Power Shift Below Ground? Exploring Political Geology in Geothermal Energy in French energy transition

Justin Missaghieh–Poncet

Power Shift Below Ground? Exploring Political Geology in Geothermal Energy in French energy transition

Justin Missaghieh--Poncet, Postdoctoral researcher, <justin.missaghieh-poncet@univ-smb.fr>
EDYTEM, Université Savoie Mont-Blanc, CNRS UMR 5204, le Bourget-du-Lac, France
According to research funded and carried out by Université de Pau et des Pays de l'Adour, E2S UPPA, CNRS, TREE, Pau, France

1 – Introduction

The development of renewable energies is not proceeding smoothly, a part of literature demonstrates **social acceptability issues** and **socio-technical construction** of energy materiality and energy resources.

- **Electric deep geothermal energy sector** know the difficulties of this development. What factors explain the failure of these projects?

2 - Theorical background and methods

Political Geology: Interactions between society and subsurface, political construction of subsurface (Bobbette & Donavan, 2019 ; Clark 2017) : considering territories as vertical (Missaghieh-Poncet, 2023)

- **Socio-technical territorialization**: Geothermal energy as material dimensions (ressources), social dimensions (stakeholders), temporal and spatial dimensions (trajectory)
- **Methods**: 25 semi-structured interviews with stakeholders and analysis of grey literature.

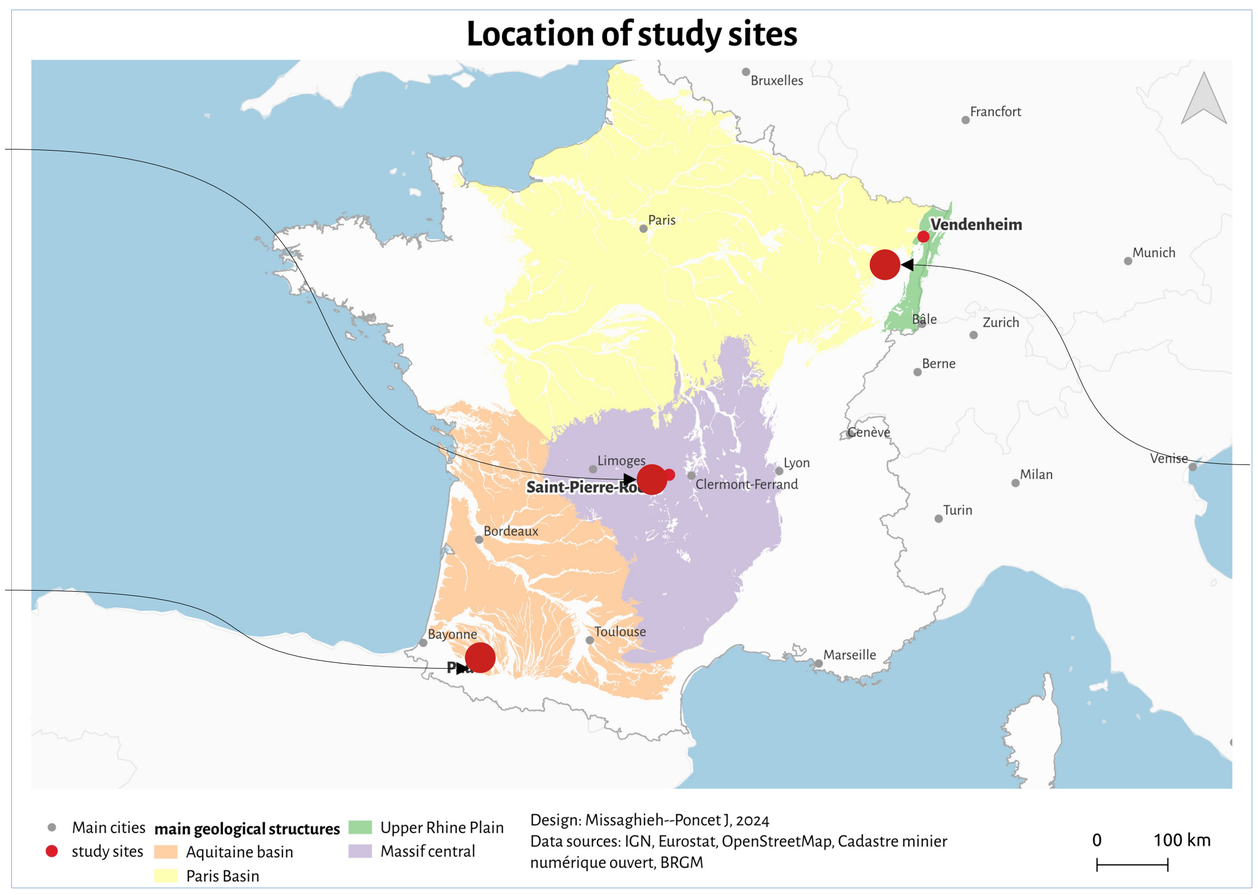
3 - Case Studies Bakcground

GEOPULSE project – Saint-Pierre-Roche

Project located in a rural environment and tourist area, close to the UNESCO Volcanoes Park.

FONGEOSEC project – Pau

industrial ecosystems and historical trajectory around the subsurface.
Single loop-shaped well : criticism of the technical feasibility



GEOVEN project – Vendenheim

Geothermal ecosystem. In its 2019 energy policy (Stratégie plan climat 2030), the Strasbourg conurbation hoped to have 11% geothermal energy in its energy mix.

4 - Results

Lack of social acceptability or false excuse?

One common explanation for failed projects offered by the industry is lack of social acceptability, but examples it is not true: GEOPULSE has been contested, but it is still underway. FONGEOSEC project was not criticized by local residents but was abandoned.

A technological problem?

The subsurface is an uncertain environment, with costly exploration. Lots of techno-scientific promises to raise funds and subsidies. But sometimes promises are not kept.

The state's lack of interest?

Difficult to make profitable without subsidizing the electricity produced. The shift in energy policy has been at the expense of geothermal energy
The restructuring of public action has resulted in a decrease of interest and knowledge about subsurface issues.

5 – Discussions and conclusions

It is necessary to look beyond the issues of social acceptability. The failure of the geothermal electricity sector can be explained by a lack of maturity in the technology, a lack of profitability, but above all a lack of political support, which can be explained by the end of the feed-in tariff and a lack of vision for this subsurface issue.

References

Bobbette, A., & Donovan, A. (Éds.). (2019). *Political Geology : Active Stratigraphies and the Making of Life* (1st ed. 2019). Springer International Publishing : Imprint: Palgrave Macmillan. https://doi.org/10.1007/978-3-319-98189-5
Clark, N. (2017). Politics of Strata. *Theory, Culture & Society*, *34*(2-3), 211-231. https://doi.org/10.1177/0263276416667538
Missaghieh-Poncet, J. (2023). *Aux frontières de la géothermie profonde : L'émergence du milieu «sous-sol» dans un contexte de transition énergétique* [Phdthesis, Université de Pau et des Pays de l'Adour]. https://theses.hal.science/tel-04171215

For further information

Research project website : https://gefiss.eu
My other publications on this topic:
https://cv.hal.science/justin-missaghieh-poncet