

The Effect of Anti-fracking Movements on European Shale Gas Policies: Poland and France

By
Barnabás Áron Kádár

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Supervisor: Erin Kristin Jenne

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ABSTRACT

While the extraction of shale gas is well underway in the United States, Europe is still lagging behind. Although France and Poland are possessing similarly large reserves, only Poland is undergoing the “shale gas revolution”, while on the other hand France went as far to ban extraction. Through these two case studies the present research argues that the diverging adoption of shale gas in Europe might be explained by the emergence of the anti-fracking movements. By applying the political opportunity structure theory of the social movements literature, the impacts of grassroots and transnational activism on government policies are examined. These two case studies are then extensively analysed using a qualitative comparison and process tracing. Findings reveal that while the anti-fracking movement was the most important impetus behind the French ban, its Polish counterpart could not go beyond local presence and stayed marginal, thus making it unable to have an impact. Finally, the thesis emphasises that the global anti-fracking movement could succeed where local values resonate with their frames. While the presence of environmental frames in France facilitated the movement, the competing energy security and economic development frames in Poland greatly hindered its effectiveness.

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INTRODUCTION

Shale gas is a relatively new resource in the energy sector, but its importance is rapidly rising. With new accessible reservoirs discovered on a regular basis and the start of extraction in the United States, significant academic attention has been devoted to the topic already. Most contributions, however, concentrate on the economic and energy security aspects, and little attention has been devoted to its social consequences. Since its initial discovery, both the resource itself and the techniques used for extraction became the centre of a widespread controversy with the industry on one side and the anti-fracking movement¹ on the other.

On one hand the industry views and promotes shale gas as a cleaner alternative to conventional resources, which can serve as a “transition fuel” to reach a greener economy. They highlight the creation of new jobs and claim that shale gas can successfully reduce the energy dependence of Europe, thus increasing energy security. The rapid expansion of the industry in the United States certainly serves as a positive example of development and Europe tries catch up to its Atlantic partner, both on national level, but also within a European regulatory framework. On the other hand, however, green activists, organisations and many of the local population where the drillings take place highlight the negative consequences of shale gas. The chemicals in the fluids used for fracking can contaminate the groundwater reservoirs if injected underground, or evaporate into the air if treated on the surface, thus affecting air quality. Expert reports question the low carbon emission of shale gas, as leaked hydrocarbons and methane can increase the greenhouse effect just as much as a traditional coal plant. In addition to all this,

¹ Fracking primarily refers to the process of hydraulic fracturing, which is perceived to be the most environmentally problematic phase of shale gas extraction. Although, the movements against shale gas have concerns with more than just hydraulic fracturing, they are commonly referred as anti-fracking groups, by themselves and the literature too.

fracking may lead to a range of environmental and health problems of its working personnel to earthquakes.²

Given the early adoption and development of shale gas excavation in the United States, Europe is still lagging behind. While some countries like Poland and to some extent the United Kingdom quickly tried to catch up to the United States, others like France and Bulgaria went as far as banning all activities related to it. Policy-makers face a particularly hard decision, because energy and other business groups pressure them from one side, and green activists and part of the civil society push from the other. Ultimately the puzzle of this thesis is not just an intra-state pattern, but rather to show how global movements and NGOs (non-governmental organizations) interacted with movements on the ground and generated a supporting or opposing public reaction to fracking. In turn, the view of the public differently influenced the decision-making on the elite level of each case country, which may help to explain why countries with similar shale gas reserves decided divergently on its excavation.

In the initial years of the fracking boom, nearly all European countries viewed the United States as a positive example of cultivating a new technology and rapidly-developing industry, and prepared to follow suit. Although fracking is mainly in the exploratory drilling phase in Europe, these developments caused public and media outcry against it. What is puzzling is that countries where the anti-fracking movement has a strong presence, their governments adopted very different policies. France went through major activism and protests, and eventually the government had no option but to cancel exploration. The case of Poland stands in contrast of France as the country's weak anti-fracking network unsurprisingly could change, neither the public sentiment nor the government's position. Moreover, the emergence of these movements preceded the formulation of public sentiment, and so tried to shape it against shale gas using different framing and agenda setting methods. Of course this pattern cannot be explained only

² Samuel Fleet, Paul de Clerck, and Lili Fuhr, "Unconventional and Unwanted: The Case against Shale Gas," 2012, 3, http://c2.washington.boell-net.de/downloads/Shale_Gas_Report_FoEE_HBS.pdf.

by the emergence of the anti-fracking movements and the changing perception of the public, but also by several other factors. Both of the countries explored here have a different energy security concerns and reliance on the import of hydrocarbons, as well as different political system. While the former factors can be determined by contrasting empirical data, the latter factor calls for a deeper theoretical explanation. For this I am relying on the theory of political opportunity structures and social contention.

Consequently, the present research investigates the impact of the global anti-fracking movement and local grassroots activists on the diverging shale gas policies in Poland and France. By understanding the impetus behind anti-fracking movements, policymakers and activists can find a common ground, paving the way to both ecologically and economically constructive shale gas policies. As the industry strives for an American type of light regulation, while some of the activists prefer total ban, a solution may seem farfetched. Recent developments, however, rendered a highly regulated and environmentally conscious middle ground more probable. Shale gas seem to be much harder to extract than expected due to the special characteristics of the European geology, and actual reserves have proven to be much lower than estimates. This led to the suspension of many drilling sites and the withdrawal of companies like Total, Eni and Marathon Oil from Poland for example.

In the next section I review the literature dealing with the emergence of shale gas in Europe as well as comparison between Europe and the United States. My theoretical framework is developed in contrast with the literature review in the second section. During these two section I highlight the gap in the explanation of the already existent international relations literature, and the possibilities of social movement centric research. The third section introduces eight hypotheses to facilitate, as well as provide alternative understanding to my research question. While the fourth section outlines the methodology of my thesis, the last section sums up my research.

Literature Review

The theoretical framework of this thesis combines international relations literature and social movement theory in a deductive manner. The relevant literature of international relations³ builds on empiric investigations about economic characteristics and particularities as well as the environmental risk assessments and economic concerns about shale gas, and argues that it is mainly the economic viability and energy security that decides if a country will adopt shale gas or not. The United States possesses an already established shale gas infrastructure, and so scholars focus on contrasting the U.S. (United States) experience to European possibilities. All of these contributions⁴ remark the significance of politics and public opinion, but at the same time they note that little research has been conducted within the IR (international relations) corpus. In response, the present thesis turns to the social movements literature to find answers to societal consequences of shale gas development. The social movement literature is then used to establish the theoretical foundation and the research design of the two case studies. While the traditional social movements literature helps measuring the impact of politics and protest culture on shale gas support, newer research⁵ tries to establish a connection between local and transnational factors. Moreover, these newer articles⁶ help to illustrate how transnational movements operate by resonating with local and national frames, and thus getting their message into the public discourse.

³ Tim Boersma and Corey Johnson, "The Shale Gas Revolution: U.S. and EU Policy and Research Agendas: The Shale Gas Revolution," *Review of Policy Research* 29, no. 4 (July 2012) and Francis McGowan, "Regulating Innovation: European Responses to Shale Gas Development," *Environmental Politics*, December 4, 2012, and Marianne Haug, "Shale Gas and Renewables: Divergence or Win-Win for Transatlantic Energy Cooperation?," *Journal of Transatlantic Studies* 10, no. 4 (December 2012)

⁴ See footnote 3.

⁵ Elizabeth Bomberg, "The Comparative Politics of Fracking: Agenda-Setting, Networks and Framing in the U.S. and Europe," *UK Political Science Association*, 2013. and "Global Shale Gas and the Anti-Fracking Movement: Developing Union Perspectives and Approaches," *Trade Unions for Energy Democracy*, 2014, <http://goo.gl/UgAv2T>

⁶ See footnote 4.

Both the IR literature on shale gas and the present research relies on the economic assessment and concerns associated with fracking, which is utilised as basic empirical data that support the author's general claims. In order to grasp the technological aspects and the environmental problems caused by fracking, Howarth's analysis⁷ is invaluable in this respect, as he highlights the problems with the transition fuel status of shale gas, since the abundance of fugitive methane, especially over the long term increases the greenhouse gas footprint of shale gas to level that even surpasses that of conventional resources. When it comes to Europe a recent contribution by Musialski,⁸ which is a courageous attempt to bring together European scholars on the topic. It basically covers the technological concepts and terms, and as such, it provides a basis for the social science part of my research. This research lays out the risks associated with fracking, while also outlining the special regulatory and geographical characteristics of European shale reserve extraction.

Most of the studies within the IR literature have been conducted on the energy security and economics of shale gas. These authors believe that the economic scale and viability of shale gas which matters in the first place, and if there are enough reserves, the likelihood of adoption can be magnified by the energy security situation of the country as well as the possibility of alternative resources. The debate is characterised by the comparison of Europe to the United States, where authors from the United States are urging for fast shale gas adoption, and European scholars are more cautious about developing the shale industry. Kefferputz⁹, as well as Stegen and Kuszniir¹⁰ promote shale gas, because of energy security considerations, and believe in a strong triangular relationship between the United States, the European Union and

⁷ Robert W. Howarth, Renee Santoro, and Anthony Ingraffea, "Methane and the Greenhouse-Gas Footprint of Natural Gas from Shale Formations: A Letter," *Climatic Change* 106, no. 4 (June 2011)

⁸ Shale gas in Europe: a multidisciplinary analysis with a focus on European specificities, edited. by Cecile Musialski et al., Deventer : Claeys & Casteels, 2013

⁹ Roderick Kefferputz, "Shale Fever: Replicating the U.S. Gas Revolution in the EU?," *CEPS Policy Brief*, no. 210 (2001)

¹⁰ Karen Smith Stegen and Julia Kuszniir, "Transatlantic Energy Relations: A View from Washington," *Journal of Transatlantic Studies* 10, no. 4 (December 2012)

Russia. The United States is looking for individual member states that are willing to let American companies drill, as so far Brussels was not suitable for lobbying, given that major countries like France and Germany are rather against shale gas. Haug¹¹ sees transatlantic differences less conflicting, as American and European priorities are quite different. Apart from some limited exploratory drilling, Europe is predominantly concentrating on renewables, with Germany in the lead, and so the United States develops its shale gas industry at a much higher pace. According to Haug, this can lead to a win-win situation where resources are diversified and dependency from imports is reduced.

Since the United States is further along the development of shale gas extraction, debate on the effects of fracking are well underway. Many studies show how a government responds to shale gas within the American environment, which can be then contrasted with European regulation possibilities. Boersma and Johnson¹² compare the history of the policy and research agendas in the United States and Europe and as such they highlight the differences between the regulatory environments. This framework, however, changes with time especially when new innovations enter the market. McGowan¹³ precisely explains how the regulation takes places in the case of shale gas in both countries examined in this thesis, and argues that the fate of innovative technologies such as shale gas depends on how well regulation can address positive and negative externalities. According to Goldthau and Hoxtell¹⁴ vulnerabilities derived from regulation can directly affect the energy security situation of the country, and in case global risks are paired with weak regulation that can threaten the adoption of shale gas. Another article

¹¹ Marianne Haug, "Shale Gas and Renewables: Divergence or Win-Win for Transatlantic Energy Cooperation?,"

¹² T. Boersma and C. Johnson, "The Shale Gas Revolution: U.S. and EU Policy and Research Agendas: The Shale Gas Revolution," *Review of Policy Research*, vol. 29, no. 4, 2012.

¹³ F. McGowan, "Regulating innovation: European responses to shale gas development," *Environmental Politics*, vol. 23, no. 1, 2014.

¹⁴ Andreas Goldthau and Wade Hoxtell, "The Impact of Shale Gas on European Energy Security," *Global Public Policy Institute (GPPi) Nr 14* (2012)

by Goldthau¹⁵ divides the effect of shale gas policies into four categories, based on expected liberalisation of markets and economic performance. As such, Goldthau highlights how shale gas can be integrated to the pre-existing economic structures. Moreover, by applying his categories to the two cases of the present thesis, one can isolate the non-economic factors affecting the likelihood of shale gas adoption, which is precisely what my research is trying to accomplish.

All the aforementioned research builds its reasoning around economic and energy security arguments, as the according to these factors matter explaining government's position, and also the strength of public resistance. Some authors, however, emphasise the equal importance of societal factors, but at the same time still rely on the market and security considerations. For example, a recent article by Goldthau and LaBelle¹⁶ building on an argument by Eisner¹⁷ suggests that new energy technologies, such as shale gas are only adopted by a country if they fit into technology regimes. According to the Goldthau and LaBelle this regime can be divided into three categories. They have to fit the industry's needs and demands and the given political as well as the social system. However, Goldthau and LaBelle concludes that: "...the industry fit might be there. Yet, fracking and unconventional gas might simply fail on the other two fits".¹⁸ Consequently, my inquiry about the diverging European policies dwells into these two "failed fits". Another instance of integration of the economic and societal factors is the research of Bomberg.¹⁹ While the author draws a comparison between Europe and the United States, this research focuses only on Europe and the role of the anti-fracking movement, which sacrifices geographical representation for a more in-depth analysis two cases. While, the

¹⁵ Andreas Goldthau, "The Politics of Natural Gas Development in the European Union," 2013, <http://bakerinstitute.tendenciapp.com/media/files/Research/b7b96328/CES-pub-GeoGasEU-102513.pdf>.

¹⁶ M. LaBelle and A. Goldthau, "Escaping the Valley of Death? Comparing Shale Gas Technology Policy Prospects to Nuclear and Solar in Europe," *The Journal of World Energy Law & Business* 7, no. 2 (April 1, 2014)

¹⁷ Marc Allen Eisner, *Regulatory Politics in Transition* (2nd edn, Johns Hopkins University Press 2000)

¹⁸ M. LaBelle and A. Goldthau, "Escaping the Valley of Death?"

¹⁹ Bomberg, "The Comparative Politics of Fracking: Agenda-Setting, Networks and Framing in the U.S. and Europe."

comparison of the United States and Europe is more in line with the traditional IR scholarship, Bomberg's study also focuses on the agenda-setting and framing tools of both the industry and the anti-fracking groups, which are bringing her research closer to the social movements literature.

Theoretical Framework

The literature outlined so far is narrowly focused on explaining the consequences of shale gas with economic or security factors, but lacks the consideration of the societal sphere. To address this gap, I utilise the model of political opportunity structures and contentious politics, situated within social movement theory, to provide a new framework of analysis through which the effects of the anti-fracking movements can be uncovered. This theory was developed by McAdam,²⁰ Tarrow²¹ and Kitschelt²² who stated that the outcome of protests and movements is largely dependent on political opportunity structures and windows of opportunity.²³ The main argument is that policy entrepreneurs are constrained if the system is closed and they are more likely to succeed if it is open. There are several factors which determine the openness of a political system, and although they are usually agreed upon in the literature, definitions can differ. According to Tarrow,²⁴ there are four major opportunities: the openness of the polity, the stability of political alignments the availability of an influential ally and the splits within the elite. These factors are analysed in Chapter 2 and 3 case studies because they may provide the starting point for understanding European policy divergence. Windows of opportunity apply to both the local and the transnational anti-fracking movement.

²⁰ McAdam, Doug. *Political process and the development of black insurgency, 1930-1970*. University of Chicago Press, 1982.

²¹ Tarrow and Tollefson. *Power in movement: Social movements, collective action and politics*. Cambridge: Cambridge University Press, 1994.

²² H. Kitschelt, "Political opportunity structures and political protest: Anti-nuclear movements in four democracies," *British journal of political science*, vol. 16, no. 1 1986.

²³ Kingdon, John W., and James A. Thurber. *Agendas, alternatives, and public policies*. Vol. 45. Boston: Little, Brown, 1984.

²⁴ Tarrow and Tollefson. *Power in movement*.

When it comes to the methodology and political opportunity structure of the social movement literature, Kitschelt's investigation of the influence of anti-nuclear movements serves as a model for my thesis. His investigation is particularly relevant, as it exactly deals with what the IR literature itself has missed: how the sceptics of a new energy source use their countries' political opportunity structures to mobilise and sway public opinion in support of their position. In his famous article, Kitschelt compared the effectiveness of anti-nuclear movements in four democracies. He claims that the impact and even the strategy of movements' activists was determined by each country's unique political opportunity structure, which consists of three facets. Sufficient resources, institutional arrangements and precedents for social mobilisation all count as factors that intervene between mobilisation and the impact of the movements. In his article, the openness of a political structure increases if: there are more parties present, the legislative branch is more independent, civil groups are connected to each other and there is a possibility of building coalitions and lobbying. Based on their endowment with these factors, he positions the four democracies into a 2x2 matrix, which explains why the anti-nuclear movement was successful in some places, but not in the others. Both his theoretical approach and his methodology offers great possibilities for my thesis. Although my categories are different, most of Kitschelt's theory can be applied to the anti-fracking movements, with some modifications.

Political opportunity, however, while necessary, but is not a sufficient condition for a successful movement. Successful mobilisation ultimately depends on framing,²⁵ more precisely, on how well the frames employed by the movement resonate with the public. The product of the ever changing and evolving framing process, done by organisations and activists,

²⁵ The term was first developed by Erving Goffman in 1974, and according to the Tarrow and Tilly's understanding, framing means: "adopting and broadcasting a shared definition of an issue or performance. Goffman, Erving. *Frame analysis: An essay on the organization of experience*. Harvard University Press, 1974 and Tilly, Charles, and Sidney Tarrow. *Contentious politics*. Oxford University Press, 2006. 216.

is what Benford and Snow²⁶ call collective action frames. These frames are employed in order to spread the ideas of the movement, as well as collect resources, both in the form of new members and economic contributions. While these frames differ between countries and movements alike, this research would like to focus on the differences in the former. Apart from two cases, the United States needs to be investigated for possible frames over shale gas, as the anti-fracking movement started there. Wright²⁷ explores a framing process in the United States, and highlights a shift from environmental problems to health issues as well as injustice frames, in the movement's framing process. At this point, it has to be noted that, since the anti-fracking movements in the United States developed much later than the industry, they have to deal with already well-embedded structures. This is one of the reason why they rely on frames which resonate with the widest range of audience possible, such as injustice and the fight of giant firms vs. ordinary local citizens.²⁸

In order to test examine how framing and mobilisation works when grassroots activism started to develop in a diverging way in Europe, both national and local frames have to be explored. While there are examples of research identifying frames in shale gas development, all studies have stayed on the local level, with no cross-country comparison. In Poland for example, Edyta Materka²⁹ extensively researched the relationship between local sentiment and government policies, as well as the evolution of local movements in Pomerania region, which provides empirical support for my generalisation. While scholars with more of an IR approach emphasised the importance of anti-Russian and economic development frames, Materka claims

²⁶ Robert D. Benford and David A. Snow, "Framing Processes and Social Movements: An Overview and Assessment," *Annual Review of Sociology* 26, no. 1 (2000): 614.

²⁷ Marita Wright, "Making It Personal: How Anti-Fracking Organizations Frame Their Messages," *The Journal of Politics and Society* 24, no. 2 (2013)

²⁸ Personal interpretation of the movie *Gasland*, and discussions with my supervisor, Erin Kristin Jenne.

²⁹ Edyta Materka, "Poland's Quiet Revolution: Of Shale Gas Exploration and Its Discontents in Pomerania," *Central European Journal of International and Security Studies* 6, no. 1 (2012)

that nationalism in general and fear of foreign exploitation framed the Polish government's decisions.

In France, Buisset³⁰ conducted several private interviews with organisers like Antonine Simon, to discover the national strategy of the movement, and thus provide testing ground for the analysis of this thesis. Moreover, Maythorne³¹ identified frames, like protection of agriculture and traditional way of life in France, in the case of green movements, which serve as convincing hypothesis for the anti-fracking movements as well. Finally, the increasing anti-globalisation frame of the present movements³² connects them to previous environmentalist movements, like the anti-GMO (genetically modified organism) and anti-nuclear movement.

Hypotheses

In order to explain the diverging European responses to shale gas as well as to answer the research question, several hypotheses are introduced. Five core hypotheses derives from the application of my theoretical framework, the social movement literature, to the case of shale gas. In contrast, the three alternative hypotheses are tested, because these were the important factors authors in the literature review considered as determinant of whether a country adopts or bans fracking.

The most basic tenets of the social movement literature³³ suggest that ultimately the strategies and impacts of a movement is determined by the political opportunity structure. Thus, one would expect that if one or more factors allow for stronger movement voice and representation in the government, movements are likely to have a stronger impact. In the two

³⁰ S. Buisset, O. Oye, and J. Selleslaghs, "Lobbying Shale Gas in Europe," 2012, <http://www.pacteurope.eu/pact/wp-content/uploads/2012/06/Lobbying-shale-gas-in-Europe.pdf>.

³¹ Louise Irene Maythorne, "Europeanisation of Grassroots Greens: Mobilisation in France, Italy and the UK," 2012, <http://www.era.lib.ed.ac.uk/handle/1842/7778>.

³² See Maythorne and Combes.

³³ See McAdam, Tarrow and Kitschelt.

case countries, the public support of a prominent politician or political party has proven to be a major turning point.

H₁: Where political opportunities were present, the anti-fracking movements had a greater impact on government policy.

While after the initial environmental framing of shale gas, the anti-fracking movements in the United States moved away from emphasising environmental concerns, to health hazards, Europe is different. The protection of the nature and local way of life, has a strong public acceptance in France, which might be endangered by fracking. The lower economic development on the contrary, probably makes this frame less appealing in Poland as local farmers worry about their revenue more.³⁴

H₂: Countries and publics with strong conservationist frames are more likely to create an atmosphere where the anti-fracking movement had a greater impact.

The social movements literature suggests that countries with earlier experience in civil resistance and activism are more likely to mobilise again. Tarrow³⁵ calls this the cycles of contention when opportunities in the political structure arise, which in turn allows social change through collective action. Over time, movements, independently of whether they are successful or not, leave social structures and frames behind, which facilitates the emergence of new movements. According to this, countries with earlier activism against nuclear plants or against climate change are more likely to be receptive to anti-fracking movement.

H₃: Where the level of environmental activism and protest culture was historically high, anti-fracking activism had a greater impact.

³⁴ See Materka and Buisset.

³⁵ Tarrow and Tollefson. Power in movement, 141.

The spread of shale gas as a possible new resource was only realised in Europe recently, and as such the anti-fracking movements is relatively new as well. While environmental NGOs spread the presumed concerns with fracking between countries, they always needed local activists to raise the awareness of the general public and respond to drilling site plans on the field. At the same time, local grassroots movements utilised the information sheets, mobilising power and fundraising capabilities of the global organisations³⁶. The following hypothesis, therefore states that environmental NGOs utilised their global networks to help local concerns in reaching the decision-makers, thus magnifying the impact of the movement.

H₄: In countries where environmental NGOs were present and were connected to grassroots, the anti-fracking movement had a greater impact than where they were not present.

Wood³⁷ starts his investigation by emphasizing the importance of the movie *Gasland*, namely that, “it provided a shared point of reference for anti-fracking groups worldwide, serving as a ready introduction to the issues and perspectives of the anti-fracking movement”.³⁸ He follows with several examples of screenings and distribution of the movie in Europe, which coincided with the start of European resistance against shale gas. Although very successful, *Gasland* is only one of several sources from and with which movements created their collective action frame, which serves as the last core hypothesis.

H₅: When collective action frames generated by Gasland and other online media resonate with existing local frames, they are more likely to generate an effective anti-fracking movement.

The last three hypotheses presented are not related to social movement but instead, try to identify other possible explanations for government policies on shale gas. The most basic

³⁶ Jonathan Wood, “The Global Anti-Fracking Movement,” *Control Risks*, 2012, 5, http://www.controlrisks.com/~media/Public%20Site/Files/Oversized%20Assets/shale_gas_whitepaper.pdf.

³⁷ Wood, “The Global Anti-Fracking Movement.”

³⁸ *Ibid.*, 2.

explanation takes the point of view of the industry and claims, that the most important factor in determining whether fracking starts is economic profitability. This however, is not only dictated by the size and location of the resource, but several other factors. Emerging government legislation and international market trends can equally convince the industry and through them the government if shale gas should be developed or not.

H₆: Whether the industry sees local shale gas deposits and economic situation profitable, is the factor which determines if the government supports shale gas.

Authors like Tallents,³⁹ Weijermars⁴⁰ and Goldthau and Hoxtell⁴¹ highlight the strong relationship shale gas and the energy security architecture of Europe. The reliance on Russian gas drove Europe to look for an energy supplement to conventional gas, and a large chunk of the literature claims that shale gas can act like a “bridge fuel” between hydrocarbons and renewables, while at the same time it would also be able to reduce dependency. First, as all European countries are in different energy situations, it can be expected that states which are not that dependent on foreign countries to provide energy for their needs, will have a weaker incentive for new energy sources. Second, while some countries especially in Eastern Europe are historically more leaning towards gas, others, such as France have traditionally strong nuclear power supply at its disposal. Therefore, the last two alternative hypothesis point to the relative importance of gas as a strong indicator of government decision.

H₇: Countries with higher gas dependence, vulnerable imports and less domestic supply are more supportive of shale gas as means to substitute their energy import.

H₈: Countries with no alternative resource development possibilities are more likely to support shale gas.

³⁹ Alice Tallents, “European Gas Supply & Demand, and the Outlook for Shale Gas,” *JOGMEC London Office, Oil & Gas Department*, 2012, http://oilgas-info.jogmec.go.jp/pdf/4/4368/201105_043a.pdf.

⁴⁰ R. Weijermars et al., “Unconventional Gas Research Initiative for Clean Energy Transition in Europe,” *Journal of Natural Gas Science and Engineering* 3, no. 2 (May 2011)

⁴¹ Goldthau and Hoxtell, “The Impact of Shale Gas on European Energy Security.”

Research Design

This thesis uses qualitative comparative analysis and the method of difference, in two case studies to investigate the causal relationship between the anti-fracking movement (the main independent variable) and the government policy on shale gas (the dependent variable). Moreover, in order to address all the aforementioned hypotheses the research also has to take into account other independent variables. These variables not only influence the dependent variable, but also has strong effect on each other, often acting as intervening variables. By contrasting the same independent variables in two countries, their individual as well as their overall effect can be uncovered. This type of research is often referred as process-tracing in the literature, which according to Collier: “aims to ascertain the causal process linking an independent variable(s) to the outcome of a dependent variable, particularly in small-n studies”.⁴² As a result of the abundance of possible dependent variables and hypotheses, the case countries will be examined from two aspects. While the tools of political opportunity structures and framing will be used for social movement explanations, the economic background is explored to establish chronology and to test the alternative hypotheses. Ultimately, the present research is a theory testing, which set out to apply the social movements literature, to a new environment; the anti-fracking movement.

The cases of Poland and France were selected primarily because the case comparison constitutes an empirical puzzle. While Poland allowed and even supported fracking, France banned all fracking activities after an initial delay. Also the presence of the anti-fracking movement was very salient in France, but the movement failed to take hold in Poland. Of course, there are other European countries that adopted divergent policies; for example Bulgaria and Romania also banned shale gas, while several other European countries likewise support fracking. Poland and France boasts the biggest estimated reserves of European shale gas with

⁴² David Collier, “Understanding Process Tracing,” *PS: Political Science & Politics* 44, no. 04 (October 2011): 823–30

5.3 and 5 trillion cubic metres respectively.⁴³ Other notable reserves exist in Norway, Ukraine, Bulgaria, Netherlands, Germany, Romania and the United Kingdom. These countries were not chosen as case studies, however, because all of them have significantly smaller reserves than France and Poland. Because of the significance of these two countries' gas potential, an exploration of their diverging policies on fracking becomes highly interesting and policy-relevant.

In order to get more involved with the topic, the present research utilise some very basic field research. Two experts of two different environmental NGOs were interviewed, because precisely these NGOs the ones which are regarded as the transnational level of anti-fracking movement in the literature. Moreover, both of them had a first hand experience with the local activists, and as such they established connection between companies, governments and the general population. First, Timothé Feodoroff is a scholar activist graduated from the Agricultural and Rural Development Studies from the Institute of Social Studies (The Hague), currently working for the Transnational Institute. He mainly deals with agrarian justice and land grabbing, and the author of many shale gas publications focusing on Transatlantic Trade and Investment Partnership. Secondly, Geert Decock is Food and Water Europe's policy officer, receiving his Ph.D. in Political Science from the University of Alberta (Canada). He visited several problematic areas in Pomerania, Poland and lobbied in Brussels for the organisation's campaign to ban hydraulic fracturing. These interviews not only facilitate the thorough understanding of the topic, but also serve to control the results of my investigations to the inside experience of the anti-fracking movement.

⁴³ Wood, "The Global Anti-Fracking Movement," 15.

Conclusion

I will show that the differing political opportunity structure in Poland and France is the main cause of the differences in national fracking policy. Because of diverging level of openness to environmentalism across the two countries, the transnational movement had a different impact on the two cases. While the Green Party in France could serve as an amplifier to help environmental movements, there is no apparent ally for the Polish movement. Also, the level and history of environmental activism is much more embedded in the French society than in Poland. Thus, the political situation can help to understand not only the differential effect of different political systems on the anti-fracking movement, but also to explain the different fracking policies in the two countries.

The first chapter will trace the history of shale gas and present the environmental and societal risks and consequences of fracking. It will show how the whole anti-fracking movement started and what framing and mobilising techniques it used to become a force to be reckoned with and how it spread to Europe.

In the second and third chapters, the two case countries, Poland and France will be introduced. The analysis will dwell on their economic and especially their energy background and investigate what kind of opportunities, their political structures are presenting. Then, the research will turn to local anti-fracking movement and explore how could or could not they alter the country's decision on fracking.

The last chapter will contrast the findings of the case studies and will try to create an overarching narrative that explains the diverging impact of the transnational movement in the two countries. It will show whether my own and/or the alternative hypotheses were correct and restates the answer to the research question, before concluding and elaborating on policy implications.

CHAPTER 1: HISTORY OF FRACKING AND ANTI-FRACKING

1.1 History of Fracking

Shale plays were first discovered accidentally in Fredonia, New York in 1831.⁴⁴ Since then the history of shale gas has been linked to the United States with incomparably faster development and higher production than the rest of the world. But because of very high extraction costs and difficult accessibility small scale extraction came only a hundred years later and industrial excavation only in the past couple of decades. The abundance of cheap energy and domestic production limited the developments of the sector, and decision-makers only started research after the oil shocks of the 1970s.⁴⁵ Since then, research and development has skyrocketed in the United States, with the help of state subsidies to find a way out of the high energy prices and import dependence. New research has revealed that the United States possesses one of the biggest unconventional gas reserves, thus the main aim was to reduce production costs for large-scale production. The breakthrough came when George Mitchell succeeded in lowering costs under 4 million dollars per British thermal unit. In 1998 his company, Mitchell Energy and Development Corp, started industrial scale fracking of the Barnett Shale in Texas. This started the unconventional gas revolution, during which the share of shale gas in the primary energy mix of the United States rapidly increased, inducing economic growth and abundance of cheap energy.⁴⁶

Apart from shale gas, unconventional resources also include tight gas, coalbed methane and gas hydrates as well. All share similar exploration and production mechanisms like increased number of wells, extensive use of water and advanced drilling methods.⁴⁷ This

⁴⁴ "Shale gas: a short history from NETL" NETL Newsroom (2011) <http://goo.gl/VQ4QCD>

⁴⁵ Zhongmin Wang and Alan Krupnick, "A Retrospective Review of Shale Gas Development in the United States," *Resources for the Future*, 2013, 3

⁴⁶ *Ibid.*, 3–6.

⁴⁷ Oil and Gas Commission Fact Sheet, 2011, <https://www.bcogc.ca/node/6034/download>

involves a combination of hydraulic fracturing and horizontal drilling in addition to the usual vertical drilling method, which serve as a basis for many of the controversies associated with unconventional resources. After drilling vertically down, the drilling head turns and creates horizontal sections, which cover a wide area. This is followed by an initial fracking phase, creating small fractures in the shell. High pressure fracking fluid is pumped to the area which increases the size of the breaches as well as keeping them open, thanks to added chemical proppants. After this phase is over, the “produced fluid” flows back to the surface containing the initial chemicals plus hydrocarbons as well as metals and even radioactive molecules. It is then either used for another drilling or stored on site or inserted and disposed underground if no waste-water treatment facility is available.⁴⁸

Scholars like Engelder⁴⁹ and Wang⁵⁰ highlight the economic benefits of fracking which were the major reason behind the industry's rapid development in the past decade. Increased energy prices since the 70s led to a developing reliance on gas import through LNG (liquidified natural gas) pipelines. The shale gas boom successfully reversed this trend as its prominence rose from 1% of the U.S. production in 2000 to more than 20% nowadays, with one of the highest recoverable reserves in the world. This reduced gas price domestically and affected the global price of gas through the surplus of LNG pipelines. It created jobs where shale gas was found and majorly contributed to economic growth. At the same time, however, some economists warn that the “revolution” may be just hype. If production does not live up to expectations, it can cause shortages. It may happen because shale gas wells often have faster depletion rates and construction can become costly if geology is less appropriate than expected. Finally, many claim that shale gas is a bridge fuel to a carbon-free future, but others warn that

⁴⁸ United States Environmental Protection Agency: Natural Gas Extraction - Hydraulic Fracturing, <http://www2.epa.gov/hydraulicfracturing>

⁴⁹ Robert Howarth, Anthony Ingraffea, and Terry Engelder, “Should Fracking Stop?,” *Macmillan Publishers Limited*, 2011, 274–5, <http://goo.gl/Nm4PgR>

⁵⁰ Qiang Wang et al., “Natural Gas from Shale Formation – The Evolution, Evidences and Challenges of Shale Gas Revolution in United States,” *Renewable and Sustainable Energy Reviews* 30 (February 2014)

it drains resources away from renewables and thus keeping the United States in the carbon age.⁵¹

1.2 Societal Consequences

There are additional problems with extracting this energy source, according to Howarth and Ingraffea.⁵² The advanced fracking techniques require significant quantities of water, which puts especially high strain on water-scarce areas. The water used is mixed with a wide range of chemicals, many of which are hazardous to one's health and kept secret from the public. The returning waste-water can contaminate freshwater reservoirs as it was proved in the famous Wyoming case,⁵³ or even evaporate, causing air pollution if disposed on site. The other major problem is related to climate change, as although unconventional resources release less carbon dioxide, their methane leakages can result in higher overall emission, making it even worse than conventional fuels, especially in the short term. All of these concerns led to the emergence of the anti-fracking movement initially on a local level, facilitated by the failure of federal regulation. Although research on shale gas is quite old and even industrial drilling has been around for a decade, regulation is still trying to catch up. In the United States shale gas companies are exempt from the biggest environmental protection federal laws like the Safe Drinking Water Act or the Energy Policy Act. The most notorious is the so-called Halliburton loophole, which was named after Dick Cheney, a former chief executive officer of the Halliburton Oil and Gas Company, who intervened on behalf of the fracking industry. This allowed them to prevent federal legislation to control their produced water disposal as well as

⁵¹ Paul Stevens and Royal Institute of International Affairs, *the "Shale Gas Revolution": Hype and Reality* (London: Chatham House, 2010).

⁵² Howarth, Ingraffea, and Engelder, "Should Fracking Stop?" 272–3.

⁵³ Abraham Lustgraten: EPA Finds Compound Used in Fracking in Wyoming Aquifer. Propublica, 2011, <http://www.propublica.org/article/epa-finds-fracking-compound-in-wyoming-aquifer>

to monitor the chemicals used.⁵⁴ Since then the industry tries to maintain the existing favourable legislation, to contain the issue on the federal level, while emphasising benefits of shale gas to the public. The anti-fracking movement, on the other hand tries to get help from the Environment Protection Agency, while lobbying against the industry at the municipal level, which is easier to reach for local, resource-poor activists.

The development of shale gas in the United States to a large degree can be credited to the unique land ownership system of the country. Contrary to Europe not the state, but the individual has ownership of all the ground and minerals under that person's property, which makes the individual interested in leasing land for the industry.⁵⁵ As a result, the industry had to convince individuals to lease their property to them for drilling. Consequently, it was local land owners who first faced the environmental problems. This led to a development of local activism which according to Willow and Wylie⁵⁶ cannot be understood in usual economic and statistical terms and should be examined using anthropology and ethnographic studies about individual experiences. These draw on several anthropological case studies conducted in New York,⁵⁷ Pennsylvania,⁵⁸ Ohio⁵⁹ and even Australia.⁶⁰ These studies all warn about the importance of social and cultural effects of fracking and the human consequences of the fight against the industry. Meanwhile, the people with direct environmental harm feel powerless as they neither authorised nor had oversight over the processes that significantly worsened their quality of life.

⁵⁴ William J. Brady and James P. Crannell, "Hydraulic Fracturing Regulation in the United States: The Laissez-Faire Approach of the Federal Government and Varying State Regulations," *Vt. J. Env'tl. L.* 14 (2012): 39.

⁵⁵ Wang and Krupnick, "A Retrospective Review of Shale Gas Development in the United States."

⁵⁶ A. Willow and Sara Wylie, "Politics, Ecology, and the New Anthropology of Energy: Exploring the Emerging Frontiers of Hydraulic Fracking," *Journal of Political Ecology* 21 (2014): 222–36.

⁵⁷ Jeanne Simonelli, "Home Rule and Natural Gas Development in New York: Civil Fracking Rights," *Journal of Political Ecology* 14 (2014)

⁵⁸ Anastasia Hudgins and Amanda Poole, "Framing Fracking: Private Property, Common Resources, and Regimes of Governance," *Ecology* 21 (2014)

⁵⁹ A. Willow, "The New Politics of Environmental Degradation: Un/expected Landscapes of Disempowerment and Vulnerability," *Journal of Political Ecology* 21 (2014)

⁶⁰ Kim de Rijke, "Hydraulically Fractured: Unconventional Gas and Anthropology," *Anthropology Today* 29, no. 2 (2013)

1.3 Mobilising and Framing

How all these individuals opposing shale gas became a larger network of people first in the United States then all over the world? The short answer is, through agenda-setting and utilisation of collective action frames, yet to see the full picture, the history of the movements should be examined. The first movements started in Texas around the first Barnett Shale plays, quickly followed by groups along the East Coast Marcellus Shale Basin. As they expanded the movements, they hunted for frames or narratives that they could use to tell their story, which would resonate with larger audience.⁶¹ In an attempt to shift away from the general sustainability theme of the time, they tried to combine recent scientific findings with the local ethnographic experience. Little-by-little, health hazards and injustice became the centre of their attention especially after the release of the movie, *Gasland*.⁶² As Wood notes in his article: “The anti-fracking movement did not start with *Gasland*, but would not have gone global without it”.⁶³ It provided a common reference point to the victims and a tool for the movements to start mobilisation. The screening of *Gasland* became the first step to introduce their cause to the public, as its suggestive images about water contamination, questionable industry practices, and above all flammable water could evoke support from the audience.⁶⁴ Wright’s case study⁶⁵ shows how framing developed from initial backstage strategies to the testing of these strategies with individuals, and in the end the most successful strategies were employed for larger scale and official messages for the greater public.

The movement as a whole is made up of several different layers and strategies and tries to reach generally similar, but sometimes complementary aims.⁶⁶ First, there is the grassroots level which spread naturally between individuals, serving as the base of the movement by

⁶¹ Benford and Snow, “Framing Processes and Social Movements”; Wright, “Making It Personal.”

⁶² Wright, “Making It Personal,” 109.

⁶³ Wood, “The Global Anti-Fracking Movement,” 2.

⁶⁴ Wright, “Making It Personal,” 109.

⁶⁵ *Ibid.*, 112.

⁶⁶ Wood, “The Global Anti-Fracking Movement,” 7.

providing it local legitimacy. They extensively use online media, in the form of blogs and social sites to spread information associated with fracking as well as to recruit and mobilise both for ad hoc protests and for membership. This level is assisted by a network of environmental organisations, NGOs global activists and researchers. Organisations like Food & Water Watch,⁶⁷ Friends of Earth,⁶⁸ Health and Environment Alliance,⁶⁹ Transnational Institute,⁷⁰ and Greenpeace⁷¹ have started several awareness campaigns, supported each other both passively by advertisement and actively by raising funds and sharing resources as well as relevant research. According to Wood, this resulted in a move away from personal frames like health issues toward the global climate change frame. The combination of the local grassroots and global organisation level led to a top-down framework which spans the world. This allowed fast mobilisation and even direct actions like blockades and protests, as in the case of Bulgaria, Romania and the United Kingdom.⁷²

When it comes to the ultimate aim of the anti-fracking movements, experts and even activists are divided. As the level and quality of regulation in the United States is perceived to be insufficient to prevent ecological problems part of the movement believes that tighter regulation is the key. Others argue that fracking cannot be conducted safely and have promoted moratoria and bans.⁷³ Wood's report⁷⁴ shows an even more sophisticated picture, whereby some anti-fracking factions only want a better deal either in terms of taxation to compensate the public or not to take away the benefits from the population. This may even manifest as hostility towards companies from other U.S. states or foreign involvement as in the case of Europe will show. The second group wants to see more independent research on the topic, as most studies

⁶⁷ see: <https://www.foodandwaterwatch.org/water/fracking/>

⁶⁸ see: <http://www.foe.co.uk/campaignhubs/index.php/page.page2160.html>

⁶⁹ see: <http://www.env-health.org/policies/other-issues/fracking/>

⁷⁰ see: <http://www.tni.org/category/tags/fracking>

⁷¹ see: <http://www.greenpeace.org.uk/climate/fracking>

⁷² Wood, "The Global Anti-Fracking Movement," 7–10.

⁷³ "Global Shale Gas and the Anti-Fracking Movement: Developing Union Perspectives and Approaches," *Trade Unions for Energy Democracy*, 2014,

⁷⁴ Wood, "The Global Anti-Fracking Movement," 6.

could be linked to the industry or were not released to the public. The study of the Environment Protection Agency about water contamination in Wyoming and another research by the United Kingdom's Department of Environment and Climate Change on earthquakes associated with hydraulic fracturing serve as model for future research in their view. The group of regulators strongly overlap with the researchers drawing from case studies, in that they try to create regulation to list chemicals, regulate waste disposal, prevent methane leakages and protect especially vulnerable areas. The last and most straightforward opinion is that fracking may never be completely safe and a moratorium followed by total ban is the only way to prevent ecological catastrophe.⁷⁵

1.4 Spread to Europe

Although shale gas is repeatedly called as “game changer”⁷⁶ for Europe, thus far the development of the industry has not lived up to expectations. Just as the United States is on its way to becoming self-reliant on natural gas, several American experts claim that shale gas can successfully reduce Europe’s dependence on Russian gas exports. At the same time, Haug⁷⁷ argues that a unique American environment with good investment and research opportunities and huge amount of government and market support allowed for rapid development, and the adoption of the resource in Europe will likely to lag behind and rely on three different factors. The first, mostly structural variable is related to technological and economic viability of fracking. Unfavourable geological structure, dense population and lack of supporting industry and infrastructure already resulted in several suspension of exploration licences, for example in Poland.⁷⁸ Second, shale gas will only be adopted if it can provide an added value to the existing

⁷⁵ Ibid., 3–6.

⁷⁶ See: Stegen and Kuszniir, “Transatlantic Energy Relations,” 320. and Haug, “Shale Gas and Renewables,” 364.

⁷⁷ Haug, “Shale Gas and Renewables,” 365.

⁷⁸ RT News, ‘Shaken Plans: Exxon Mobil drops Polish Shale Gas Exploration’, <http://rt.com/business/news/shale-gas-poland-exploration-179/>

energy structure of the country either through increasing energy security or by reducing carbon emission. The last, but also the most relevant factor to this thesis is the level of public acceptance of fracking in adopting countries.⁷⁹ It is noted here that a wide range of factors such as local incidents, media reports and political lobbying may affect the public sentiment in the future.

When it comes to research and development as well as regulation, despite the initial enthusiasm, the process is still in its infancy. Even in Poland where political and economic factors seem to support shale gas and the level of public opposition is quite low, very few wells have been drilled thus far.⁸⁰ The rest of the European Union is lagging behind even further and even countries which have not ban shale gas already, are hesitant to explore reserves. This is particularly striking if one takes into account Europe's apparent readiness for new hydrocarbons, as the continent boasts a large common market with increasing demand and abundant reserves of shale gas.⁸¹ These opportunities quickly caught the attention of major American gas companies, which tried to buy up the largest amount of exploration permits from the national governments. But many special characteristics, some of them already mentioned, prevented Europe's catch up. At this point, Kefferpütz notes, that in addition to reasons like unfavourable geology and high labour costs, which hiked up the overall production costs, other factors played a particularly important role as well. While political impetus often fails to reinforce the industry's effort especially when it comes to EU (European Union) institutions, the support of local population is also lacklustre because Europe mineral rights do not belong to the property owner, but to the state, thus individuals get no direct benefit for leasing their land for the gas industry.⁸² Finally, the recently proposed Transatlantic Trade and Investment

⁷⁹ Haug, "Shale Gas and Renewables," 365–7.

⁸⁰ Tim Boersma and Corey Johnson, "The Shale Gas Revolution: U.S. and EU Policy and Research Agendas: The Shale Gas Revolution," 573.

⁸¹ Kefferpütz, "Shale Fever," 4–5.

⁸² *Ibid.*, 5.

Partnership is precisely aimed at making Europe more tempting for American companies, by forcing European governments to pay compensations to the industry through investment protection mechanisms, if government decision limits their ability to extract.⁸³

1.5 Conclusion

To sum up, the story of shale gas started in the United States, with industrial production only starting in the last two decades. Since its start fracking was a controversial issue with more than environmental consequences. Developing from grassroots origins, the anti-fracking movement utilised frames, such as health concerns and injustice to be able to mobilise the public against shale gas in the United States. As shale gas started to make its way to Europe, anti-fracking groups started to appear in local European communities, through networking from the United States. As a result, these actors always set their agenda and frame their message based on the special political, geographical, technological, regulation and market environment their country possess in relation with shale gas.⁸⁴ In regard with the anti-fracking movement in Europe, she pinpoints that local grassroots movements and environmental NGOs became the key in these countries as they brought the information and knowledge to the area. Finally, while the anti-fracking movement could successfully reach Europe from local level to lobbying in Brussels, the coalition of industry did not organised itself well enough, which in turn led to the slower European start in shale gas development.⁸⁵

⁸³ Timothé Feodoroff and Pietje Vervest, “No Fracking Way: How the EU-US Trade Agreement Risks Expanding Fracking,” 2014, <http://www.tni.org/sites/www.tni.org/files/download/nofrackingway.pdf>.

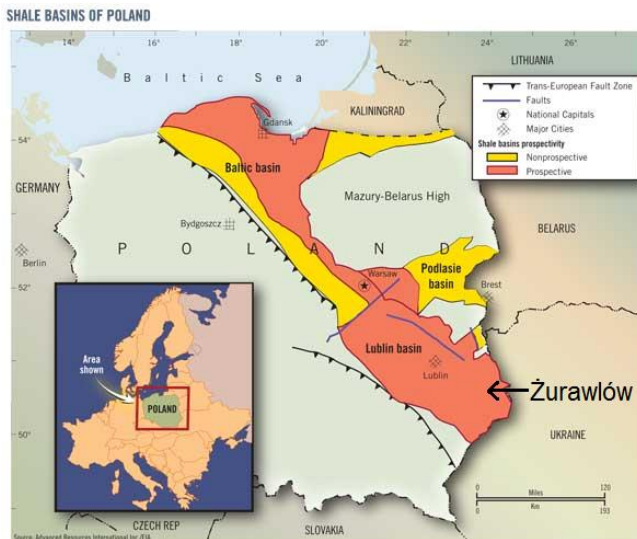
⁸⁴ Bomberg, “The Comparative Politics of Fracking: Agenda-Setting, Networks and Framing in the US and Europe,” 2.

⁸⁵ *Ibid.*, 14–7.

CHAPTER 2: POLAND - MOVEMENT ON THE MARGIN

2.1 Economic Background

As the shale gas revolution unfolded in the United States, many countries tried to replicate it and search for domestic reserves. Among them, Poland was desperately looking for a new source of energy to reduce its dependence on coal and imported gas. While the first concessions were granted quite early around 2006, the first country-wide estimate of shale gas reserves was only published in 2011.⁸⁶ The United States Energy Information Administration,⁸⁷ estimated that a stunning 5.3 trillion cubic meters of shale lies under Poland in three large formations. This would be able to cover the country's consumption for 900 years.⁸⁸ Initial euphoria quickly dwindled as the Polish Geological Institute's research⁸⁹ showed that recoverable shale gas



1. Figure: Shale Gas Basins in Poland and the Location of Żurawłów

Source: <http://goo.gl/Jnrsal>

reserves are more likely to be less than 1 trillion cubic meters.⁹⁰ The three biggest formations are the Baltic basin in the north east part of Poland, the Podlase Basin west of Warsaw and the Lublin Basin to the south.⁹¹ Overall, it looked like a fruitful investment for international gas companies like ExxonMobil, Talisman Energy and Chevron, because geological

⁸⁶ Stephanie Niemuth and Sophie Westphal, "Blind Politics of Ambition: Shale Gas in Poland," *Journal of European Management & Public Affairs Studies* 1, no. 2 (2014)

⁸⁷ U.S. EIA, 'Technically recoverable shale oil and shale gas resources: an assessment of 137 shale formations in 41 countries outside the United States', 10 June 2013, <http://www.eia.gov/analysis/studies/worldshalegas>

⁸⁸ Corey Johnson and Tim Boersma, "Energy (in) security in Poland the Case of Shale Gas," *Energy Policy* 53 (February 2013): 395.

⁸⁹ Polish Geological Institute, 2012. Assessment of Shale Gas and Shale Oil Resources of the Lower Palaeozoic Baltic–Podlasie–Lublin Basin in Poland, 1st ed. PGI, National Research Institute, Warsaw

⁹⁰ Johnson and Boersma, "Energy (in) security in Poland the Case of Shale Gas."

⁹¹ Kosciuszko Institute: The impact of shale gas extraction on the socio-economic development of regions – an American success story and potential opportunities for Poland (2012) <http://goo.gl/cIiIci>

values looked similar to that of the United States, while existing in areas with relatively sparse population, which could limit the social costs.⁹²

The development of new and unconventional energy sources is strongly related to existing energy structure, and Poland is no exception. There are two main reasons contributing to the strong drive for shale gas: the share of imported gas in total consumption, and the share of coal within the country's primary energy mix. First, although the share of natural gas was only 13% of Poland's energy supply in 2010, this share is mainly supported by foreign supply, with 63% coming from imports, 90% of which come from Russia,⁹³ a country with perceived historical hostility towards Poland. While the imported gas has to go through Belarus and Ukraine, both of which failed to fulfil their transit status several times in the past, domestic demand for gas is rapidly increasing, by 29% from 2000 to 2010, with similar pattern nowadays.⁹⁴ Second, 55% of Poland's energy was gained from coal in 2010, which is by far the highest share among EU countries. As Europe is trying to reduce carbon dioxide emissions by 20% by 2020, Poland has been under a lot of pressure from Brussels to replace its outdated facilities, and to further reduce its emissions.⁹⁵ All of these factors contributed to the perceived vulnerability of Poland in energy security. As a result, energy in Poland is closely linked to national security and is a political question, as opposed to the more market-based German approach.⁹⁶ This has taken a particularly strong form lately as Prime Minister Donald Tusk proposed the creation of an energy union, which would jointly negotiate gas imports, so that the discrepancies between import prices is reduced.⁹⁷

⁹² Tallents, "European Gas Supply & Demand, and the Outlook for Shale Gas," 58.

⁹³ KPMG: Central and Eastern European Shale Gas Outlook, (2012) 38-9, <http://goo.gl/yqVNvH>

⁹⁴ *Ibid.*, 40.

⁹⁵ Agnieszka Barteczko: Shale gas, new coal tech to help Poland cut CO2-minister, Reuters, 2013, <http://www.reuters.com/article/2013/11/08/us-poland-emissions-minister-idU.S.BRE9A70KS20131108>

⁹⁶ Johnson and Boersma, "Energy (in) security in Poland the Case of Shale Gas," 396.

⁹⁷ J.C.: Donald Tusk's energy union – Paying the price, *The Economist*, 2014, <http://www.economist.com/blogs/easternapproaches/2014/04/donald-tusks-energy-union>

Shale gas is seen as a solution not only to satisfy Poland's rising energy demand, but also to increase energy security and create jobs and generate economic growth as well. Consequently, “shale gas revolution” was strongly encouraged by the Polish government and more than 100 concessions were awarded to various foreign and domestic gas companies.⁹⁸ From 2012, however, major oil companies started to halt the exploration and withdraw from the country. Reserves have proven to be smaller and harder to extract than expected; additionally infrastructure and available technology was also significantly less developed than in the United States, making techniques used there hard to execute in Poland.⁹⁹ Another unwelcomed development was the uncertainty resulting from emerging government policies and regulation.

While the overall stance of Poland towards shale gas is still supportive, recent development around the concession system, slowed down the industry. As everywhere in Europe and unlike in the United States, the ground is owned by the state which excludes the possibility of a free market in energy extraction without government intervention. After the initial relative freedom of the industry, starting from 2013 as a result of nationalist tendencies in the polity, the government started to tighten the regulations. It set up an overarching agency, called the National Operator for Energy Resources, to distribute and control concessions.¹⁰⁰ The new law encourages Polish companies to create partnerships with foreigners, in order to acquire expertise and know-how and also to redirect part of the profit to the state, which is not viewed with sympathy by the companies. The increasing and thus slower bureaucracy issued less and concessions than the industry expected and uncertainty regarding future taxation increased.¹⁰¹ For these reasons, after the expiration of their exploration licences, many companies like

⁹⁸ Dimiter Kenarov: Poland stumbles as shale gas industry fails to take off, McClatchyDC, 2013, <http://www.mcclatchydc.com/2013/01/24/180933/poland-stumbles-as-shale-gas-industry.html>

⁹⁹ Marc Naumann and Anne Philippi, “ExxonMobil in Europe’s Shale Gas Fields: Quitting Early or Fighting It Out?,” *Journal of European Management & Public Affairs Studies* 1, no. 2 (2014): 32

¹⁰⁰ Niemuth and Westphal, “Blind Politics of Ambition,” 43.

¹⁰¹ Naumann and Philippi, “ExxonMobil in Europe’s Shale Gas Fields,” 33.

ConocoPhillips, ExxonMobil, Talisman and Marathon Oil left Poland, and it is unclear if smaller firms will emerge to fill in their places, to help pursue the Polish government's energy dreams.¹⁰²

2.2 Political Opportunity Structure

What was driving government policy toward the fracking industry? Following Bomberg's distinction,¹⁰³ the sphere of politics that determines a given policy, constitutes the structural field within which agents like local activists and transnational organisations operate. Scholars of the social movement literature show that diverging, but ultimately similar, factors determine a political structure. According to Kingdon,¹⁰⁴ the access to politics depends on windows of opportunity, which are in turn dependent on factors like the openness of the polity, the stability of political alignments, the presence of allies, splits within the elite and tolerance towards protests. While Kitschelt's definition formulate all of the previous factors into one, overall structure, he calls institutional arrangements, he then adds another two: the specific configuration of resources and historical precedents of social mobilisation.¹⁰⁵ Movements implement different strategies based on the political structure they encounter. In case of the anti-nuclear movement, Kitschelt showed that where the political system was open, movements tried to work through existing institutions, since they had a chance to reach them. Where instead the political system was closed, these movements often choose to be more confrontational, using protests and channels of communication outside the main policy infrastructure.¹⁰⁶

¹⁰² Niemuth and Westphal, "Blind Politics of Ambition," 43.

¹⁰³ Bomberg, "The Comparative Politics of Fracking: Agenda-Setting, Networks and Framing in the U.S. and Europe."

¹⁰⁴ Kingdon, John W., and James A. Thurber. *Agendas, alternatives, and public policies*. Vol. 45. Boston: Little, Brown, 1984, 166.

¹⁰⁵ Herbert Kitschelt, "Political Opportunity Structures and Political Protest: Anti-Nuclear Movements in Four Democracies,".

¹⁰⁶ *Ibid.*, 66.

Building on the research of social movements, Koopmans claims that structural opportunities do not necessarily come from the political sphere, and that other structures can have the same effect on movements.¹⁰⁷ By applying these claims, Jakobson, in her research on the animal rights movement in Poland, notes the importance of economic and cultural structure - both of which have a strong effect on Polish movements.¹⁰⁸ On the one hand the economy usually acts as a background for movements to operate, in the case of shale gas, economic structures was often be the target of action in Poland, like blockade on an exploration site or the creation of a petition. On the other hand, movements needed to convey their message in a way that resonated with local cultural beliefs, like distrust towards Russia and traditional Polish values. This could not happened, as these frames were monopolised and employed by the government from the beginning, thus creating an uphill battle for the activists. Consequently as political structures were closed and in Poland, social movements have no way of voicing their messages, and could only rely on the legal structure, in the form of cases and legal reasoning.¹⁰⁹

The Polish polity, despite its relatively open political structure in general, became more and more closed as shale gas acquired a paramount importance in the government's policy. Building upon Kitschelt's conclusion, the present paper argues that the Polish anti-fracking movement had to adopt confrontational strategies, to get its message through, because traditional channels could not be utilised. While the government tries to realise the benefits of shale gas, it puts full effort into supporting it. Out of the five parties in the Parliament four back the industry, including the two biggest parties the Civic Platform (PO) and the Law and Justice Party (PiS).¹¹⁰ The only party with an ambiguous stance on shale gas is Palikot's Movement

¹⁰⁷ Ruud Koopmans, "Political. Opportunity. Structure. Some Splitting to Balance the Lumping," in *Sociological Forum*, vol. 14 (Springer, 1999), 101

¹⁰⁸ Kerstin Jacobsson, "Fragmentation of the Collective Action Space: The Animal Rights Movement in Poland," *East European Politics* 28, no. 4 (December 2012): 354

¹⁰⁹ *Ibid.*, 355.

¹¹⁰ Edyta Materka, "End of Transition? Expropriation, Resource Nationalism, Fuzzy Research, and Corruption of Environmental Institutions in the Making of the Shale Gas Revolution in Northern Poland," *Debatte: Journal of Contemporary Central and Eastern Europe* 19, no. 3 (December 2011): 610

(RPP).¹¹¹ This party is not only the third biggest in Poland, with 10% of the votes in 2011, but also supports local activism against shale gas in the Pomorskie region. It provides legal advice and training to local activists, and creates a connection with the scientific, political and local community. Subsequently it connects the local anti-fracking movement with the European green parties and MEPs (Members of the European Parliament) like Daniel Cohn-Bendit and José Bové. At the same time, however, the party does not declare its opposition for the movement in the platform as with a shale supporting public this would be a political suicide.¹¹² Although splits within the elite and the alignment of parties creates a window of opportunity for the anti-fracking movement, the strong economic and political support of shale gas renders this “window” very limited.

Since the end of 2011, another aspect of the political structure is the increasing drive for a national gas sector, driven by political promises, namely the reduction of domestic gas prices, which Materka calls resource nationalism.¹¹³ The already highlighted fragile nature of energy structure, coupled with a relatively poor Poland compared to its Western neighbours created a political desire for a successful shale gas sector, which although relies on foreign companies, keeps a large chunk of the revenue at home. This has proven to be a major factor in regulation and partnerships with foreign gas companies, which is one of the reasons that foreign companies have exited the country. The original free market approach was supported by the ruling Civic Platform, to attract investments. With time, the more nationalist Law and Justice Party criticised the government for letting the revenue quit Poland because of an unfavourable concession system.¹¹⁴ As the Civic Platform started to lose popularity and the public was perceived to be supportive of a more nationalist approach, Prime Minister Donald Tusk altered his opinion and

¹¹¹ Fleet, de Clerck, and Fuhr, “Unconventional and Unwanted: The Case against Shale Gas,” 24.

¹¹² Poland: Political Group Quietly Supporting Anti Shale Movement, Natural Gas Europe, 2012, <http://www.naturalgaseurope.com/poland-political-group-quietly-supporting-anti-shale-movement>

¹¹³ Materka, “End of Transition?,” 608.

¹¹⁴ *Ibid.*, 610.

started to push for partnerships between foreign and domestic companies.¹¹⁵ The vision of Poland as an energy titan started to dominate the polity, with a readjustment towards domestic needs. In early 2012, many urged for a shale gas contributing to satisfy domestic consumption to decrease energy prices and the whole shale gas industry had to work more as a public and strategic resource than commodity, though it has not been cemented into legislation.

2.3 The Polish Anti-fracking Movement

While the Polish government has been supporting the shale revolution by any means possible, the opinion of the public only seems clear on the surface. According to a 2013 Eurobarometer survey,¹¹⁶ while support for renewables is without exception high in every EU country, opinion about unconventional fossil fuels, like shale gas are quite divergent. On average, 9% of the population of EU members would prioritise shale as a valid energy option, compared to the 32% in Poland.¹¹⁷ The difference is even starker when it comes to concerns about shale gas projects built in the neighbourhood, as all EU countries are rather concerned about nearby shale gas project, except for Poland, where people who are “not concerned” about risks of drilling are slightly more prevalent.¹¹⁸ Meanwhile, environmentalists and farmers regard recent shale gas explorations in Poland to be highly mistaken and harmful to the environment and local communities.¹¹⁹ The opposition to shale gas includes environmental organisations both domestically and in Europe, local farmers and even politicians from other EU countries. In this sense, the so-called anti-fracking movement is nowhere near to being unified, but rather consists of a loose network of groups and individuals from many different background and interests. There are three distinct levels of the anti-fracking movement in Poland: a local one consisting

¹¹⁵ Ibid., 611–2.

¹¹⁶ Eurobarometer: Attitudes of Europeans towards air quality. Report January 2013, http://ec.europa.eu/public_opinion/flash/fl_360_en.pdf

¹¹⁷ Ibid., 101.

¹¹⁸ Ibid., 105.

¹¹⁹ Niemuth and Westphal, “Blind Politics of Ambition,” 44.

of farmers and local activists, a national one, which is characterised by a strong anti-establishment nature and made up of urban youth, and an international one with the influence of environmental NGOs and MEPs.

The contrast between the opinion of the non-involved majority of Polish citizens and that of the locals of Żurawlów and Pomerania, lead to many conflicts. Since the beginning of exploration the Polish public was sold on the economic benefits of shale gas, including claims that revenues will be used to increase pensions.¹²⁰ Such claims may work as a political vision for the country, but the economic and environmental concerns of locals cannot be eased so easily. Farmers are worried that the benefits will be taken away and not kept to improve the local economy and at the same time that they will be the ones who have to deal with potential environmental damage of the industry.¹²¹ The local population from areas near exploration sites has to deal with major obstacles, in Materka's words:

“Disconnection is a major theme underlying Poland’s experience with shale gas exploration. The temporal disconnection between shale gas exploration and distribution of information to the public sphere, the disconnection between geopolitical and environmental discourses on the value of shale gas exploration to society, the policy disconnection between the EU and Poland, reveals disharmony on shale gas exploration while companies are degrading entire local environments.”¹²²

Research is carried out by the Government, with no transparency and availability to the local population. Moreover, as the case of Pomerania shows the shale industry's influence on the government prevents transparency and public oversight,¹²³ as well as new regulations allow companies to expropriate landholders if they don't want to sell their property.¹²⁴ Where local authorities support the farmers' claims, whole villages write complaints, but the state often just

¹²⁰ PM Tusk: commercial extraction of shale gas possible in 2014, Warsaw Business Journal, 2011, <http://www.wbj.pl/article-56220-pm-tusk-commercial-extraction-of-shale-gas-possible-in-2014.html?type=wbj>

¹²¹ Wood, “The Global Anti-Fracking Movement,” 3.

¹²² Materka, “Poland’s Quiet Revolution,” 198.

¹²³ Ibid., 213.

¹²⁴ Materka, “End of Transition?,” 618.

turns to a higher level of government, so it can ignore the municipalities. Thus, concerned local citizens feel powerless and try to rely on the legal infrastructure on a case-by-case basis—fighting actions, like forging consent and drilling without permit.¹²⁵ One of the rare positive examples of successful local mobilisation is the case of Żurawlów. Local activists successfully set up a blockade and thus prevented Chevron to start exploratory drillings, claiming that the company only had a permit for seismic tests.¹²⁶ The event was portrayed in a movie called Drill Baby Drill,¹²⁷ which may potentially help creating a local frame for the Polish anti-fracking movement similarly to what Gasland did for the movement in the United States.

While there is an increasing amount of local anti-fracking activity, the anti-fracking movements on the ground are characterised by a lack of coherence and vision on the national level. This partially can be credited to the government's “tunnel vision”¹²⁸ and its universal support for shale gas. This attitude is especially evident in a recent law, which allows the participation of environmental organisations in environmental decision-making¹²⁹ only if they have been in existence for at least a year.¹³⁰ The regulation is used to undermine the movement, as many of the anti-fracking organisations were created recently in answer to exploration. On the other hand, when NGOs like Bankwatch and EkoUnia tries to restrict hydraulic fracturing, they were treated as Russian lobbyists and thus ignored.¹³¹ One of the few successful campaign was conducted during the 2011 Shale Gas Conference Europe, where a group of activists created a flashmob to raise awareness against fracking.¹³² They successfully established a

¹²⁵ Wood, “The Global Anti-Fracking Movement,” 6.

¹²⁶ Polish town says 'no' to shale gas, Deutsche Welle, 2013, <http://www.dw.de/polish-town-says-no-to-shale-gas/a-16911687>

¹²⁷ Drill Baby Drill VOD: <http://www.lechkowski.com/en/video/item/5/drill-baby-drill>

¹²⁸ Niemuth and Westphal, “Blind Politics of Ambition,” 44.

¹²⁹ Generally speaking environmental organisations have consulting right in environmental legislation in Poland.

¹³⁰ Poland Proposes Restrictions to Shale Gas Opposition, Koalicja Klimatyczna, 2013, http://www.koalicjaklimatyczna.org/lang/ang/page/coalition_news/id/45/archiwum/true/stronicowanie/1/view/poland_proposes_restrictions_to_shale_gas_opposition/

¹³¹ Fleet, de Clerck, and Fuhr, “Unconventional and Unwanted: The Case against Shale Gas,” 24.

¹³² Poland: Fracking Opponents Block Shale Gas Conference, Frack Off, 2011, <http://frack-off.org.uk/poland-fracking-opponents-block-shale-gas-conference/>

connection between the local and the international narrative using networking and internet. Thus, according to Materka, the globalised Polish youth can help entrapped locals reach out for the global academic and environmental community and use it as a bargaining tool against the government.¹³³

On the international level, the biggest debate is between the European Union and the Polish state and the transnational organisations are only given a secondary facilitating role. The case of Poland precisely shows that transnational organisations and activist need a certain base on which they can build up a movement. This base was missing, because the frames of the already established transnational part of the movement were different from that of locals'. Moreover Polish politicians not only emphasise the benefits of shale gas at home, but also try everything to halt any legislation on shale gas exploration using EU regulations, MEPs especially from the Greens try to support the domestic anti-fracking movements. French MEP José Bové has a particular strong role in this as he is not only continuously pressures the Polish government, but also supports activists openly, and tries to push for ban on hydraulic fracturing in Brussels. He even organised a protest near Wrocław, but as the protesters were all foreigners and the site was a conventional fuel well, he was the target of major criticism, as someone who protests and tries to demonise the industry without any proof.¹³⁴

2.4 Conclusion

To sum up, the Polish situation was determined from the start by a very strong political support for shale gas development, which was driven by the country's economic and energy structure, more precisely its dependence on Russian gas. Foreign companies were invited to start Poland's shale gas revolution, but at the same time the government tries to retain control of the resource to keep revenue from flowing out of the country. The political structure, although not being

¹³³ Materka, "Poland's Quiet Revolution," 211.

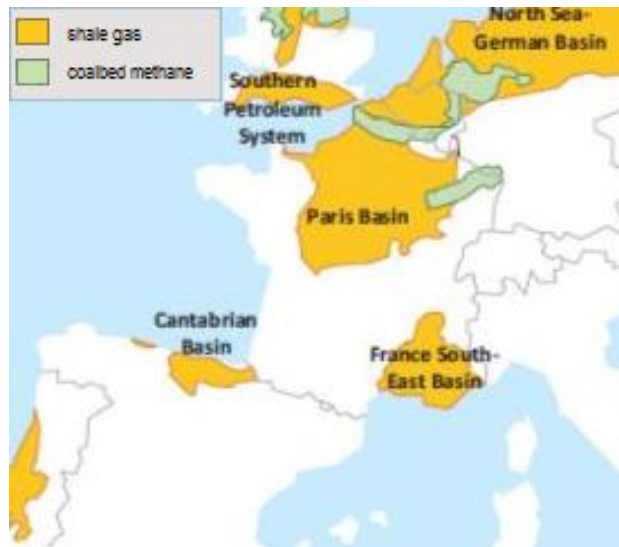
¹³⁴ Ibid., 210.

completely closed, is nowhere near to the western polity and economic incentives hardened government position which tries to block social and environmental movements to tie its hands. At the same time, public sentiment has been largely manipulated by the government using promises of economic benefits and anti-Russian fear-mongering to promote shale gas. This stands in sharp contrast to the realities of local concerns over the consequences of fracking, which led to the emergence of grassroots local activism. As the anti fracking-movement could not develop a strong base on the ground, and had to find an uphill battle against the government and the industry. Although legal victories in Pomerania and a successful instance of activism in Żurawłów occurred the anti-fracking movement in Poland remained marginal and could not have a strong impact on government policies regarding shale gas.

CHAPTER 3: FRANCE – THE TRIUMPHANT COLLECTIF

3.1 Economic Background

While it was clear from the start, that Poland would largely follow in the footsteps of the United States to develop its shale gas industry, France, after initial government support, quickly changed direction. Deposits in France were estimated to be as large as in Poland, around 5 trillion cubic metres, a quarter of which can be extracted.¹³⁵ The shale gas is located in two major basins: the Paris Basin around the city of Paris in the north-east and the Southeast Basin mainly in the regions of Provence and Rhône-Alpes. Starting from early 2010, 64 permits were quickly divided between national and foreign oil and gas companies like Total, GDF Suez, Toredor Resources, Hess Energy and Schuepbach Energy.¹³⁶ Both locations, but the northern one especially looked favourable to the industry as it was rich in resources and, close to markets and infrastructure. It also had a similar geological architecture as the Bakken Basin in Texas, which made it an appealing target to many American investors.¹³⁷ Although, the awarded permits were kept low profile, which delayed the public reaction, secrecy at the same time contributed to the escalation of the issue.



2. Figure: Shale Gas Basins in France

Source: <http://goo.gl/vyI6ff>

¹³⁵ U.S. EIA, ‘Technically recoverable shale oil and shale gas resources: an assessment of 137 shale formations in 41 countries outside the United States’

¹³⁶ Rene Weile, “Beyond the Fracking Ban in France,” *Journal of European Management & Public Affairs Studies* 1, no. 2 (2014): 12.

¹³⁷ James W. Adams, Craig D. Stocker, and Nicholas R. Lawson, “Emerging Centrifugal Technology in Shale Hydraulic Fracturing Waste Management: A U.S.-France-China Selected Environmental Comparative Analysis,” *Hous. J. Int’l L.* 34 (2011): 571.

In order to understand the importance of shale gas for France, the country's energy infrastructure needs to be examined. France, just like Poland, is characterised by the usage of natural gas that is mostly imported, thus contributing to a certain degree to energy dependence. Yet, there are several factors which make France incomparably less vulnerable to the fluctuation of gas prices and import levels than Poland. Although only 14% of the energy consumption in France is covered by natural gas,¹³⁸ 98% of this figure is imported. Consequently, the importance of gas is much lower than in Poland, and imports are coming from several different countries, for example: Norway, Netherlands, Russia and Algeria, thus there is no single big supplier.¹³⁹ The majority, 74% of France's energy, is coming from nuclear reactors, and even though public and government support is shifting away from them, they will continue to serve as the backbone of the country's energy supply.¹⁴⁰ Taking all of this into consideration, one can see that the energy infrastructure of France is firm and although new resources are always helpful, shale gas is not an absolute necessity for energy security.

The shale gas industry quickly started to develop in France, as the government was convinced by the positive consequences of shale gas. In addition to the increased energy security, a new resource meant economic growth and new jobs, something which France was in dire need of after the economic crisis.¹⁴¹ French companies, being major international players, were involved with regular and shale gas not only in France, but internationally, so it is natural that they tried to strive for favourable French and European environment for gas. The lobby of the industry spread from Paris to Brussels as much of the environmental legislation, including water pollution, waste management and clean-up is based on EU directives, which

¹³⁸ Francis McGowan, "Regulating Innovation: European Responses to Shale Gas Development," 11.

¹³⁹ Energy Delta Institute: France, <http://www.energydelta.org/mainmenu/energy-knowledge/country-gas-profiles/country-gas-profile-france#t42771>

¹⁴⁰ Mycle Schneider, Antony Froggatt, and Steve Thomas, "Nuclear Power in a Post-Fukushima World," *Worldwatch Institute*, 2012, 62

¹⁴¹ Weile, "Beyond the Fracking Ban in France," 11.

can only be supplemented with tighter regulation if needed.¹⁴² It all worked out for the companies until a change in the political structure of France occurred as the result of hostile public opinion.

3.2 Political Opportunity Structure

While the economic structure of France is rather different from that of Poland, the differences are not enough to explain the completely different public response to the “shale gas revolution”. As the decision on fracking is ultimately executed in the political sphere, just as in Poland, the political opportunity structure of France needs to be investigated. Political structure also serves as a background for social movements as they develop in order to be successful in a given political environment. Building on Maythorne’s analysis,¹⁴³ the present thesis argues that the French state is traditionally strong, as it is centralised and can implement its policies with relative ease. At the same time, the political structure may offer windows of opportunity when party positions and legislation change.¹⁴⁴ The political and party system is closed, which means that it is hard for new parties and social organisations to get included neither in legislation nor in implementation, yet, if one succeeds, that will likely remain influential for a longer period. This is exactly the case of the green organisations, as from 1997 a green party, Les Verts became part of the cabinet. This offers a possibility for both environmental organisations and grassroots. Ultimately organisations like Greenpeace and Friends of Earth France were able to institutionalise and build up influence.¹⁴⁵

The relative calm over fracking ended, in early 2010, when it turned out the Sarkozy government (Union pour un Mouvement Populaire) had awarded numerous permits to the shale

¹⁴² Adams, Stocker, and Lawson, “Emerging Centrifugal Technology in Shale Hydraulic Fracturing Waste Management,” 588.

¹⁴³ Maythorne, “Europeanisation of Grassroots Greens.”

¹⁴⁴ *Ibid.*, 103–4.

¹⁴⁵ *Ibid.*, 107.

gas industry. Although the support of the cabinet was sustained, including the consent of the environment minister Jean-Louis Booloo, public opposition escalated.¹⁴⁶ Grassroots campaigns near the exploration sites soon became politicised as first the Green Party (Les Verts), and then the Socialist Party (Parti Socialiste) got involved. They saw a political possibility in the movements as municipal elections were held in September 2011 and national elections a year later.¹⁴⁷ The cabinet first tried to downplay the opposition, but after losing in a regional election partially because of shale gas, the incumbent conservative party did not want to position itself against the rapidly strengthening grassroots movement.¹⁴⁸ The government first issued a moratorium on fracking as it waited for the release of a revised risk assessment on fracking and the industry' practices, but increasing public pressure resulted in a complete ban on hydraulic fracturing in June 2011.¹⁴⁹ It resulted the cancellation of three drilling permits and increased oversight and a ban on hydraulic fracturing in the other 61.¹⁵⁰ When Francois Hollande came into power in 2012, he firmly reassured the public that the ban will stay in place. Since then the industry repeatedly tried to reopen the public debate, but neither the constitutional case of Schuepbach and Total,¹⁵¹ nor a public letter from industry leaders could succeed.¹⁵²

The whole public debate was characterised by a particular set of frames and values, which were built upon the societal history of France as well as past movements, which are rooted in the country political opportunity structure. Out of these the most important was what Barham calls the *terroir*.¹⁵³ It means a particular local territory, which bears strong local and cultural

¹⁴⁶ Weile, "Beyond the Fracking Ban in France," 12.

¹⁴⁷ Ibid.

¹⁴⁸ Wood, "The Global Anti-Fracking Movement," 7.

¹⁴⁹ France cements fracking ban, *The Guardian*, 2013, <http://www.theguardian.com/environment/2013/oct/11/france-fracking-ban-shale-gas>

¹⁵⁰ Weile, "Beyond the Fracking Ban in France," 12.

¹⁵¹ Two companies tried to invalidate the ban on fracking at the French Constitutional Court based on the argument, that it violated their property and business rights. For more see: <http://www.shale-gas-information-platform.org/categories/legislation/expert-articles/martor-article.html>

¹⁵² Weile, "Beyond the Fracking Ban in France," 14.

¹⁵³ Barham (2003) *Translating terroir: the global challenge of French AOC labelling*. *Journal of Rural Studies* 131.

characteristics. It is rooted in the strong prominence of French countryside, which traces back to the medieval ages and creates a society where even contemporary urban population has strong ties with the countryside.¹⁵⁴ As the traditional French countryside, with its particular products and way of life, is very important throughout the country, politicians extensively use these values, making it a highly politicised issue. The environmental concerns around shale gas development seemed an extremely strong attack against these very important values for the population, which can partially explain the fast mobilisation. As activist and researcher Maxime Combes argues: “many people were initially mobilized to protect their own territory. Not as a NIMBY– “not in my backyard” approach [common in the United States] – but in a way that questions sovereignty over the local territory and land use planning”.¹⁵⁵ Consequently, shale gas was an assault on people's traditional way of life similarly to the earlier cases of nuclear reactors and genetically modified organisms.

The anti-nuclear movements in the 70s were one of the first environmental theme movements in France, which though failed, produced lingering effects on contemporary movements. They built on conflicts between the elite and public, and adopted a confrontational approach using grassroots protest just like in the recent debate.¹⁵⁶ Moreover, the anti-GMO movements relied on existing cultural frames such as the republican vision of citizenship and used strategies both from within and outside of the polity.¹⁵⁷ They had access to the Green Party through José Bové a prominent green politician, who was actively involved in such movements even then.¹⁵⁸ In cases where they did not have direct political access, the movement used

¹⁵⁴ Maythorne, “Europeanisation of Grassroots Greens,” 196–7.

¹⁵⁵ Maxime Combes, “Global Frackdown on Fracking Companies,” *Ejolt*, <http://www.ejolt.org/2012/09/global-frackdown-on-fracking-companies/>.

¹⁵⁶ Felix Kolb, “Explaining the Political Outcomes of Social Movements: Anti-Nuclear Energy Mobilization in 18 OECD Countries before the Chernobyl Accident,” 2006, <http://laka.org/docu/boeken/pdf/6-09-0-00-54.pdf>.

¹⁵⁷ B. Doherty and G. Hayes, “Having Your Day in Court: Judicial Opportunity and Tactical Choice in Anti-GMO Campaigns in France and the United Kingdom,” *Comparative Political Studies* 47, no. 1 (January, 2014): 20–3,

¹⁵⁸ “France: The Potential for a Europe-Wide Anti-Fracking Movement.” Stratfor Analysis (May 2011): 38. Business Source Complete

judicial opportunities, which both served as a case-by-case fight for their cause and as a way to hold together their collective identity.¹⁵⁹ The contemporary anti-fracking movement not only uses these earlier instances of activism as a role model, but may also end up integrating them into an overarching counter-globalisation and climate change frame, especially with the active involvement environmental organisation like of ATTAC France and Greenpeace.¹⁶⁰

3.3 The French Anti-fracking Movement

The anti-fracking movement is above all a grassroots movement, with strong public support and several influential allies from the economic and political elite. Given the country's energy infrastructure and rural values, it is no surprise that public opinion has been against shale gas, since its appearance. While 74% of the population prefer the development of renewable resources, only a very marginal 9% thinks the same about prioritising shale gas. Moreover, citizens do not want fracking in their neighbourhood as 89% of French would be concerned about nearby project, of which 54% would be very concerned.¹⁶¹ This stands in stark contrast with the relative public acceptance of shale gas in Poland, but also presents a stronger rejection even than the rest of Europe, which might be explained by the role of the transnational anti-fracking movement. Concerns derive from several sources, including the environmental risks of fracking, local and national political problems, and the scandal around public information.

While environmental concerns mirror the United States, they are framed more as a threat to traditional agricultural activities. In particular, the industry's extensive need of water and the possibility of water contamination is harmful especially in water scarce areas where freshwater is also needed for agriculture. The initial secrecy and the follow-up mismanagement of fracking

¹⁵⁹ Combes, “Global Frackdown on Fracking Companies.”

¹⁶⁰ Ibid.

¹⁶¹ Eurobarometer: Attitudes of Europeans towards air quality, 102–5.

by the cabinet was the first of the grievances citizens experienced during the fracking debate.¹⁶² With the intention to calm citizens, companies presented overly optimistic figures for economic benefit, and emphasised local gains, and downplayed possible dangers. The public, and even local mayors suffered from a deficit of information and there was no transparency regarding permits.¹⁶³ Thus, the companies lost their credibility with the public, which started to look for another source of information which they found in the form of examples and movements from the United States, as well as the documentary *Gasland*.

Grassroots activism started in places that were affected by shale gas plans, such as Rhône-Alpes and Saint-Marcel-lès-Sauzet. These were often town hall gatherings and uncoordinated local protests called *collectifs*.¹⁶⁴ As information spread through local and national networks, the *collectifs* started to come together and create an overarching organisation, the *Collectif* which held information sessions with clips from *Gasland*.¹⁶⁵ The first major event was a protest in the Ardèche region, which managed to gather around 15 thousand activists and marked the beginning of the French anti-fracking movement, bringing together more than 250 local groups.¹⁶⁶ The movement meets regularly, creates strategies and so far was able to create an anti-fracking day national demonstration with 30 thousand participants and demonstrated outside shale gas industry conferences.¹⁶⁷ As their popularity grew, the *collectifs* started to attract politicians and environmental organisations alike. While organisations found new member base, the grassroots benefitted from the research and networking capabilities of NGOs like ATTAC France, Greenpeace and Friends of Earth.¹⁶⁸

¹⁶² Jean-Pierre Leteurtriois, "Les Hydrocarbures de Roche-Mère En France," *Rapport Provisoire, Conseil Général de L'énergie et Des Technologies, CGEIT*, 35-6, (2011)

¹⁶³ *Ibid.* 35-9.

¹⁶⁴ Asop, "Citizens Say, No Fracking Way." *Herizons* 26, no. 1 (Summer 2012)

¹⁶⁵ Wood, "The Global Anti-Fracking Movement," 2.

¹⁶⁶ Asop, "Citizens Say, No Fracking Way."

¹⁶⁷ Fleet, de Clerck, and Fuhr, "Unconventional and Unwanted: The Case against Shale Gas," 23.

¹⁶⁸ Combes, "Global Frackdown on Fracking Companies."

The ability of grassroots activists to have a political impacts was facilitated by two factors: that they pointed out direct problems within legislation around water and land, and that these regulations were resonating with the frames of traditional way of life and sovereignty over land.¹⁶⁹ As Maxime Combes sums it up:

*“[It]...forced many politicians from all sides, and from both the local and the national levels, to take very clear positions against fracking and shale gas” [by which] “The Parisian establishment, both in government and in business, was surprised and overwhelmed. They proved incapable of countering the surging movement and its demands.”*¹⁷⁰

This combined with the fear of losing the next elections, leading to a situation, in early 2011 José Bové handed in a petition urging for a moratorium, and Prime Minister Francois Fillon had no other choice but to enact the moratorium. By June 2011, this had turned into an all-out ban on hydraulic fracturing.¹⁷¹ The ban, however, did not reduce the level of activism, as legislation of new technology can be easily bypassed and continuous lobbying from the transnational, but also French shale gas companies tries to keep the issue open,¹⁷² even after Hollande's reassurance of the ban.

While the anti-fracking movement is certainly the loudest opponent of fracking, Buisset¹⁷³ note that lobby from other non-shale gas industry and environmental NGOs significantly contributed to the ban. The unlikely alliance of oil, gas, coal, nuclear and renewables industry are all lined up, because shale gas would reduce energy prices rendering their products less competitive. Although these actors often have to resort to defensive strategies, they played an important role in highlighting the controversies around shale gas.¹⁷⁴

¹⁶⁹ Jennifer Franco, Ana Maria Rey Martinez, and Timothé Feodoroff, “Old Story, New Threat,” 2013, <http://goo.gl/TvhNL5>

¹⁷⁰ Combes, “Global Frackdown on Fracking Companies.”

¹⁷¹ Benjamin E. Griffith, “Fracking for Shale Gas: Energy Security & Sustainable Water Resources,” in *World Jurist Association 24th Biennial Congress on the Law of the World National Legal Cultures in a Globalized World, Prague*, 2011, 19, <http://www.griffithlaw.net/document.pdf>.

¹⁷² Combes, “Global Frackdown on Fracking Companies.”

¹⁷³ Buisset, Oye, and Selleslaghs, “Lobbying Shale Gas in Europe.”

¹⁷⁴ Ibid.

While these industries may look like a tempting ally for the movement, Antonine Simon warned that it was: “risky to ally with industry”.¹⁷⁵ Even without them, the anti-fracking lobby exchanged more information and in general organised better than the pro-fracking coalition. They managed to achieve more with fewer resources, and managed to sustain way more credibility, than their opponents, thus able to exert a stronger pressure to the politicians which helped to achieve the ban.¹⁷⁶

3.4 Conclusion

To sum up, the case of shale gas in France started with quick distribution of exploration permits, which were soon halted by the public. Although France is reliant on foreign gas, its extensive usage of nuclear energy and relatively diversified gas import, created an atmosphere, where shale gas is important, but not vital to the country's energy needs. The political structure has been through a long history of environmental movements and included a conservationist party, which magnified the early concerns about shale gas. Local public outrage led to the creation of a strong grassroots movement, which framed its message in a way that it resonated with traditional French values, thus contributing to rapid mobilisation. Public pressure, combined with electoral vulnerability led to a moratorium and later a ban on hydraulic fracturing despite the strong lobby of the industry. Ultimately, the anti-fracking movement in France successfully utilised local frames and capitalised on political opportunities, and was the most important reason behind the French ban.

¹⁷⁵ Ibid., 12.

¹⁷⁶ Ibid.

CONCLUSION

Comparing Results

The extensive analysis of Poland and France revealed a large gap between the countries on the impact of the global anti-fracking movement and local grassroots activists on the shale gas policies of the two cases. While in France the anti-fracking movement achieved an overwhelming success when the government banned hydraulic fracturing, the impact of the Polish movement remained limited, because of several factors, with enduring government support for shale gas development. Additionally, the anti-fracking movement as a whole was the one biggest reason behind the French ban, yet in Poland the movement could not leave the local level, and has completely remained marginal.

The two most important similarities between the cases were the importance of grassroots activism and the utilisation of collective action frames. While grassroots activism against shale gas started in the United States as the result of direct personal experience, with the hazards of fracking, both of the examined European countries showed that grassroots activism preceded industrial extraction and was mobilised differently. Online media sources and information provided by transnational NGOs as well as personal American reports, were the main source of information in Europe. These newly informed local farmers and protests serve as the legitimate base of the movement, which is invaluable, not only for the development of the movement, but also to attract political allies and international organisations and fundraisers. Thus, the so-called global anti-fracking movement bears very significant grassroots characteristics.

Mobilisation of concerned locals were mobilised, through different collective action frames¹⁷⁷ provided by earlier anti-fracking movements and local characteristics. In Europe and in France in particular the former meant the United States with a very strong emphasis on

¹⁷⁷ Benford and Snow, "Framing Processes and Social Movements."

Gasland, whose arguments resonated greatly with local fears. These fears primarily were the result of centuries long socio-cultural background and as such it immensely differed in the two case countries. The French frames can be best explained with Barham's terroir,¹⁷⁸ which draws from the importance of the traditional French agriculture and countryside. This frame has proven to be very strong mobiliser against shale gas as the shale gas industry precisely tried to breach this type of French legitimacy over land. Local frames in Poland were more centred around economic concerns and historical grievances with Russia. This combined with the Polish government's efforts to capitalise on these frames by promising economic boom and independence from Russia, strengthened the pro-fracking impact of the existing frames.

	Hypotheses and Independent Variables	Poland		France	
		Hypotheses Valid?	IV present?	Hypotheses Valid?	IV present?
Core Hypotheses	H ₁ : Political opportunities	No*	No*	Yes	Yes
	H ₂ : Conservationism	Yes	No	Yes	Yes
	H ₃ : Protest culture	Yes	No	Yes	Yes
	H ₄ : Transnational activism	No*	No	Yes*	Yes
	H ₅ : Gasland and media	Yes*	No	Yes	Yes
Alternative Hypotheses	H ₆ : Profitability	Yes*	Yes	No*	Yes*
	H ₇ : Energy Security	Yes	Yes	Yes*	No
	H ₈ : No alternatives	Yes*	Yes	Yes	No

3. Figure: Hypotheses Validity and Presence of Independent Variables

Source: Own illustration

The examination of the two countries also showed quite different pattern regarding the eight hypotheses introduced. Figure 3.¹⁷⁹ lists all the investigated hypotheses, and shows not only if they are valid, and have explanatory power over the cases, but also presents if the independent variables from the hypotheses were existent in the two countries. While five hypotheses was valid in both of the countries, all eight of them was valid in at least one of them. It seems that the five core hypotheses, derived from the theoretical framework, could very much

¹⁷⁸ Barham "Translating terroir" 131.

¹⁷⁹ * Means debatable classification, explanation is in the text.

explain the French situation. In contrast, the three alternative hypotheses, developed from reviewing the IR literature on shale gas, are better at explaining the Polish case. This does not mean that, the respective hypotheses have no explanatory value over the other case, but they significantly explain less than expected.

With regards to the political opportunity structures, it turns out the windows of opportunity¹⁸⁰ were important in the success of the movements in France. First the Green and then the Socialist Party's efforts to capitalise on anti-fracking protests for their own electoral interests, were successful. The incumbent party had to give up its position on fracking, because the level of discontent among voters was more salient than industry lobby or possible economic benefits. While the political opportunity structure also presented chances for the Polish movement, they either could not capitalise on them, or just the stance of the government was so firm that not structural change could shake it. Debate between the two largest parties about the importance of keeping shale gas profit in the country (“resource nationalism”¹⁸¹) and the secret help of the third strongest party, were both great windows for action, but contrary to the French case here the perceived economic and energy benefits of shale gas were incomparably more important for the government.

The two hypotheses about conservatism¹⁸² and protest culture¹⁸³ were somewhat similar to each other, but strikingly different in the two countries. On one hand, the prevalence of the mentioned environmentalist and nature based frames in France even made the government try to keep exploration in secret, which later contributed to the explosion of the issue. Although local farmers voiced their environmental concerns in Poland, it did not resonate with the public's opinion, because of the gap between concerned locals and the general public with different interests, like economic development and fear from Russia. On the other hand,

¹⁸⁰ Derived from social movements literature.

¹⁸¹ Materka, “End of Transition?”.

¹⁸² Maythorne, “Europeanisation of Grassroots Greens.”

¹⁸³ Kitschelt, “Political Opportunity Structures and Political Protest.”

protest culture, including anti-GMO and anti-nuclear activity added significant impetus to the French move and drove it towards a more anti-establishment, but also climate change framework. Even though protest culture, did not help directly the anti-fracking movements in Poland, certain techniques, for instance the utilisation of judicial opportunity structures, equipped the movement with some new options.

The galvanising role of international NGOs and fundraisers, in other words the “global” section of the anti-fracking movement, overall had a slightly weaker effect than expected.¹⁸⁴ However, it has to be noted, the level of activism in Poland has not yet reached its full potential, and so far it predominantly remained grassroots in character. Transnational activism could not organise local protests into one coherent movement in Poland, yet it provided information and networking possibilities for grassroots. Although transnational activism ultimately succeeded in France, their successes are lessened by the fact that they started to help the Collectifs, when has already achieved significant progress. Thus far, this type of activism, was more about exchanging information and trying to aid movements with similar interests through a light version of boomerang method of transnational advocacy networks,¹⁸⁵ than developing on overarching frame and aim system for the anti-fracking movements.

¹⁸⁴ Wood, “The Global Anti-Fracking Movement,” 9.

¹⁸⁵ Keck, Margaret, and Kathryn Sikkink. 1999. “Transnational Advocacy Networks in International and Regional Politics”. *International Social Science Journal* 159. UNESCO

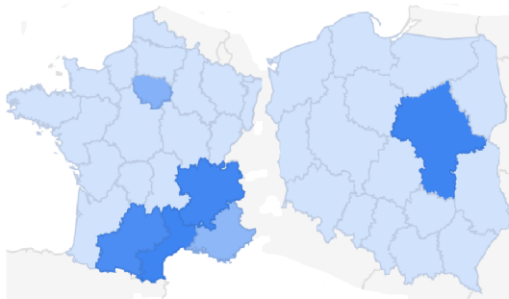
Topics between 2009 and 2014:



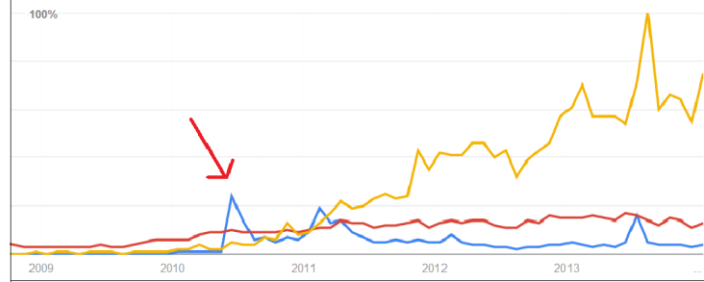
Distribution of Regional Interests:



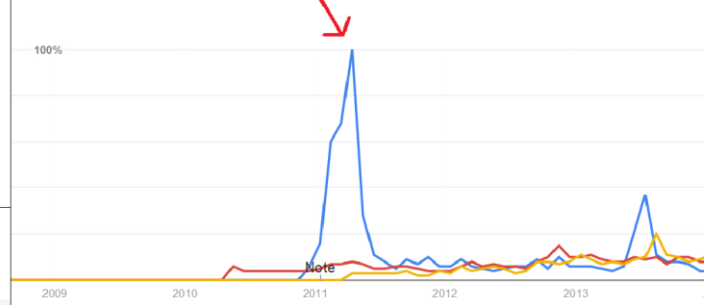
Regional Interests in France and Poland:



Worldwide Trends:



French Trends:



Polish Trends:



4. Figure: Gasland as Information Source for Locals

Source: Google Trends (www.google.com/trends)

As mentioned throughout the research, the facilitating role of online media was huge giving early impetus to helpless locals in both countries, the special role of Gasland.¹⁸⁶ The movie was particularly important in France, where it could resonate with the “terroir” frame which combined with the screenings organized by the Collectif, was one of the most important factor for the emergence of the anti-fracking movement. In contrast, the Polish movement could not capitalise on Gasland as the frames present were different from the ones in the movie. A new piece of art; Drill Baby Drill was created from the local experience and may serve as a shared point of reference for future Polish environmental movements. These findings from the

¹⁸⁶ Wood, “The Global Anti-Fracking Movement.”

cases, might be supported by Google trends data, which I researched.¹⁸⁷ Figure 4. shows the search trends about Gasland compared to fracking and shale gas, as well as worldwide, Polish and French trends and their regional distribution. While French locals were in general was more interested in getting information through Gasland, Poland follows. While the search term, Gasland was utilised more compared to the world average, it also preceded searches about shale gas in general though with a significantly stronger prominence in France. Regional distribution of searches is meaningless in Poland, but correlates very well with extraction sites and local Collectifs in France. This short Google presentation, generally supports the claims regarding the importance of Gasland, which it acquired as a framing and information sharing device for the anti-fracking movements.

Alternative hypotheses in general explain the Polish case better, yet they offer valuable insight to the French case as well. Even though the first initiative came from the industry, in the end the fact that the industry deemed both of the countries profitable for fracking, only mattered in Poland. While the industry's drive for fast development with relatively free regulation was welcomed in both cases, France quickly changed its decision on fracking when public sentiment escalated, which means that for the French government the opinion of voters could trump the industry lobby. Poland on the surface, seems as a country which adapts to the industry's needs, but increasing nationalist tendencies, coupled with uncertainty about levies and taxes, makes a claim that the Polish government serves the industry's interest questionable to the least.

The last two alternative hypothesis, which highlight the importance of energy security¹⁸⁸ and the availability of alternative energy sources¹⁸⁹ are generally in line with each other. Although shale gas would have certainly improved the energy situation of France, the country's relatively diversified import and the strength of other frames has proven to be more important.

¹⁸⁷ The initial idea was taken from, Wood but while he only looked at worldwide data in 2012, the author's research evaluates a wider timeframe and several local search patterns.

¹⁸⁸ Boersma and Johnson, "The Shale Gas Revolution."

¹⁸⁹ Haug, "Shale Gas and Renewables."

The centrality of energy security in Poland's energy discourse and even in its social frames perfectly support the seventh hypothesis. As discussed, France's most important energy source is nuclear energy, which even with shrinking public support, will continue to be the single best option for the country, thus dampening incentive for new resources. Similarly, Poland also have an alternative: coal, but the push from the European Union regarding lower level of carbon dioxide emissions and the temptation of cheaper shale gas was more important consideration in the Polish government's decision.

Implications

The present research demonstrated the impact of the anti-fracking movements on European shale gas adoption. It claimed that the successful mobilisation, framing and utilisation of political opportunities of the movement in France was the reason behind the ban. While the Polish movement went through a similar process, the structural factors, like the government's strive for energy security and the lack of real political opportunities has proven to be a too strong opponent to the marginalised movement. Moreover, another important reason behind the weak Polish movement uncovers a particularly important characteristic of both the anti-fracking movement, but all social movements in general: the importance of the local grassroots.

Interviews conducted with two experts, who had involvement with local activism support the dominance of the local elements as opposed to transnational ones in the anti-fracking movement. In this regard, the large gap between the two cases can be understood as, local activism in France was strong enough to attract the global movement, but not enough in Poland to accomplish the same. In Timothé Feodoroff's words:

“[The movement] is a very localised resistance, basically people saying: we don't want fracking in this country [...] these very local grassroots activists started the

movement, global organisations only joined later do nothing by only themselves, but highlight the local struggle.”¹⁹⁰

Similarly, Geert Decock argues that the main reason behind the French ban was:

“...A local outcry against a license for a company, which local communities have never heard of [and as a result] the ban was mainly a response to citizen's concerns and their movements.”¹⁹¹

Their insights support the argument of this thesis, namely that the anti fracking-movement always started on the local level and only after they rose to prominence, the mobilising and framing elements of the global anti-fracking movement came into action. Yet, this does not mean that there is no global movement. While Feodoroff highlights that the anti-fracking movement is very young and it is just unfolding, Decock reassures, that there is certainly a movement, more and more so as the discussion about shale gas goes global.

One of the newest initiative of this global movement is the organisation of the Frack Free Europe campaign,¹⁹² which brings fracking to the European Parliament, in order to gather political support against fracking. As European countries are more and more divided on fracking, the stance and role of the European Union is unclear. According to the European Commission: “clean technologies are the future for Europe's economy”¹⁹³ and it is ambiguous if shale gas has prospect in such a future. Finally, this alternative model of development, will dominate the European discourse, but as long as energy policy remains part of the member state's national sovereignty, European countries will be characterised by diverging approach to shale gas.

¹⁹⁰ Interview with the author.

¹⁹¹ Interview with the author

¹⁹² <http://frackfreeeurope.wordpress.com/about-us-support-contact/>

¹⁹³ European Commission: Roadmap for moving to a low-carbon economy in 2050, http://ec.europa.eu/clima/policies/roadmap/index_en.htm

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