

French press coverage of geothermal energy, 2002 – 2018

Yeny Serrano¹, Cyrille Bodin¹, Jean Zoungrana², Christine Heimlich³, Philippe Chavot¹, Anne Masseran⁴

¹ University of Strasbourg / LISEC / Labex G-EAU-THERMIE profonde, 7, rue de l'Université, 6700 Strasbourg – France

² University of Strasbourg / SAGE, 5 allée du Général Rouvillois, 67083, Strasbourg, France

³ University of Strasbourg / IPGS-EOST/ DESTRESS, Strasbourg – France

⁴ University of Strasbourg / CREM, Île du Saulcy, 57045, Metz Cedex 01, France

yeny.serrano@unistra.fr

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ABSTRACT

Deep geothermal energy was first exploited in France in the 1980s in the Paris region. In the 2010s, several high-temperature geothermal projects were launched in Alsace (eastern France) to produce electricity and/or heat. Some of the projects faced opposition from local residents. In this paper, we analyse the rhetoric of geothermal energy published by the French press between 2002 and 2018. This work is part of a more global study on the circulation and appropriation of public representations of deep geothermal energy (European Union's Horizon 2020 DESTRESS project, grant agreement 691728).

Our analysis was based on a corpus of 3 219 articles published by national and Alsatian daily newspapers. We examine the importance given to certain topics regarding geothermal energy and discuss how this “press agenda” (McCombs and Shaw, 1972; Scheufele and Tewksbury, 2007) has helped construct a particular representation of geothermal energy. First, using a quantitative approach, we describe the geothermal events that have attracted media attention, at what moment in time and at what scale. Second, we describe our qualitative analysis of the journalistic discourse by examining to what extent newspapers reporting on geothermal energy and geothermal projects lump together different types of geothermal energy and associated risks. Our conclusions focus on the way the press may facilitate and/or accompany public discussion, and even socio-technical controversies around geothermal projects which have taken place within the Strasbourg Eurometropolis in Alsace since 2014.

1. INTRODUCTION

In France, since the early 2000s, measures, policies and laws have been implemented to encourage the use of sources of renewable energy for the production of heat and power, including the National Climate Plan (2004),

the Grenelle Environment Forum (2007), two subsequent laws (2009, 2010) and the Energy transition law (2015) (Chavot, Masseran, et al., 2019). Exploiting deep geothermal energy as low carbon and renewable energy can contribute to the energy transition, which aims to mitigate climate change.

The geological characteristics of the Alsace region make it suitable for the development of deep geothermal energy (DGE). The long history of oil production and research results highlighted a temperature anomaly in the Upper Rhine Graben (URG) that crosses Alsace and Germany. The Soultz-sous-Forêts pilot project was set up in northern Alsace in 1987 (Genter, Evans, et al., 2010) and contributed to the development of the EGS (Enhanced Geothermal System) method. In 2016, the plant was converted into an industrial scale electricity production plant. Other EGS projects are underway in the URG using EGS, located close to Soultz-sous-Forêts, such as the Rittershoffen industrial geothermal plant, which was inaugurated in 2016. The aim of this plant is to produce heat for industry.

In the early 2010s, four DGE projects were planned in the main urban zone of Alsace, the Eurometropolis of Strasbourg (EMS): one project in the Robertsau neighbourhood of the Strasbourg city and the three others in neighbouring towns, Illkirch-Graffenstaden (Illkirch), Eckbolsheim and Mittelhausbergen which are part of the Eurometropolis. Despite the fact that geothermal energy contributes to the energy transition, strong opposition to the projects – with the exception of the one in Illkirch – emerged in 2014 when legal public inquiries (PIs) were announced for the months to come. PIs are mandatory when the quality of life of local populations could be affected by huge projects related to urbanism or environmental protection, which is assumed to be the case with geothermal energy projects. As a result of the opposition expressed during PIs, two of the projects were dropped, and the prefecture only approved the Illkirch and Eckbolsheim projects. Municipalities in Eckbolsheim and one village in the vicinity continued their opposition to the project,

whereas the Illkirch project benefited from a strong support from municipalities (Chavot, Heimlich, et al., 2018a).

The analysis presented in this paper is part of a larger research project conducted in the Risk Governance package of the H2020 DESTRESS programme¹. The aim of our research is to understand how public perceptions of DGE are formed in the political, cultural and sociological context. We discuss to what extent national and local newspapers frame local discussion about geothermal energy. In the following section, we summarize the results of our analysis of the 2015 controversy concerning the geothermal projects which helps understand the opposition to DGE projects in the EMS. We then discuss the literature on the role of media in shaping the public's attitudes². Finally, we present the results of our analysis of 3 219 news items published by national French daily newspapers and regional Alsatian daily newspapers between January 2002 and July 2018 on geothermal energy.

2. UNDERSTANDING OPPOSITION TO DEEP GEOTHERMAL ENERGY

Resistance to environmental and other technological projects by the general public is not new and was consequently one of the main concerns of the promoters and stakeholders. Nevertheless, before 2014, there were no evidence for opposition to geothermal energy in Alsace. Promoters often think that local opposition is simply selfishness (nimby syndrome: *not in my backyard*), due to a lack of information, or to emotional, ignorance-fuelled reactions (Devine-Wright, 2011). As a result, the term "social acceptance" is used by promoters to describe measures taken to make people accept projects³. However, research has shown that this is a reductive interpretation of the resistance (Batellier, 2015; Chavot, Masseran, et al., 2018b).

The results of our analysis of the 2015 controversies show that the dispute which emerged reveal the tensions between the imposition of an unbound and non-concerted project and the dynamics already present locally. The outcome of the controversy will depend on whether or not the local authorities are able to accommodate the projects proposed by industrialists (Chavot, Heimlich, et al., 2018a).

In reality, the opponents are better informed about DGE than the promoters seem to think. Some geothermal energy projects are considered by informed opponents, to be risky. In their arguments, they refer to industrial incidents (Landau, Basel, Soultz-sous-Forêts). Still, PIs conclusions, prefectural statements and in-depth interviews suggest that the project promoters continue to think that acceptance of DGE projects by residents depends on the "information" they receive from the

promoters. For this reason, public meetings, visits to industrial sites, interviews on mass media, and lectures have frequently been organized since 2015.

In their communication documents, the operators aim to be reassuring and to prevent the public from confusing the incidents which occurred in geothermal projects in Germany, Switzerland and Alsace with the ongoing projects of the EMS. During the 2015 public inquiries, the operators said people often mistakenly lumped together geothermal energy techniques and the planned projects, given that the incidents in Basel concerned "technologies that have been abandoned today" (DNA [*Dernières Nouvelles d'Alsace*] dated the 10th of January, 2015) and that Lochwiller is not an industrial DGE project, but an individual project with no permit. They consequently try to distinguish between good projects (i.e. those carried out in the Paris Basin, or those of the EGS type in progress in Alsace) and projects that use fracking or are pursued regardless of the legal framework. As an example, one can mention the website belonging to the operator Fonroche (www.fonroche-geothermie.com/).

Is this confusion reflected in the press? Are the journalists responsible, or testimonies reported in the press? At this point, it is helpful to present typologies which will help distinguish different kinds of geothermal projects. First, the use of geothermal energy. One can distinguish between:

- production of heat and cold based on heat pump technology
- industrial heat production
- production of electricity or coproduction of electricity and heat.

Only the two last use DGE, the first uses shallow geothermal energy.

Projects can also be distinguished by the production temperature (below or above 150°C), which is the threshold used in France to distinguish High Temperature or Low Temperature projects. Depending on the temperature, geothermal energy can be used to produce heat, electricity or both. Geothermal energy is also distinguished by the depth of the resource: shallow or deep geothermal energy. The methods, the cost and also the risks involved in these kinds of geothermal energies also differ. Soultz-sous-Forêts and Rittershoffen are High Temperature plants using the EGS method.

Based on these facts, one may ask to what extent opinion leaders (politicians, residents or environmental associations) and journalists understand the different kinds of geothermal energy (low/high temperature, industrial/domestic use, shallow/deep geothermal

¹ <http://www.destress-h2020.eu/en/what-we-do/wp3/>

² We avoid the notion of "public opinion", extensively treated and criticized in the literature. Social scientists raise concerns because of important theoretical and methodological problems. Among others, "public opinion" presupposes there is only one opinion and that everyone thinks the same about social and political topics. What is more, people do not always

have clear cut opinions about complex social/political issues and surveys cannot grasp subtle differences in opinion. Interested readers may refer to (Bourdieu, 1972; Rieffel, 2005, Chapter 2) (in French).

³ Interested readers should read the detailed analysis of the "social acceptance" concept by Batellier (2015) (in French).

energy, heat/electricity production) and their associated risks. To answer the question, we decided to analyse the role of French and Alsatian press in helping people understand these differences.

3. THE EXTENT TO WHICH MASS MEDIA CAN OR CANNOT SHAPE PUBLIC ATTITUDES

Social actors including scientists, politicians, associations and promoters or opponents of technological projects often believe the mass media determine the public's attitudes. Some researchers have suggested that since little is known about public opinion on deep geothermal energy, analysing the media could provide some insights (Stauffacher, Muggli, et al., 2015). Nevertheless, psychology, sociology and mass media and communication studies, conducted since 1940s, allow a better understanding of how attitudes are shaped, or not, by media, and show that the influence of the media should not be overestimated. For this purpose, it is necessary to explain how media functions in capitalist democracies and what kind of constraints journalists face. In the following section we also briefly discuss the role of journalists in popularizing technoscience.

3.1 Mass media: a constant struggle between ratings and credibility

As is true in many capitalist democracies, most of the biggest newspapers in France are privately owned, meaning they need to make profit based on their rating. At the same time, the main newspapers are committed to providing news that citizens need to take decisions and to participate in democracy (Chalaby, 1998; Charaudeau, 2005; Lemieux, 2000). In order to ensure a good rating, mass media need to produce credible and attractive discourses. Some media favour attractiveness (for instance, tabloids and the sensationalist press) while others favour credibility (particularly reference newspapers and leading newspapers). Media constantly struggle to be credible and to increase or at least maintain their ratings⁴.

According to mass media standards, attractiveness is based on storytelling, language and expressions, images, testimonies, which catch the eye of readers or viewers. Credibility is associated to the extent in which media discourse respect objectivity rules. The term 'objectivity' is actually a short cut referring to discursive norms which contribute to shape journalism as a particular discourse. These norms are neutrality, impartiality, balance, fairness, accuracy, factuality and the reluctance to take sides in the political process (Chalaby, 1998, Chapter 5). These terms explain why by trying to produce balanced and neutral news reports result in a polarized account of reality: they have to mention promoters and opponents. Even if there are many intermediary positions, media tend to reduce them to extremes.

Media could also be subject to outside pressure from political power and to competition with other media

companies concerning their rating. As a consequence, owners may put pressure on their employees, i.e. the journalists, which may also result in biased accounts of reality.

3.2 Journalists' discourse as a "preferred" reading of the reality

Journalists (employees or freelancers) need to respect media standards in terms of the editorial line, rating, contacts with important sources, objectivity norms, etc. These standards influence the whole process of producing news, which consists in: a) observing facts and selecting those to cover, b) interpreting facts and c) writing an account of the news (elaborating narratives) (Cornu, 1994; Esquenazi, 2002).

Let's discuss the first step: selecting facts. The criteria media use to decide what information to provide are mainly: proximity, facts that are out of the ordinary, the most recent developments of an event. These criteria, particularly the second one, lead media to focus on negative facts. In fact, journalists are taught that *a train running on time is not news*. As a consequence, facts that are not selected may remain unknown to people. Moreover, if journalists respect the rule of objectivity, their work will mainly be based on what sources (witnesses, authorities, victims, interest groups, etc.) tell them. The problem is, while journalists may be interested in factual, balanced and neutral news reports, their sources are more interested in defending their own causes. When sources talk to journalists, they try to influence or instrumentalize them in order to persuade decision makers and general public (Charron, 1995).

Not only do journalists select facts and sources, they also choose particular words, expressions and images to describe and explain the facts. These choices concern second (interpretation) and third (making news discourse) steps in news production. News accounts written by journalists propose narratives which establish some causes and links between facts resulting in a particular (or "preferred") reading of reality (Hall, 1994; Krieg-Planque, 2012; Londei, Moirand, et al., 2013).

Some of the consequences of the selection of facts by the media have been analysed as the agenda-setting effect (McCombs and Shaw, 1972). Agenda-setting refers to the way in which mass media draw public attention to certain issues. Research revealed a relationship between the hierarchical order of events presented by media and the importance attached to the same problems by the public. In other words, when people are asked to identify significant problems, they tend to cite issues which are "in the news" (Iyengar, 1991; D. Scheufele, 1999). One of the main consequences of media agenda is that facts or social actors not covered by media risk becoming invisible and hence non-existent as far as the public is concerned. Research has also established that visibility in the media is linked to "legitimacy". Social actors or interest

⁴ The twenty-first century has witnessed changes to this model. Internet is modifying the mass media business model. Traditional media try to adapt to these changes by finding

ways to continue make a profit. In any event, newspapers in France, i.e. those we analysed for this study, still make most of their profit from advertising based on rating.

groups who are visible in the media and the causes they defend will be more widely accepted and more easily recognized than those which are not visible in the media (Fraser, 2001; Voirol, 2005).

Considering how the media function and the constraints which influence journalists' work, it is necessary to state that information is not only a matter of the discourses produced and disseminated by the media, but also of how people interpret media discourses. Research on mass media reception is extensive. We only discuss the main results in the following section.

3.3 What we know about media influence

First of all, audience "reception" of media discourses is a rich and complex process: intended effects (or those desired by the media) are not (always) the effects they actually produce. People can accept, negotiate or reject the preferred media reading of reality (Hall, 1994). The more people know about an issue, the less they will be influenced by what the media say about it. Media discourses could have more influence on opinion leaders (who draw their attention to media) than on the general public. But people can be influenced by opinion leaders (Breton and Proulx, 2002; Charaudeau, 2005). Thus, people's opinions are not only shaped by media but also by the discussions in which they participate in other public or private spheres, such as village, school, work, church or in the family circle (Breton and Proulx, 2002, Chapters 7–11; Rieffel, 2005, Chapters 2 and 6). Therefore, media discourses may be one of the inputs used by social actors during discussions in which opinions are formed.

With reference to these findings about the limited effects of mass media, we would like to mention a quantitative study we conducted of 881 inhabitants of whom 660 located in the vicinity of three EMS projects (Eckbolsheim, Illkirch, Vendenheim). Our results suggest that local residents' perceptions of geothermal energy were not only determined by the press. Among the 206 respondents who said they had heard about the DGE project in or close to the city in which they lived, some (34%) had several sources of information. Considering the whole set, with several possible responses: 49% of the inhabitants said that they heard about the project through the traditional local media (newspaper, radio and local TV); 31% through information published by the town, 20% through associations, 9% through the operator and 33% others (discussions with friends or colleagues, by word of mouth, non-identified banners).

3.4 Media discourses about science and technological projects

As mentioned above, geothermal energy involves different technologies and different uses. Risks associated with a specific geothermal energy technology may vary. These differences may be clear for scientists and heads of industry, but not for

journalists and citizens who are not part of the scientific community.

Mass media could be one of the ways to communicate about geothermal energy. Media discourses are therefore intermediaries between scientists / heads of industry and citizens. Some journalists may be specialized in the environment or in scientific topics⁵, but they are not necessarily experts in the field of geothermal energy. As discussed above, journalists select sources and then frame local authorities', industrialists', experts' or associations' discourses in order to produce reports that meet media standards and match their audience: images are chosen, metaphors could be used to make scientific information understandable, etc. As a consequence, scientific discourse is simplified and may be even distorted.

Taking the above into consideration, we drew up the following research questions:

RQ1: What kinds of events have drawn the attention of the French national and Alsatian newspapers to geothermal energy since France began promoting the energy transition in the early 2000s?

RQ2: To what extent does French and Alsatian press distinguish between different kinds of geothermal energy? Is there any difference between the national and Alsatian regional press in this regard?

RQ3: When French and Alsatian news press reports mention geothermal energy, what angle do they take?

RQ4: Which are the main kinds of geothermal energy covered by news reports?

4. METHOD

We analysed all six French national daily (non-tabloid) newspapers and both Alsatian daily newspapers. All are owned by private groups. A brief description of each is provided in table 1.

Table 1. Corpus

Newspaper		Description
National press	<i>Les Échos</i>	Financial newspaper with a liberal stance
	<i>Le Monde</i>	Reference journal in France, centre-left editorial line
	<i>Libération</i>	Centre-left editorial line
	<i>Le Figaro</i>	Oldest national daily, centre-right editorial line
	<i>La Croix</i>	Roman Catholic newspaper covering news of general-interest
	<i>L'Humanité</i>	Left editorial line; originally, it was an organ

⁵ We actually found that during the period considered here, most articles were written by a reduced list of journalists.

		of the French communist party
Alsatian press	<i>DNA Dernières Nouvelles d'Alsace</i>	Regional newspaper covering mostly the north of Alsace region (<i>Bas Rhin</i>)
	<i>L'Alsace</i>	Regional newspaper covering mostly the south of Alsace region, (<i>Haut Rhin</i>)

In the *Europresse* database for national press and in a private database for Alsatian newspapers, we selected all articles published between January 2002 and July 2018 which mentioned the keyword “*géothermie*” (geothermal energy) at least once. We chose to start in 2002 to cover the period since France began promoting the energy transition. We were also interested in two particular events: a micro-seism (magnitude 2.9) in the pilot deep geothermal project in Soultz-sous-Forêts, which occurred in 2003, and the National Climate Plan established in 2004. The final sample used for analysis comprised 3 219 news items.

Figure 1 shows that Alsatian newspapers paid more attention to geothermal energy projects than the national press: *DNA* = 1 562 articles and *L'Alsace* = 778, *Les Échos* = 302, *Le Monde* = 181, *Libération* = 137, *Le Figaro* = 110, *La Croix* = 86, *L'Humanité* = 63.

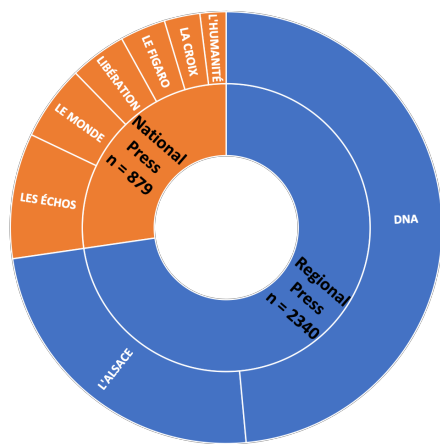


Figure 1: Pie chart showing the proportion of articles in the national and regional press citing geothermal energy (DNA: *Dernières Nouvelles d'Alsace*)

⁶ Original print format was not available in PDF for Alsatian newspapers (*DNA*, *L'Alsace*) between 2002 and 2008. Only text format in html was accessible and images were sometimes included.

⁷ This code was chosen by the coder based on the extent to which the article: a) only or mostly mentions benefits or positives aspects of geothermal energy (positive angle), b) only or mostly mentions risks or problems of geothermal energy, c) proposes a balanced account mentioning benefits and risks at the same level or does not mention benefits or

The corpus was collected in original PDF format (when available⁶) in order to retrieve the accompanying images, captions, headlines, titles and subtitles in bold bigger or coloured characters, which are important to attract readers' attention.

Coding was performed by five coders using software *Atlas.ti v.8* and developed iteratively. The research team set up a coding scheme based on our previous analysis and in *in-situ* observations (Chavot, Heimlich, et al., 2018a; Serrano et al., 2019). The coding team then conducted a pilot test to train themselves and to adjust the scheme where necessary: two coding sessions were organised with all coders present. The same articles were coded by all coders and results were compared to discuss, answer questions and take decisions about ambiguous cases. These sessions enabled us to ensure intercoder reliability. A document was written containing all the rules and coding procedures. Coders could consult this document at any time during the coding process. The final coding consisted in classifying all 3 219 news items on the basis of the variables listed in table 2:

Table 2. Coding scheme used for content analysis.

	Codes
Date	Year / Month
Journalistic angle⁷	Rather in favour of geothermal energy / Rather against / Rather balanced
Geothermal energy project location	Worldwide / International / National / Alsatian or Upper Rhine Graben project / Other local project / Projects submitted to Public inquiries in 2015: Robertsau, Mittelhausbergen, Eckbolsheim, Ilkirch,
Type of geothermal energy⁸	Heat production / Electricity production / Cogeneration (both) / Non-specified

5. RESULTS

5.1 When and why national and Alsatian newspapers' talk about geothermal energy

Geothermal energy was covered throughout the period analysed (2002-2018). However, as mentioned above, Alsatian newspapers paid much more attention to this renewable energy than the national press. While *DNA* and *L'Alsace* published an average of respectively, 90 and 80 articles per year, barely 15-20 articles were published per year in national newspapers (figure 2).

risks about geothermal energy. Sources cited (promoters, opponents) and title's angle were also taken into account.

⁸ Among the different classifications mentioned in the introduction, we chose the one based on the utility of geothermal energy (heat or electricity production). Even if a coder was able to identify the kind of geothermal energy the article was talking about (heat, electricity or both), coding was based on explicit mention. An article talking about “deep geothermal energy” but which did not specify if they meant heat or electricity production (or both) was coded as “non-specified”.

Only the financial newspaper *Les Échos* published an average of 34 articles per year, suggesting the importance given to economic factors at national level⁹. As shown in figure 2, the increase in attention paid by Alsatian newspapers to geothermal energy was linked to induced seismic events. Thus, the first peak in the number of articles published by *DNA* and *L'Alsace* was directly linked to the earthquake in Basel (Swiss city in the URG) in December 2006. The second peak in *L'Alsace* coincided with the seism in St. Gallen (also a Swiss city) in July 2013. In the first case, almost a hundred news reports were published between December 2006 and July 2007. This kind of media coverage, consisting in covering an issue more frequently when problems or unexpected events occur, may suggest to audiences that the issue is problematic *per se*.

Regarding Alsatian newspapers, it should also be noted that the public inquiries conducted in 2015 in the EMS mainly attracted the attention of *DNA* and barely that of

L'Alsace. This result suggests that the attention paid by newspapers to geothermal energy projects is determined by proximity, which is consistent with one of journalists' standards for news selection (agenda). As a matter of fact, the criteria used by journalists to select facts include proximity between facts and audiences. DGE projects submitted to PIs were planned in the region mostly covered by *DNA*. This conclusion is also supported by the fact that, except for *Les Échos*, more than 80% of articles published by national press did not treat this renewable energy as the main topic. In most cases, geothermal energy was mentioned only once, for instance, in a list of different kinds of renewable energies. In contrast, Alsatian newspapers published articles in which geothermal energy was the main topic more frequently. This was particularly true for *DNA*: geothermal energy was the main topic or an important topic in 32% of 1 562 news items analysed: geothermal energy was mentioned in the headings or in the legend of the images.

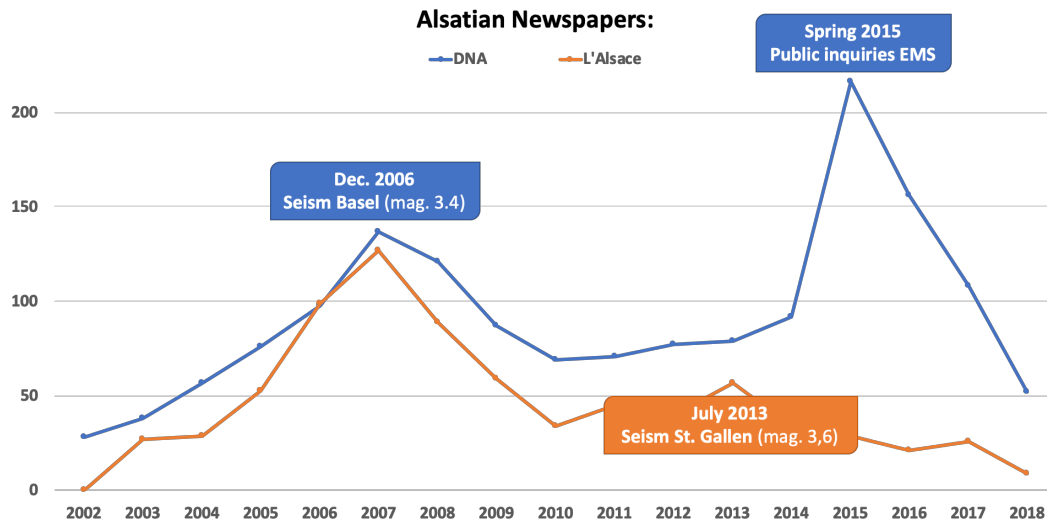


Figure 2: Articles published by Alsatian newspapers per year and main events related.

In contrast to what we observed in the Alsatian press, the interest in geothermal energy by the national press seemed to be less associated with risks or problematic events and more with the energy transition (figure 3). However, the peaks of attention only concerned 30

articles. The attention paid by the national press' to geothermal energy was related to projects worldwide, particularly those in Iceland which is seen as an example to be emulated.

⁹ This observation will be investigated in more detail in the second phase of coding, when we will analyse arguments, themes and sources quoted in articles.

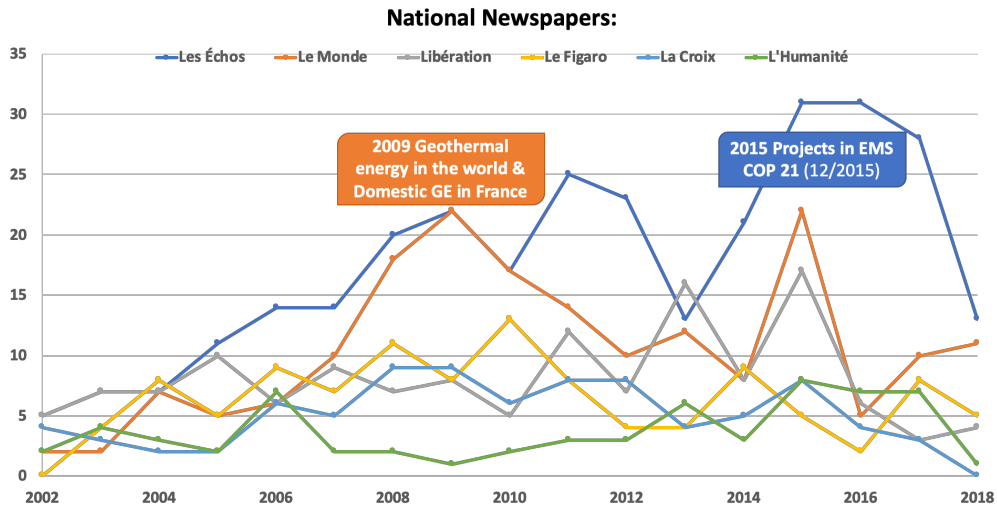


Figure 3: Articles published by national newspapers per year and the related main events.

5.2 Global coverage of geothermal energy: mostly positive

This first result is consistent with the angle favoured by national press. Except for the right-centre newspaper *Le Figaro*, all national newspapers covered geothermal energy from a positive angle in more than 80% of articles (figure 4). This means news reports are not balanced but focus on positive aspects, such as the contribution to energy transition. This kind of article does not mention risks associated with geothermal energy or the problems caused by a particular project. In fact, no national newspaper provided even 10% negative coverage (figure 4). Despite the fact that to be objective, journalists should present balanced and neutral reports (which means mentioning both positive and negative aspects or having all sides express their opinion on the subject), the percentage of balanced news reports was less than 30%.

Nevertheless, and interestingly, it should be noted that press coverage of geothermal energy in Alsatian

newspapers between 2002 and 2018 was also mainly positive. Positively biased news reports on geothermal energy also highlighted the fact that it is a continuously available energy resource, i.e. it does not depend on weather conditions (as is the case of solar or wind energy).

As shown in figure 4, news reports mentioning risks, accidents or problems with this renewable energy (for instance the cost of installation) represent a small proportion of the corpus and are concentrated around particular events, as shown in figure 5. Alsatian newspapers (*DNA*, *L'Alsace*) published a higher proportion of articles mentioning both positive (i.e. continuously renewable energy) and negative aspects (i.e. risks, cost). This result may be explained by the fact that these regional newspapers more frequently covered the geothermal energy projects in Basel (earthquake in 2006) and PIs in the EMS in 2015, which occurred near their readers.

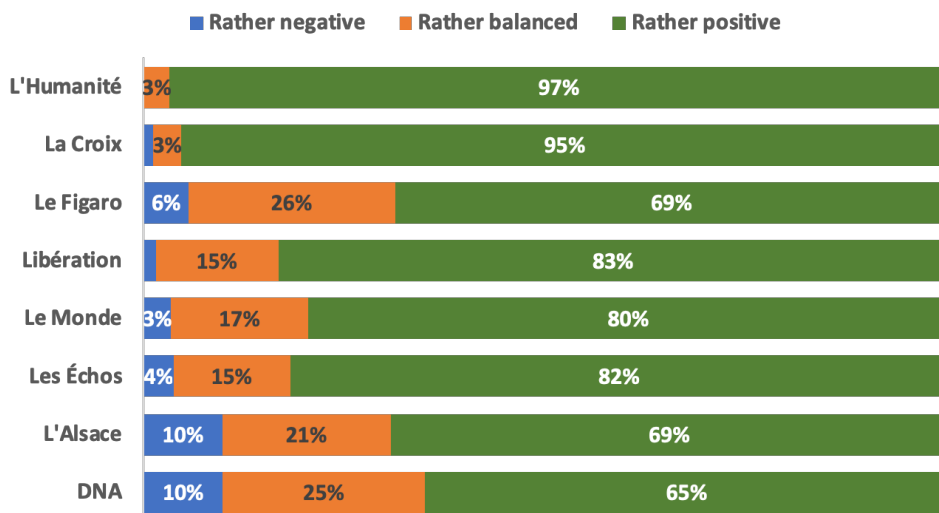


Figure 4: Angle favoured by newspapers when writing about geothermal energy

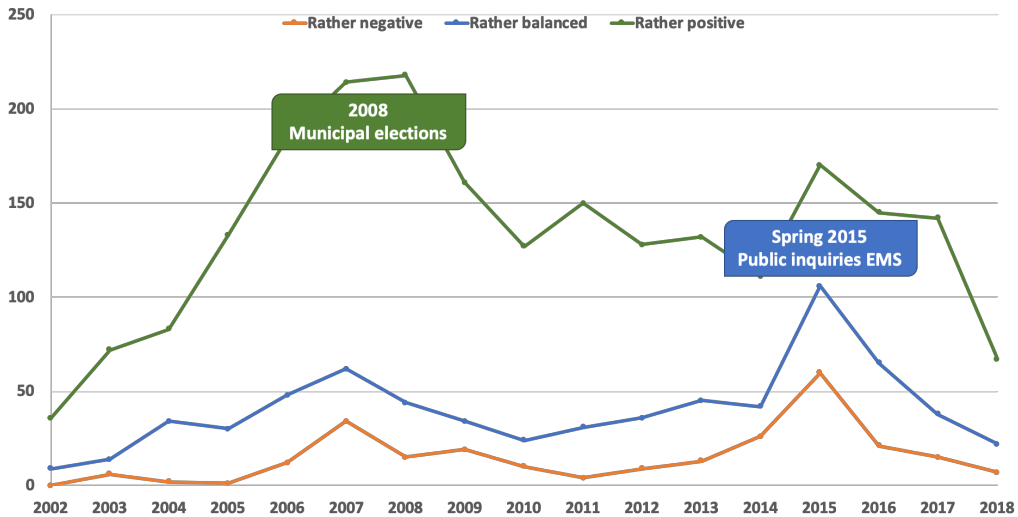


Figure 5: Angle coverage on geothermal energy over time

Figure 5 also shows that the positive coverage of geothermal energy over time was regular. The peak positive coverage in 2007-2008 seems to be related to municipal elections. In fact, the press cited the candidates' discourses defending renewable energies including (but not exclusively) geothermal energy.

Knowing that negative coverage of geothermal energy was specifically associated with DGE projects in the EMS and earthquakes in the URG, we wanted to find out if all EMS geothermal energy projects were

concerned equally. Figure 6 shows that projects in Robertsau, Vendenheim and Eckbolsheim concentrated most of negative news reports while the Soultz-sous-Forêts project barely received any negative coverage. This result confirms our previous conclusion: opposition to DGE projects is more likely to happen when projects are not discussed and agreed on in advance with local authorities and residents (Chavot, Heimlich, et al., 2018a; Chavot, Masseran, et al., 2018b).

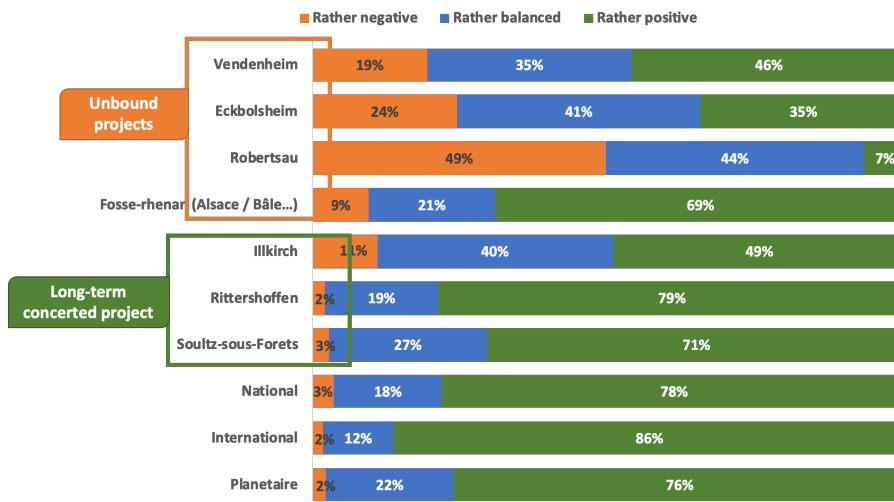


Figure 6: Angle coverage related to deep geothermal energy projects in Alsace

5.3 Geothermal energy... how is it used?

As mentioned above, operators and politicians promoting DGE projects in the EMS criticised the fact DGE projects were lumped together with other geothermal energy projects (Lochwiller, Basel, Landau) using non-industrial technologies or technologies not planned in the EMS projects. Could press coverage on geothermal energy contribute to this kind of misunderstanding? As can be seen in figure 7,

most news reports do not specify what kind of geothermal energy is concerned. On average, half the articles did not explicitly mention whether the target is heat or electricity production. When they did, the main use mentioned explicitly in Alsatian and national press was heat production, mostly domestic heat production (geothermal heat pumps).

In addition, it appeared that different expressions are used to refer to geothermal energy. Among such

expressions like “high temperature geothermal energy”, the most frequent one was “deep geothermal energy” (*géothermie profonde* = 766)¹⁰. This term merits particular attention because of the different meanings that can be associated with the concept of depth: risks, something hidden, obscure and even dangerous or not well controlled events. Journalists or sources quoted by the journalists sometimes explain deep geothermal energy as a technology consisting in penetrating “into the bowels of the Earth”. For example, statements made by an ecologist politician

were reported by *DNA* on the 10th of December, 2014. He associates the fact of going into “the bowels of the Earth” with the damage to land and houses in Landau and with the earthquake in Basel:

On the other hand, I fully understand the citizens' concerns. In these subjects, we are working in the bowels of the Earth, and serious incidents have already made headlines in Landau or Basel, among others.

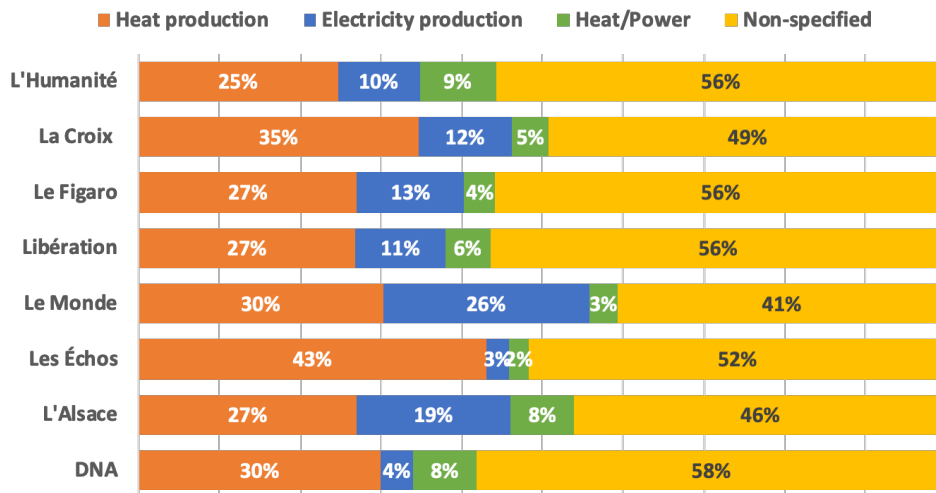


Figure 7: Do Alsatian and national newspapers explicitly mention the use of geothermal energy?

6. CONCLUSIONS

As mentioned in the introduction, promoters of renewable energies may hold the media responsible for opposition to particular projects. By analysing media coverage on renewable energies, other authors expect to find a public opinion indicator (Romanach, Carr-Cornish, et al., 2015). Our research focussed on deep geothermal energy and more specifically on projects planned in the Eurometropolis of Strasbourg (in the region of Alsace in France). Four deep geothermal energy projects submitted to public consultation in 2015 were faced with serious opposition despite the fact that geothermal energy has had a good image in daily newspapers since the early 2000s, as confirmed by the study reported here.

More specifically, this paper explores how geothermal energy has been covered by Alsatian and national press since France implemented measures, such as the national climate plan, to promote energy transition. Articles (n = 3 219), published by two Alsatian daily newspapers (*DNA*, *L'Alsace*), and six national newspapers (*Les Échos*, *Le Monde*, *Libération*, *Le Figaro*, *La Croix*, *L'Humanité*) mentioning the key word “geothermal” energy (“*géothermie*”) at least once were analysed.

Results confirm our previous findings (quantitative survey, focus groups, in-depth interviews): opposition to geothermal energy is related to specific local projects

and less to renewable energy in general. The way in which a particular project is conceived by the operator and the authorities and also involves the local authorities and the residents, all determine residents support.

Over the period 2002 to 2018, the Alsatian and national press tended to focus on the positive aspects of geothermal energy (contribution to energy transition and mitigating climate change) and avoid referring to negative ones (high cost of geothermal projects, risks associated with different geothermal energy technologies). Negative media coverage of geothermal energy was correlated with specific events: an earthquake in Basel or St. Gallen for instance. More specifically, in the Alsatian press, negative coverage concerned the public inquiries held in 2015. In these cases, press coverage on geothermal energy increased significantly.

Confirming some of our expectations based on analysis of participation in public inquiries held in 2015, our results suggest media coverage of geothermal energy had little influence on opposition given that press coverage was globally positive before public inquiries. However, our results also show that media discourses are not always clear about the kind of geothermal energy they are talking about; in addition, there is a significant increase in the number of reports on geothermal energy whenever problems arise. Could this

¹⁰ This qualitative discursive analysis is still in progress. Here we present our first observations.

focus on the negative aspects contribute to confusion regarding the different kinds of geothermal energy? This point will be explored in depth in the next stage of coding our corpus, when we will focus on news reports whose main topic is geothermal energy and exclude reports that only mentioning the word “geothermal” once. We will focus on the sources cited by journalists in order to determine which social actors are visible and hence legitimized by the press to talk about geothermal energy. We will also conduct a discursive qualitative analysis of passages explaining geothermal energy.

An important contribution of the study reported here is taking into account all six national and two Alsatian newspapers over a long period of time. The second contribution was analysing media discourses from a journalistic point of view, which helped avoid overestimating media influence as well as helped understand the constraints faced by the press when writing news reports.

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