



ODYSSEE-MURE

ODYSSEE-MURE fit4-55 (2022-2025)

Exemplary role of public buildings

What's new in the EED recast, examples from the MURE database and beyond

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Outline

- Part I: **EU background** for Energy Efficiency in Public Buildings
- Part II: Overview of **data available** (about Article 5/6 EED)
- Part III: Overview of **energy efficiency measures** for Public Buildings

Part I: EU background for Energy Efficiency in Public Buildings

Buildings: high in the political agenda

- The public sector is an important economic actor
- Public buildings are estimated to use around 2% of EU FEC
- The existing legislative requirements for purchasing and renovation of existing public buildings currently cover only public buildings owned and occupied by the central governments, which represent around 10% of all public buildings
- Observed payback time for energy efficiency investments in public buildings is around 8.3 years
- The current obligations for public procurement only target cost effective savings in the central government sector, which represent some 15-17% of all public procurement

Public sector: huge cost-effective savings potential

EED EVALUATION and IMPACT ASSESSMENT

- Need to extend the scope of the requirements to all public administration levels
- Increase the annual renovation obligation (rate and depth)
- Strengthen monitoring and reporting monitoring (data)

RENOVATION WAVE: focus areas

a) tackling energy poverty and worst-performing buildings;

b) renovating **public buildings**, such as administrative, educational and healthcare facilities

c) decarbonising heating and cooling.

Articles 5 – 7 EED: Exemplary role of public sector

Reduce total
final energy consumption
of all public bodies



1.9% each year

Renovate
heated / cooled buildings
owned by public bodies



3% each year

NZEB

Zero-emission

Purchase



High energy efficiency
performance

New framework under the EED

'**public bodies**' means **national, regional or local** authorities and entities directly financed and administered by those authorities but not having an industrial or commercial character;

Article 5: Public sector leading on energy efficiency

Member States shall ensure that the total final energy consumption of all public bodies combined is reduced by at least 1,9 % each year, when compared to 2021.

- Exemptions (armed forces, transport)
- NECP reporting: reduction to be achieved by all public bodies, disaggregated by sector and the relevant measures
- **regional and local authorities** establish specific energy efficiency measures in their long-term planning tools, such as decarbonisation or sustainable energy plans
- replacement of **old and inefficient heaters**
- consider life cycle carbon emissions as well as the economic and social benefits

NECP reporting by sector

Energy consumption in buildings
Office and administration buildings
Hospitals and health care buildings
Schools and kindergartens
Universities
Factory and workshop buildings
Other public buildings (owned or rented)
Energy consumption for processes
Public lighting
Water supply
Waste water treatment
Waste management
Other processes
Energy consumption for mobility services
Public transport ²⁾
Fleet of vehicles owned by public body for other purposes than public transport
Armed forces³⁾

Article 6: Exemplary role of public buildings

At least 3 % of the total floor area of heated and/or cooled buildings with total useful floor area of over 250 m² that are **owned by public bodies** is renovated each year to be transformed into at least **nearly zero-energy buildings or zero-emission buildings**

- may choose which buildings to include in the 3 % renovation requirement (technical, economical, functional feasible)
- may exempt social housing
- negotiate with the owner (if not owned)
- apply less stringent requirements: protected buildings, armed forces, religious
- establish and make publicly available and accessible an **inventory**
- links with the EU Building Stock Observatory
- still possible to apply an **alternative approach**

Article 7: Public procurement

Who is concerned?

All contracting authorities and contracting

What is concerned?

- public contracts and concessions
- products, services, works, buildings
- exceeding values in Public Procurement Directives
- unless technically feasible
- NOT: military equipment, arm of armed forces, undermining public security and impeding response to public health emergencies

What to do?

- Apply EE1st principle
 - Procure high ee performance
 - Assess feasibility of EPC
 - Publish impact on energy efficiency
 - Report on measures to remove barriers
- Not covered in the presentation:
- support authorities and entities
 - Establish supportive provisions and remove barriers

Synergies with the EPBD and the RED

- **National building renovation plan** to ensure the renovation of the national stock of residential and non-residential buildings, both public and private, into a highly energy efficient and decarbonised building stock by 2050, with the objective to transform existing buildings into zero-emission buildings
 - Specific indicators in Annex II
- From 2028 new buildings owned by public bodies are zero-emission buildings
- Existing public buildings to install **solar energy**, with a progressive approach that starts in December 2027 for the largest public buildings (2.000 m²) and progressively reduces the threshold until December 2030 (250 m²)
- Buildings owned or occupied by public bodies must issue **Energy Performance Certificate** (displayed in a prominent place clearly visible to the public)
- Public buildings at national, regional and local level fulfil an exemplary role as regards the share of renewable energy used. Member States may allow that obligation to be fulfilled by, inter alia, **providing for the roofs of public or mixed private-public buildings to be used by third parties** for installations that produce energy from renewable sources

Part II: Overview of data available about the implementation of Article 5/6 EED

2014-2020: achievements about central government buildings (Article 5 EED)

- 12 Member States with the target of 3%/year renovation:

3 overachieved

Luxembourg	148,9%
Lithuania	113,8%
Estonia	105,4%

3 close to achievement

Italy	99,6%
Spain	95,7%
Latvia	91,9%

3 underachieved significantly

Bulgaria	59,3%
Greece	27,7%
Portugal	27,2%

+ 3 with incomplete data (Hungary, Romania and Slovenia)

- 15 Member States with the alternative approach:

12 overachieved (most of the time very largely)

Germany	2128,0%
Belgium	1119,2%
Netherlands	635,4%
Croatia	497,9%
Austria	478,9%

Ireland	378,2%
France	307,2%
Czechia	219,6%
Finland	206,1%

Slovakia	160,6%
Denmark	157,9%
Poland	123,2%

2 underachieved slightly

Cyprus	97,80%
Sweden	83,70%

+ 1 with incomplete data (Malta)

NECPR2023: Latest data about central government buildings (about year 2021)

- 12 Member States with the target of 3%/year renovation: none of them on track (and data missing for 4 countries)
- 15 Member States with the alternative approach, including 2 countries (DE and DK) with no energy savings data reported about 2021

Commission's assessment:
"Member States will have to step up their efforts as early as possible in the next years of the obligation period to be able to meet the savings requirement for the whole obligation period ending in 2030."

Source: European Commission (2023). Assessment of progress towards the objectives of the Energy Union and Climate Action. ([SWD\(2023\) 646 final](#))

NECPR2023: data about national building stocks and progress with building renovations

Few data on energy use in public buildings:

- Most of them with increase in 2021 vs. 2020 (DK, EL, HU)
- Exceptions = **Ireland** with a decrease of 1% + **Croatia** with a decrease of 9% in the 'worst performing buildings' (to be related to the 'medium renovation' of 103 buildings)

Few data on renovation rates for public buildings:

- Mostly low rates (or light and medium renovations)
- Exception = **Luxembourg**, with rate of 0.8% (deep renovations)

Commission's assessment:

"Regarding public buildings, Member States had lower data availability than non-residential, with twelve countries reporting some information in this field."

Part III: Overview of energy efficiency measures for Public Buildings

Scope of the measures screened

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MURE DATABASE

383 on-going measures in the services sector

✓ Looking at measures focused on services

226 measures dealing with **public buildings**

✓ Removing measures for private buildings only, or on public lighting only (or water sector only)

✓ Keeping measures for central government buildings, local authorities and cross-cutting

Whose **94** measures **specific to public buildings**

154 measures screened

✓ Removing the 72 measures dealing with building regulations, Energy Performance Certificates and mandatory inspections of heating and air-conditioning systems (EPBD implementation)

+ good practices identified in other sources (e.g. LTRS, CA EED)

Monitoring and energy management

Often a first step

- Deployment / network of energy managers (BE, GR, HR, MT, PT)
- Key component for voluntary agreements or mandatory targets (see next slide)
- Measures promoting or requiring public bodies to implement energy management (see below)

Examples of measures specifically about energy management in public buildings:

Bulgaria	SER-BG1398	Mandatory for buildings > 250 m ²
Croatia	SER-HR3956	National information system
Hungary	SER-HU1623	Mandatory action plans
Latvia	SER-LV1712	Local authorities
	SER-LV1710	Central government
Slovenia	SER-SI1869	Mandatory for buildings > 250 m ²



Case examples:

Croatia: energy management information system

(started in 2014)

- Automation of data collection, and integrate with other databases
- Training of energy managers
- Used to verify actual energy savings
- Expand use beyond public sector

Ireland: monitoring & reporting

(started in 2013)

- Public bodies and schools must report energy performance annually to an information system operated by SEAI
- Tracking national target achievement
- **Feedback** to public bodies + benchmarking + showcasing results

Agreements or obligations



Examples of **agreements** or **voluntary commitments**:

Finland	SER-FI1509	Energy Efficiency Agreement for Municipalities
	SER-FI1514	Energy Efficiency Agreement of the Property and Building Sector
France	SER-FR1553	Label for municipalities committing to target and action plan
Latvia	SER-LV5083	Energy Efficiency Agreement for Municipalities

Examples of **obligations** or **mandatory targets** for **all tertiary buildings**

Belgium	SER-BE1378	Brussels - PLAGÉ (mandatory plan and target for major consumers)
France	SER-FR4451	Tertiary decree' (mandatory reporting and target for all tertiary buildings)
Netherlands	SER-NL1765	Minimum energy performance (C-label) for offices

Examples of **obligations** or **mandatory targets** for **public buildings**

Bulgaria	SER-BG1407	Mandatory Energy Efficiency Programmes for central government and local authorities
Cyprus	SER-CY3978	Annual energy savings obligation in existing public buildings
Great Britain	SER-GB1937	Greening Government Commitments (GHG emission reduction target)
Hungary	SER-HU1623	Mandatory energy saving action plan every 5 years in public buildings

Case examples:

Finland: Energy Efficiency Agreement for Municipalities

(started in 2008)

- voluntary energy savings targets
- energy audit + action plan + monitoring
- participants receive technical support

Netherlands: MEPS for offices

(adopted in 2018)

- minimum label C required by 2023
- enforced by municipalities and environmental agencies, with support by the Environment Info Point (IPLO)
- by January 2024, 77% of the office areas have energy label C or better

Dedicated body or national roadmap

Case examples:

Slovenia: Project Office for Energy Renovation of Public Buildings

(started in 2015)

- technical support in the selection and implementation of energy renovation projects for State and municipal buildings (as part of an Operational Programme)
- one-stop-shop for public building renovations
- importance of the quality assurance system
- facilitating experience sharing and replication
- dissemination through 'demonstration effects'

Netherlands: Roadmaps to decarbonized public buildings

(started in 2019)

- roadmaps to achieve carbon neutrality by 2050, with intermediate milestones, and considering other measures (e.g. MEPS for offices)
- reporting every two years (from 2022) to the sectoral quality control consultation body
- support from the Knowledge and innovation Platform on Sustainable Public Building
- 12 sectoral roadmaps on public buildings
- thought as a regular real estate process

See also [PURE-NET](#) (European network of public real estate bodies)

Multiple sources of funding

- EU funds (e.g. ERDF) commonly used for programmes aimed at EE in public buildings
- A few countries also used carbon revenues (e.g. Latvia, Poland)
- Examples of international cooperation (Norway-Iceland & Bulgaria; Greece & Cyprus)

Examples of measures boosted in the **Recovery and Resilience Plans**:
Including public buildings (among others):

Bulgaria	SER-BG4515	Support for sustainable energy renovation of the non-residential building stock
Spain	SER-ES4603	Renovation of existing buildings in municipalities with demographic challenges (PREE 5000)
France	SER-FR4446	France's Recovery Plan (including programmes for public buildings)

Specific to public buildings:

Latvia	SER-LV4522	Energy efficiency measures in general education institutions
	SER-LV1720	municipal development programmes to boost local activity
Greece	SER-GR4541	ELECTRA programme
Spain	SER-ES4564	Program to Promote the Rehabilitation of Public Buildings (PIREP)

Case examples:

Latvia: municipal development programmes

(started in 2016)

- construction and renovation of public buildings (or other infrastructures)
- objective to develop local activities

Spain: PIREP

(started in 2022)

- objective of average energy savings above 30%
- all types of public buildings
- budget of EUR 600 million (not limited to energy renovation of buildings, but priority to energy renovations with 100% funding)

Other topics

- **Support to local authorities:** 20 measures specifically focused on municipal buildings (in total, at least 58 measures with municipal buildings in the scope) + a few specific measures for small municipalities (SER-ES4603 ; SER-FR1543 ; SER-NL4434)
- **New buildings:** nZEB regulation, but support still needed and added value to demonstrate feasibility (e.g. [Brussels' Exemplary Buildings programme](#))
- **Energy Performance Contracting, ESCo models / PPP:** difficulties to scale up + also possible to develop internal contracting or use dedicated financing body (e.g. [Salix Finance LTD](#) in Great Britain)
- **Sufficiency measures:** indoor temperature (SER-GR4550 ; SER-FR1539 ; SER-IT1669), optimization of area per employee (SER-FI1519), or lighting off at night (SER-FR1548)

Ireland's experience

Target for the public sector: improving its energy efficiency by 50% + reducing its energy-related greenhouse gas emissions by 51% by 2030



Home Energy ▾ Community Energy ▾ Grants ▾ Business & Public Sector ▾

Home / Business & Public Sector / Public Sector / Monitoring and Reporting

Monitoring and Reporting

Public Sector Energy Programme

IN THIS SECTION

- How we help you
- Structured energy management
- Procurement practices
- Staff engagement tools

The Public Sector Energy Programme offers comprehensive support and engagement to guide public bodies in reaching their energy saving targets.

Pathfinder programme

ON THIS PAGE

- A programme built on partnerships
- Increasing ambition
- Our partners
- How we work together

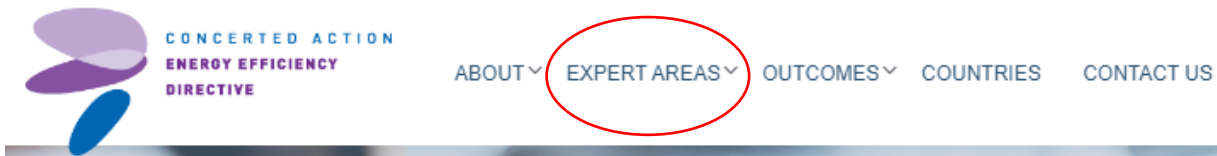
Through this programme, SEAI partners with public bodies to achieve their retrofit goals. We do this by building capacity and knowledge within the sector.

<https://www.seai.ie/business-and-public-sector/building-retrofit/pathfinder-programme/>



Examples of other resources

Concerted Action EED

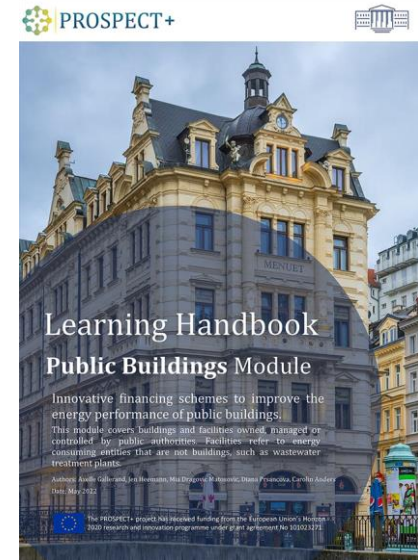


These are the Articles as per the categorisation included in the EED 2018. All documents uploaded before the 3rd Plenary Meeting (Brussels, 10th October 2023) were tagged using this article numbering.



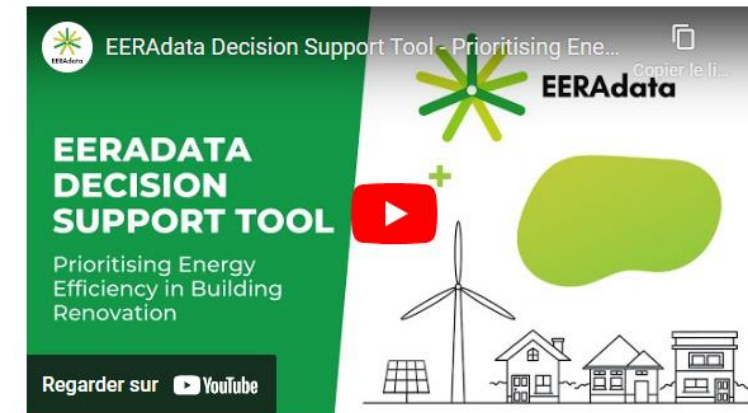
PROSPECT+

See for example the handbook on public buildings



EERADATA

→ multiple benefits of renovating public buildings (at local or regional level)



Thank you !

What's next?

- ✓ **2 more webinars** on the public sector
- **Swedish experience** (role of municipal energy advisors): **13 March** (10 am CET)
- **Italian experience** (Conto Termico and PREPAC): **17 April** (10 am CET)

- ✓ **Policy briefs**

Stay tuned!

<https://www.odyssee-mure.eu/events/newsletter/>

<https://www.measures.odyssee-mure.eu/energy-efficiency-policies-database.html#/>

And now?

Let's speak with an expert

