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Public perception of geothermal projects in Alsace: between energy transition and territorial rooting

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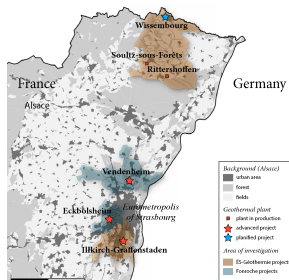
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Introduction

In the context of the DESTRESS project, we are interested in the formation and circulation of views on deep geothermal energy (DGE) in different social contexts. In particular, we conducted a survey using questionnaires to determine the opinions and perceptions on deep geothermal energy in urban and rural areas.

This research looks at several territories:
- the Eurometropolis of Strasbourg (EMS) where several projects are being challenged;
- Northern Alsace where projects are well accepted.



Hypotheses:

1. Perceptions of risks and benefits vary depending on the way people experience and give meanings to their territory.
2. The way in which local authorities invest in the field of renewable energies plays an important role in the favourable reception of deep geothermal projects.
3. The local roots of a project influence how it is perceived by inhabitants (Chavot et al 2018).

Locally anchored projects versus unrooted projects:

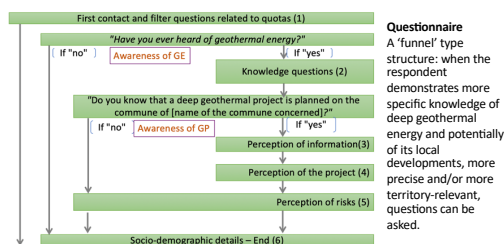
- "anchored" projects: **Wissembourg** & **Illkirch-Graff**. projects. Outcome of a long period of consultation between the different stakeholders. A project may have economic, cultural and/or political rooting.
- "off-ground" or unrooted projects: **Vendenheim** & **Eckbolsheim** projects. Developed with economic advantages and/or national political programmes in mind, and often ignore the specificities of the local territory.

Methods

For each of our four areas, a sample size of N = 220 individuals.

Nt = 881 for our four areas.

We sampled potential respondents using the quota method, taking into account three socio-demographic criteria: age, socio-professional category and gender.

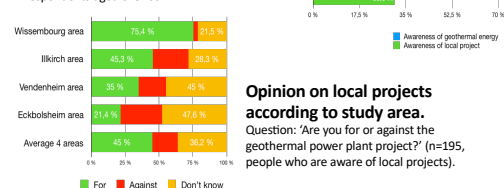


Results (I)

Awareness of DGE and projects

Questions: 'Have you heard of deep geothermal energy?' / 'Do you know that a DGE project is planned for the town of ...?'

- Δ Age:
- 27% of persons aged under 30 know what the DGE refers to and 6.4% of them are aware of local projects
- awareness of DGE exceeds 80% among respondents aged over 60



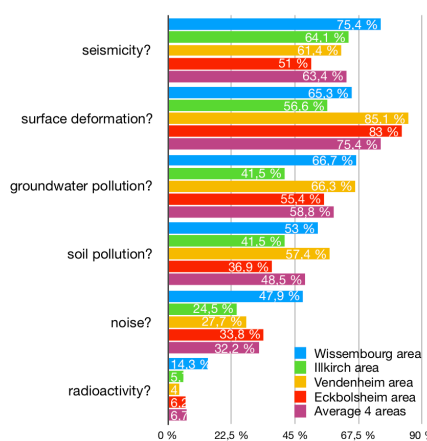
Opinion on local projects according to study area.

Question: 'Are you for or against the geothermal power plant project?' (n=195, people who are aware of local projects).

Results (II)

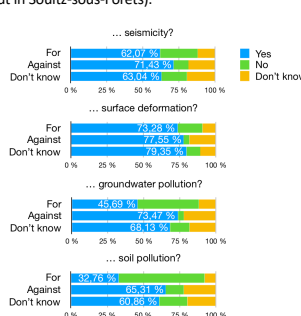
Risk perception among people who are aware of local projects.

Question: 'According to you, can exploitation of geothermal energy cause...?' (n=268).



The variations of risk perception do not seem dependent on whether a project has local roots or not, nor related to the opinion on local project (at least for the perception of seismicity and surface deformation, cf infra).

⇒ They may be explained by information circulated locally or by people's own experience of geothermal drilling (i.e. inhabitants of the **Wissembourg** area may have experienced micro-seismic events related to activities carried out in Soultz-sous-Forêts).



Variations in risk perception according to attitude towards the projects (n=195).

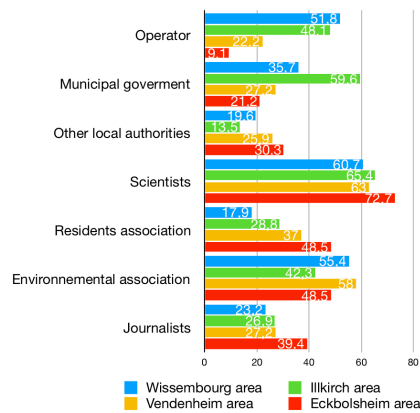
Variation in respondents' opinions on information sources, depending on whether the project is locally rooted or not.

Question: 'Who do you trust most to inform you about the technical aspects of geothermal energy? (Choose the top three)' (n=221).

- Locally rooted projects: **Wissembourg** and **Illkirch**
- Unrooted projects: **Vendenheim** and **Eckbolsheim**.

Scientists are seen as the most trustworthy by the population.

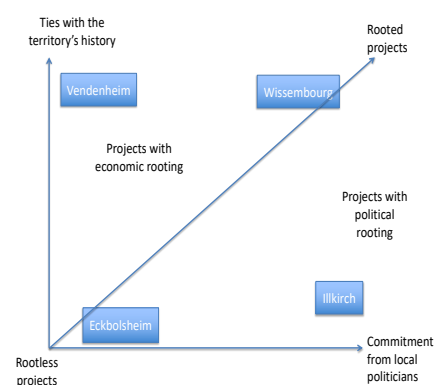
In the case of the two locally rooted projects, **industrial stakeholders** and **municipalities** are widely trusted: the presence of the Soultz-sous-Forêts power plant in the **Wissembourg** area and community efforts made by the municipality of **Illkirch** since 2010 may have contributed to this tendency.



Conclusion

Support for the project is most pronounced in the **Wissembourg** area. Likewise, the trust placed in operators and politicians is strongest there. The links between geothermal energy and oil drilling have often been put forward by political stakeholders in the area around **Wissembourg**, which can give 'historical' meaning to the deployment of this type of project. In these cases, **awareness of the risks does not necessarily lead to an overall negative view or rejection of the projects.**

Project acceptance is at its lowest in the **Eckbolsheim** area and mistrust of operators at its highest. That may be explained by the fact that the Eckbolsheim project which was **not supported by local politicians** and has **no ties with the territory's economic and cultural history.**



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Acknowledgments

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