DESTRESS

Newsletter #2 / December 2016

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Time to De-Stress!

As the year 2016 draws to an end, we would like to direct the spotlight on the centrepieces of DESTRESS: the demonstration sites. Six sites have been chosen to demonstrate soft stimulation methods of EGS. Meanwhile some of the sites are still in their planning phase or under construction others made considerable progresses and presented first successes. As described in the "Did you Know.." section, all beginnings are difficult. In the case of DESTRESS the close collaboration between various industry partners and researchers as well as fruitful scientific activities (see first DESTRESS paper published) help to overcome many challenges and will enable the establishment of good practices, one of the main objectives of the project. However, not only our sites and cooperation meaningfully contribute to reach our goals, but also the members of our Advisory Board that we proudly present in this newsletter.

Enjoy reading the news - we wish you happy, de-stressed holidays and are looking forward to reporting more in 2017!

News and Progress

Save the Dates: Events within the DESTRESS Access Programme

DESTRESS provides physical access to its sites, offering visits, various workshops and lectures. For 2017, we offer two opportunities for participation in the programme:

- 2nd Site Access Programme in Klaipeda, Lithuania, 4-5 April 2017
- 3rd Site Access Programme in Soultz-sous-Forêts and Rittershoffen, France, 18-20 September 2017

More information on the programmes and the application process will follow soon on our website.

Join DESTRESS on LinkedIn and ResearchGate!

DESTRESS is now present on LinkedIn and ResearchGate. Join the LinkedIn DESTRESS group to stimulate discussions among project partners and stakeholders and follow the project on ResearchGate to exchange knowledge with other researchers.

DESTRESS Demonstration Sites

To demonstrate the DESTRESS concept, six different sites with access to a reservoir by means of geothermal wells have been chosen. About 9 month after the start of the project, we present here the first status quo report on the demonstration sites.

Participation countries and demonstration sites within DESTRESS.

Klaipeda, Lithuania

Several visits at Klaipeda by the involved partners targeted the investigation of the continuing injectivity challenges in Klaipeda. Due to the manifold reasons for those challenges, these analyses included laboratory experiments, the study of historical data and measurements in the field. Results show limitated impact of former reservoir treatments and therefore suggest to focus on subsurface hydrochemical, biogeochemical and hydraulical transport processes. For final evaluations and decision making about further reservoir treatments the team of GFZ met GTN and Geoterma in mid November. The planned soft stimulation treatment for the Klaipeda site consists now of a combined chemical-mechanical conditioning. A detailed version of the strategy will be drafted by the end of the year and circulated for discussions between the partners at the beginning of 2017.

Maren Brehme, GFZ

Pohang, Korea

Following the first hydraulic stimulation in PX-2 at a depth of 4.35 km early this year, NexGeo has recently successfully completed the side-tracking of the PX-1 deep borehole in close consultation with GES for mud weight control and well completion. The second hydraulic stimulation in PX-1 at >4.2 km (TVD) will take place in December. Because of a large, natural earthquake (ML 5.8) occuring around 40 km away from the site last September, all consortium members, especially from GFZ and GES, are making every effort to minimize the seismic hazard through the soft stimulation strategy. In the first half of 2017, complementary hydraulic stimulation of PX-2, and circulation test between PX-1 and PX-2 are planned with eventual installation of a binary power plant on site.

Ki-Bok Min, Seoul National University

Rittershoffen, France

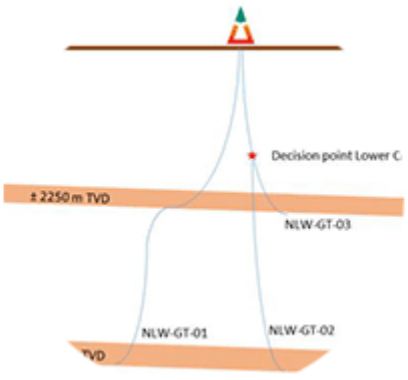
After the inauguration in June 2016, thermal, chemical and hydraulic reservoir treatments have been performed. The aim within DESTRESS is to interpret the hydraulic, thermal, logging and seismic data. In September 2016, more than 100 people visited the Rittershoffen site during the European Geothermal Congress. For the next six months, geothermal operations and technical maintenance are planned as well as continuous seismic monitoring.

Albert Genter, és Géothermie, and Maren Brehme, GFZ

Soultz-sous-Forêts, France

After an extensive renovation, Soultz has been reopened in September 2016. Three wells are targeting now crystalline rocks in 5 km depth. A new ORC (Organic Rankine Cycle) plant has been erected and produces 1.7 MWe gross power from a deep post-stimulated fractured granite. After the set up of the down-hole production pump in June 2016, the geothermal operations started successfully. To improve the poor injectivity of the GPK4 well, the reservoir will be treated by soft chemicals. During the European Geothermal Congress, more than 100 people visited the Soultz site. In the upcoming months, non-standard risk monitoring (WP3.4) will be implemented around the Soultz power plant in the framework of DESTRESS and a feasibility study for chemical treatments at Soultz is due by the end of 2016.

Albert Genter, és Géothermie, and Maren Brehme, GFZ



Westland, The Netherlands

As the feasibility of the project in the Triassic aquifer is unclear, a fall-back scenario to a shallower (approx. 2.25 km) Cretaceous aquifer was developed. After drilling and testing the first Triassic well (NLW-GT-01), Trias Westland will decide about the drilling of the second Triassic well (NLW-GT-02) and decide if this well will be completed and tested in the Lower Cretaceous (NLW-GT-03). In case of the completion of the Lower Cretaceous aquifer, the deep part of the first Triassic well (NLW-GT-01) will be plugged and perforated at the Lower

Cretaceous depth. Recently, the tender for the mining installation has been granted and the tender for the drilling, services and materials is currently on goging. The expected spud date for NLW-GT-01 is September 2017.

Floris Veeger, Trias Westland B.V.

Did You Know...

... When the First Geothermal Power Generator Was Built?

Four light bulbs have been lit through the first geothermal power generator in 1904 in Italy and it took another seven years to build the first commercial geothermal power station. In the 1920s Japan and the USA experimented with generators, but until 1958 Italy was the only industrial producer of geothermal electricity. New Zealand, the USA and Russia followed and with the development of binary cycle power plants (Russia in 1967, USA in 1981), it was possible to build geothermal electric stations in a much greater geographical range.

Source: Wikipedia.org

Miscellaneous

Publication of the First Article within DESTRESS

The paper "Hydrothermal characterization of wells GRT-1 and GRT-2 in Rittershoffen, France: Implications on the understanding of natural flow systems in the rhine graben" gives an extended description of the implementation of the deep geothermal wells in Rittershoffen (France), implemented in the framework of the ECOGI project. The wells GRT-1 and GRT-2 drilled in 2012, respectively in 2014, offer a unique opportunity to gather highquality datasets of a deep geothermal system in the Upper Rhine Graben at the transition between the Buntsandstein sandstone and the Palaeozoic granite basement.

Link to publication.

Advisory Board

The Advisory Board is an external group of experienced players in the field of geothermal energy. These high-level experts are a priori independent from the

participants and will advise and support the project, especially in case of major decision processes.
Its current members are:

- Hiroshi Asanuma
- Michael Feliks
- Jefferson William Tester
- Torsten Tischner
- Pierre Ungemach

Find out about the background of the Advisory Board's members on our website.





Services

Education

Gestion de projets en géothermie.
Diplôme porté par l'université de Strasbourg, dans le cadre d'un partenariat entre l'engees, es Géothermie et L'EOST.
Prochaine rentrée: 2.5.2017

Workshop

14.-17. March 2017, in Davos, Switzerland
Schatzalp - 2nd induced seismicity workshop
Registration until 27.1.2017

Conferences

13.-15.2.2017 in Stanford, USA
Standford Geothermal Workshop

1.-3.3.2017 Bochum, Germany
European PhD Day (EGPD)
Registration until 15.1.2017

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Demonstration of soft stimulation treatments of geothermal reservoirs

DESTRESS demonstrates methods of enhanced geothermal systems (EGS). The aim is to expand knowledge and to provide solutions for a more economical, sustainable and environmentally responsible exploitation of underground heat.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 691728

The content of this newsletter does not reflect the official opinion of the European Union and its Innovation and Networks Executive Agency (INEA). Responsibility for the information and views expressed here lies entirely with the author(s).