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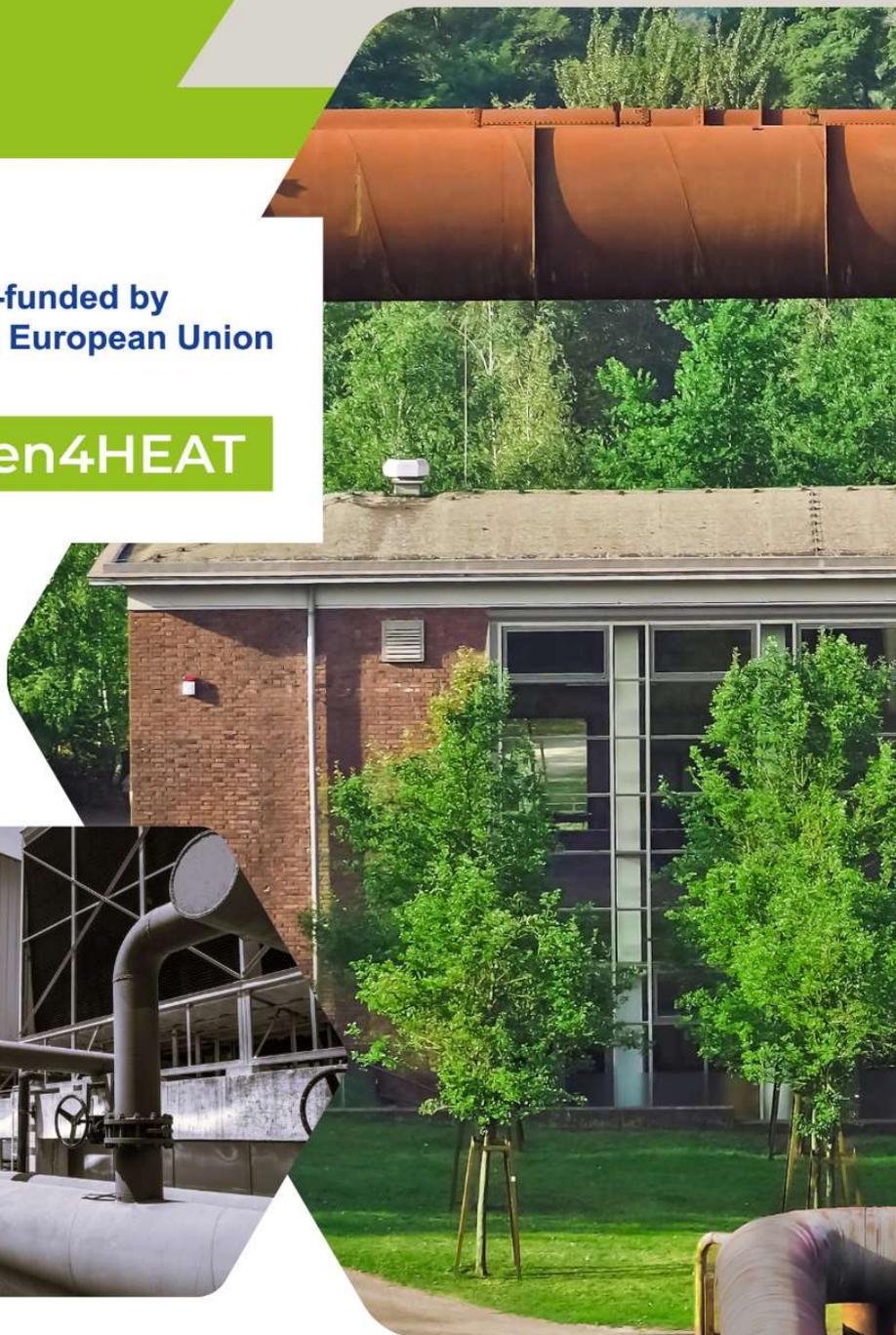


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**Green4HEAT**



OBČINA POŠTOJNA



# Report

## Activity A 1.2

Joint analysis of the territorial policy landscape  
pertaining to citizens's initiatives in community heating

February 2025

Interreg  
Europe



Co-funded by  
the European Union

Green4HEAT



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## Abstract

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This report, published within the framework of the Interreg Europe Green4HEAT project, presents the results of the project's Activity A1.2, titled "Joint analysis of the territorial landscape pertaining to citizens' initiatives in community heating". The activity comprised an online survey and an online workshop aimed at identifying enabling policies to accelerate the establishment of citizens' initiatives in community heating with a focus on thermal energy communities.

The document consists of four main chapters:

- **Activity Overview:** This chapter summarises the content and objectives of the activity and outlines the activity's timeline.
- **Phase 1 – Online Data Collection:** This chapter presents the outcomes of the online data collection process. This includes the identified barriers and drivers of citizen-led initiatives in community heating in the Green4HEAT territories, and the proposed good practices provided by partners. It briefly also discusses comparatively the results of partners' assessment of the good practices' impact and transferability potential.
- **Phase 2 – Online Workshop:** This chapter presents the main discussion points of the online event where partners discussed the territorial evidence collected in the activity's Phase 1.
- **Policy Guidelines:** This last chapter translates the outcomes of the activity into guidelines to help public authorities in Green4HEAT territories advance the establishment of thermal energy communities and other citizen-led initiatives in heating.

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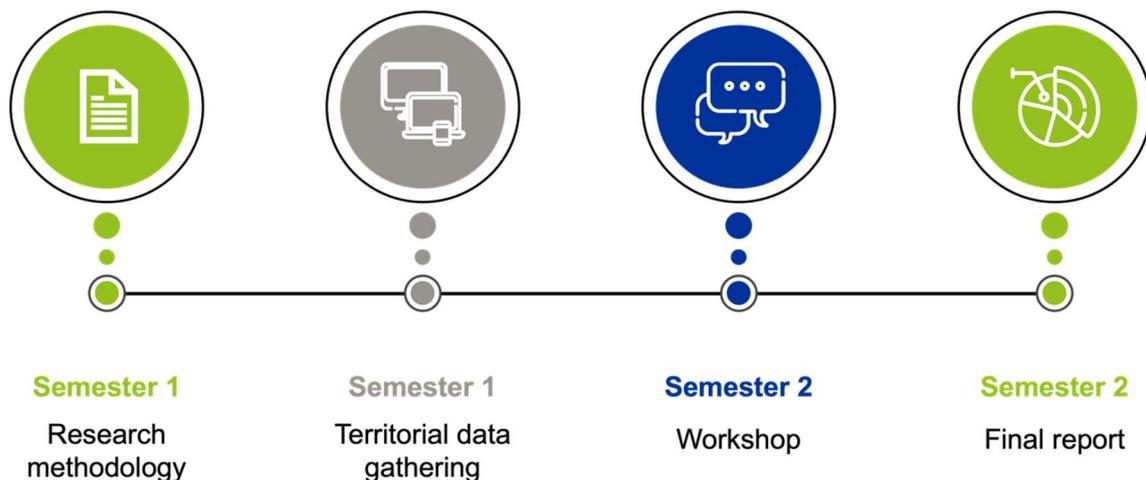
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## (I) Activity Overview

Green4HEAT activity A.2 titled “Joint analysis of the territorial policy landscape pertaining to citizens’ initiatives in community heating” consists of two parts: i) the data collection, and ii) the interregional workshop.

The first part of the activity (Phase 1) includes the collection of territorial data, which took place during semester 1. Green4HEAT partners were provided with online forms to document the policy landscape in their territories regarding the public authorities’ type and level of support to citizens’ initiatives in heating and cooling, as well as the barriers and enablers for the roll-out of support measures and policies. Partners were also provided with a methodology and online form to identify good practices that have contributed to the successful establishment and operation of citizen-led initiatives in community heating within the project’s territories, particularly thermal energy communities.

The second part of the activity (Phase 2) includes an online workshop, which took place in



semester 2. During the workshop, partners discussed the identified challenges, policy gaps, and effective policy options. They also reviewed the collected good practices to pinpoint transferable and adaptable policy practices that can accelerate the establishment of citizens’ initiatives in community heating, particularly thermal energy communities (TECs).

This report aims to present and discuss the outcomes of activity A1.2, including the crucial policy gaps inhibiting the development of citizen initiatives in community heating and the good practices and policy recommendations to address these gaps.

## (II) Phase 1 – Online Data Collection

### (II.a) Overview of objectives, timeline and KPIs

To support partners in data collection and reporting, POSTOJNA developed a data collection tool tailored to the survey's objectives. The tool comprised **two online questionnaires**:

- The first questionnaire (QNR I) guided the documentation of the current policy framework in partners' territories regarding citizen-led initiatives in heating and cooling, including the territorial state-of-play and identified challenges and drivers for such initiatives.
- The second questionnaire (QNR II) guided the documentation of good practices in citizen-led initiatives from partners' territories.

Completion of both questionnaires was mandatory for all partners. For the second questionnaire, partners were required to identify and **submit at least two (2) good practices** from their respective territories using the provided online questionnaire. An exception applied to the two partners from Greece, REMTH and UPAT, who were each required to submit at least one (1) good practice.

In the framework of Activity A1.2, a "good practice" referred to: a) a policy that, based on evidence (metrics), has advanced the establishment of community heating initiatives; or b) an existing citizen-led H&C initiative that has adopted an innovative approach in its establishment and/or operation, and has also demonstrated significant improvements in energy efficiency, cost savings, and community engagement.

To address the challenges partners faced in researching good practices within their territories, the data collection period was extended until December 17<sup>th</sup>, 2024. Additionally, the scope of eligible practices was broadened. If there was insufficient data from partner regions, partners could collect good practices from their entire country, as long as they were relevant and transferable to their own regions. Moreover, partners who were lagging behind in TEC establishment could also provide policies, regulations, and measures that support the establishment and expansion of energy communities (EC) in general (e.g., wind energy communities or biomass energy cooperatives). These insights could benefit TECs once they are established in the region. Lastly, partners could also include policy initiatives (such as regulations, fiscal rules, subsidy schemes, etc.) that support the decarbonisation of district heating networks or raise awareness among citizens about the benefits of green district heating networks.

## (II.b) Data collection overview

The data collection process lasted until December 17<sup>th</sup>. All partners submitted their input in QNR I concerning the territorial policy framework. In QNR II, all but one partner submitted their input. Table 1 presents individual partners' data submission performance.

Partner	KPI Achievement	
	QNR I Policy Framework - Barriers & Drivers	QNR II Good Practices
REMTH	✓	2 ✓
ANTWERP	✓	3 ✓
VIDZEME	✓	3 ✓
WEST POMERANIAN	✓	5 ✓
EREN	✓	2 ✓
UPAT	✓	1 ✓
PANOV	✓	4 ✓
NRDA	✓	0 ✗
POSTOJNA	✓	3 ✓

Table 1: Overview of partners' progress achieving the Activity's Key Performance Indicators (KPIs)

Please note that Table 1 indicates partners' single submissions in the respective questionnaires. Regarding QNR II, some of the submitted good practices did not conform with the quality screening criteria, namely a) their relevance to the survey's scope, and b) their demonstrable impact and results, and were excluded from the analysis and discussion. These practices are:

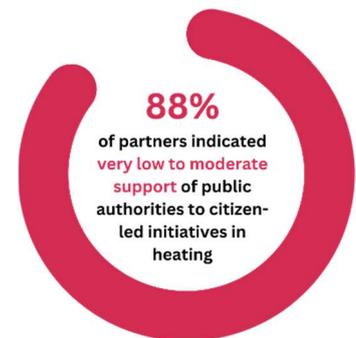
- ✓ Energetica Dolenc (POSTOJNA): Energetica Dolenc is a small enterprise, not an energy community or cooperative. The company received funding from the EU Cohesion Fund, rather than providing financial support to third parties to establish a TEC..
- ✓ District heating in Weiz (PANNOV): This is a municipal enterprise owning and managing the DH system of the city of Weiz in Austria, a country not member of the Green4HEAT consortium.

- ✓ Gethermal cascading district heating system in Lenti Hungary (PANNOV): It is an infrastructure project and the DH system is managed by Lenti Thermal Energy Ltd, which is not a cooperative or energy community.
- ✓ Energy Community of Citizens of the Region of Eastern Macedonia and Thrace (REMTH): The recently established EC in September 2024 has not yet provided any demonstrable results.
- ✓ Common heat boiler for apartment building (VIDZEME): It does not refer to an existing TEC or a policy that has advanced the establishment of (thermal) energy communities.
- ✓ Keep warm project (VIDZEME): The Keep Warm project's focus is on the upgrade of building boilers.
- ✓ Sustainable district in a working neighborhood (EREN): The renovation of the Fasa district in Vallaloid entails the energy rehabilitation of buildings, renovation of boiler rooms, and insulation of the district heating network.

## (II.c) Barriers and drivers to citizen-led initiatives in community heating

Partners' input highlighted that the level of support provided by public authorities to citizen-led initiatives in heating and cooling in Green4HEAT territories is assessed by partners as limited. It also showed that Lithuania is the only country where such initiatives are highly supported by public authorities.

In over half of the Green4HEAT territories (5 out of 9) there are less than 10 TEC, with both Greek partners indicating absence of TECs in their territories. In addition, even in territories where TECs are in operation, the level of integration of Renewable Energy Sources (RES) was assessed by partners as low.



Considering the identified **factors inhibiting the roll-out of citizens' initiatives** (i.e., barriers) in community heating and cooling (Figure 1), it became evident that in the partnership's territories, the high initial investment cost of installing or upgrading heating and cooling systems is the most significant factor. Challenges in accessing funding and time-consuming complex procedures for planning and permit granting were also acknowledged as significant barriers to establishing citizen-led community heating and cooling.

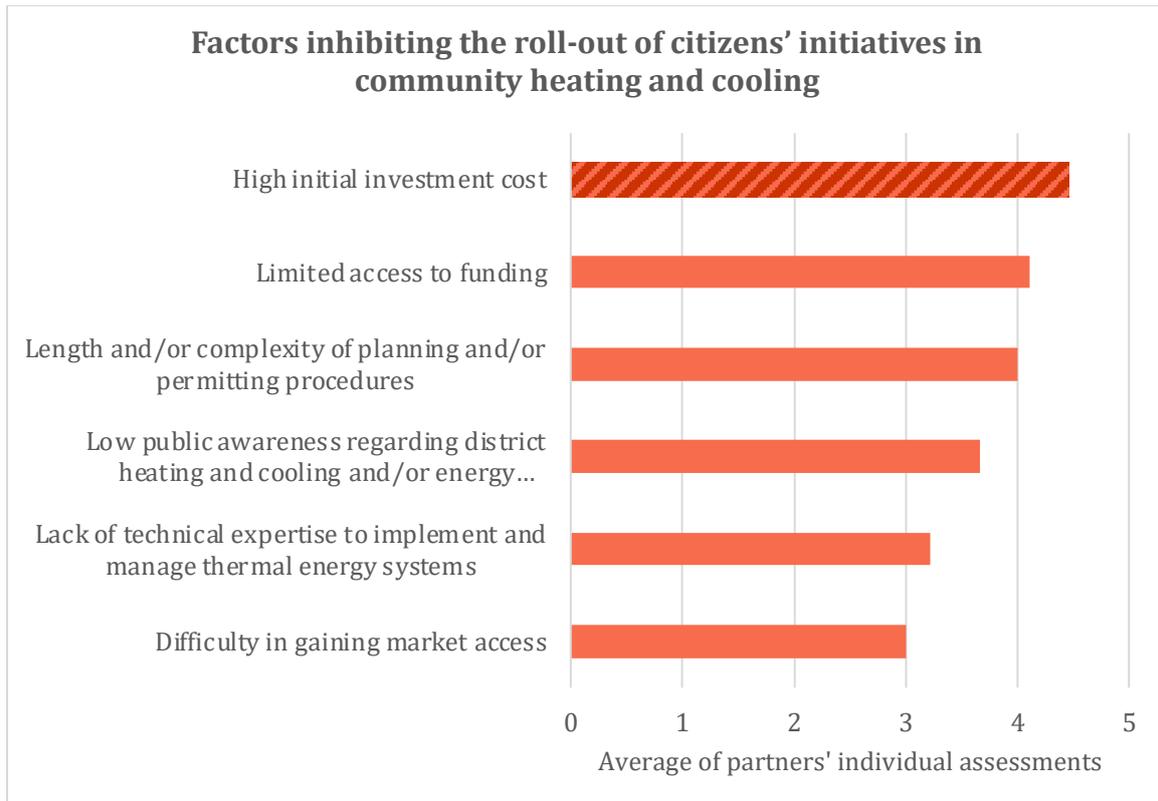


Figure 1: Assessment the importance of factors inhibiting the roll-out of citizens' initiatives in community heating and cooling.

On the other hand, two key factors emerged as crucial **factors advancing the roll-out of citizens' initiatives** (i.e., drivers) in heating and cooling (Figure 2), namely: supportive regulations and the access to technical assistance. Fiscal incentives were also assessed as important measures in advancing the establishment of citizen-led community heating and cooling. These results align with the identified good practices, discussed in the next section. Many of these practices involve providing grants and subsidies, developing clear regulations for TEC planning, and launching informational campaigns to support the establishment of TECs in Green4HEAT territories.

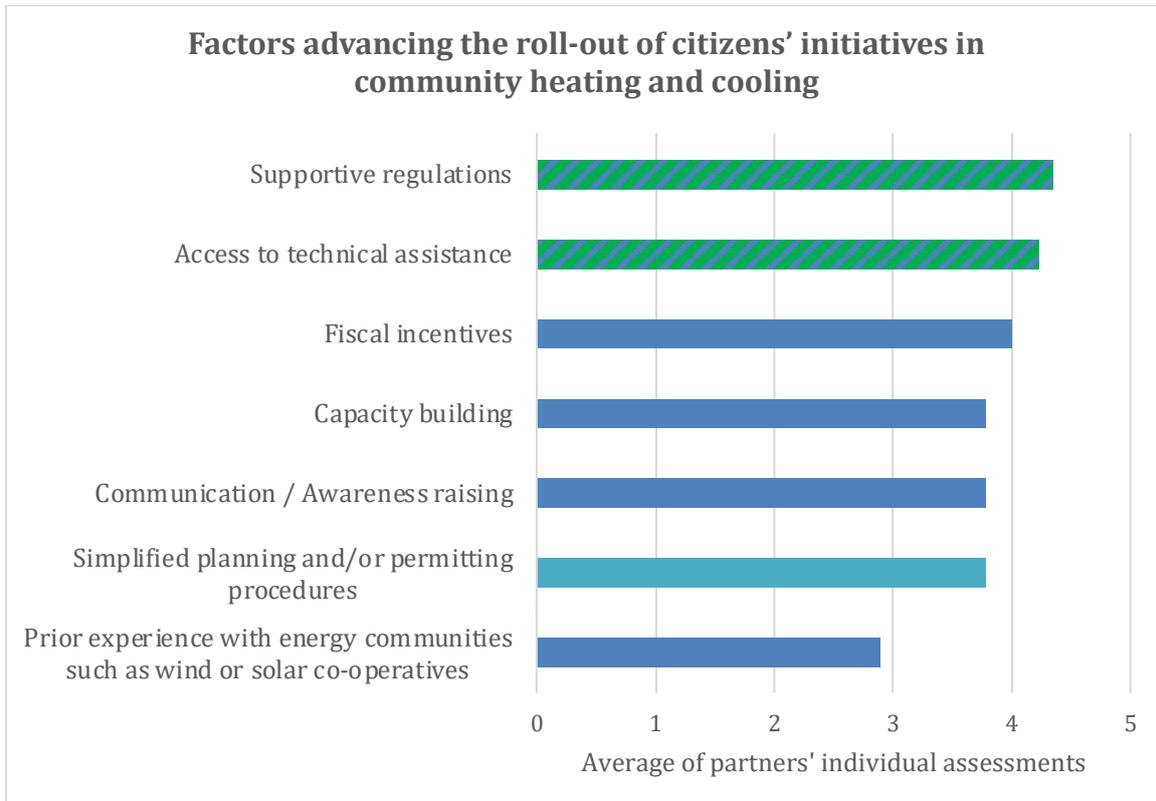


Figure 2: Assessment the importance of factors advancing the roll-out of citizens' initiatives in community heating and cooling.

## (II.d) Good practices collected

The current section presents the good practices collected from the project partners, outlining the replicable approach(es) of each practice that could be applicable to TECs as well.

*Note: The assessment of good practices in Phase 1 of the Activity was conducted at the individual level. Partners assessed only the good practice(s) they submitted, not those submitted by other partners. Therefore, the outcomes of the assessment should be interpreted with caution. A comprehensive assessment of the submitted good practices was performed during the online workshop of Phase 2 of the Activity, and the results are presented in (III.b) Workshop outcomes.*

## Existing TECs that offer replicable approaches

## Beauvent Ostend

[Belgium]



Link(s):

<https://www.warmtenetoostende.be>  
<https://www.beauvent.be/project/warmtenet-oostende>



Description:

“Beauvent” is a cooperative energy project operating in Ostend, Belgium. They work on various initiatives involving wind, solar, combined heat and power (CHP), and district heating networks. Their district heating network in Ostend supplies renewable heat to the municipality, 500 citizens, 25 SMEs, and 2 hospitals. They use 100% residual heat from an incineration plant that would otherwise largely go to waste.

Replicable  
Approach(es):

- ✓ Decisions are made democratically, following the cooperative principle of one member, one vote.
- ✓ Beauvent raises money primarily through capital calls to its cooperative members.
- ✓ Members receive an annual dividend, if profits allow.

## Warmtenet Averegten

[Belgium]



Link(s):

<https://www.warmtenetaveregten.be/>



Description:

“Warmtenet Averegten” is one of the largest sustainable residential heating networks in the Zuiderkempen region. It serves 88 houses and 56 apartments using a combination of district heating and geothermal heat pumps. The project is a collaboration between citizen energy cooperatives “Klimaan” and “ZuidtrAnt-W. Warmtenet Averegten” acts as an ESCO (Energy Service Company), investing in the heat pump installation and the heat network itself. Furthermore, Warmtenet Averegten takes care of the network’s operation and customer billing.

Replicable  
Approach(es):

- ✓ Each citizen that buys a share becomes a member of the TEC.
- ✓ Decisions are made democratically, following the cooperative principle of one member, one vote.

**Warmte Verzilverd****[Belgium]**Link(s): <https://www.warmteverzilverd.be/>

**Description:** “Warmte Verzilverd” is a cooperative district heating project in Mortsel and Edegem, Belgium. It utilises residual heat from the Agfa-Gevaert factory to provide sustainable heating to nearby homes and businesses. Warmte Verzilverd is a collaboration between energy cooperatives “ZuidtrAnt-W” and “Ecopower”, supplemented by technical experts from the consultancy company Kelvin Solutions. Together they are responsible for the development and planning of this cooperative heating network.



**Replicable Approach(es):**

- ✓ Collaboration with local governments and private companies to get funding and access to technical expertise.
- ✓ Decisions are made democratically, following the cooperative principle of one member, one vote.
- ✓ Members receive an annual dividend, if profits allow.

**Słupsk Bioenergetic Cluster****[Poland]**Link(s): <https://smoglab.pl/klaster-bioenergetyczny-w-slupsku-miasto-dazy-do-zeroemisyjnosci/>

**Description:** The “Słupsk Bioenergetic Island” project is an innovative initiative in northern Poland, aimed at creating a sustainable and circular economy through renewable energy and waste recycling. The developing of “Słupsk Bioenergy Cluster”, begun in 2017 to promote local energy production and sustainability. It brings together 19 stakeholders, including municipal officials, local businesses, and the Słupsk Waterworks, which operates the Słupsk Wastewater Treatment Plant. The cluster generates over 15 MW of electricity from renewable sources, including 1.2 MW from biogas, 14 MW from wind, and 195 kW from solar power. It also produces 1.5 MW of heat from biogas production from sewage sludge treatment, and 190 MW from conventional sources. The heat produced is fed into the local district heating network.



**Replicable Approach(es):**

- ✓ The cluster actively involves local communities and stakeholders, ensuring broad support and participation.
- ✓ The circular economy model is applied, generating biogas from sludge, which is then used to produce electricity and heat.

**Green Gate Podlasie Energy Cluster****[Poland]**

Link(s):

<https://www.pie.pl/wp-content/uploads/2024/09/Katowice-Prezentacja-Michalowo.pdf>



Description:

The “Green Gate Podlasie Energy Cluster” (formerly “Michalowo Energy Cluster”) was founded in 2017 and currently has 7 members. It operates on the territory of 3 municipalities: Michałowo, Zabłudów, and the city of Białystok. The cluster focuses on developing and integrating renewable energy sources, such as solar, wind, and biomass. Through an agreement with local authorities, the producer of biogas receives additional revenues from the sale of heat, and the commune has half the cost of heat for heating the swimming pool and the school complex. Communes belonging to the cluster are connecting public buildings (e.g. recreation centre, City Hall) to the network of electricity and heat consumers, which contributes to the expansion of the cluster’s activity.

Replicable  
Approach(es):

- ✓ State funding opportunities like the National Reconstruction Plan facilitate the expansion of the district heating network.
- ✓ Utilisation of heat from a biogas installation for heating purposes of public buildings, which also leads to increased public acceptance of the investment.
- ✓ Construction of a local renewable energy congress and educational centre in Michałów led to the increase of public acceptance.
- ✓ Implementation of programs to educate the public about the benefits of renewable energy and sustainability.

## Existing ECs that offer replicable approaches applicable to TECs

### Our Energy

[Poland]



Link(s):

<https://nasza-energia.eu/>  
<https://doi.org/10.3390/en17030647>



Description:

“Our Energy” cooperative was founded by a group of local environmental activists and energy experts. The impetus for establishing the cooperative was a law that created conditions for combining the forces of electricity producers and prosumers. For both groups, the motive for action was the possibility of reducing energy costs. Prosumers associated with the cooperative do not have to give away 20% of the energy they produce, unlike unaffiliated prosumers. Moreover, the law allowed prosumers to bypass distribution fees, which in itself reduces the costs associated with energy consumption. Additionally, the law offered opportunities for balancing energy production and distribution to entities that form a cooperative. Currently, the cooperative has 13 members, including 11 individuals, 1 enterprise, and 1 municipality. The members are divided across the municipalities of Świerklany, Godów, and Mszana. Joining the cooperative involves an entry fee of PLN 1500 (about EUR 350), and the cost of one share amounts to PLN 50 (about EUR 11). Membership in the energy cooperative is limited to individuals from the three mentioned municipalities. Admission criteria depend on the needs of the energy cooperative (production, consumption, and prosumption) in the context of energy balancing. The cooperative’s board operates on a voluntary basis. The surplus balance generated is distributed among the members.



Replicable  
Approach(es):

- ✓ Utilising existing installations eliminates the need to invest in new ones.
- ✓ Launching an information and promotional campaign among the residents of three municipalities to mobilise funding for establishing the cooperative.
- ✓ Membership of the municipality in the cooperative generates additional support and access to both technical and financial assistance and fosters trust between the cooperative and local residents.

**Biodar Energy Cooperative In Ustronie Morskie****[Poland]**

Link(s):

<https://stowarzyszenie-zmijewski.pl/pl/najwieksza-spoldzielnia-energetyczna-biodar-juz-w-rejestrze-kowr>  
<https://beyondfossilfuels.org/wp-content/uploads/2024/05/energising-communities-en.pdf>



Description:

“Biodar Energy Cooperative”, established in collaboration with the Association of Prof. Żmijewski, the Mayor of Ustronie Morskie, and the Municipal Council, is the largest energy cooperative in Poland with a capacity of 1.07 MW. The cooperative focuses on producing and balancing energy for its members, primarily using a photovoltaic farm located on a former landfill site belonging to the municipality. Electricity generated by the cooperative is used to power public facilities, including a sports and recreation centre. The cooperative also has other installations that cover between 10% to 30% of local power demand, depending on the location.

Replicable  
Approach(es):

- ✓ Strong collaboration between local authorities and community members, enhances trust of local residents to the cooperative.
- ✓ School youth participated in the process of choosing the name of the cooperative, building local awareness of the need for energy transformation and democratisation of the local energy sector.

**Sunny Sherock Cooperative****[Poland]**

Link(s):

<https://samorzad.pap.pl/klub-samorzadowy/serock/kategoria/aktualnosci/serock-spoldzielnia-energetyczna-sloneczny-serock>  
<https://energy-cities.eu/serock-a-pioneer-of-community-energy-in-poland/>



Description:

The “Sunny Sherock (Słoneczny Serock) Cooperative”, founded in February 2021, is one of the first energy cooperatives in Poland. The cooperative was initiated by the municipality to improve energy security, foster local development, and reduce emissions. The cooperative is developing a solar power plant on a reclaimed former landfill, with a capacity of 0.3-0.35 MW. Members of the cooperative receive free electricity, though they contribute to maintenance costs. The municipality supports the cooperative by providing land and acting as an intermediary with the grid operator.



Replicable

Approach(es):

- ✓ The Municipality allowing the cooperative to use the land for free, but after a start-up period, the cooperative will pay for the lease of the site at a preferential rate.

## Policies that can also be applied to TECs

### APOLLO Program

[Greece]



Link(s):

<https://ypen.gov.gr/7-erotiseis-apantiseis-gia-to-programma-apollo/>  
<https://balkangreenenergynews.com/new-law-in-greece-to-increase-curtailments-regulate-auctions-roll-out-apollo-self-consumption-program/>



Description:

"APOLLO" is the largest energy offsetting programme in Greece introduced by the Ministry of Environment and Energy. The initiative is aimed at promoting energy self-consumption and reducing energy costs for vulnerable consumers and municipalities. The initiative will be rolled out in three distinct phases, starting with the formation of citizen energy communities in every region of the country. Special focus is given to supporting vulnerable consumers and municipalities, ensuring that the benefits of renewable energy are accessible to all.



Replicable

Approach(es):

- ✓ Facilitation of the integration of renewable energy projects, including energy communities, into the local energy grid.
- ✓ Providing grants and subsidies to lower the financial barriers for communities and municipalities to invest in renewable energy.

### National Geothermal Energy Concept

[Hungary]



Link(s):

<https://kormany.hu/dokumentumtar/nemzeti-foldho-hasznositasi-koncepcio>  
<https://www.schoenherr.eu/content/a-new-era-in-hungary-s-district-heating-sector>



Description:

The "National Geothermal Energy Concept", adopted in Hungary in October 2024, recognises that by accelerating deployment in this field the country can satisfy three objectives at once: increasing national energy self-supply, assuring affordable energy prices, and decarbonising energy production. The concept emphasises industrial, agricultural, and local heating applications, district heating, electricity generation, and innovative technologies. To achieve the objectives outlined in the Concept, a state financing

framework is proposed, including a) a geothermal investment loan scheme characterised by favourable and predictable terms for the implementation of investments, including drilling, heating centres and pipeline systems; and b) further support schemes aimed at enhancing the efficiency of geothermal energy utilisation and promoting municipal heating initiatives.



Replicable  
Approach(es):

- ✓ Flexible permitting system and financial incentives, to encourage the establishment of municipal heating initiatives (cooperatives).
- ✓ Energy generated from energy communities being offset against the required consumption of the beneficiaries through (virtual) net metering.

### National heating regulations in Riga

[Latvia]



Link(s):

<https://www.riga.lv/lv/jaunie-apkures-noteikumi-riga>



Description:

The new heating regulations adopted by the Riga City Council in February 2024 focus on transitioning to more environmentally friendly heating systems and reducing reliance on fossil fuels. The regulations encourage the connection to central (district) heating systems, especially for new buildings or when replacing old boilers. While the regulations primarily address the types of heating systems to be used, they also support the broader goal of energy independence and sustainability, which aligns with the concept of energy communities.



Replicable  
Approach(es):

- ✓ Setting up an information hotline where citizens can reach out to be informed on the new heating regulations and how they can apply for funding to renovate their H&C equipment or install a new thermal system.

### National Energy Law

[Slovenia]



Link(s):

<https://pisrs.si/pregledPredpisa?id=ZAKO8855>



Description:

One of the fundamental principles of the Law (adopted 23/04/24) is the "empowerment principle" in Slovenia. The state and local communities are establishing structural conditions to empower citizens to participate in the transition to a climate-neutral society, both in energy self-sufficiency and in citizen energy communities. Under the Law, the Local Energy Concept (LEC) is designed to

support the development of energy communities and promote sustainable energy practices. It introduces the regulatory principles for a) planning the spatial and economic development of a local community, b) guiding the development of local energy public utilities and energy communities, c) planning the efficient use of energy and the use of renewable and other low-carbon energy sources, and d) for utilising excess heat. Communities with more than 10,000 inhabitants must include in their LEK a plan for the establishment of at least one energy community in the field of energy from renewable sources.



Replicable

Approach(es):

- ✓ Developing clear regulatory principles for planning the spatial and economic development of local communities.

### National Energy and Climate Plan

[Slovenia]



Link(s):

<https://www.gov.si/zbirke/projekti-in-programi/nacionalni-energetski-in-podnebni-nact/>



Description:

The 2024 updated “National Energy and Climate Plan (NECP)” of Slovenia outlines plans to expand and modernise district heating systems to improve energy efficiency and reduce greenhouse gas emissions. This includes integrating renewable energy sources and enhancing the infrastructure. Furthermore, it encourages the formation of energy communities, which are groups of citizens, local authorities, and businesses that collaborate on energy projects. Lastly, the document highlights the importance of citizen involvement in energy projects. It includes measures to support grassroots movements, local cooperatives, and other participatory approaches to energy management.



Replicable

Approach(es):

- ✓ Financial incentives to promote the establishment of Energy Communities.
- ✓ Developing clear regulatory principles for planning the spatial and economic development of local communities.

### Other initiatives that can be applied to TECs

#### Community Service Ltd.

[Hungary]



Link(s):

<https://kesz.kozenergia.hu/>  
<https://tudaster.kozenergia.hu/>



Description:

“Community Energy Service (KESZ)” non-profit Ltd. was founded in 2022 by the Hungarian Association of Nature Conservationists,

the Ecological Studio Foundation, the Consultants for Sustainable Development and the Association Supporting Cooperatives. The organisation promotes the development of energy communities in Hungary by implementing practical examples and providing information on the legal, financial, and practical aspects of founding an energy community. Additionally, KESZ engages in awareness-raising and community-building activities to enhance the knowledge and involvement of property owners, employees, and residents in the energy community under establishment.



**Replicable  
Approach(es):**

- ✓ Creating one-stop shops where citizens and other stakeholders potentially interested in founding an energy community or setting up collective actions can find information on legal and financial aspects, best practice examples, an FAQ catalogue, step-by-step guides on how to get active, a tool collection, etc.

## SOMACYL

[Spain]



**Link(s):**

<https://somacyl.es/>



**Description:**

The “Public Infrastructure and Environment Company of Castilla y León (SOMACYL)” is a commercial instrumental entity of the Regional Government of Castilla y León, whose purpose is to finance, execute and manage investments in water management, forest resources, biomass and renewable energy, industrial land and public housing, among others, in an agile and efficient manner. SOMACYL finances its investments with loans from the European Investment Bank, the Council of Europe Bank and national banks, as well as with aid from the European Regional Development Fund and Next Generation Funds of the European Union. In Castilla y León, SOMACYL is constructing new biomass district heating networks to provide heating and hot water to public buildings and residential areas, a key element for urban transformation towards a new energy model.



**Replicable  
Approach(es):**

- ✓ Using locally sourced biomass, such as forest firewood, to fuel their district heating systems. This not only reduces reliance on fossil fuels but also supports the local economy and promotes sustainable forest management.

Partners were also asked to assess their identified good practices according to their:

- ✓ Effectiveness in advancing the establishment of TECs.
- ✓ Efficiency in resource utilisation.
- ✓ Equitability in benefiting different community groups; and
- ✓ Replicability in other territories or contexts.

Among the collected practices, the three Polish ECs – “**Green Gate Podlasie Energy Cluster (operational TEC)**”, “**Our Energy**” and “**Biodar Energy Cooperative**” – were assessed by the responsible partners as the **most impactful overall**, considering all four factors mentioned above (i.e., effectiveness, efficiency, equitability, replicability).

A common feature of these three initiatives is the (official) **involvement of local municipalities in the ECs**, which fosters trust to the initiative among local residents, increases public acceptance of the investment, and facilitates access to technical and financial assistance. In the Green Gate Podlasie Energy Cluster, local municipalities and communes are members of the Cluster. Similarly, in the case of Our Energy, the Municipality is also a registered member of the cooperative. In the Biodar Energy Cooperative, the Municipality supports indirectly the cooperative by leasing the landfill site (to the cooperative) for constructing the photovoltaic park under favourable terms.

Additionally, the APOLLO Program of Greece, the National Energy Law of Slovenia, the New Heating Regulations of Riga (Latvia), and the New Climate and Energy Plan of Slovenia were also assessed as highly replicable practices by the respective partners who submitted them. These practices provide examples of **generally applicable elements to different contexts** that can be seen as prerequisites for the expansion of TECs, such as clear regulatory principles for planning and operating TECs and financial incentives to address the high upfront costs of establishing TECs.

### Assessment of Good Practices in Phase 1

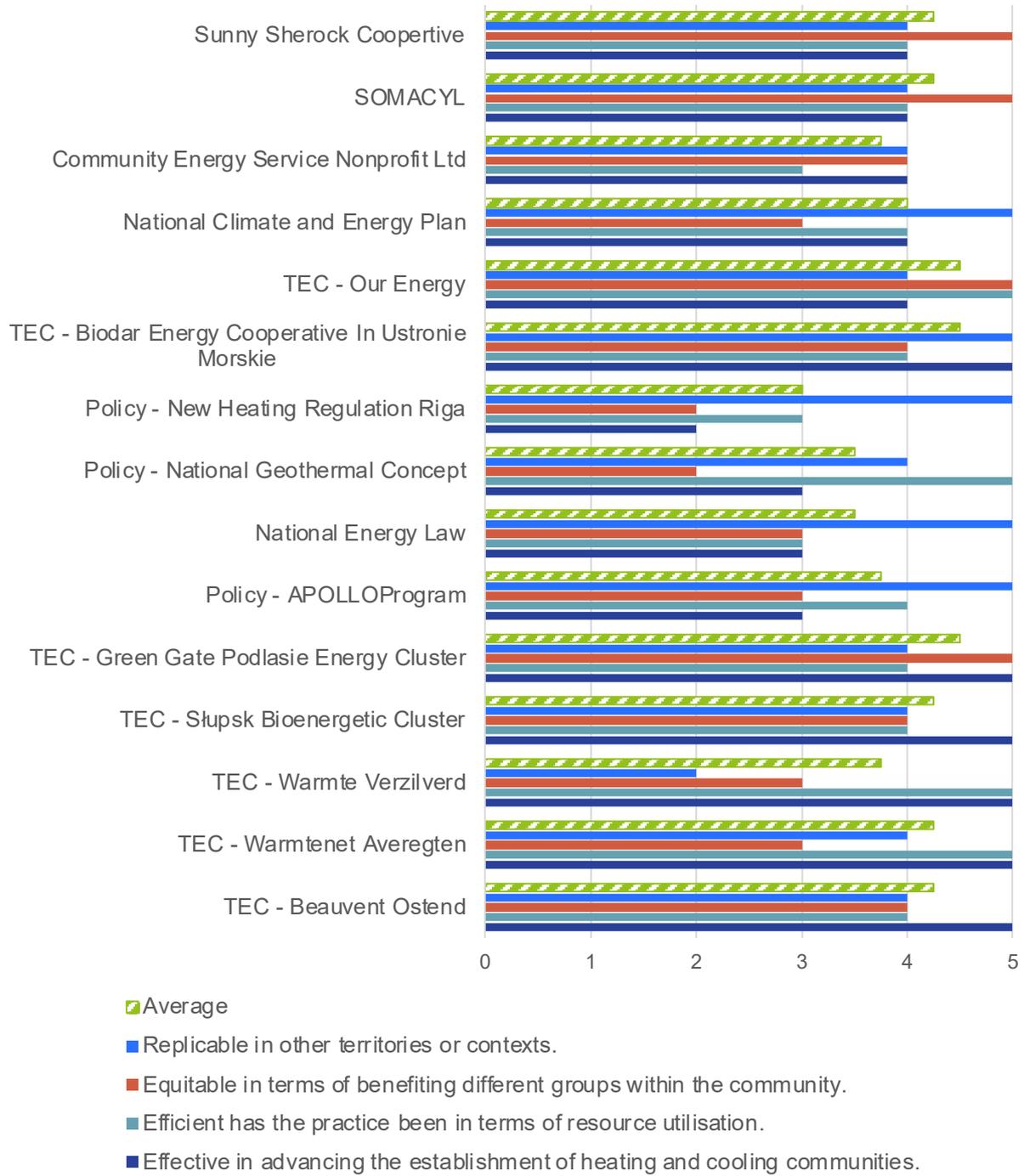


Figure 3: Overview of partners' assessment of Good Practices in Phase 1.

## (III) Phase 2 – Online Workshop

### (III.a) Workshop overview

The online workshop took place on Wednesday, December 18<sup>th</sup>, 2024, via Zoom platform. It was hosted by POSTOJNA and attended by all partner organisations. A total of 16 representatives from Green4HEAT partner organisations were present, with the attendance breakdown as follows:



REMTH (GR)	2
ANTWERP (BE)	1
VIDZEME (LV)	2
WEST POMERANIAN (PL)	2
EREN (ES)	1
UPAT (GR)	3
PANOV (HU)	2
NRDA (LT)	1
POSTOJNA (SI)	2

Table 2: Workshop attendance metrics, i.e., number of representatives per partner organisation

Prior to the workshop, Green4HEAT partners had received a MEMO summarising the key results from the first phase of the Activity. The MEMO outlined the collective assessment of barriers and drivers of citizen-led initiatives in community heating, and also presented the good practices collected in a manner similar to “(II.d) Good practices collected”.

It should be noted that only feedback submitted online by December 11<sup>th</sup>, 2024 was considered during the workshop. To this end, the assessment in QNR I was based on input from 7 out of 9 partners, and a total of 11 good practices were included in the discussion (Figure 5). The four practices not included in the workshop discussions were the National Energy and Climate Plan (Slovenia), Community Service Ltd. (Hungary), SOMACYL (Spain), and the Sunny Sherock Cooperative (Poland).

## Green4HEAT Activity A1.2 ONLINE PARTNERS' WORKSHOP

Time (CET)	Activity
10:00 – 10:10	<b>Welcome &amp; Workshop Overview</b> <i>[POSTOJNA]</i>
10:10 – 10:20	<b>Project Progress Update</b> <i>[REMTH]</i>
10:25 – 10:35	<b>Presentation of the findings of the online territorial data collection</b> <i>[POSTOJNA]</i>
10:35 – 10:45	<b>Brief Presentation of TECs and ECs identified in QNR II</b> <i>[ANTWERP &amp; WESTPOMERANIAN]</i>
10:45 – 11:05	<b>Mentimeter Exercise – Assessment of Good Practices Collected</b> <i>[moderator: POSTOJNA]</i>
11:05 – 11:15	<b>Short Break</b>
11:15 – 11:45	<b>Mural Exercise – Best Practices</b> <i>[moderator: POSTOJNA]</i>
11:45 – 12:15	<b>Group Discussion using Mural</b> Which of the presented practices and/or approaches are most effective in addressing challenges in TEC establishment, which barrier(s) do they address, and how can they be applied in other Green4HEAT territories? <i>[moderator: POSTOJNA]</i>
12:15 – 12:25	<b>Workshop Wrap-up</b> <i>[POSTOJNA]</i>

Figure 4: Agenda of the Green4HEAT online workshop on December 18<sup>th</sup>, 2024

Good Practice	Workshop Discussion	Final Report
Beauvent Ostend [BE]	✓	✓
Warmtenet Averegeten [BE]	✓	✓
Warmte Verzilverd [BE]	✓	✓
Słupsk Bioenergetic Cluster [PL]	✓	✓
Green Gate Podlasie Energy Cluster [PL]	✓	✓
Our Energy [PL]	✓	✓
Biodar Energy Cooperative In Ustronie Morskie [PL]	✓	✓
Sunny Sherock Cooperative [PL]	✗	✓
APOLLO Program [GR]	✓	✓
National Geothermal Energy Concept [HU]	✓	✓
National heating regulations in Riga [LV]	✓	✓
National Energy Law [SI]	✓	✓
National Energy and Climate Plan [SI]	✗	✓
Community Service Ltd. [HU]	✗	✓
SOMACYL [ES]	✗	✓

Figure 5: The final report includes a discussion of 15 good practices submitted via the online until December 17<sup>th</sup>, while in the workshop only 11 good practices were discussed which were submitted until December 11<sup>th</sup>.

### (III.b) Workshop outcomes

During the **first interactive exercise of the workshop**, Green4HEAT partners used Mentimeter<sup>1</sup>, an online platform for real-time polls, to choose:

- 1) The two practices that they consider the most overall impactful (i.e., effective, efficient, equitable).
- 2) The two practices that they consider having the highest transferability potential.
- 3) The specific operational element/policy approach employed by the collected good practices that could be replicated to other Green4HEAT territories to support the establishment of TECs.
- 4) The main barrier the chosen practices are expected to address if implemented in the partner's territory.

Partners collectively highlight **Beuvent Ostend from Belgium as the most impactful** good practice, followed by Warmtenet Averegten also from Belgium and the National Geothermal Concept of Hungary (Figure 6). However, considering the transferability potential of the good practices under discussion, **Hungary's National Geothermal Concept** emerged as the practice with the **highest transferability potential** (i.e., potential to be replicated in other territories and different concepts), followed by Warmtenet Averegten (Belgium) and the new Heating Regulations of the Latvian capital Riga (Figure 7). This can be explained by the fact that Hungary's National Geothermal Concept illustrates two policy approaches (flexible permitting systems, offsetting mechanism) that are non-context specific, and so does Riga's new Heating Regulations (information hotline). Their applicability does not depend on specific territorial regulations or level of expansion of TECs, making them easily replicable in other Green4HEAT territories.

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<sup>1</sup> <https://www.mentimeter.com/>

Which of the presented identified good practices you consider the most overall impactful (meaning being effective, efficient, and equitable)?



Figure 6: Mentimeter polling results [1] – Ranking of identified good practices in terms of their impact (i.e., effectiveness, efficiency, equity).

Which of the presented identified good practices you consider to having the highest transferability potential?

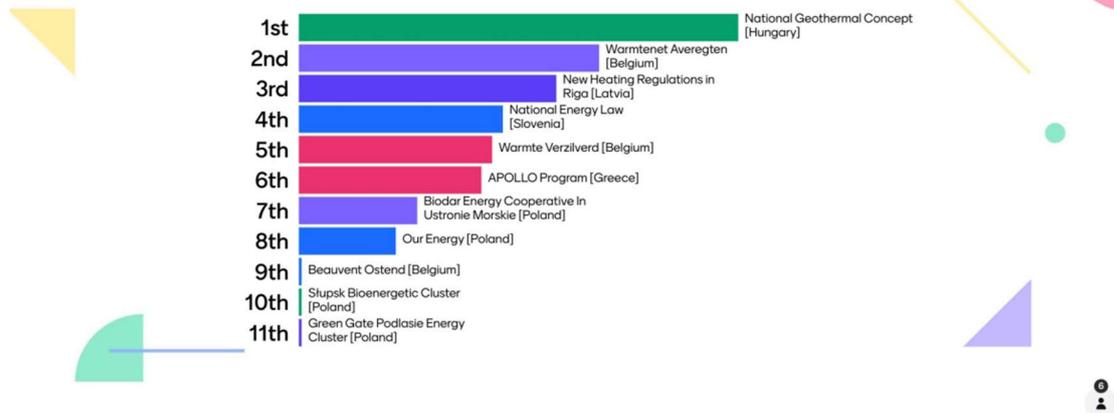


Figure 7: Mentimeter polling results [2] – Ranking of identified good practices in terms of their transferability potential.

Regarding replicable operational elements and policy approaches employed by the good practices, the poll highlighted the **importance of regulatory and financial support** as impactful policy measures which could enable replication within the Green4HEAT partnership (Figure 8). Community engagement and stakeholder involvement, as well as capacity building and knowledge sharing, were also indicated by partners as transferable approaches to other Green4HEAT territories. These results significantly align with the outcomes of the online survey (QNR I), where partners assessed supportive regulations and access to technical assistance as the most important drivers supporting the establishment of citizen-led initiatives

in community heating, followed by fiscal incentives, communication and awareness raising actions, and capacity building initiatives.

What is the operational element / policy approach that can be replicated (transferred) to other G4H territories to support the establishment of TECs?

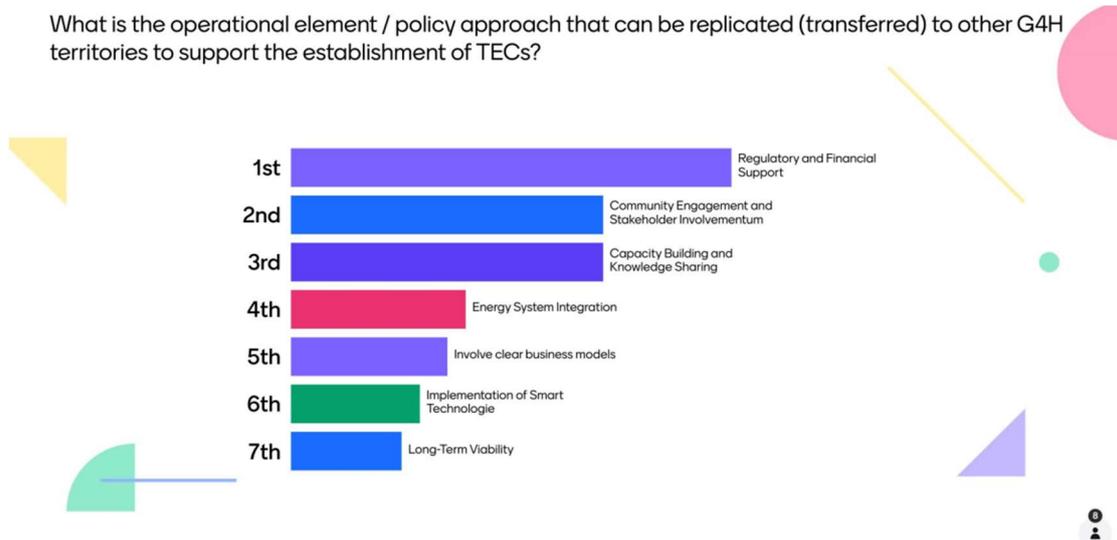


Figure 8: Mentimeter polling results [3] – Ranking of the operational element/policy approach with the highest replicability (transferability) potential to other Green4HEAT territories.

Lastly, according to the poll results, partners expected that the practice(s) they identified as most impactful if implemented in their own territory would address three key barriers to the establishment of TECs: limited community involvement in energy decisions, high energy costs, and dependency on fossil fuels (Figure 9). Partners’ opinions in this question cannot be directly compared with the results of the online survey (QNR I), as different sets of barriers are used in each case.

However, complementarity between the results in the two phases of the Activity can be seen. Overall, partners in QNR I indicated a low level of integration of RES in TECs, with 50% of the partners having fewer than 10 TECs currently in operation in their region. They also assessed the high initial cost for the establishment of TECs as a crucial barrier to their expansion and the limited public awareness about the nature, operation, and social and economic benefits of TECs as another important barrier. This input supports the results of the Mentimeter voting. Policy measures that successfully overcome the public’s low level of awareness about TEC can enhance citizen’s engagement in such business models where citizens jointly own and operate energy projects. Similarly, policies that lower the cost of establishment of TEC make such investments more attractive to citizens who are generally worried about the profitability risk of their investment.

What is the main barrier the said good practice is expected to address if implemented in your territory?

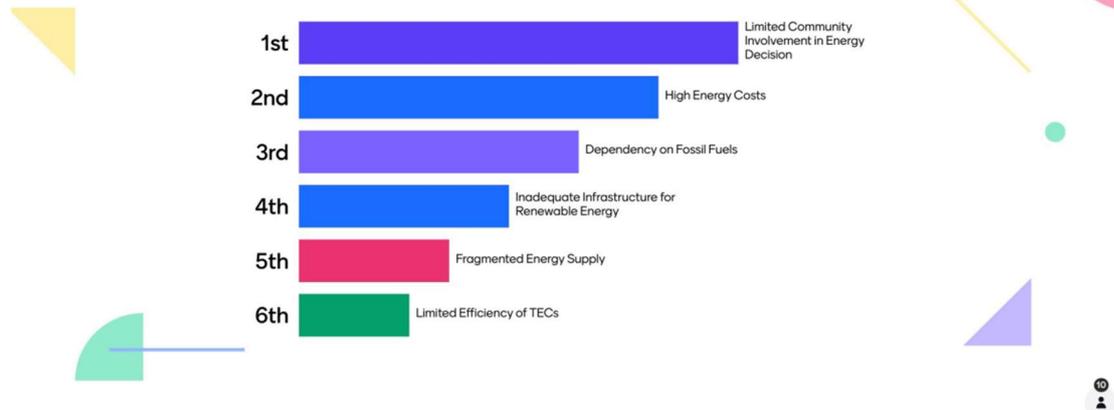


Figure 9: Mentimeter polling results [4] – Ranking of the main barrier to be addressed in own territory by the selected good practice.

In the **second interactive exercise** partners discussed the good practices collected. The exercise was supported by the use of an online whiteboard created on Mural<sup>2</sup>. Partners were invited to the Mural platform, to indicate up to two good practices they considered most impactful (effective, efficient, equitable, replicable), the key replicable elements of each practice, and the main barrier each practice addressed regarding the establishment of TECs. However, due to server security constraints and firewalls of certain partner organisations, some partners faced difficulties connecting to Mural and thus participated in the discussion without posting their input on Mural.

Overall, Beauvent Ostend from Belgium was considered by most partners as the most impactful initiative, followed by Riga city's New Heating Regulations. Partners also indicated the APOLLO Program of Greece, the Belgian TEC Warmte Verzilverd, and the two Polish TECs (i.e., Słupsk Bioenergetic Cluster and Green Gate Podlasie Energy Cluster) as impactful initiatives in addressing three key barriers to the establishment of TECs: i) high initial costs of TECs' establishment, ii) length and complexity of planning and permitting procedures, and iii) low public awareness regarding DHC and energy cooperatives.

The majority of partners emphasised the importance of **supportive regulations** that mandate or encourage the establishment of TECs, such as simplified permitting processes and favourable terms for grid connection. Similarly, partners acknowledged the need for **information portals** where citizens and other interested parties can easily access information about the local regulatory framework for TECs and funding opportunities to support their establishment. The information hotline set up by the Riga Energy Agency in Latvia was highlighted by various partners as a great example to follow, particularly in territories with

<sup>2</sup> <https://www.mural.co/>

complex energy regulations like Greece. A noted weak point during the discussion was the need for field experts and trained administrative personnel to run the portal (hotline, desk, etc.).

Additionally, regarding the operation of TECs, partners highlighted the added value of **educational and other outreach actions** benefiting the local community in gaining public acceptance and support for their operation. The Green Gate Podlasie Energy Cluster in Poland was cited as an exemplary case, where engaging the local population and giving back to the community through infrastructure and educational programs has enhanced the Cluster's public image, contributing to the expansion of its activities.

Moreover, providing TEC members with **annual dividends** (if the profits allow) was acknowledged as effective in attracting new members. The Belgian TEC Beauvent Ostend was emphasised by partners as a successful example of a profitable and publicly accepted TEC. The cooperative not only provides annual dividends to its members, significantly reducing resistance to investing in the initiative, but also raises money through capital calls to its cooperative members, enhancing the feeling of ownership of the cooperative.

Partners also referred to the fact that implementing **circular operational models** utilising waste heat from heat-intensive industries (data centers, supermarkets) and treatment facilities (sewage, compost) can support the diversification of heat sources, facilitating the expansion of TECs. The Polish Słupsk Bioenergetic Cluster and the Belgian TEC Warmte Verzilverd were mentioned as examples of this approach. The former has a diversified heat supply, including waste from sewage sludge treatment, while the latter utilises residual heat from an industrial site.

## (IV) Policy Guidelines

The following guidelines aim to help partners address the common challenges (discussed in previous chapters) regarding the establishment and expansion of citizen-led initiatives in community heating. They are based on the insights from the qualitative and quantitative analysis of Phase 1 (Online Data Collection) and the outcomes of Phase 2 (Online Workshop), while also considering broadly accepted policy approaches for supporting the establishment of TECs.

### Clear Legislative Framework

Public authorities should create a clear and concise regulatory legislative framework for the establishment and operation of TECs. It is important to avoid overlapping provisions from different regulations and fragmentation of responsibilities among numerous departments, services, and ministries. This can be achieved by:

- i) Revising regulations that impact TECs to ensure alignment and avoid ambiguities and contradictions.
- ii) Developing new overarching instruments (e.g., strategy, action plan, regulation) that supersede existing ones, ensuring clarity, conciseness, and a forward-looking approach to minimise the need for frequent amendments.

### Financial Tools to Support TECs

To address the high initial costs of planning and establishing a TEC, public authorities should create financial tools to support citizens and stakeholder groups. Effective tools include:

- i) Grants and subsidies for green investments.
- ii) Green bonds that allow cooperatives to borrow from investors, governments, and municipalities in return for regular interest payments to finance green projects.
- iii) Pre-development financing programs to support citizen projects in the early stages of development, covering feasibility studies, project preparation work, design costs, permitting costs, and/or consulting services.

### Information and Support Services

Public authorities are encouraged to establish dedicated advisory services, similar to the information hotline in Latvia, to provide personalised support to communities and stakeholders on legal aspects of the planning, development, and operation of TECs as well as available financing tools. Creating one-stop shops is an effective approach to the establishment of such support services, particularly in territories with complex and fragmented regulations and those in the early stages of developing (thermal) energy communities. One-stop shops provide interested parties with information on legal and financial aspects, best practices, and step-by-step guides for the establishment and operation of (thermal) energy communities. However, hiring domain experts and organising regular training sessions and workshops is essential to keep the involved personnel updated on the latest regulations, technologies, and good

practices. Lastly, conducting outreach programs to raise awareness about the benefits of (thermal) energy communities and the support available to them, can further enhance the effectiveness of these services.

### **Community Involvement and Education**

Actively engaging local communities and stakeholders in the expansion of TECs ensures broad support and participation. Implementing educational programs and promotional campaigns can help build public awareness and acceptance of renewable energy projects. Outreach programs targeting the school population, such as workshops and trivia competitions, have shown to be particularly effective and having a longer-term impact in society. In addition, setting up info kiosks in community centres and other high-traffic areas, is also an effective approach that ensures the information reaches a wider and diverse group of people.

### **Establishment of Municipal Companies (TECs)**

Experience from Green4HEAT territories shows that TECs with municipalities and/or municipal companies as members, especially founding members, have improved social acceptance and access to technical and financial assistance. Engaging municipalities in TECs can facilitate access to grants, subsidies, and other financial incentives, making it easier to launch and sustain TEC projects. For instance, TECs can receive support from the European City Facility (EUCF)<sup>3</sup>, which supports local sustainable development energy investments across the European Union. Overall, municipal involvement lends credibility and trust to TECs, encouraging citizen participation and financial involvement to the project. Additionally, municipalities can provide TECs with access to administrative support and technical expertise, as well as advocate for favourable policies and regulations that support the growth and sustainability of TECs.

### **Provide Dividends**

In the case of Municipal TECS (i.e., the local municipality is a member of the energy community) that have the legal form of cooperatives or limited liability companies, offering annual dividends to TEC members when profits allow, is an effective approach to attracting investors. Dividends provide a form of reassurance to those hesitant to invest in a TEC due to concerns about the investment risk and future profitability of the investment.

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<sup>3</sup> <https://www.eucityfacility.eu/>

