

CHPM2030

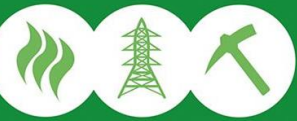
Combined Heat, Power and Metal extraction

- Call: [Developing the next generation technologies of renewable electricity and heating/cooling](#)
- Start/end date: 2016-01-01 to 2019-06-30
- TRL: 4-5
- Partners:



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 654100

CHPM2030



Project Case Study

1. The EU/ SPIRE needs

The EU needs clean energy and critical raw materials. EGS costs are high and European mining is limited.

2. The Project Solution

Developing a new technology for combining geothermal energy production and metal mining.

4. How will this happen?

Create a proof of concept of technical and economic feasibility at laboratory scale → next research project with higher TRL

3. Value to Customers

- Increased financial feasibility for geothermal projects.
- Clean energy in EU.
- Increased valuable metal production in the EU with small environmental footprint



CHPM2030



SPIRE
PROJECT

What are the key expected sustainability impacts of *CHPM2030*?

Baseline: geothermal energy could be exploited almost everywhere in Europe, but it has very high upfront costs and geological risks. However the use of clean, renewable energy is a strategic goal for Europe. Mineral raw materials are an essential need for European industry, although Europe depends on the import of many CRMs.

Indicator	Baseline	Expected Impact
Raw material import dependency.	Europe depends on the import of many kinds of mineral raw materials.	Mineral extraction from the geothermal fluid will decrease the mineral raw material import dependency of Europe.
Cost of energy.	Geothermal technologies have high upfront cost.	Increased financial feasibility of geothermal projects.
Cross cutting synergies of unconnected fields.	Mineral industry and the geothermal sector are completely separated industries.	Cross fertilize expertise between unconnected research domains: minerals and geothermal.
Need for clean energy in Europe.	The Renewable Energy Directive sets rules for the EU to achieve its 20% renewables target by 2020.	CHPM aims to widespread deep geothermal application across Europe.

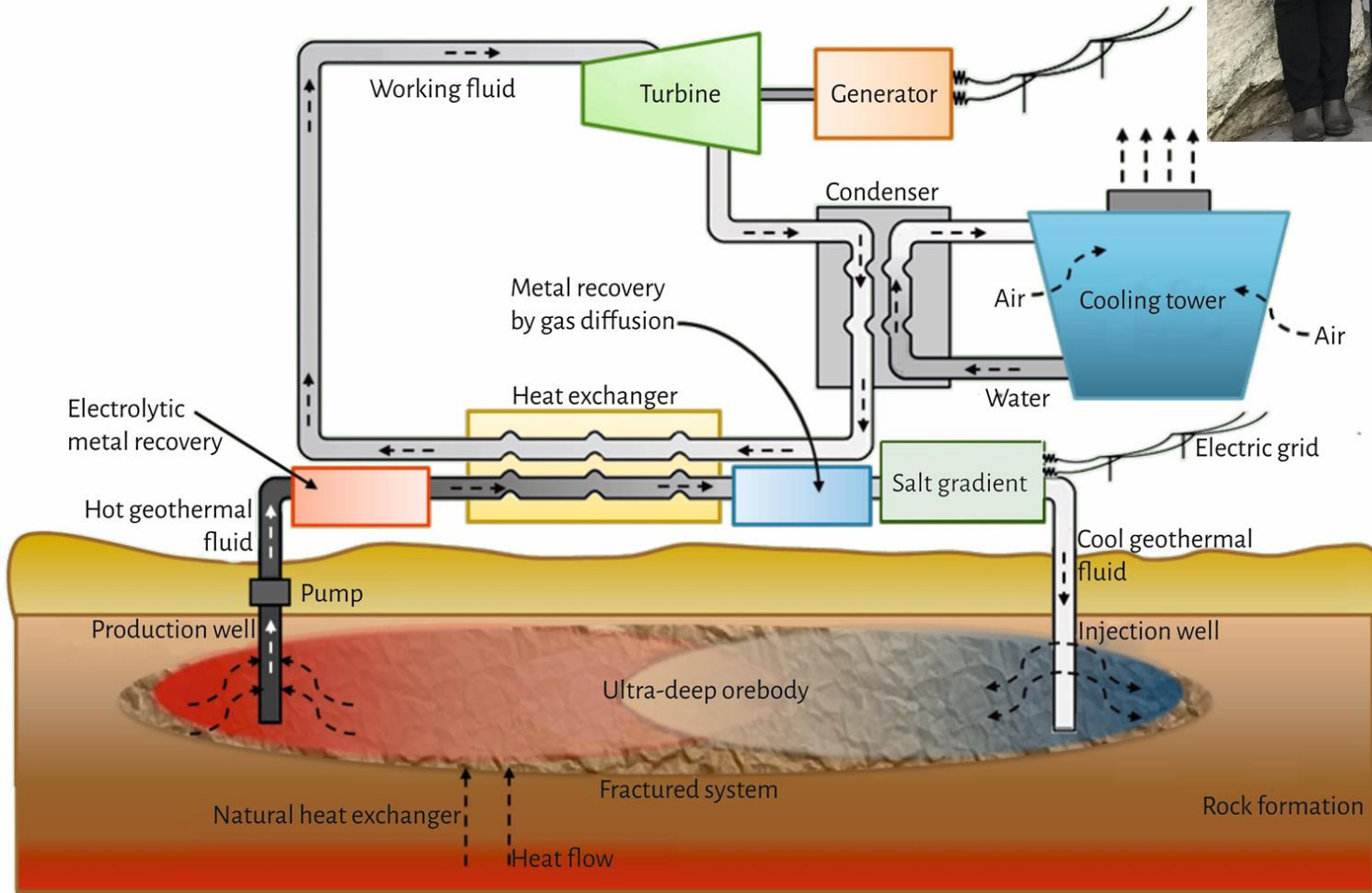
What **outputs or learning** from CHPM2030 could have value for other SPIRE projects here?

- Enhance a new generation of geothermal development in Europe by creating novel concepts in electro-geochemistry and geological engineering
- Merging two, yet unconnected technology areas (renewable and minerals)
- New research roadmapping and economic feasibility modelling for better strategic planning on future energy systems
- Increasing number of potentially viable geothermal resources with the help of co-production of valuable metals
- Alternative pathways to hydraulic fracturing through the development of “leaching” approach

CHPM2030



CHPM2030



New technologies
to strengthen
geothermal energy



Contact

Project coordinator email: foldshe@uni-miskolc.hu

Exploitation manager email: -

Project website: www.chpm2030.eu

 @chpm2030

CHPM2030

