

Support for National Authorities in the Transposition of Articles 5 and 6 of the Energy Efficiency Directive

PUBLIC SECTOR OBLIGATIONS

Article 5 Public sector leading on energy efficiency

- **Annual energy consumption reduction:** Public sector bodies are required to reduce their energy consumption by 1.9% annually.
- **Baseline for reduction:** The baseline for the reduction will be based on energy consumption data from 2021.
- **Energy-saving obligations:** The 1.9% reduction applies to all public services, including: building sector, public lighting, water supply, fleet of vehicles used by public services.

Article 6 Exemplary role of public bodies' buildings

- **Renovation obligation:** At least 3% of the total floor area of heated and/or cooled buildings that are owned by public bodies must undergo renovation each year.
- **Building inventory:** Establish and make publicly available and accessible an inventory of heated and/or cooled buildings that are owned or occupied by public bodies and that have a total useful floor area of more than 250 m².

CROATIA'S PUBLIC SECTOR ALIGNMENT WITH EED ARTICLES 5 & 6

- Analysis of the requirements and possibilities given in the EED Directive and Guidelines
- Analysis of the impact of selecting different options on system implementation (advantages and disadvantages)
- Feasibility analysis on test models and data samples
- Analysis of the national environment and availability of information
- Development of methodologies for data collection, monitoring and reporting
- Development of proposals for amendments to the Regulation on Systematic Energy Management in the Public Sector to align with new requirements
- Development of functional requirements for the upgrade of the EMIS application

Participants in the implementation of project activities:

Croatian Real Estate Agency (APN) – implementing body responsible for Energy Management Information System (EMIS).

Energy Institute Hrvoje Požar (EIHP) – scientific research organization with experience in implementing projects related to the collection, processing, and analysis of end-use consumption data across various sectors.

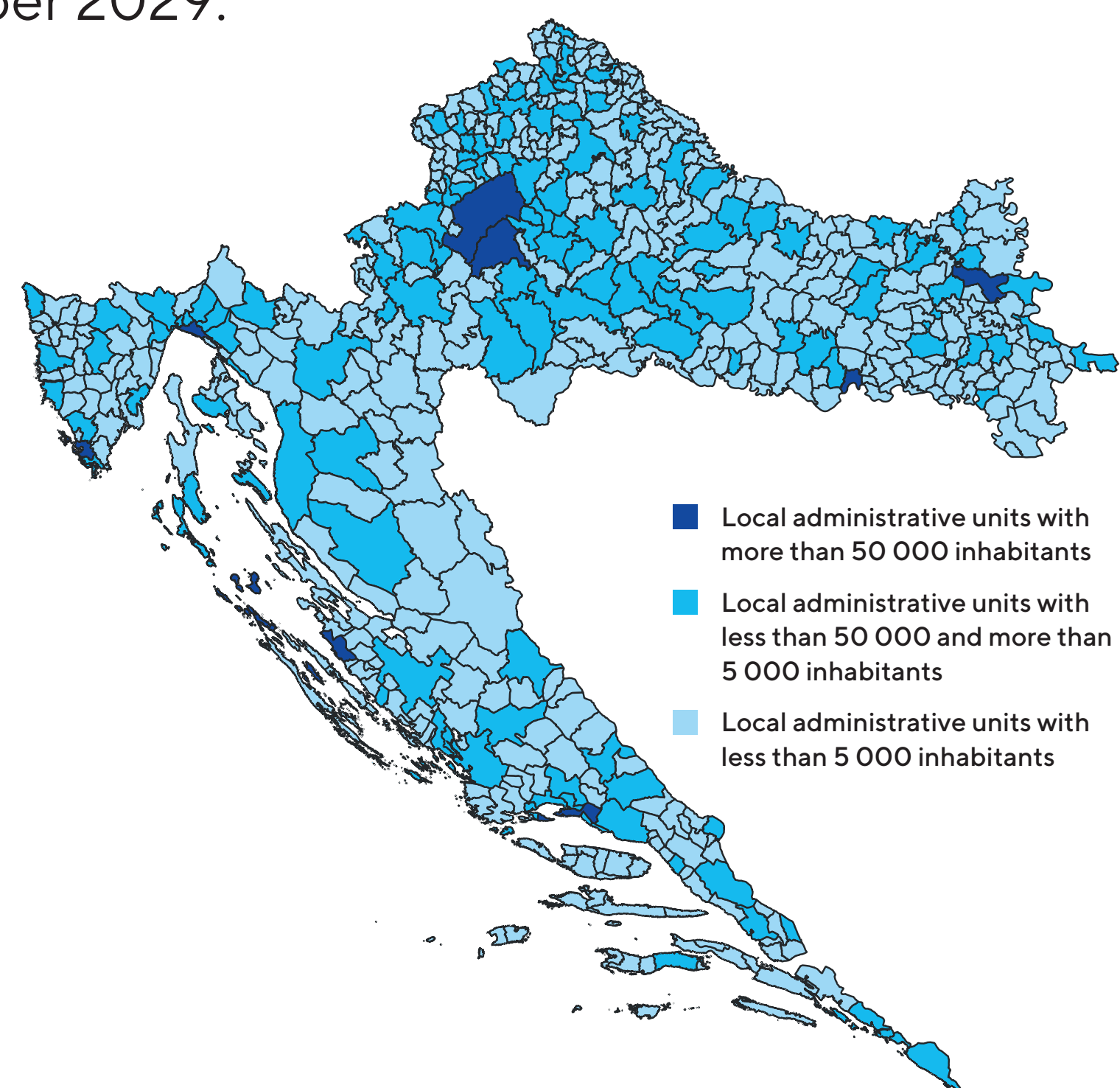
STEP 1: LOCAL ADMINISTRATIVE UNITS

In accordance with Article 5 of the EED, the final energy consumption reduction obligation does not apply to public bodies in local administrative units with a population of less than 50 000 until 31 December 2026, and it does not apply to public bodies in local administrative units with a population of less than 5 000 inhabitants until 31 December 2029.

Croatian local administrative units have been categorized into three groups based on population:

- **G1 (7 units):** Population >50 000 – subject to full targets
- **G2 (129 units):** 5 000–50 000 – exempt until end of 2026
- **G3 (420 units):** <5 000 – exempt until end of 2029

Groupings are based on the 2021 census.



CONCLUSION

Key systems for monitoring final energy use are in place, but further work is needed to:



Improve data accuracy



Develop consistent methodologies



Upgrade tools like EMIS



Collaboration between researchers and implementers is vital for overcoming obstacles and aligning with EED Articles 5 & 6

Preparations are ongoing, with new methodologies to be embedded in legislation for reliable reporting.

STEP 2: DEVELOPMENT OF METHODOLOGIES FOR DATA PROCESSING AND TESTING



Excel-Based Tools for EED Reporting

Initial Excel tools define key input parameters to streamline data collection and reporting with minimal annual data updates.



Pre-set Variables

Most inputs are predefined – less manual data collection.



Multiple Output Formats

Supports various standardized reporting layouts.



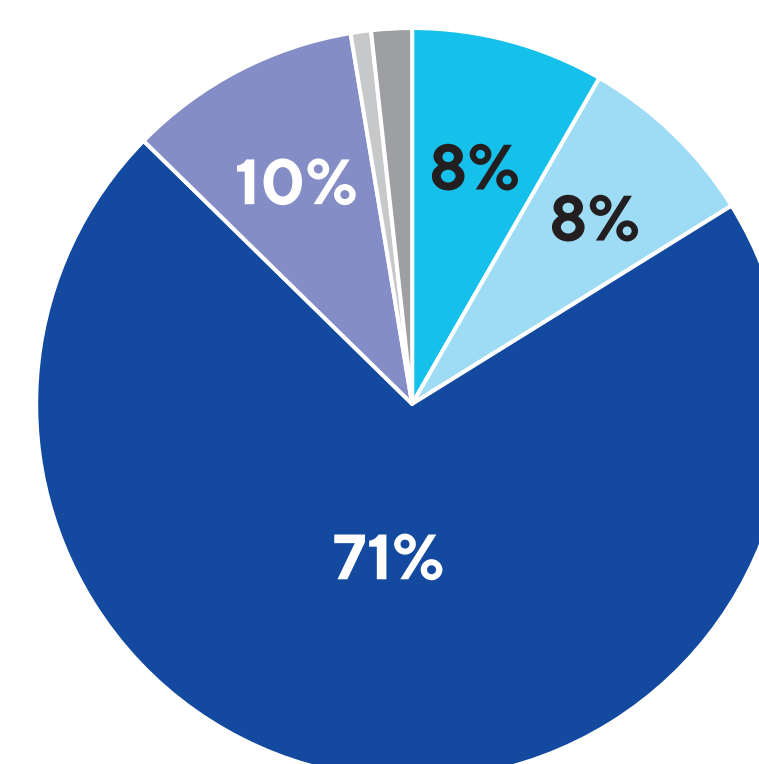
Exemption Options

Built-in support for public transport, armed forces, and other exceptions.

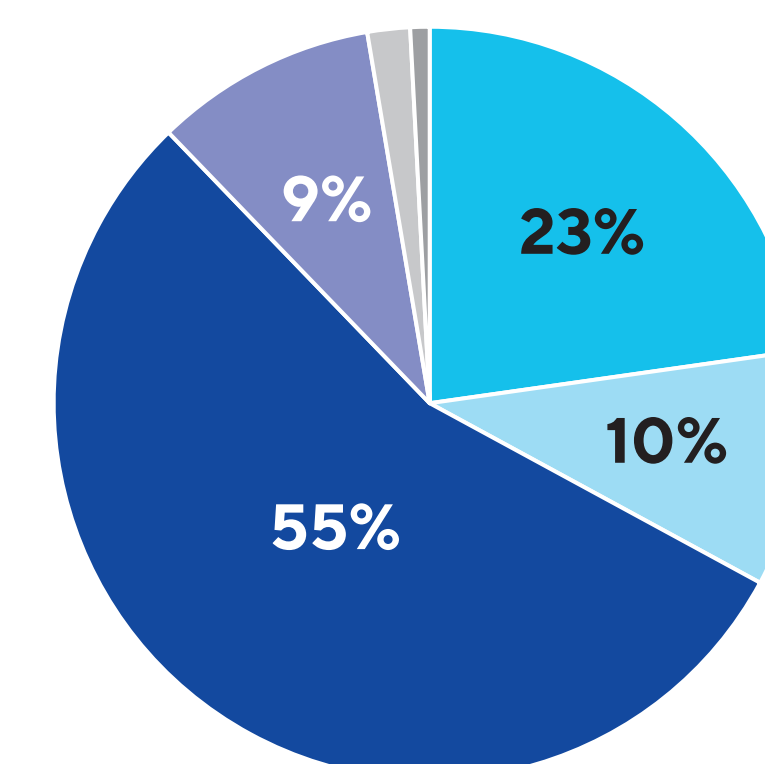
STEP 3: ANALYSIS OF THE CONSUMPTION REDUCTION TREND IN RENOVATED BUILDINGS

An analysis of 229 Energy Consumption Centers (ECCs) monitored in EMIS shows that, although energy use dropped by 20–25% after renovations (2020–2023 vs. 2015–2017), initial savings are lower. Compared to the new EED baseline year (2021), final energy consumption in 2022 and 2023 is reduced by approximately 7%. **Results were presented within the streamSAVE+ project.**

Share by number of ECC

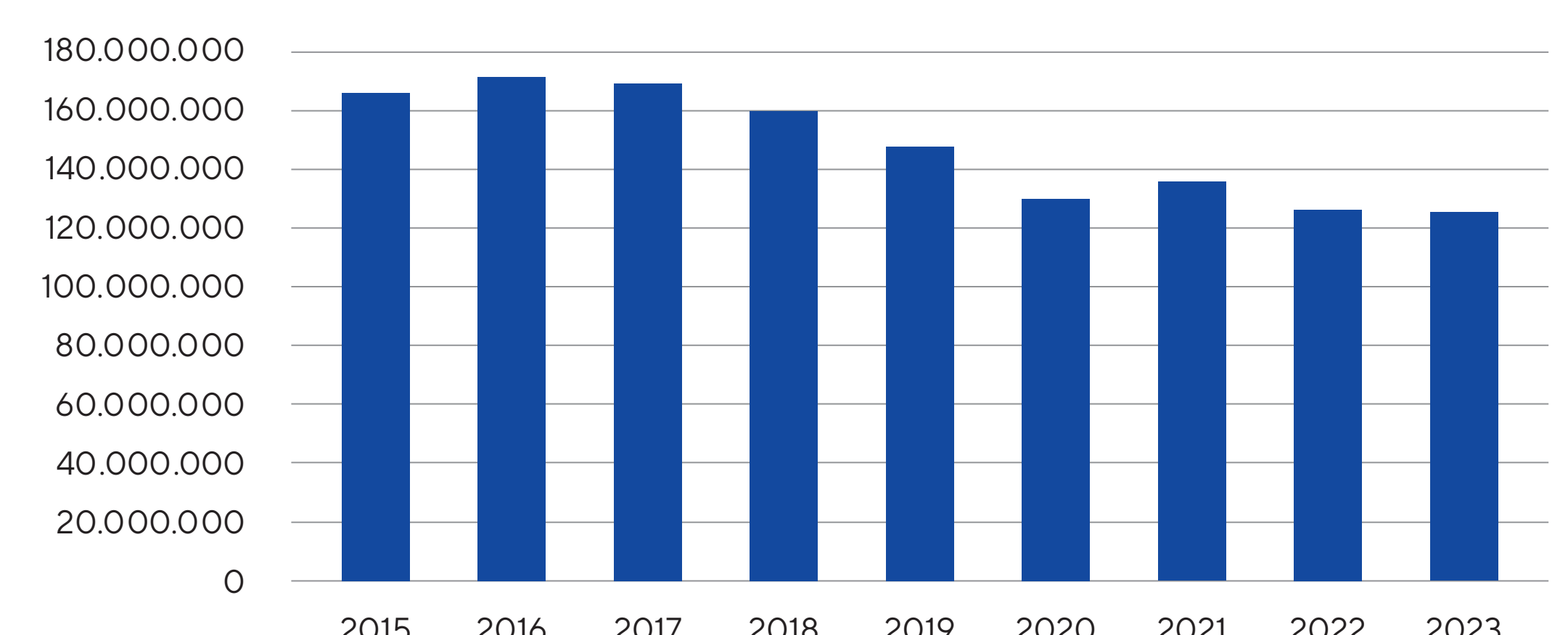


Share by area of ECC



- Office building
- Hospital
- Multiapartment building
- Educational building

Total energy consumption by year for 229 ECC, kWh



The Energy Management Information System (EMIS) is a web-based platform managed by Croatian Real Estate Agency (APN). **It supports sustainable energy and water management in public sector buildings by:**

- Centralizing consumption data
- Helping public authorities (cities, counties, national institutions)
- Enabling monitoring, analysis, and management of energy and water use
- Supporting systematic energy management strategies



EED

Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955

Guidelines

Commission Recommendation (EU) 2024/1716 of 19 June 2024 setting out guidelines for the interpretation of Articles 5, 6 and 7 of Directive (EU) 2023/1791 of the European Parliament and of the Council as regards energy consumption in the public sector, renovation of public buildings and public procurement

Vanja Hartman,
Energy Institute Hrvoje Požar

CENTRAL & EASTERN EUROPEAN
ENERGY EFFICIENCY FORUM
Cavtat, Croatia, 20–23 May 2025

