

GEOHERMAL IN THE NATIONAL ENERGY PLANS TO 2030

A pivotal next decade to unlock the potential of a baseload, flexible and widely available source of clean renewable electricity and heating & cooling.

The decarbonisation of the energy sector, a step towards achieving the Paris objectives pursued by the EU, its member states and associated countries, will drive a switch in electricity and heating & cooling generation technologies from fossil fuels to renewables including geothermal. Geothermal energy deals with complex systems that occupy the interface between our planet and society, underpinning an energy sector which is crucial to our prosperity and future well-being. Over the last 10 years, the European geothermal industry has matured and consolidated its position as a technological leader. Although the market has enlarged, there is still considerable resource potential in Europe which remains hidden and untapped.

The recently adopted Clean Energy Package contains concrete provisions to ensure the 2030 decarbonisation objectives are collectively met. Now the National Energy and Climate Plans (NECPs) submitted by the EU Members States are the key instrument to turn the provisions of the Package into reality. These Plans need to outline the renewable energy deployments over the next decade, being consistent with the EU-wide target of at least 32% renewable in 2030 and the long-term decarbonisation objectives set forth by the Paris Agreement.

The ETIP DG forecasts highly ambitious development in the utilisation of geothermal energy in Europe, both for electricity and heat. However, in order to make our Vision a solid reality in the near future, we have to go beyond the business-as-usual approach and promote breakthroughs in all areas of technological and cross-cutting innovation while pursuing the long-term goals of the EU. Research and innovation will play a fundamental role in achieving these objectives.

The shift from RD&I to deployment (environmental, regulatory, market, policy, social, human deployment): the coming decade as a turning point to be on track for the decarbonisation of the economy.

Geothermal energy is among the technology solutions that, while some RD&I remains necessary, is ready for deployment at scale to meet many of the challenge the Energy system is currently facing. This however requires the setting of a framework that enables the technology to move from niche markets and RD&I projects to large scale deployment.

Moreover, achieving the European Climate and Energy objectives on the long term, and to 2030, will require European Member States to go beyond simplistic policy solutions to complex technical, social and economical problems. This is for instance the case with the decarbonisation of the heating and cooling sector, which represents twice the consumption of electricity in Europe, with vast seasonal swings in demand. To decarbonise heating and cooling, tailored solutions that utilise local renewable resources such as deep geothermal projects increase resilience and lower systems costs. Meanwhile, narrow perceptions of challenge, with overreliance on single solutions at system level (such as wild electrification and planned reliance on non-proven technology solutions such as “synthetic renewable gases”) lead to locking-in existing fossil fuel assets, and vastly increase the cost of reducing emissions.

The aim is to develop regulatory, financial, political and social solutions that can be implemented in order to overcome barriers obstructing the deployment of innovation in the sector, the broad deployment of geothermal energy solutions, and increased uptake all over Europe. This must be done in parallel to technological research if geothermal energy is to become one of the main contributors to European climate and energy targets. This includes supporting the establishment of a legislative framework that will sustain geothermal deployment, penetration and profitability while guaranteeing that resources are properly managed. This framework should also provide low environmental impact technologies, define economic evaluation criteria (including technical and economic risk assessment), and foster partnerships between companies and consumers by strengthening mutual trust as a result of ethics and security.

