



European Geothermal Energy Council

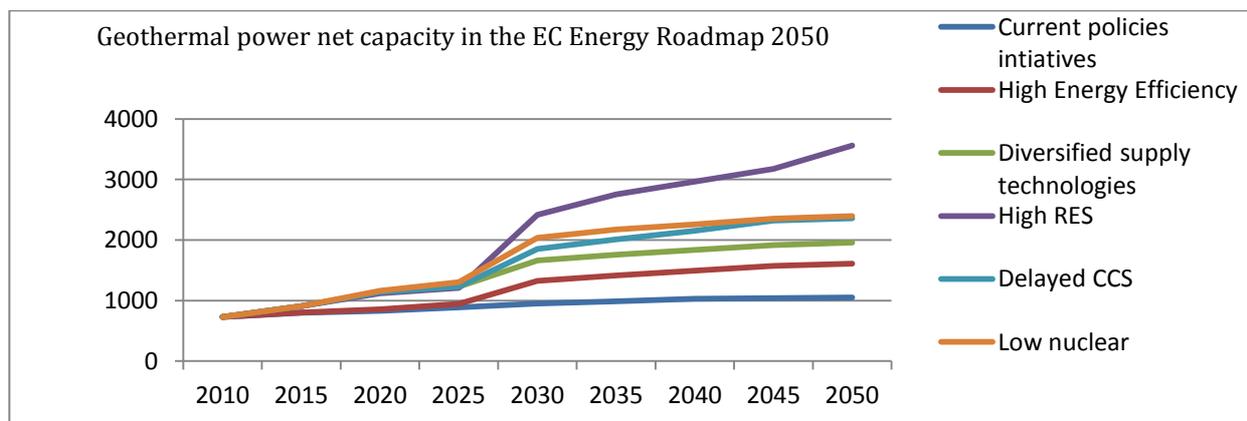
For more information, contact:
Philippe DUMAS, EGEC Manager, p.dumas@egec.org
www.egec.org

EGEC reaction to the European Commission's "Energy Roadmap 2050"

Brussels, 15th December 2011. Commenting on the European Commission "Energy Roadmap 2050" published today, the European Geothermal Energy Council (EGEC) welcomes the pivotal role played by renewable energy sources in all decarbonisation scenarios, though the policy framework for RES beyond 2020 should be assessed in the light of improved modelling. In addition, EGEC regrets that this document underestimates the tangible development of geothermal electricity technologies and that provides inadequate and misleading analysis of the heating sector, where geothermal energy will become a key player.

The European Commission unveiled its long-awaited Energy Roadmap which is intended to provide a framework to cut EU's domestic energy-related CO₂ emissions by 85% by 2050. In this regard, EGEC welcomes the EU's commitment to decarbonise the energy sector and the acknowledgment that renewables will be moving to the centre of the energy mix in Europe. Bearing in mind the mere illustrative nature of the scenario analysis undertaken, EGEC expresses some concerns over certain unclear assumptions and contradicting outcomes therein.

Firstly, the recently released *EGEC Deep Geothermal Market Report 2011* highlights how the total installed capacity in the EU amounts to 0.9 GWe in 2011, with a minimum estimated capacity of ca. 1.5 GWe already in 2018. Despite those promising forecasts, the Primes model, which plays a critical role in the Commission's work on the Roadmap, does not seem to mirror the actual geothermal market development and envisages in 2050, a power net capacity ranging only from 1GWe to 3.5 GWe in the High-RES scenario. Given these results, it is clear that the model does not take into account the potential of new geothermal technologies, notably Enhanced Geothermal Systems (EGS), which will allow the full deployment of geothermal power anywhere in Europe. Regrettably, the Roadmap does not even mention EGS among those technologies needing further investments and development to bring down costs. It also disregards the fact that geothermal has the best load factor of all energy technologies (>80%).



Secondly, the Commission points out the need to diminish costly storage, backup capacity and baseload supply. EGEC regrets, however, that the large benefits provided by geothermal electricity in terms of costs and grid management have not been highlighted. Geothermal does not have external costs such as storage, grid and supply infrastructure or waste management. It also provides flexible and renewable baseload that

can operate around the clock and ensures system stability. Overall, a major contribution from geothermal would be the most economic and balanced scenario for the 2050 electricity mix.

Thirdly, referring this to be an Energy Roadmap risks to be an overstatement, as it needs to go beyond just electricity. Although it recognises renewable heating and cooling, including geothermal, as vital to decarbonisation, the accompanying impact assessment does not contain a comprehensive analysis of the heating and cooling sector. Yet, contradicting trends and misleading statements can be seen. To begin with the share of renewables, the Primes model seems to forecast no or insignificant increase of RES-H after the year 2020.

Furthermore, the Roadmap refers to the heating sector mainly in relation to its electrification. However, direct electricity uses for heating purposes in buildings result in poorer energy efficiency, at higher costs if compared to entirely renewable heat technologies. Considering that all scenarios suggest that in the next 20 years electricity price will rise, encouraging the electrification of the heating sector would therefore bring about a trade-off with the objective of providing affordable electricity supply. This should be avoided, notably when other truly renewable technologies, such as geothermal, are available and capable of delivering better solutions.

Last but not least, the model envisages a steep decrease of CHP and DH if compared with business as usual. This is also due to the wrong assumption that CHP and DH “lead to emission reductions compared to conventional systems, but is only decarbonised when fired with biomass”. The Primes, apparently, disregards the zero-emission potential of geothermal CHP and DH, with 139 Geothermal DH systems in operation and 163 plants under development in the EU.

Overall, the poor analysis of heating sector leads to results which are in contradiction with market trends, the RES Directive, the Recast of the Energy Performance of Buildings Directive and the draft Energy Efficiency Directive. Against this background, **EGEC urgently calls for further investigation and for a true and consistent EU heating and cooling policy.**

A more detailed paper, including a counter-analysis of the heating and cooling sector, will be shortly provided