

Develop Geothermal Electricity in Europe to have a renewable energy mix

Interim overview of the GEOELEC Project

The 30 month long GEOELEC project, supported by the Intelligent Energy Europe initiative of the European Commission, was kicked off in June 2011. This project gathers partners from 8 European countries, with the objective of convincing decision makers about the potential of geothermal electricity in Europe.

During the first 16 months of the project, the GEOELEC partners have focused their work primarily on assessing the deep geothermal resources all over Europe and on studying legal and financial barriers. A series of 7 workshops was organised in the UK, Spain, Italy, Greece, Netherlands, Germany and Lithuania for covering all EU-27 Member States, Iceland and surrounding countries (Turkey, the Balkans, Norway, Switzerland, and Ukraine). The objective of these workshops was to present and discuss the resource assessment protocol; and to have a brief presentation on the geothermal situation in the different countries.

Secondly, the conditions for grid access for geothermal power have been reported, the proposal for establishing a European geothermal risk insurance scheme has been drafted, and solutions for improving the drilling market in Europe have been studied.

Objectives of GEOELEC

-  Convince decision makers of the potential of geothermal electricity in Europe, creating awareness and improving the perception of geothermal among policy makers.
-  Stimulate banks and investors in financing geothermal power and installations. Geothermal project development has high upfront costs and can take several years (approximately 3-6) and needs innovative mechanisms for funding.
-  Attract key potential investors, such as oil & gas companies, and electrical utilities to invest in geothermal power. Geothermal projects are capital intensive.

DID YOU KNOW?

The best geothermal power plant with 100% capacity (load factor) in 2011 was the plant of Nuova Castelnuovo in Italy, operated by ENEL GP.: the 14.5 MWe installed capacity produced 124 GWh.

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Policy Environment for Geothermal Electricity

European Commission Communication on Renewable energy

On 6th June 2012, the European Commission has published its [Communication “Renewable energy: A major player in the European energy market”](#). The Communication focuses on implementing and enforcing the 2020 target for renewables but lacks ambition in the 2030 agenda. EGEC, coordinator of the GEOELEC project, emphasizes the importance of developing a post-2020 policy framework in order to secure continuing renewable energy growth.

A greater contribution from geothermal would be the most sustainable, economic and balanced scenario for the future EU’s electricity mix.

Among other things, the Communication on renewable energy announced the following pieces of legislation or guidelines which will be put forward by the Commission in the next few months:

- **EC guidance on national support schemes** (2013) to address transparency, predictability as well as a more market-oriented approach;
- **EC guidelines** to facilitate the further use of **cooperation mechanisms** in the RES Directive;
- **EC proposals for 2030 milestones** in the first half of 2013;
- **EC Communication on energy technologies** (Set Plan II, in 2013) that identify future R&D needs and challenges in line with the priorities identified in Horizon 2020.

Support schemes: don’t we need a premium for geothermal?

A very heated debate is currently going on over the future of support schemes for renewable electricity technologies (see above). This debate, however, is only focusing on the level of feed-in tariff / green certificate and minimum costs of each technology. While comparing different technologies, it is of the utmost importance to be as transparent as possible and to assess not only the system costs (infrastructure and grid expansion), but also the externalities related to each technology such as CO₂, other pollutants, public R&D funds, and residual insurance responsibilities that fall to government.

Against this context, while the need to reward flexibility it is often mentioned, the benefits from a greater penetration of geothermal energy are nearly never highlighted. In this regard, Karl Gawell, executive director of Geothermal Energy Association in the United States, has recently proposed a premium for geothermal power in order to reward its highest load factor (it can indeed produce power and heat 24 hours per day) as well as for the resulting stability it provides to the grid.

That said, shouldn’t EU member states take this proposal on board and plan to increase geothermal electricity? This will indeed be cheaper and more sustainable than other options being under evaluation, notably capacity payments for costly gas-fired power plants or often exaggerated grid extension plans.

Training courses on geothermal electricity

First Training course on geothermal electricity to be held in Strasbourg in November 2012

GEOELEC is organising a training course in Strasbourg from 5th to 9th of November 2012. The course aims at providing a geothermal background to public authorities and the financial sector and a specialization for geothermal professionals and employees of the oil/gas/mining sectors. This is the first training course on geothermal electricity in a series of 3: two other ones will be organised in Italy and in Germany in 2013.

The agenda includes:

Day 1: Monday 05/11/2012 > Course on Market, legal, environmental, financial aspects

Day 2-3-4: Tuesday to Thursday 06-08/11/2012 > Technical Courses on Geothermal electricity

Day 5: Friday 09/11/2012 > Site visit to Soultz-sous-forêts and Ecogi projects

Full agenda is available online. The maximum number of participants is 45. Registration started in

September. For more information, please contact us at [com\(a\)egec.org](mailto:com(a)egec.org) and visit

www.goelec.eu



Towards a European Risk insurance scheme for geothermal:

GEOELEC proposal to mitigate the geological risk

The geological risk exists especially at sites with only partially known subsurface conditions: the geothermal resource is below expectations, the fluid is insufficient...

Risk coverage schemes aim at the reimbursement of a certain percentage of the investment. Governmental risk coverage schemes already exist at national level in France, Switzerland, Germany and now The Netherlands. In Germany, an insurance scheme has been also applied by the commercial insurance sector.

This issue exists for each deep geothermal project all over Europe and the geothermal industry has been calling for many years for the creation of such a risk insurance scheme at a European level.

The GEOELEC project has studied the conditions for establishing such a fund by tackling two aspects:

- The short-term risk of not finding an economically sustainable geothermal resource after drilling;
- The long-term risk of the geothermal resource naturally depleting, rendering its exploitation economically unprofitable.

The GEOELEC report presenting all details necessary for its creation will be available in November 2012.

Find out more on the GEOELEC website.



EVENTS

<p>Der Geothermiekongress</p> <p>13-16 November</p> <p>Karlsruhe, Germany</p>
<p>Les Journées de la GÉOTHERMIE</p> <p>14-15 November 2012</p> <p>Paris, France</p>
<p>GeoPower Europe</p> <p>4-5 December 2012</p> <p>Budapest, Hungary</p>
<p>GeoTHERM expo & congress</p> <p>28 February– 1 March 2013</p> <p>Offenburg, Germany</p>
<p>Iceland Geothermal Conference 2013</p> <p>5-8 March</p> <p>Reykjavik, Iceland</p>
<p>European Geothermal Congress 2013</p> <p>3-7 June</p> <p>Pisa, Italy</p>



For more info:
GEOELEC.EU

European Geothermal Congress 2013– Call for abstracts.

The organisers of EGC2013 request submission of abstracts for papers concerning all areas of geothermal energy use. The deadline for submission of 1 page abstracts is **30 November**. More information can be found on the [website](http://www.goelec.eu).

Suggested social-economic topics:

- Financing, corporate structures, “bankability”, etc.
- Legal aspects (licenses, mining rights, etc.)
- Policy (targets and programs, evaluation of national and EU support opportunities, etc.)
- Socio-economic aspects of geothermal energy, public relations, etc.
- Environmental impacts and solutions
- Other topics

Suggested technology topics:

- Geothermal power in Europe – projects, ideas, experiences (low-temperature binary cycles, Enhanced Geothermal Systems (EGS), high-enthalpy elds, etc.)
- Direct geothermal uses in Europe – district heating, agriculture and more
- Geothermal heat pumps in Europe – the largest market sector in the geothermal eld
- Underground thermal energy storage – design, system integration and operation
- Exploration and planning – geological subsurface data, documentation, access to data
- New and emerging technologies

