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IEA Geothermal

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1. Background

Under Horizon 2020, the current EU framework programme for research and innovation, "Secure, Clean and Efficient Energy" challenge, Competitive Low Carbon Energy, there are a number of funding opportunities for geothermal projects. Topic calls for research and innovation projects are published periodically in Work Programmes. The first Horizon 2020 Work Programme covered 2014-15. In 2015 the first geothermal projects, funded under the 2014 calls, started their activities and the 2015 calls were opened. The submitted proposals were evaluated and contracts prepared for the successful projects to start during the first months of 2016.

In October 2015 the 2016-17 Work Programme was adopted and published. As in the previous work programmes the "Competitive Low Carbon Energy" topics cover a range of technology development, from very low Technology Readiness Level (TRL) to market uptake¹. This Work Programme includes calls to meet challenges on; materials, retrofitting systems and technologies, EGS and on addressing environmental and social concerns. A coordinated call with Mexico is also published in the 2016-17 Work Programme, this research call addresses both Enhanced Geothermal Systems (EGS) and superhot systems. This coordinated project is expected to start in October 2016.

2. Major Highlights and Achievements for 2015

The projects that started in 2015 have a total budget of over Euro 80 million, of which more than half is covered by Horizon 2020 grants. Two demonstration projects (GEOTeCH² and Cheap-GSHPs³) focus on reducing drilling costs and improving the efficiency of shallow geothermal systems seeking to increase the share of geothermal heat/cool in the heating and cooling market. The project DEEPEGS⁴ aims at demonstrating and testing technologies to prove the feasibility of enhanced geothermal systems (EGS) for delivering energy from renewable resources in Europe. A second EGS demonstration project funded under the same call, started in March 2016. Finally two research projects, expected to bring technology solutions from TRL 3-4 to TRL 4-5, address the challenge of drilling. The DESCRAMBLE⁵ project concentrates on novel drilling technologies to reach high temperature and pressure resources, while the project ThermoDrill⁶, among other objectives, aims at increasing the drilling penetration rate (speed of making hole) by combined fluid jetting and rotary drilling.

The ongoing projects continued advancing planned activities:

- During 2015 extensive field campaigns were carried out as part of the Integrated Methods for Advanced Geothermal Exploration project (IMAGE) with the consortium expecting to deliver exciting results during the first half of 2017. This project is attracting a very high level of interest from European industry.
- Member States participating in the Geothermal ERA NET project advanced implementation of joint activities.

3. References

¹ HORIZON 2020 - Work Programme 2016 – 2017 'Secure, Clean and Efficient Energy':

http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-energy_en.pdf

² GEOTECH, Geothermal Technology for economic Cooling and Heating: <http://www.geotech-project.eu/>

³ Cheap-GSHPs, Cheap and Efficient Application of Reliable Ground Source Heat Exchangers and Pumps: <http://cheap-gshp.eu/>

⁴ DEEPEGS, Deployment of Deep Enhanced Geothermal Systems for Sustainable Energy Business: <http://deepegs.eu/>

⁵ DESCRAMBLE, Drilling in dEep, Super-CRITICAL AMBient of continental Europe: <http://www.descramble-h2020.eu/>

⁶ ThermoDrill, Fast track innovative drilling system for deep geothermal challenges in Europe: <http://thermodrill.unileoben.ac.at/en/project/>



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