II REACHING THE TARGETS

Part II details the main elements of the EED, providing a background for each of the subject areas, the requirements of the EED and recommendations for effective implementation and monitoring. Because many subject areas are covered by more than one article, each is treated separately here. Part II starts by reviewing Energy Efficiency Obligations, then follows with the public sector and energy audits, and ends with a discussion of supply side efficiency and demand response.

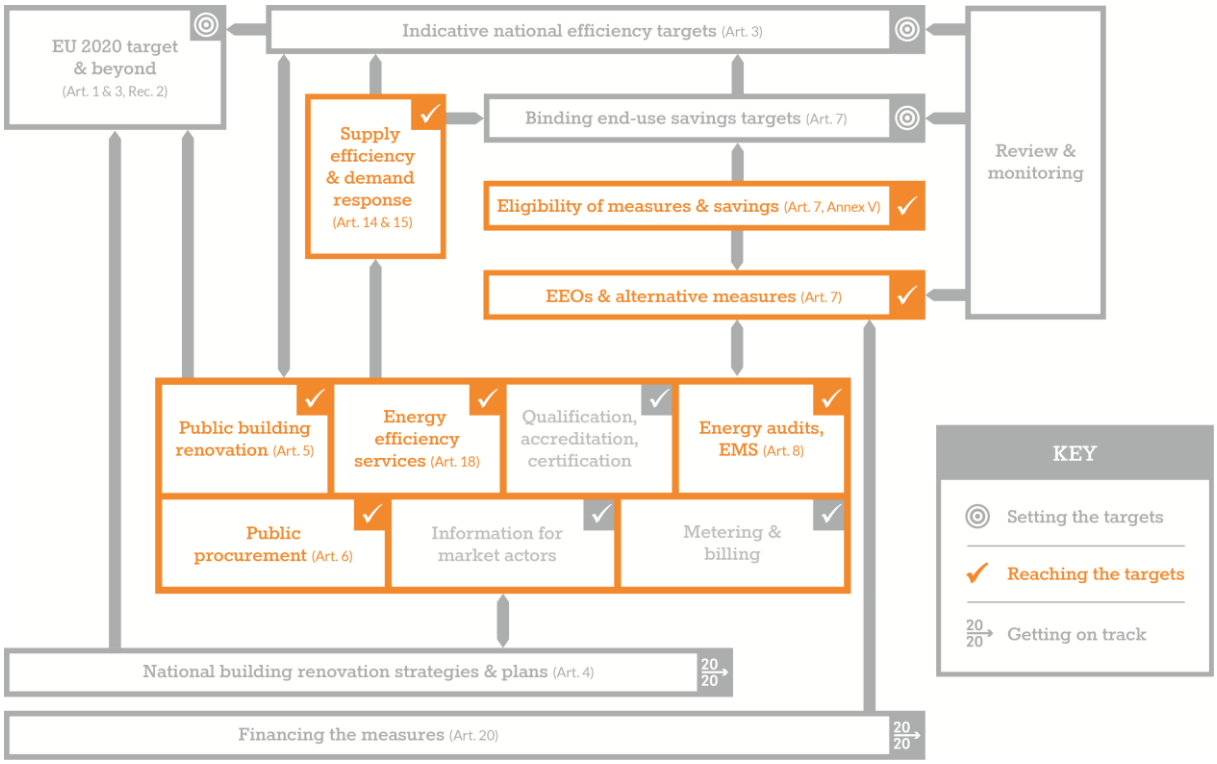

Figure 16 – Guidebook Overview Map: Reaching targets and objectives

II.3 Public building renovations (Article 5)

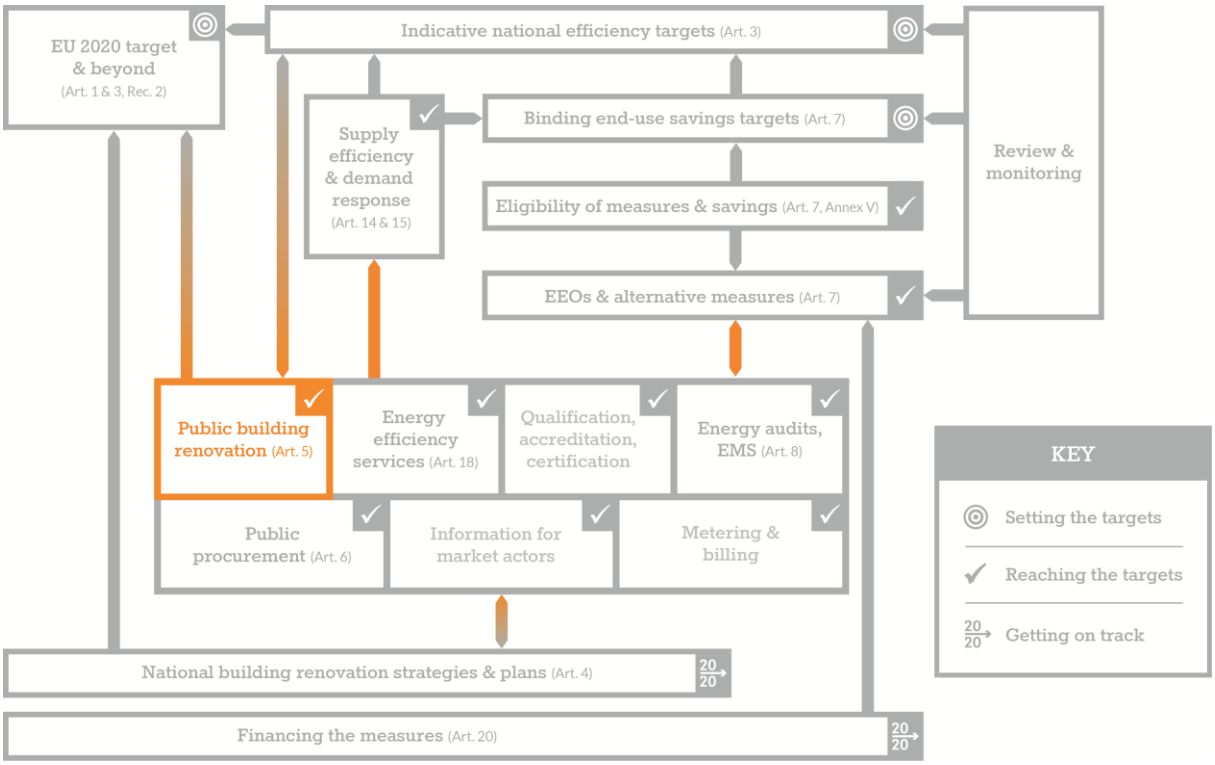

Figure 20 – Guidebook Overview Map: Public building renovation

II.3.1 Summary

The EED sets a 3% annual renovation target for public buildings owned and occupied by its central government from the beginning of 2014 onwards. Central government buildings are required to be renovated to meet at least the national minimum energy performance requirements set in application of Article 4 of the Energy Performance of Buildings Directive (EPBD). Going beyond the national minimum requirements for the renovation of public buildings will enable MSs to contribute significantly to the indicative national and energy end-use savings targets. MSs must seize this opportunity to:

- Make the public sector lead by example, providing "best practice" cases, testing and developing new building techniques and financing models to be applied;
- Make renovated public buildings the frontrunners in quality, numbers and ambition; and
- Prepare the market for wider deployment and scaling up of refurbishment programmes, as foreseen in the long-term renovation roadmaps (developed under Article 4).

We therefore recommend encouraging MSs to:

- Maximise the number of public buildings covered;
- Optimise the level of ambition of renovation of public buildings;
- Establish an inventory of their public buildings which is framed within a more comprehensive property inventory of the full building stock (to be developed under Article 4 of the EED);
- Consider buildings (and groups of buildings, where relevant) as a whole, always undertaking a comprehensive renovation;

- Ensure that cost-effectiveness assessments (and cost-optimal assessments, when available) include broader societal benefits; and
- Involve all levels of government in the renovation agenda.

MSs need to report whether they will apply the 3% renovation rate to their central government buildings or use an alternative approach to meet the requirements of Article 5 by 31 December 2013. For the MSs that apply the 3% renovation rate, this is also the deadline to establish an inventory of their central government buildings. Regardless of the approach taken, the implementation of Article 5 should start on 1 January 2014 with the central government buildings of a total useful floor area of more than 500m^2.

II.3.2 Background

The EED offers a useful complement to the Energy Performance of Buildings Directive (Directive 2010/31/EU) in terms of renovation of existing public buildings. The EPBD established requirements for MSs to set minimum energy performance standards for buildings, which must be met when a building (public or private) undergoes a major renovation. The EED takes this one step further by setting a specific renovation target for public buildings. All public buildings renovated under this 3% target must meet the minimum energy performance requirements laid out in the EPBD.

Setting a target for the renovation of public buildings means that the public sector will be a frontrunner in kick-starting the renovation market, thereby preparing the market for the long-term deployment foreseen in the national renovation strategies (developed under Article 4). It is therefore crucial that the public sector leads by example with a high quality of renovations in terms of the number of buildings and the depth of renovation. Public building renovations should work as "best practice" cases, testing and developing new building techniques and financing models to be applied eventually to the whole building stock.

Only with a high level of ambition and the will to go beyond the minimum requirements for public building renovations will the energy savings to be delivered under Article 5 contribute significantly to the indicative national and binding energy end-use savings targets.

II.3.3 EED requirements

Article 5 includes the following basic requirements:

- A 3% renovation requirement for buildings owned and occupied by central governments from 1 January 2014; the 3% rate shall be calculated on the total useful floor area of buildings that are over 250m^2 (the scope is limited to 500m^2 until 9 July 2015);
- Renovation of central government buildings to meet at least the national minimum energy performance requirements set in the EPBD;
- The establishment of an inventory of central government buildings that will include energy performance and any other relevant energy data;
- Alternatively, taking measures in central government buildings, including deep renovations and behavioural changes, to achieve an equivalent amount of savings to the 3% approach, with a milestone in 2020 for verifying this equivalence;
- Addressing the buildings with the worst energy performance first; and
- Consideration of the building as a whole when doing a comprehensive renovation (envelope, equipment, operation, etc.).

II.3.4 Legal checks and recommendations

Legal checks

1. Check that the 3% renovation rate is calculated on the total floor area of central government buildings with a total useful floor area over 500m^2 owned and occupied by central government, and that this threshold is lowered to 250m^2 by 9 July 2015.
2. For MSs that apply the 3% renovation rate, check that they establish and make publicly available an inventory of heated/cooled central government buildings with a total useful floor area over 500m^2 by 31 December 2013, and as of 9 July 2015, over 250m^2.
3. Check that the amount of energy savings by 2020 is at least the same as when the 3% renovation rate would be applied, in the event that an MS takes an alternative approach within Article 5.
4. Check that the buildings with the poorest energy performance are a priority for energy performance improvement.

Good practice recommendations

1. The number of buildings covered should be maximised.

The renovation requirements of Article 5 cover central governments' public buildings. However, Recital 17 states "(…) When in a given Member State and for a given competence no such relevant administrative department exists that covers the whole territory, the obligation should apply to those administrative departments whose competences cover collectively the whole territory". This clarification is important for including in the scope of the renovation target buildings like schools and hospitals where split competencies between different levels of public authorities apply and a great share of regional public buildings could benefit from such renovation requirements. Furthermore, the European Commission has indicated that the definition of central government used for the purposes of another European Regulation (479/2009/EC) does not only include a few ministries but extends also to entities that are directly dependent on them in terms of authority and financing.

Taking into account the many positive budgetary effects of renovating the building stock of the public sector, including the relevant economic and social co-benefits, MSs should also consider the renovation of both owned and rented buildings. This approach is consistent with the Commission Delegated Regulation No 244/2012 on Cost-Optimality[1], which explicitly covers buildings "occupied by" public authorities. At the same time, it is reinforced by the provisions laid down in Annex III of Article 6 on Public Procurement, which cover both purchase and new rental agreements for central government buildings.

2. The level of ambition of renovation of public buildings should be optimised.

As stated in Article 1, the EED lays down only minimum provisions for energy savings measures and does not prevent MSs from introducing more stringent requirements. MSs could therefore decide to refurbish their public buildings towards very low levels of energy consumption and avoid any lock-in effect by grasping the full energy savings potential with an exemplary renovation.

MSs can use the buildings covered by the provisions of Article 5 to demonstrate the economic, environmental and social co-benefits of deep renovations (for more information on deep renovations and staged deep renovations, see Annex C), while also trailblazing the renovation of all buildings to nearly zero-energy levels. This is especially relevant given that under the EPBD, MSs have to increase the numbers of such buildings.

The energy performance level of the renovated building should be brought as close as possible to requirements for newly built or nearly zero-energy buildings.

[1] OJ L 81, 21.03.2012, p. 18-36.

In any case, the starting point for a strong implementation of Article 5 is for MSs to comply by 1 January 2014 with the EPBD provisions on minimum energy performance requirements. This also implies strengthening the EPBD compliance monitoring.

3. **Keep track of whether the inventories for public buildings are the starting point for establishing and maintaining comprehensive inventories for the whole building stock.**

The inventories of buildings should start with central government or public buildings in general and be completed with data regarding the whole building stock. As such, they should be linked to the "overview" of the building stock required by Article 4. Furthermore, the inventories should be maintained in a database for future use and registration of renovations and results of monitoring and verification, as well as being linked to the energy performance certificates required by the EPBD. Therefore, all MSs should establish an inventory of their central government buildings regardless of the approach taken to meet the requirements of Article 5.

The inventories should lead to a mapping of the current energy performance of existing buildings, showing useful floor space and actual consumption (e.g. in kWh/m^2 per annum). MSs must develop building typologies based on different categories of buildings. Guidance on possible stratifications, classifications and building types is provided by the EPBD and the Commission Delegated Regulation on Cost-Optimal methodology. Furthermore, under the EPBD, buildings with a surface of more than 500m^2 that are occupied by public authorities should have had an energy performance certificate by 9 January 2013.

4. **Highlight the importance of the leading role of public buildings, regardless of the approach taken.**

In order for public buildings to really lead by example, MSs need to go beyond the minimum requirements and showcase the benefits of comprehensive, deep renovations, which look at all aspects of the buildings (see the following recommendation). According to the EED, when an MS decides to fulfil its 3% renovation obligation with the alternative approach, it can select measures including deep renovations and measures for behavioural changes of the occupants to deliver the required savings. However, for public buildings to really lead by example, they need to showcase the benefits of comprehensive, deep renovations.

Deep renovations and targeted behavioural measures must be seen as complementary and not as separate alternatives. Behavioural measures could play an important role in relation to the energy consumption of a building during its operational phase but alone they cannot tap the potential of energy savings in buildings. Measures for behavioural changes should lead to verified and metered improvements in terms of energy consumption in buildings, in order to reinforce the energy saving impact of comprehensive renovations. They should allow a better understanding of patterns regarding the buildings' energy use and not be interpreted as general public information campaigns.

5. **In a comprehensive renovation, the building should always be considered as a whole.**

A comprehensive renovation should be understood as a renovation undertaken with the objective of bringing a building (or group of buildings) to a very high-energy performance level, incorporating best available technologies. It should also be linked to the economic, environmental and social co-benefits of deep renovations, while calculating the net present value of the investments.

It is essential to take a holistic and long-term view of the building (Article 5.1) to fully tap the energy savings potential. MSs should take measures in public buildings that will address, in a complementary and mutually reinforcing manner, the building envelope, the building equipment (including equipment and associated technical energy systems) and control systems, as well as operation, maintenance and occupants' behaviour.

6. **Ensure that the cost-effectiveness assessment includes broader societal benefits.**

It is important that "cost-effective" is not interpreted simply in terms of pay-back periods, because this will fail to capture the long-term savings benefits. Therefore, in defining "cost-effective", we need to move towards life-cycle cost analysis (LCCA). This is also relevant for public procurement in the following chapter and it is also mentioned in Annex VI of Article 8 on energy audits. LCCA will reflect the net annualised costs and benefits of investments in energy savings over the economic life of the building.

An assessment of accounting rules, especially in the public sector, is also necessary to try to remove barriers for mobilising investments, as it is also highlighted in chapter II.6.

7. Provide MSs with best practices, if possible.

For example, with the Lyon Declaration in 2011, progressive regions (The Climate Group, Région Rhône-Alpes and nrg4SD) committed, among other goals, to "implement within [their] respective jurisdictions initiatives, including public-private partnerships, to deploy large-scale programmes for the refurbishment of public buildings at a rate of 3% per year with a view to upgrading them to the top energy performance"[2].

8. All levels of government should be involved in the renovation agenda and various financial options should be explored.

In order to introduce economies of scale, it is preferable to address "groups of buildings" or "areas" instead of individual buildings when devising energy efficiency and energy plans. Public bodies at regional and local level should be involved in such processes and supported through capacity building to use the EU structural and cohesion funds available under the Multiannual Financial Framework to co-finance building renovation. This will ease access to finance and the effectiveness of financial engineering.

MSs should also ensure that the National Energy Efficiency Funds foreseen in Article 20 are designed to foster this kind of action, promoting deep and staged deep renovations (see chapter III.2).

The public sector should promote the development of energy service companies (ESCOs) that cover the whole spectrum of technologies necessary for deep renovation. This can be accomplished by establishing consortia offering financing, making them one-stop shops. Competition laws should of course be respected.

[2] Lyon Declaration of Regions and Federated States Engaged for the Climate, nrg4SD, Région Rhônes-Alpes and The Climate Group, 24.10.2011, no. 22.