Interreg Danube Region

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HARMONMISSIONS

Delivering the EU Climate-Neutral and Smart Cities Mission:

How National Governments Can Institutionalize Municipal Energy Management

Policy brief

Delivering Climate Neutrality Through Integrated Municipal Energy Management
Policy and Procedural Recommendations for National Governments

Key Messages

- Systematic municipal energy management (EM) has potential to be a high-impact, low-regret instrument engaging multiple stakeholders into the highly motivated action to reduce urban emissions, control public spending, and accelerate the EU Climate-Neutral and Smart Cities Mission (Mission 4).
- The integrated municipal energy management is crucial instrument framing the implementation integrative concept of positive energy districts (PED) for environmental, social, economic and technological innovations addressing resilience of municipalities going beyond climate change adaptation towards security and justness and fight against energy poverty.
- National governments play a decisive role in scaling EM through structured support programmes, capacity building, institutional and legal arrangements and financial incentives and support intercommunal multistakeholders` collaboration.
- Multiple examples in Europe show high potential in integrated EM and PED not only in energy transformation and climate change adaptation but in the collaboration capacity building in urban (e. g. Oulu, Finland) and rural communities (Horne Srnie, SR) facing the challenges for their sustainable development.
- The Czech Republic demonstrates how targeted national funding (Programme EFEKT and related schemes) can stimulate EM uptake in municipalities.
- The City of Košice provides a scalable best-practice example of data-driven EM delivering measurable energy savings.
- National governments in the Danube Region should establish structured procedures—not only policies—to institutionalise municipal EM by 2030.

Policy Problem

Cities account for approximately 65–70% of global CO_2 emissions and the majority of public sector energy consumption. Municipalities manage extensive building portfolios, public lighting, transport systems, and infrastructure networks. Moreover, providing the services and being responsible for public infrastructure, waste management, green and blue infrastructure, land-use and socioeconomic planning and sustainable use of territorial capital, they play important role in boosting the collaboration between multiple stakeholders in the municipalities and between municipalities on implementation of innovative solutions supporting energy efficiency, use of renewable energy resources, implementation of nature close and nature based solutions, behavioural changes and optimization of energy consumptions and production. However, in many Danube Region countries, energy management remains fragmented, reactive, or project based.

Why Energy Management is Needed

Without systematic energy management procedures:

- Energy savings from renovation and renewable investments are not optimized.
- Municipal budgets remain vulnerable to energy price volatility.
- Data for Climate City Contracts and investment planning are incomplete.
- Emission reductions are slower and harder to monitor.
- The collaboration and coordination of multiple players in municipal and regional energy system is not possible.
- Sustainable and efficient use of territorial capital for energy transformation and climate change adaptation is difficult to safeguard.

To achieve the objectives of the EU Climate-Neutral and Smart Cities Mission, national governments must move beyond ad hoc support and introduce structured national procedures enabling municipalities to institutionalize energy management systems.

Evidence and Good Practice

National-Level Support: Experience from the Czech Republic

The Ministry of Industry and Trade of the Czech Republic has supported the introduction of municipal energy management primarily through Programme EFEKT.

Key features include:

- Dedicated funding calls for the introduction of Energy Management Systems.
- Financial support for establishing processes aligned with ISO 50001.
- Eligible costs include organizational setup, monitoring software, data systems, and certification.
- Integration of EM requirements within broader energy efficiency and renewable energy funding schemes.

Recent national research on municipal energy management in the Czech Republic shows a 288% increase in municipalities collecting energy consumption data and a 57% rise in appointed energy managers from 2009 to 2023, demonstrating a substantive shift in local governance practices linked to supportive programmes such as the EFEKT subsidy scheme. However, only 4% of municipalities reported substantial and precisely measured energy savings from their EM systems, indicating that funding alone is insufficient without complementary capacity building and monitoring tools.

City-Level Best Practice: Košice (Slovakia)

The City of Košice has implemented a structured, data-driven energy management system covering approximately 200 building groups and 18,000 public lighting points.

The system includes:

- Monitoring of 1,922 metering points (electricity, gas, heat, water).
- Monthly data updates and anomaly detection.
- Cost and emission tracking with analytical dashboards.
- Centralised oversight accessible to energy and facility managers.

Even at an early stage of implementation, Košice achieved year-on-year energy savings of 1.5% in public lighting and 0.5% in municipal buildings (2024/2025), demonstrating the tangible benefits of structured EM systems. The approach is scalable and transferable.

Recommended Policies and Procedures (implementations mechanisms) for Danube Region Countries

Policy 1: Embed integrated municipal energy management as a structural component of national climate governance

National governments should formally integrate systematic municipal energy management into national climate and energy strategies, ensuring that EM is not treated as a voluntary or project-based activity but as a permanent governance function.

- Implementation mechanisms:
- Create proper institutional and legal environment for efficient implementation of EM including the PED concept and multistakeholder cooperation.
- Integrated energy management systems including their minimal energy capacity threshold.
- Integrate EM obligations into National Energy and Climate Plans (NECPs).
- Align frameworks with ISO 50001 principles.
- Establish phased timelines for compliance (e.g. by 2030).

Policy 2: Move from one-off subsidies to performance-oriented EM funding schemes

Governments should establish stable and multi-annual financial instruments that support not only the implementation of EM systems incl. PED but also their effective performance and optimisation capacity.

Implementation mechanisms:

- Launch dedicated national funding calls covering software, digital platforms, metering infrastructure, training, and certification.
- Provide transitional co-financing for municipal energy manager positions (2–3 years).
- Introduce performance-based components (e.g. additional support for municipalities demonstrating verified savings).
- Integrate mandatory EM criteria into renovation and renewable funding schemes.

Policy 3: Professionalise and institutionalise municipal energy management capacity

Energy management must evolve from an administrative task to a professional, data-driven governance function.

Implementation mechanisms:

- Define national competency standards for municipal energy managers.
- Support professional training and certification programmes.
- Encourage regional shared-energy-manager models for small municipalities.

Policy 4: Strengthen data quality, monitoring and benchmarking systems

Reliable and comparable data are essential to convert EM systems into real emission, energy consumption and cost reductions.

Implementation mechanisms:

- Establish national minimum standards for municipal energy data collection.
- Support interoperable digital platforms enabling automated data aggregation and anomaly detection.
- Create a national benchmarking database comparing municipal energy performance indicators.
- Require annual reporting of energy savings and emissions reductions linked to EM systems.

Policy 5: Link energy management to climate financing and accountability

Energy management should be a prerequisite for effective public climate investment.

Implementation mechanisms:

- Require active EM systems for access to renovation or renewable funding.
- Provide bonus scoring for certified EM systems in national funding evaluations.
- Publish annual aggregated municipal performance reports.

Expected Impacts

- Annual municipal energy savings through optimization.
- Improved return on public investment.
- Increased financial resilience against energy price volatility.
- Improved credibility of Climate City Contracts.
- Strengthened multi-level governance alignment.
- Accelerated decarbonisation of public infrastructure across the Danube Region.

Conclusion

Integrated municipal energy management is a strategic governance instrument for achieving climate neutrality. When embedded in national policy frameworks and supported by stable funding, professional capacity, reliable data systems, and performance-based incentives, it transforms climate ambition into measurable results.

For Danube Region countries, the key policy lesson is clear: integrated energy management must be institutionalized and results-driven, not merely encouraged.

To deliver the EU Climate-Neutral and Smart Cities Mission, national governments must move from supporting the adoption of energy management to ensuring its effective and accountable implementation.

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