



Warmer together

Renewable heating & cooling for energy communities

July 2023

Heating & cooling in the energy transition

- In Europe, heating and cooling are responsible for more than 50% of energy consumption and greenhouse gas emissions.
- Although the decarbonisation of heating and cooling is underway, progress has been slow and about 75% of the energy consumption is still produced with fossil fuels.
- The decarbonisation of the heating and cooling sector is therefore essential in the energy transition to reach Europe's ambitious 2050 targets (carbon neutrality) and there is a huge potential for action to increase energy efficiency and sustainability, both through measures to reduce end-use consumption and through the deployment of renewable energy installations.
- Through the exploitation of renewable thermal resources (solar thermal, biomass, geothermal energy and waste heat), efficient, sustainable and resilient heat production, distribution and consumption systems can be realised.
- In this context, district heating plants or local heat networks are one of the most effective intervention options also from the point of view of economic viability.

Renewable energy communities (RECs): What is there for heating & cooling?

- Though the RED II EU Directive does not exclude for Renewable Energy Communities any form of energy, one of the main gaps in its transposition at the national levels concerns heating, which is not included by most regulations on RECs.
- Most of the current RECs examples, therefore, have been developed considering only electricity.
- Nevertheless, there are already several ongoing experiences on renewable heat supply through heating networks with direct involvement of local communities; Regulations are clearly lagging behind.
- It is therefore necessary to adapt and update the strategic and regulatory reference framework for RECs for promoting and duly valorising the contribution of renewable heat, while appropriately considering the undeniable elements of difference with the electricity sector.
- Leaving renewable heat out of RECs, in fact, would mean cutting off an entire industrial sector, as well as a significant share of end-user consumption, the one most closely linked to the issue of energy poverty, as it is connected to space heating.
- In October 2022 the European LIFE ConnectHeat project (<https://connectheat.ambienteitalia.it/>) started, with the aim of promoting the diffusion of renewable heat in energy communities through training activities, collection and analysis of good practices, dialogue with stakeholders and development of 7 pilot cases in different EU countries.

Concrete proposals for fostering heating communities

- Explicit inclusion of heat supply in the regulation of RECs.
- Study of an ad hoc model to allow, if feasible, virtual heat sharing between the members of a REC and evaluation of a possible incentive on the amount of heat shared. This is also connected to the presence of heating prosumers in the network.
- Additional incentive for 'electric RECs' which decide to also include heat supply.
- Incentives on the use of renewables (residual biomass, waste heat, solar thermal, heat pumps, etc.) in heating networks.
- Reduction of risks associated with the implementation of the district heating infrastructure by providing a revolving fund, a price guarantee mechanism or similar financial instruments.
- Promotion of forms of direct financial participation, such as the establishment of cooperatives for managing the district heating network or crowdfunding.
- Technical and organisational support for developers of a heating community.
- Promoting the central role played by public administrations and local governments:
 - Spatial planning and energy modelling
 - Territorial animation and involvement of local communities (communication, awareness-raising, information)
- Collection, analysis and promotion of good practices on successful experiences of community district heating.

Good practices

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- https://www.solare-waermenetze.de/wp-content/uploads/2022/06/2020_Infoblatt-Solare-Waermenetze-Nr.7-Energiedoerfer-mit-erneuerb.-Waermeversorg.-Modelle-fuer-erfolgreichen-Betrieb-von-Waermenetzsys_Solnet-4.0.pdf
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- www.springbokwoodheat.co.uk/
- <https://www.qualenergia.it/articoli/teleriscaldamento-rinnovabile-piccoli-centri-rurali-esempio-partecipazione-coesione-sociale/>
- <https://www.qualenergia.it/articoli/solare-biomassa-comunita-per-cittadina-rurale-tesca/>
- <https://www.linkedin.com/pulse/solare-termico-biomassa-sinergia-vincente-per-piccole-battisti/>