Renewable energies | Geothermal energy

GEOTHERMAL ENERGY

OUR NETWORKS

COLLABORATION WITH THE BRGM

IFPEN works in close partnership with teams from the BRGM (French Geological and Mining Research Bureau), **capitalizing on synergies and complementary expertise**. The partners work together within the framework of French and European collaborative projects, sometimes focusing on other themes such as CO_2 storage.

COLLABORATION WITH STORENGY

The partnership agreement with Storengy is hinged around a determination to use the complementary expertise of each organization in order to contribute to the growth of new industrial sectors for the energy transition. Geothermal energy is one of the fields covered by the framework agreement, along with **energy storage, hydrogen, the digital transformation and numerical tools**.
This partnership enables IFPEN to be more in tune with market needs.

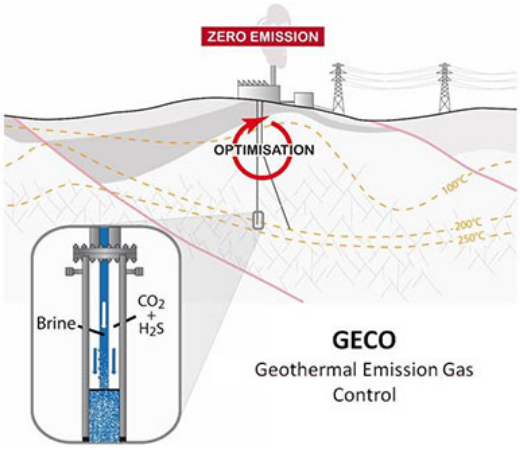
AVENIA COMPETITIVENESS CLUSTER

IFPEN has been working with the Avenia cluster since its creation in 2006. The aim of the Avenia competitiveness cluster is to **ensure the long-term use of the underground environment in the energy transition**. It supports research projects making it possible to:

- Develop long-term technologies for geosciences,
- Foster the transfer of technologies between the underground sectors (geological storage, geothermal energy, hydrogeology, etc.) .[Renvoyer au site web d'avenia]

H2020 GECO PROJECT: FOR ZERO-EMISSION GEOTHERMAL POWER PLANTS

The purpose of the European GECO (Geothermal Emission Control) project is to develop innovative technologies designed to **considerably reduce greenhouse gas emissions** from geothermal power plants.



Based at the pilot unit operated by Reykjavik Energy, IFPEN is taking part in the project alongside 16 industrial and academic partners **to develop different approaches**, which will be tested at **four pilot plants in Europe**.

IFPEN will contribute its expertise in several fields:

- Hydrodynamic and thermal modeling of production and injection wells, definition of the optimal conditions for the combined injection of water and non-condensable gases,
- Integration of simulation models in a monitoring tool.

The GECO project has received funding from the European Union's Research and Innovation Programme Horizon 2020 under Grant Agreement No 818169.

EUROPEAN DEEPEN PROJECT: DEVELOPING GEOTHERMAL ENERGY IN A MAGMA ENVIRONMENT AND CONTROLLING RISKS

Aimed at **developing geothermal energy in a magma environment** and controlling the associated risks, the DEEPEN (DErisking Exploration for geothermal Plays in magmatic Environments) project was launched by the european consortium GEOTHERMICA in January 2021 for a period of 3 years.

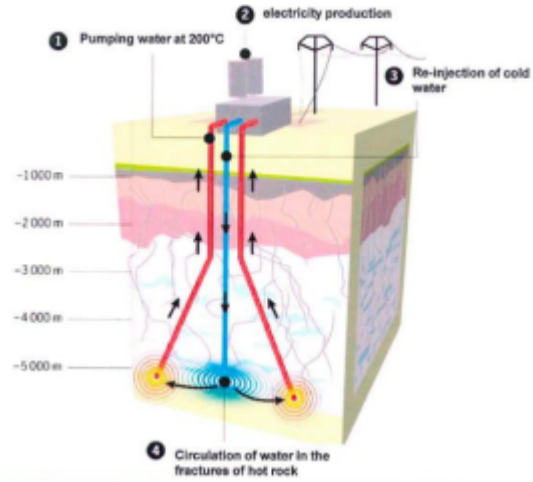
Coordinated by Icelandic operator Reykjavik Energy (OR), DEEPEN aims **to adapt the Play Fairway Analysis approach to classic and non-conventional (supercritical) geothermal energy in a magma environment**. This methodology makes it possible to hierarchize zones of interest in terms of various criteria, taking into account, in particular, the risks and potential of such zones as assessed during the exploration phase.

IFPEN's teams will set up a methodology **to assess the risk of mineral deposits in production wells**.

EUROPEAN EUGELI PROJECT: CAPTURING LITHIUM IN GEOTHERMAL WATERS

The aim of the European EuGeLi European Geothermal Lithium Brines project, conducted by Eramet from 2019 to 2021, is **to develop a pilot unit in Alsace**, north-eastern France, using **a selective lithium capture material in geothermal waters**.

IFPEN is contributing its expertise for **the characterization and understanding of the implementation of this adsorbent** in the geothermal waters of the Rhine basin, which are completely unlike those of the South-American salt flats.
>> Find out more about the project



EUGELI has received funding from the European Institute of Innovation (EIT), a body of the European Union, under the Horizon 2020 research and innovation program.

ANR UPGEO PROJECT: OPTIMIZING GEOTHERMAL RESOURCES IN THE ILE-DE-FRANCE REGION OF FRANCE

The UPGEO (UPscaling and heat simulations for improving the efficiency of deep GEOthermal energy) project, led by GEOPS (Géosciences Paris Saclay), was launched in January 2020 for a period of 4 years. It aims to **optimize the use of the geothermal reservoirs** in the Ile-de-France region.

ADEME GEOFLUID PROJECT: GEOTHERMAL ENERGY IN THE PARIS BASIN

Launched in 2021, the aim of this project is to **study well injectivity in the siliciclastic reservoirs of the Paris basin** in order to improve the efficiency and lifespan of reservoir exploitation, particularly those of the Albien. This first project focuses on plugging processes as well as the choice of completions in these unconsolidated sediments.

CONTACT

Yannick Peysson
Program manager
yannick.peysson@ifpen.fr

Geothermal Energy: Our networks

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