

Recommended measures towards a supportive regulatory and policy framework for geothermal district heating and cooling systems

This report provides a comprehensive set of recommendations with the objective of promoting the development of geothermal heating and cooling (geoHC) networks in Europe. By considering the regulatory, financial and social barriers of geoHC systems, the study calls for several actions that should be implemented to overcome the challenges identified. One of the most serious challenges regards the state of the art of the permitting procedure which usually entails long administrative processes and the involvement of several national and local authorities. The fact that many countries lack clear regulatory frameworks specifically addressing the specific characteristics of geothermal energy further enhances these issues. Harmonising the regulatory framework across EU member states is therefore crucial, as well as adopting streamlined and consistent procedures expediting project development. In order to minimise the constraints placed on investors, it is important to speed up the processes and provide specific procedures that will encourage investments in this area. Since financial constraints are a key factor hindering the growth of geoHC technology uptake, this report calls for adopting adequate and effective financial measures to enhance the competing power of geothermal projects against other energy sources. The introduction of risk mitigation tools can indeed significantly reduce financial uncertainties associated with geothermal projects by lowering the cost of capital and making geothermal investments more attractive to private investors. Aside from regulatory and financial constraints, the report underscores the need for greater public awareness and social acceptance of geothermal energy through the promotion of educational campaigns and public engagement initiatives for increasing awareness of the environmental and economic benefits related to geothermal energy. Studies demonstrate indeed that showcasing the reliability, sustainability and efficiency of geoHC systems can help alleviate public concerns and build support for local projects.

<https://gogeothermal.eu/projects/saphea/>

Dimension	Recommendations
Regulatory aspects	Simplify and harmonise permitting and licensing across the EU and member states. Implement risk mitigation schemes to reduce investment risks. Provide stable, long-term policy signals to attract private capital. Designate acceleration areas with simplified procedures. Promote EU-wide technical standards and professional training.
Participative and Social aspects	Launch awareness and educational campaigns highlighting benefits and addressing risks/uncertainties. Use clear, evidence-based, transparent communication tailored to cultural values. Ensure early and continuous community engagement. Create public consultation platforms and transparent reporting mechanisms. Mandate local heating and cooling planning (LHCPs) to empower municipalities.
Sustainability Aspects	• Apply Life Cycle Assessment (LCA) systematically to geothermal projects. • Develop and use Social LCA (S-LCA) covering labour rights, equity, and community well-being. • Promote standardised LCA methodologies for comparability. • Ensure continuous monitoring and transparent reporting of sustainability impacts. • Integrate environmental, social, and economic assessments for holistic decision-making. • Build capacity by training stakeholders in LCA methodologies.

