for white certificates. This is expected to be a strong supporting factor of the expansion of the market for energy services. Plans to establish a national focal point facilitating the establishment of ESCO contracts in the public sector and local government units have also been communicated by Poland. Further good practices reported in the second NEEAPs in the field of supporting energy service contracting

and ESCOs include the provision of model contracts (e.g. in Austria, Poland, the Netherlands, Lithuania and France), and the amendment of the public procurement law in France allowing EPCs to be concluded. Overall while established energy services markets operate in some member states (e.g. France, Belgium, Germany and the UK) there is space for improvement and further supporting measures in the field of energy performance contracting, including in the public sector.

Some member states highlighted in their second NEEAP some prevailing barriers to the expansion of the ESCO market. Estonia reported on an existing but limited energy services market mainly involving street lighting, parallel to legal barriers related to the conclusion of service contracts. Latvia pointed out the lack of interest by energy supply companies, low consumer awareness and lack of positive examples as barriers. While Slovenia also mentioned prevailing legal barriers to the conclusion of energy service contracts, plans for the preparation of sample contracts and the provision of expert support for project design in the public sector have also been communicated.

OTHER FUNDING MECHANISMS

Parallel to energy performance contracting, other funding mechanisms also played a role in improving energy efficiency in the public sector of EU Member states. A group of new member states (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and Romania) reported on the use of revenues from sales of surplus emission quotas under the Kyoto Protocol in the form of Green Investment Schemes (GIS). These funds were reported to be used also in the field of building energy efficiency improvements in the public sector. Furthermore, the use of EU Structural and Cohesion Funds (co-financed by state funds) was reported in the field of energy efficiency refurbishment of public buildings mostly by new member states (e.g. Hungary, Poland, Romania, Estonia). Romania also reported on the use of EBRD financing for modernisation of public lighting. State funded programmes (e.g. KfW for municipalities in Germany, and Salix for the public sector in the UK) also played an important role.

GOOD PRACTICES IN REPORTING

While member states addressed the issue of the exemplary role of the public sector in their second NEEAP, only a minority presented a comprehensive set of measures and strategies to achieve savings in energy end-use in the public sector. Denmark represents good practice in this area: the Danish government has adopted an overall objective of 10 % reduction in energy consumption in 2011 from 2006 levels in government institutions. Details of the circular ensuring implementation are provided, including provisions for metering, monitoring, visibility of results and dissemination of expertise. Furthermore, parallel to the central government, energy savings activities are also taking place at local and regional governments. Voluntary energy efficiency agreements have been made with the Danish Association of Local Authorities, according to which participating local authorities are to devote special focus to energy efficiency in buildings and must implement energy-efficiency behaviour and procurement measures. A similar agreement has been concluded with Danish Regions. A mechanism is also in place to evaluate annual progress against these agreements.

A further good practice in overall reporting on the leading role of the public sector is represented by Poland. The Polish second NEEAP presents a comprehensive overview on state of progress in the public sector, including prevailing barriers and actions for their removal. Information on supporting legislation in place is communicated, remaining weaknesses are highlighted (e.g. in the field of the market for energy services and green public procurement), as well as actions for the improvement of the situation (e.g. the green public procurement strategy). An update is provided on existing and upcoming funding programmes for the public sector, including redirection of EU funds towards energy efficiency refurbishments of public buildings.

Finland offers a particularly good example in terms of quality of reporting and comprehensiveness of measures in the public sector. Several well-developed and well-communicated measures were proposed in the second NEEAP for the local as well as for the central government level. Measures for which energy savings were calculated include the local government energy efficiency agreement and energy programme; energy audits at the local government level; making the use of space more effective in central government; renovation of state property stock; improving energy efficiency in new construction for the state; and maintenance activity and user information for the state property stock. Energy savings achieved and forecasts by 2016 and 2020 were provided for each measure, supported by a comprehensive assessment of the impact of each measure on energy savings. This impact assessment included information on the calculation method, starting points and assumptions of the calculation, initial data and possible overlaps, as well as the actor responsible for conducting the impact assessment. Measure-specific funding and budget sources were also communicated. The start and end dates, as well as the subjects (e.g. state owned properties) and aims (heating, electricity, fuels or water) of measures were specified. Furthermore, organisations responsible for implementation of the presented measures were identified. The number of central and local government bodies in the country was provided, including information on institutional developments that influence these numbers. In addition to this, the Finnish second NEEAP communicated by date the government resolutions for the implementation of ESD requirements and other measures in the public sector. Additional measures without assessment of impact of energy savings were highlighted and are addressed separately in the action plan. These included the government resolution on the promotion of sustainable choices in public procurement; the requirement to develop energy efficiency plans for state organisations (including targets and time-frames); and environmental programmes for state organisations and the Eco-Office. The NEEAP could be strengthened even further by providing enforcement details, showing the consequences if these measures and actions are not implemented.

Taking into account variations in detail and quality of reporting in the second NEEAPs, it can be concluded that while several examples of good practice exist, there is substantial space for improvement in the adoption and implementation of measures in connection to the exemplary role of the public sector. Energy efficient public procurement is an area in particular where implementation should be improved across the

EU, where half of the member states have still not reported on sufficient progress. The leading role of the public sector in EPBD implementation should also feature more prominently in upcoming national plans. A positive element of some reports (e.g. related to energy performance contracting in Slovenia and energy efficient public procurement in Poland) has been the identification of prevailing barriers and detailed information about current and planned measures for their removal. National, EU and other international initiatives for increasing the involvement of local authorities in sustainable energy action is another area of progress emerging from the second NEEAPs.

From EED to review of progress and proposals for strengthening

As set out in Article 3.2 of the EED, by 30 June 2014 the European Commission is to provide an assessment on progress achieved and whether the Union or likely to achieve the target values of energy consumption by 2020. This assessment is to be submitted to the European Parliament and the Council. According to Article 24.7 of the EED the assessment can be accompanied, if necessary, by proposals for further measures. This assessment could potentially provide space for adding new or strengthening current measures focusing on the leading role of the public sector in energy efficiency. However it should be added that the EU 2020 targets are non-binding. Therefore in case there is indication that targets would be missed, there is no legal obligation to make necessary steps to strengthen policy.

The 3 % annual renovation obligation of Article 5 currently applies to buildings over a certain useful floor area owned and occupied by the central government that do not meet minimum energy performance requirements. In case progress towards 2020 targets is found to be insufficient strengthening of the measure would be possible in several ways. The annual renovation rate could be increased and the size of the buildings to which it applies to could be reduced further. Community level and national minimum energy performance requirements could be raised. The requirement could be strengthened by including also buildings which are owned but not occupied by the central government. Furthermore, the annual refurbishment obligation could be extended to include administrative departments below the level of central government, e.g. regional and local governments, and social housing bodies. The preparation of strategies and reporting on measures implemented at the regional and local level and in social housing bodies could be made compulsory. Based on the assessment of the implementation of the alternative approach (consisting of deep renovations and achieving the behavioural change of occupants), decision should be made on whether this option is to be kept or not, or if it should be amended. Similarly to Article 5, in the case of Article 6 a possible area of strengthening would involve the expansion of requirements to public bodies at the regional and local level³.

At the same time it should be taken into account that these changes in policy (parallel to support from the Member

States) would require sufficient financial backing. This could be achieved by devoting a larger proportion of Structural and Cohesion Funds for energy efficiency investments and supporting actions. The stronger promotion of energy performance contracting and removal of remaining regulatory and non-regulatory barriers to it would also act as a supporting factor. Furthermore, it must be mentioned that stronger implementation and enforcement would requirements would enhance the effectiveness of the directive. At the same time the inclusion of such modifications is unlikely to be politically feasible in the present economic context.

Conclusion

This paper aimed to provide an overview of recent developments in the leading role of the public sector in energy efficiency in the EU. In the first part of the paper main elements of and recent changes in EU energy efficiency policy with relevance to the public sector were introduced. This was followed by a review of the adoption of public sector related provisions as presented by member states in their second NEEAPs, as part of fulfilling reporting requirements under the ESD.

Reporting in the second NEEAPs draws a varied picture regarding the exemplary role of the public sector in the member states. Measures promoting the exemplary role of the public sector are often communicated without assessment of impact on energy savings. Furthermore, calculation methodologies for the quantification of energy savings applied by the member states differ. Last but not least, in the second NEEAPs measures and savings in the public sector are in most cases presented in combination with action in other sectors (e.g. measures and savings in the public sector are often addressed as part of the buildings sector and the services sector). Therefore based on the review of the second NEEAPs it is problematic to draw a definitive conclusion on progress across the EU-27.

Only a minority of member states presented a comprehensive set of measures to demonstrate the achievement of energy savings in the public sector. The group of measures presented and the detail of reporting by Germany and Finland stand out as good practice. Further good measures identified in the second NEEAPs include the setting of quantitative energy saving targets for public sector or central government bodies (e.g. in Denmark and Ireland), as well as going beyond minimum requirements in the application of public procurement provisions of the ESD (e.g. in Austria, Belgium, Cyprus, Denmark, Finland, Germany and Sweden).

Constituting a positive example worthy of replication, a group of measures focused on the engagement of local authorities in energy saving activities (it is optional but not legally required from member states to engage in such activity). Examples included voluntary energy efficiency agreements with local authorities in Denmark and Finland, the quality management system for municipalities in the field of energy and climate protection in Luxembourg, and efforts to establish a sound political basis for local energy and climate policy initiatives in Sweden. Promising measures for the exchange of good practice between public sector bodies were reported by some member states (e.g. Ireland and Malta), while others addressed the exchange of good practice in the context of sustainable energy action at the local authority level. The Covenant of May-

3. The European Commission aims to publish guidance documents in mid-2013 containing a more explicit description of actual obligations under EED Article 5 and Article 6. These will shed more light on the strength of already existing requirements.

ors initiative of the European Commission was presented by some member states (e.g. Romania, Latvia, Greece and Italy) as an important vehicle in this exchange of good practice. The use of EU Structural and Cohesion funds for energy efficiency improvements in the public sector, along with other possible external financing sources (EBRD financing and GIS) should also be supported.

Overall, while examples worthy of replication are present in several fields, reporting as part of the second NEEAPs reflects that further substantial efforts will be needed across the EU to establish and maintain the leading role of the public sector in energy efficiency. Some member states report on prevailing barriers. In the field of energy performance contracting, these include legal barriers to the conclusion of service contracts, low consumer awareness, lack of interest by energy suppliers and lack of positive examples. Furthermore, detail of reporting on energy efficient public procurement related provisions, including implementation details should be improved to better reflect action undertaken in this area and to increase credibility of measures communicated.

Recent policy developments including the adoption of the recast EPBD and the new EED point in the right direction. The ESD already contained concrete provisions focusing on the exemplary role of the public sector and public procurement. The recast EPBD places further requirements on new public buildings from 2019 and the EED contains an annual refurbishment obligation on central government buildings over a certain size and under a minimum energy performance level. Furthermore, like the ESD the EED contains provisions focusing on public purchasing and energy services. At the same time under the EED the application of the building refurbishment obligation and public purchasing provisions is not obligatory for public bodies below the level of central government.

If and when a policy review processes take place, policy instruments forming the cornerstones of EU energy efficiency policy can also be strengthened. They can be modified to incorporate some of the good practices already applied by some member states, especially in the field of the engagement of public bodies below the central government level. This way the public sector in the EU will be able to establish, further strengthen and solidify its leading role in energy efficiency in the future.

References

Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC. [Online] URL: <http://eur-lex.europa.eu/LexUriS->

[erv/LexUriServ.do?uri=OJ:L:2006:114:0064:0064:en:pdf](http://eur-lex.europa.eu/LexUriServ.do?uri=OJ:L:2006:114:0064:0064:en:pdf) [Consulted 19 December 2012].

Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (recast). [Online] URL: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:285:0010:0035:EN:PDF> [Consulted 19 December 2012].

Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products (recast). [Online] URL: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:153:0001:0012:EN:PDF> [Consulted 19 December 2012].

Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (recast). [Online] URL: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:153:0013:0035:EN:PDF> [Consulted 19 December 2012].

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 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC. [Online] URL: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:EN:PDF> [Consulted 19 December 2012].

European Commission. 2009. Synthesis of the complete assessment of all 27 National Energy Efficiency Action Plans as required by Directive 2006/32/EC on energy end-use efficiency and energy services. Commission Staff Working Document. [Online] URL: http://ec.europa.eu/energy/efficiency/doc/sec_2009_0889.pdf [Consulted 19 December 2012].

European Commission. 2012. Online information on the Europe 2020 strategy. [Online] URL: http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/targets/index_en.htm [Consulted 11 December 2012].

Koeppel, S. and Ürge-Vorsatz, D. 2007. Assessment of policy instruments for reducing greenhouse gas emissions from buildings. Report for the UNEP – Sustainable Buildings and Construction Initiative. [Online] URL: <http://www.unep.fr/shared/publications/pdf/WEBx0126xPA-SB-CIpolicyTool.pdf> [Consulted 11 December 2012].

Second National Energy Efficiency Action Plans of the 27 EU Member States. [Online] URL: http://ec.europa.eu/energy/efficiency/end-use_en.htm [Consulted 19 December 2012].