

Geo-energy Activity Overview

Target electricity production for 2050: 4400 GWh

Key goals:

- extract safely the deep geothermal heat and produce electricity at competitive cost
- geological capture of CO₂ to enable carbon free electricity from hydrocarbon resources

Roll-out
Prototyping
Validation
Concept
System

Petrothermal plants
20MWe per year

Hydrothermal plants
Heat and storage

CCS-CCUS
Industry and air capture

EGS Pilot 1: Project Haute-Sorne

EGS Pilot 2

EGS Pilot 3

Hydrothermal P&D 1: Geneva basin

Hydrothermal P&D 2

Hydrothermal P&D 3

CCS field-scale demonstrator 1

CCS Demo 2

Laboratory and deep-underground laboratory testing

Phase 1-2

Innovation technologies

- Advanced cementitious grouts
- Corrosion resistant heat exchanger
- Sensors for harsh environment
- Optimisation of geothermal energy conversion
- Next generation numerical methods and simulation tools for DGE reservoir eng.
- Real time, data driven reservoir characterization and risk assessment

Integrated solutions

- Resource exploration and characterization
- Reservoir enhancement and engineering
- Limit induced seismicity while creating an efficient reservoir
- Hydrothermal and aquifer resource exploitation and storage
- Chemical processes in the reservoir

Phase 3

New innovation technologies and integrated approach

Risk, safety and societal acceptance – Technology assessment – Energy economic modeling

Geodata infrastructure and resource exploration on national scale

2014 – 2016

2017 – 2020

2021 – 2025

2026 – 2035