

HOW TO WIN SOCIAL ACCEPTABILITY

the French geothermal industry approach

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Keywords: acceptability, French deep geothermal energy, working and communication strategy for the industry

ABSTRACT

Social acceptability of renewable energy project is a topic that has been increasingly discussed. The topic “acceptability of renewable energies” rank second in the recent voted French Energy Programming (PPE) confirming the trend whereby “green power and heat” don’t necessary interact with “social agreement” and “consensual approach”. Other renewable branches have experimented that before: wind power, biomass, solar PV ... Geothermal industry needs to tackle these new oppositions. The numerous projects that have been launched on this topic (H2020 projects as GEO-ELEC, GEO-DG, DESTRESS, French program like Remediafor, Acceptability of the Geothermie Bouillante power plant in the Caribbean...) confirm the need for geothermal industry to find an adequate response to conflicts resulting from a lack of social acceptability.

Reasons to “loose acceptability” are numerous and well identified. As many other industrial activities, geothermal projects, both deep and shallow, have negative impacts linked to the operational phases. In several regions such as Monte Amiata (Italy), Lochwiller (Fr), Staufen (Germany), Basel and St-Gallen (Switzerland) following incidents have been observed: induced micro-seismicity, confusion between conventional hydraulic stimulation and fracking used for shale gas exploitation, radioactivity, GHG emissions, swelling ground, CO2 emissions due to reinjection problems, belief system when it comes to underground resources...

As a result, the social resistance has led to concrete impacts, damageable on the deployment of projects. This public reticence can lead to significant slowdowns such as administrative delays, responsible for additional costs (in the « less bad » cases) when it doesn’t lead to the entire drop of the project.

Integration of public acceptance in the strategic approach is crucial to reach success. The intention of this paper is to describe the role of our industry to tackle this subject and to present the strategy implemented by AFPG and GEODEEP to spread widely geothermal potential in order to win the social acceptability battle. This has become highly strategic to back up developers by reducing uncertainties and fostering a favourable context for timely debate between operators and all geothermal project stakeholders.

Mainly based on the French geothermal association (AFPG) works initiated in collaboration with two consulting agencies specialised in communication and sociology, this paper describes the methodology developed from concrete feedbacks on deep geothermal projects located in North Alsace. This analyse has allowed us to identify hypothesis that will achieve social agreement. Finally, we’ll see concrete actions that can be done to achieve social acceptance in the field of deep geothermal energy.

1. WHAT DO WE UNDERSTAND BY “ACCEPTABILITY” IN REGARDS TO GEOTHERMAL INDUSTRY?

In this first part, we will come back to the paradox we are facing here. Indeed, there is a sort of contraction between the supposed positive opinion geothermal renewable energy should represent and the concrete oppositions this industry is facing. We will propose definitions to clarify the notion of acceptability. Storytelling of geothermal energy could have been wonderful. Indeed, it represents a green sustainable branch that is actively fighting against climate changes. Geothermal energy advantages are numerous:

- A really low carbon footprint.
- Its potentials of uses are various: heating, power generation, cooling.
- Geothermal is possible quite everywhere
- It generates local employment
- It has negligible visual and noise impact

- It is a grant of energy security in supplying independence to fossil fuels
- It includes local partnerships
- And one of its most significant advantage, it is a non-intermittent energy

Despite all these advantages why do some people totally disagree with its development?

Geothermal energy is first an industry. Mainly concentrated during construction phases, disturbances are linked to the problematics of a traditional construction site: noise, trucks traffic, presence of industrial material... Some other aspects add to the list of fears; they take place in relation with the subsurface part of geothermal energy and all the drilling phases of a project. The announcement of a geothermal project rapidly raises question regarding seismicity, aquifers mixing or radioactivity...

Problems of acceptability appear when there is a failure to take these concerns into account and to bring adequate answers. All these oppositions can jeopardize the project realization and have significant impacts on viability of activity.

This brings up the definition of acceptability that is a widespread but confused concept. There have been attempts to define the notion. One has been given by De Jesus, (1995): “Social acceptability is attained if the project activities do not result in drastic changes from the regular conditions of the area and if the affected sectors can see some advantages issuing from the project”. Social acceptability means also finding a consensus between main stakeholders such as public authorities, industrial groups, citizens and associations. In such a study, the realization of stakeholder cartography is highly useful as it helps understanding common or contradictory interests, and interactions between them, that can sometime strengthen the complexity of a situation. It is an important tool for operators as it sets the basis of their strategy and communication plan.

2. SCREENING OF FRENCH DEEP GEOTHERMAL CASE STUDIES IN THE LIGHT OF SOCIAL ACCEPTABILITY

In collaboration with Mediations (communication agency) and Brainergies (consultant in sociology), AFPG has decided to address this problematic in order to provide its members with objective working protocol. The mission spread from October to December 2017 and has addressed two types of deep geothermal projects: deep geothermal projects in Alsace (French border to Germany) and geothermal district heating projects in Parisian Region.

2.1 Analysis of deep geothermal projects in Alsace

The study concerned two projects carried out in two different municipalities of the same region, on the outskirts of a Strasbourg. Project in Municipality X with 6600 inhabitants was controversial whereas project in Municipality Y with 26,000 inhabitants was favourably welcomed. The two projects are based on co-generation of heat and electricity.

The study has used the following work base:

- Material used for Municipality X: media survey, report of the public inquiry
- Material used for Municipality Y: media survey, report of the public inquiry,
- Communication at the AFSP congress on deep geothermal energy in metropolitan area
- Interviews organised with Operational Manager A, Operator Manager B, Local authority representatives, Geological State agency representatives.

For both examples, several parameters have been taken into account and analysed: location and applications of the project, notoriety and seniority in geothermal energy of the operators, involvement of the local authority or not, level of knowledge of the geological underground

In the case of geothermal project in Municipality X, the conclusions of the study explained that the lack of acceptability was due to the following points:

- Project based on this Municipality was very challenging because the mayor benefits of the project was not its own inhabitants but a popular district of the near major city that refused a former geothermal project
- Adjacent city council was against this deep geothermal plant because of its geographical location
- Results of public enquiry are in disfavour of the operation
- Former “mediated famous” unfruitful operations have occurred recently (*Lochwiller shallow geothermal energy + Landau deep doublet exploited in Germany*)
- Uncertainty of the geological underground knowledge
- Fear about the effects of two parallel projects: another project was run in the same time by another industrial operator, near to this geographical area
- Doubts about the know-how of the operator who is a “new comer” in the Alsatian market
- Fears of environmental pollutions: water tables, products used for the drilling operation and additives used for cementation.
- Fears of geological risks: seismicity, radioactivity, ground slump

And though all these contestations, the representation of central French government in Region named

Prefecture gave the final authorization to the realization of the project. This decision is considered by the citizens as the “Parisian Diktat”

In the case of geothermal project in Municipality Y, where deep geothermal project was better welcomed, our study identified the following key aspects in favour of acceptability:

- For a long time, the municipality (embodied by an elected official) was engaged in favour of the city energy change.
- The city has been associated in the upstream phases of the project: anticipation helps to win acceptability
- Technical approach was confirmed with a very detailed geological study
- Opportunity to build a district heating is easily approved by the municipality
- The developer is an historic energy provider established in Alsace, this operator benefits from a notoriety that works in favour of this deep geothermal project
- The local authority named “agglomeration” backed up politically the project
- The priority given to local heat is perceived as an added value for the territory.

As a result, project’s procedure in the Municipality Y could follow its normal course and no unfavourable opinion is expressed in the public inquiry.

2.2 Analysis of geothermal district heating in the Paris Basin

Here the method consisted in analysing documentation composed of public inquiry and Communication tools developed by the operators. Interviews of main responsible of geothermal district heating operators were also conducted.

Next to technical know-how, operators had also the opportunity to improve their competencies in the field of acceptability in a Region identified as one of the most exploited geothermal area in the world for heating purposes.

The study noticed that thanks to an historical background (the first geothermal plant has been built in 1969 and still operating) and a long tradition of geothermal district heating, operator have developed proven strategy and communication plan to convince the different stakeholders. The significant development of geothermal district heating seems also to be linked to a political context in favour of green projects. Many municipalities in the Paris Region have set up ambitious objectives to be in line with the Energy Transition Policy. Tradition of district heating and a reduced VAT at 5, 5% for district heating with more than 50 % of renewable energy have considerably supported the emergence of solutions based geothermal energy.

During interviews, people we met emphasized the progress made. Anticipation is the first key point in

the operators' protocol to make works acceptable to the population.

As in the upstream phase of projects, the local community is involved in communication actions at the start of construction sites. Communication during the work in the form of flyers, site visit or meetings is the second key point of the protocol of the operators. As a result, citizens are positively impacted by the effects of media coverage.

Actually, the reduction of the nuisances associated with the building sites constitutes the base of the measures. Indeed, the only obstacles remaining during the work phases because quite all the projects are located in very dense area. Drilling operations used to induce noise, traffic growth, vibrations that can nevertheless be reduced with appropriate mitigation. General feeling is that when the prevention system and the disturbance plan are early planed, the risk is mitigated and acceptability is gained.

From these different feedbacks, key lines of work have been designed. The final conclusions of this study have also resulted in a working protocol and communication planning made available to the French operators through AFPG.

3. GENERAL STRATEGY TO PROMOTE GREATER ACCEPTANCE OF GEOTHERMAL PROJECTS

The previous detailed analysis has identified three main levels of actions that operators need to consider during the completion of a deep geothermal project.

3.1 Working on the rational part of acceptability:

- Pedagogy focused on technology mastering and de-dramatization
- Demonstration of the expertise and the sustainability of the operator
- Illustration by the proofs of successful projects
- Promotion of the benefits

3.2 Working on the strategy and policy part of acceptability

- Understand the specificity of the territory (cultural, economic, social, historical, political)
- Analyse the energetic policy & calendar of the territory
- Find cooperation at early stages with State bodies (Prefecture, DREAL...)
- Use trusted third-party to disseminate communication (NGO and associations)
- Take into account political calendar for local elections
- Interact with citizens before public inquiry

- Figure out and promote the obvious visible local benefits (heating, cooling, steaming projects)

3.3 Working on timing and networks

- To stay in anticipation
- Management of the communication/strategy timing
- Identification of the communication channel and of the trusted third-party

3.4 Example of concrete working program and communication strategy

Operators engaged in deep geothermal projects could follow a precise working program:

- Analyse the maturity and energy strategy of the local authority
- Evaluate the opportunities and risks of the project in relation to the maturity and energy strategy of the community
- Study the historical, political, economic, social and cultural background of the territory
- Mapping local stakeholders and analysing their positioning based on available evidence

- Develop an Allied Strategy
- Identify the alliances to build
- Identify potential trusted third parties
- Determine possible initiatives "at the earliest" in relation to the stage of technical and administrative progress of the project
- Develop a plan for mobilizing allies and trusted third parties
- Develop a meeting plan / interactions / direct or indirect communication, expanded
- Periodically update the stakeholder mapping by following the evolution of stakeholder positioning and the associated action plan
- Deploy communication program in partnership with major local authorities

To summarize the following figure resumes a concrete communication planning showing how to organize main communication milestone with key stages of the project.

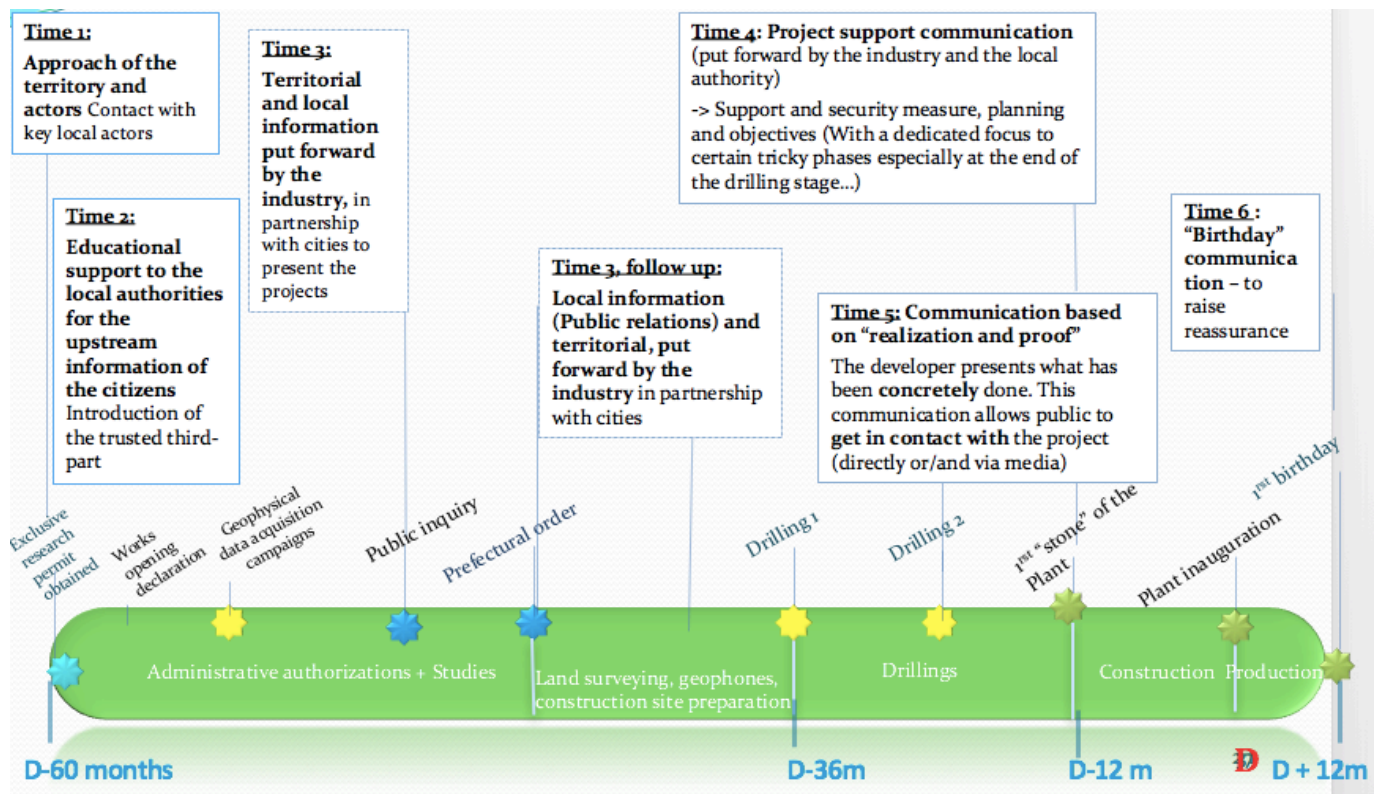


Figure 1: Example of classic communication plan

4. CONCLUSIONS

All these tools developed by AFPG can help concretely any operators involved in geothermal projects. In the future, the realizations of new projects will contribute updating all this information.

Improving public acceptance is inherent with a better visibility of geothermal solutions in the energy mix. Therefore the question of increasing and gaining control about geothermal energy notoriety is crucial to occupy the rightful place and to increase its share in

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the final energy consumption. The “voice of geothermal energy” is here in stake.

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Acknowledgements

This work was supported by ADEME (France), and we wanted to thank the participants who co-operated to the study (BRGM, CFG Services, DREAL Alsace, DALKIA, ENGIE Réseaux, ES Géothermie, FONROCHE Géothermie, GEOFLUID)