

TERMS OF REFERENCE

Study on renewable energy integration in district heating systems: European success stories and applicability for Romanian and Latvian municipalities

1. Background

This study is part of a broader project that supports municipalities in Romania and Latvia in exploring and planning the integration of renewable energy sources into district heating systems, with the overall objective of accelerating the decarbonisation of the heating sector.

To support these efforts, the project consortium conducted a preliminary profiling of district heating systems and municipalities in both countries. The profiling assessed:

- Current district heating system characteristics and challenges;
- Municipal capacity and political commitment;
- Existing energy and climate policies and strategies;
- Stakeholder landscape;
- Potential barriers to renewable energy integration.

Romania

Romania's district heating sector presents significant diversity in terms of system size, infrastructure quality, ownership structures, fuel mix, municipal capacity and transition readiness.

Since 1989, most of Romania's district heating systems have either collapsed or become non-functional. Those that remain operational face structural pressures on multiple fronts: network losses in cities with aging infrastructure range between 17% and 39%; a long-term trend of consumer disconnection has accelerated in most cities, with Oradea being a notable exception where net connections have grown; and governance arrangements remain fragmented between municipalities, utility operators and national actors such as the Ministry of Energy. The main investment instruments currently available are EU-based: the National Recovery and Resilience Plan (NRRP), the Modernisation Fund (MF) and Cohesion Policy programmes, complemented by national schemes such as Programul de Termoficare.

Many district heating systems continue to face major structural challenges, including:

- Ageing infrastructure and high network losses;
- Strong dependence on fossil fuels, particularly natural gas and coal;
- Declining numbers of connected consumers due to long-term disconnection trends;
- Fragmented governance arrangements between municipalities, utilities and national actors;

- Limited technical and financial capacity for planning and implementing large-scale transitions.

At the same time, several municipalities have demonstrated progress in integrating renewable energy sources such as geothermal energy, while others are exploring opportunities supported through the NRRP, the Modernisation Fund and Cohesion Policy programmes.

Key barriers to renewable energy integration

The preliminary profiling exercise identified several recurring barriers that limit the integration of renewable energy sources into district heating systems:

- **Financing and investment gaps:** many municipalities lack the technical and administrative capacity required to prepare projects, secure funding and manage complex investment processes.
- **Governance fragmentation:** responsibilities for heat production, distribution and investment planning are often divided between multiple actors, creating coordination challenges and slowing decision-making.
- **Lock-in to fossil fuel infrastructure:** municipalities that remain dependent on coal or natural gas face difficulties balancing short-term operational needs with long-term decarbonisation objectives.
- **Weak strategic planning frameworks:** many municipalities do not have up-to-date heating and cooling strategies capable of guiding investment decisions and supporting the transition towards renewable energy.
- **Technical capacity constraints:** specialised expertise on renewable district heating solutions remains limited, particularly in relation to geothermal energy and other emerging technologies.

Preliminary Municipal Typology:

The preliminary profiling exercise identified several municipalities that may be relevant for future project activities, representing different stages of district heating development and renewable energy integration.

Cluster A – Advanced renewable district heating systems

Municipalities that have already integrated renewable energy sources and can provide lessons on scaling, optimisation and replication. Examples: Beiuș (geothermal district heating), Oradea (geothermal district heating).

Cluster B – Large district heating systems under modernisation

Large urban systems with strategic importance, substantial investment needs and ongoing modernisation efforts. Examples: Bucharest, Craiova, Timișoara.

Cluster C – Fossil fuel-based systems facing structural transition

Municipalities that remain dependent on coal or fossil gas and require long-term transition strategies. Examples: Petroșani, Rovinari, Turceni, Râmnicu Vâlcea.

The consultant is encouraged to validate and refine these clusters and to recommend adjustments where the evidence supports it.

Detailed profiles of individual municipalities are provided in [Annex 1](#).

Latvia

Most of Latvia's district heating (DH) infrastructure was introduced more than 20 years ago and has experienced little changes. Regardless of the energy efficiency modernisation (around 15% of all the infrastructure has been improved thanks to EU funding), average heat transfer losses still are at 12%.

In the capital of Latvia, Riga, largest part of buildings uses DH, however in the regions individual systems are mostly used.

Broadly used technologies in Latvia are water-heating boilers (used to generate 68% of the heat produced by DH) and cogeneration plants (used to generate 32% of heat for DH). A solution that has not been used enough to improve the efficiency of the heating system is the integration of waste heat into district heating.

The total use of renewable resources, specifically biomass, in DH has increased in recent years to 70% in 2025. with only one municipality (Salaspils) that has introduced solar collectors for DH. Remaining 30% are generated by fossil resources (mostly gas).

Riga sets trajectory to a more sustainable DH - in 2026. the first electrode boiler in Latvia starts operating in Riga and new regulations stipulate that it will be prohibited to install heating system equipment that uses coal, lignite, peat and liquid fuels, including diesel fuel.

There are no centralised cooling systems in Latvian municipalities, as there are only few days per year that would need cooling.

Key barriers to renewable energy integration:

- As DH systems in Latvia are largely dependant on biomass and this resource is easily accessible, the interest to search for alternative renewable solutions is low.
- The lack of systemic approach to modernisation and climate targets is slowing down the integration of renewable energy in DH (States planning

documents envisage gas as “stability resource”, opposing Riga's municipality plans to introduce more renewable energy technologies)

- The seasonality of sun energy (with 30-50 sunny days per year) is limiting the interest in solar technologies.
- Stakeholders' motivation to integrate renewable energy in DH systems differs

Any other contextual elements that would help consultants understand the Latvian situation.

Regardless of the population decline in Latvia, In the future acceleration of urbanisation is expected as regions would become less populated. Therefore, the biggest municipalities would have the need to expand the DH network with the potential of modernising.

The final selection of municipalities to be engaged through subsequent project activities will be informed by both the municipal profiling exercise and the findings of the present study.

2. Objective of the Assignment

The overall objective of the assignment is to identify and analyse successful European experiences of renewable energy integration into district heating systems and assess their relevance and applicability to Romanian and Latvian municipalities identified through the profiling exercise.

The study should generate practical recommendations that support municipal decision-making, inform future project activities and contribute to the prioritisation of municipalities for further engagement.

3. Scope of Work

The assignment is structured around five tasks that move from understanding the municipal context, to analysing European experiences, assessing their relevance for Romania and Latvia and developing practical recommendations.

Task 1. Review of municipal profiles and selection of European case studies

The consultant shall review the municipal profiles and typology developed by the consortium for Romania and Latvia. Based on this review, the consultant shall identify and propose one or two European municipalities that have successfully integrated renewable energy into district heating systems and that offer relevant lessons for the profiled municipalities.

The proposed case studies should collectively address the main challenges identified during the profiling exercise. The consultant shall explain the relevance of each case study to the municipal clusters and agree the final selection with the project consortium.

Task 2. Analysis of European case studies

The consultant shall prepare an in-depth analysis of each selected European municipality, focusing on the transition process, technical solutions adopted, governance arrangements, financing mechanisms, stakeholder engagement approaches, and implementation timeline.

The analysis should highlight key challenges encountered, how they were addressed, and the main factors that contributed to the successful integration of renewable energy into district heating systems.

Task 3. Comparative assessment

The consultant shall compare the selected European case studies with the municipal profiles identified in Romania and Latvia, taking into account differences in system characteristics, governance structures, financing conditions and renewable energy potential.

The assessment should identify which elements of the European experiences are transferable, under what conditions they could be replicated, and what barriers may limit their applicability in the Romanian and Latvian context.

Task 4. Recommendations

Based on the study findings, the consultant shall develop practical recommendations for municipalities at different stages of district heating transition. Recommendations should be tailored to the needs and characteristics of the identified municipal clusters.

The recommendations should address renewable energy integration pathways, strategic planning approaches, governance arrangements, financing opportunities and stakeholder engagement strategies that can support the decarbonisation of district heating systems.

4. Deliverables

The consultant shall deliver a draft and final version of the study in English (approximately 30 pages, excluding annexes) and participate in one online event organised by the project consortium to present the main findings and recommendations.

5. Indicative timeline

Deadline for submission of offers	13 July 2026
Evaluation of offers	By 17 July 2026
Selection and contracting	20–31 July 2026
Submission of draft report	15 September 2026
Submission of final report	30 September 2026
Online presentation of findings	October 2026

6. Budget

The available budget is EUR 6,000 including VAT, half of it to be paid upon the delivery of the first draft and the difference upon delivery of the final version of the study.

7. Eligibility

The consultant or consulting team should demonstrate:

- Proven experience in district heating and cooling systems;
- Expertise in renewable energy integration and heat decarbonisation;
- Knowledge of European district heating policies and financing instruments;
- Experience conducting comparative policy and technical studies;
- Experience working with municipalities and public authorities;
- Strong analytical, research and report-writing skills in English.

Experience in Central and Eastern Europe and familiarity with Romanian and/or Latvian energy systems will be considered an asset.

8. How to apply

Applicants should submit their offers by 13 July to laura.nazare@bankwatch.org

The offer should contain:

1. CV highlighting the required qualifications and experience
2. Application consisting of technical and financial elements. The technical elements comprise a 3-page outline proposal for the study. The financial elements comprise the financial offer including VAT. The candidate should name at least two references who have agreed to support the application.
3. Examples of similar previous work are welcome in support of the application.
4. Signed statement certifying that the candidate does not fall into any situation that is grounds for exclusion from participation in the procurement (according to Bankwatch's internal procedures).

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