



# STRATEGIC FILE

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Editors: Marcin Zaborowski (Editor-in-Chief) • Wojciech Lorenz (Managing Editor)  
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## How to Fix the European Shale Gas Debate? Lessons Learned from Public Consultations on Unconventional Fossil Fuels

**Agata Gostyńska, Bartosz Wiśniewski**

*The European shale gas debate is out of balance, making it increasingly difficult to conduct an across-the-board, fact-based assessment of the pros and cons of tapping into unconventional hydrocarbon deposits. EU Member States are divided in their approaches to the issue. Their attitudes range from an almost unchecked enthusiasm to deep wariness towards the shale gas industry. In addition, the European public has recently shown it is locked between the demands for more information about the specifics of shale gas development, and a static, often outdated image of the industry. EU institutions to date have largely either aggravated this polarisation or have failed to introduce solutions that would make the debate less toxic. However, as the authors of the paper argue, the European Commission could become a lynchpin in making the most of the ongoing efforts of the EU Member States and creating robust lines of communication with industry stakeholders.*

In early June this year, the European Commission (EC) unveiled the preliminary results of EU-wide public consultations on unconventional fossil fuels, including shale gas. A few things stand out from a myriad of figures meticulously compiled from the nearly 23,000 responses submitted by both individuals and organisations of various stakeholders.<sup>1</sup> Together, the responses make for a rather disappointing picture of the present European shale gas debate.

### **Member States and Shale Gas: The Engaged and the Aloof**

A country-by-country breakdown of the data reveals that almost half of the responses came from just one country—Poland. That’s surely a testimony of the seriousness with which the prospect of natural gas production from shale rock resonates with the Polish public, and something of a rather pleasant surprise considering that the dynamics of Poland’s “participatory society” are still rather unimpressive compared with such places as France or Germany. It is also an indirect effect of Poland’s status as a frontrunner in the European quest for shale gas, at least as far as the number of test wells is concerned. By mid-2013, Poland had 44 wells, and the industry expects this number to exceed 70 by the end of this year.<sup>2</sup> Finally, such an

<sup>1</sup> For the results of the EC consultations, please see: Presentation of the results of the public consultation “Unconventional fossil fuels (e.g., shale gas) in Europe,” 7 June 2013, [http://ec.europa.eu/environment/integration/energy/pdf/Presentation\\_07062013.pdf](http://ec.europa.eu/environment/integration/energy/pdf/Presentation_07062013.pdf).

<sup>2</sup> This pace of development is hardly satisfactory from the point of view of the industry. Test well drilling in Poland began in 2011. According to the Polish Exploration and Production Industry Organisation (OPPPW), the exploratory

impressive rate of participation on the side of Polish citizens, NGOs and industry would have probably been unattainable were it not for the activity of Polish MEPs, who spared no effort to encourage the submission of completed questionnaires.

By comparison, the second most-active country, France, churned out less than 15% of the responses. This makes this case a bit of an enigma. On the one hand, French society has arguably the most grounded judgment when it comes to shale gas. Back in 2011, France held a nationwide debate that ended with the introduction of the first European moratorium on hydraulic fracturing.<sup>3</sup> Thus, the audible French voice in the EU-wide consultation process should come as no surprise.

On the other hand, the relatively high rate of participation (especially when compared with other Member States) might be a little puzzling given that the French *non* to hydraulic fracturing remains fairly unequivocal and, more importantly, non-negotiable—at least if the promise made by President Francois Hollande were to be taken at face value. Immediately after being sworn into office, Hollande announced that the moratorium on fracking would not be reconsidered before the end of his term, a promise that he reinforced as recently as July this year.<sup>4</sup> So, even though there seems to be very little room for debate about shale gas in France itself, the French want to make their voice heard on the European level, and Paris is likely to pay close attention to the further development of dialogue on this matter at the EU level.

By contrast, the public in another EU member with a fracking moratorium in place since early 2012—Bulgaria—largely ignored the consultations. The same could be said of Lithuania. Ever since Chevron obtained stakes in a local upstream company back in October 2012, and later submitted a bid to develop Lithuanian unconventional deposits, media were awash with reports about the legislative rush to adjust environmental regulations ahead of the first exploratory drillings.<sup>5</sup> Apparently, this media frenzy did not translate into greater interest in speaking out on this topic at the EU level.

The balance of the debate among the Member States could be affected by what happens in Germany. So far, German federal authorities have not ruled out the possibility of taking advantage of its unconventional hydrocarbon reservoirs, knowing that it could facilitate efforts to implement the ambitious, and increasingly costly *Energiewende*. To date, however, at least within the ruling circles, scepticism towards unconventional gas has been rather prevalent. What could make the German case a reference for the European debate is the gravity with which the German public approaches the question of environmental safety in shale gas exploration and production.<sup>6</sup> Indeed, this is likely to be the determining factor in winning—or losing—the battle for social acceptance for the development of this industry in Europe.

And still, even in light of the questions surrounding the actual representativeness of the results of the consultations, the general level of participation is encouraging, proving the meaningfulness of debating this problem with citizens. In fact, when coupled with other such endeavours in areas of climate action, energy or environment, the number of responses is unprecedented. For example, consultations on the options for a revision of the EU Thematic Strategy on Air Pollution, which closed in early 2013, yielded fewer than 2,000 responses. In the case of consultations over the Renewable Energy Strategy, held almost two years ago, the number was even lower, somewhere in the range of four hundred.<sup>7</sup>

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stage of the Polish shale gas sector could take as long as 15 years to complete (based on the authors' conversations with representatives of OPPPW). By comparison, in the United Kingdom, which is making a renewed push towards tapping its shale deposits, only five shale-gas test wells have been drilled between April 2011 and December 2012, see: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/224856/Landwells22July2013.xlsx](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224856/Landwells22July2013.xlsx).

<sup>3</sup> For a detailed account of the debate, see: E. Wyciszkiewicz (ed.), *Path to Prosperity or Road to Ruin? Shale Gas Under Political Scrutiny*, PISM Report, October 2011.

<sup>4</sup> H. Carnegy, "Hollande Rejects Shale Gas Fracking", *Financial Times*, 14 September 2012, [www.ft.com](http://www.ft.com); "France's Hollande Rules Out Shale Gas Exploration", *Reuters*, 14 July 2013, [www.reuters.com](http://www.reuters.com).

<sup>5</sup> B. Bradley, "Chevron Lithuania Shale-Gas Deal Delayed to May for Law Changes", *Bloomberg*, 21 March 2013, [www.bloomberg.com](http://www.bloomberg.com).

<sup>6</sup> J. Stübiger, Federal Ministry of Economics and Technology, Division IVB1, General Issues of Raw Materials, Mining Law; *Potential of extraction of shale gas in Germany in the context of mining law, presentation delivered on the scientific support to energy security in the Baltic Sea Region, 4 July, 2013*, Lithuanian Academy of Sciences, Vilnius, Lithuania, accessed at [www.eu2013.lt](http://www.eu2013.lt) (19 July 2013).

<sup>7</sup> To access information on open as well as closed consultations, see: [http://ec.europa.eu/yourvoice/consultations/index\\_en.htm](http://ec.europa.eu/yourvoice/consultations/index_en.htm).

However, public interest in the consultations and thus shale gas itself is not apportioned evenly across most of the EU. Some Member States are barely visible on the graphs presented by the EC in June.<sup>8</sup> Thus, it would be hard to claim that the outcome of the consultations could be a benchmark for the EU as a whole. Neither have the consultations dealt with the most pressing challenge facing the European shale gas debate, i.e., the dominance of fringe voices in the public discourse. As such, the results should not become the sole basis for further legislative steps at the EU level, should such an idea arise.

## **The European Shale Gas Debate: Uninformed, Biased, Out of Step**

Two findings of the consultations substantiate the concern about the European debate being hijacked by extreme voices and arguments. First, there is the inflexibility of opinions about shale gas. Granted, the all-out opposition to unconventional fossil fuels as well as unreserved support for tapping these resources are fairly balanced—36% and 33%, respectively. That leaves some 30% who would consent to the development of unconventional deposits provided that “proper health and environmental standards are in place.”

All in all, more than 15 different desirable steps made it onto the list, among those mentioned most often: ensuring the proper construction of wells, monitoring water quality and seismicity, managing waste, putting in place robust liability regimes binding throughout the whole lifecycle of a well (an issue closely related to requiring appropriate financial security from the permit holders and operators), and monitoring the releases of methane into the air. Hence, the impression is that as difficult as finding compromise may be, it is certainly achievable given a sufficient degree of goodwill among the European public.

Unfortunately, such an assumption would be wrong. Only 15% of individuals and a mere 10% of the organisations that took part in the consultations declared that they would be ready to change their opinion about shale gas. Another 15–20% said “maybe”, while the overwhelming majority ruled it out completely. Thus, among those who are interested in the issue, minds have already been made up. But here comes the really puzzling part—when asked about the most important deficits of the shale gas debate, the respondents pointed to insufficient information.

Hence, the second worrisome feature of the debate is that it tends to be based on hearsay, second-hand expertise, and information about useful, but often outdated, and thus only partly accurate North American lessons in shale gas development.<sup>9</sup> Thus, on the one hand hydraulic fracturing is portrayed as an “environmentally risky” and “unproven” method of extracting hydrocarbons from unconventional deposits, even though the industry has been successfully developing it since the 1950s, and on the other, calls are mounting to develop new, innovative techniques.

The problem with the latter argument is twofold. First, there is no guarantee that a truly innovative, economically viable approach to developing unconventional deposits, e.g., one that would eliminate the need to use chemical additives in fracking fluid, would not come under the exact same criticism—that it is, well, too much of a novelty.

Second, surprising as it may be, the technology has already progressed quite significantly, but news about this headway rarely makes it onto the front pages. One notable example is the substitution of water with carbon dioxide—a technique that is beginning to catch on in arid regions of the United States.<sup>10</sup> Another innovation consists of applying LPG for fracking—it was deployed on a commercial scale in Canada as early as 2008, and tested in a few jurisdictions in the U.S.<sup>11</sup> In both cases, the idea is the same—cracking the rock to free trapped gas—but it could be a way to alleviate widespread concerns about the quantity of water needed to release unconventional deposits or the risk of mishandling the polluted water that is returned to

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<sup>8</sup> See presentation of the results of the public consultation, “Unconventional fossil fuels (e.g., shale gas) in Europe”, Brussels, 7 June 2013, [http://ec.europa.eu/environment/integration/energy/pdf/Presentation\\_07062013.pdf](http://ec.europa.eu/environment/integration/energy/pdf/Presentation_07062013.pdf).

<sup>9</sup> B. Wiśniewski, “North American Shale Gas Experience and Europe: How to Get It Right?”, *Europolitics*, 12 December 2011, [www.europolitics.info](http://www.europolitics.info).

<sup>10</sup> K. Galbraith, “Waterless Fracking Makes Headway in Texas, Slowly”, *The Texas Tribune*, 27 March 2013, [www.texastribune.org](http://www.texastribune.org).

<sup>11</sup> A. Brino, B. Nearing, “New Waterless Fracking Method Avoids Pollution Problems, but Drillers Slow to Embrace It”, *Inside Climate News*, 6 November 2011, [www.insideclimatenews.org](http://www.insideclimatenews.org).

the surface. Unsurprisingly, in the United States LPG fracking was touted as a way to bypass either existing or looming moratoriums on hydraulic fracturing.<sup>12</sup>

Moreover, even if the industry is slow to embrace waterless fracturing techniques, other aspects related to accessing unconventional hydrocarbons are almost sure to progress further. Water treatment is arguably the most promising area. This segment of the industry could grow significantly in North America, especially if opposition were to mount against the most common ways of disposing of the flowback water, e.g., via underground injection.<sup>13</sup> In fact, European companies could themselves reap considerable benefits from developing new water treatment techniques. The demand for these services is likely to grow, if only because certain solutions, such as injection wells, are not allowed in Europe. Above all, injecting water underground raises fears of “induced earthquakes.”<sup>14</sup> Besides flowback water, which is an immediate challenge during fracking operations, new solutions are already being developed to deal with saline, often heavily polluted water that is released over the lifecycle of a well.<sup>15</sup>

The bottom line for Europe is that solutions are either already in place, or are beginning to be commercialised. The challenge is how to ensure that innovative technologies that allow the industry to diminish its environmental footprint can be applied in Europe. Equally important, the European public needs to be aware of exactly how these new approaches to accessing unconventional deposits would respond to the fears about environmental hazards, and finally, what would be the authorities’ role in enforcing the best possible standards. This is what should be the focal point of the European shale gas debate.

## **EU Institutions and Shale Gas: Rough Times Ahead**

So far, EU institutions have largely failed to take up the torch. Shale gas has been debated at the EU level since 2010, mostly in the European Parliament (EP). This is also where the polarisation of the debate first became apparent and then increased following the activities of the committee on environment, public health and food safety (ENVI) as well as the industry, research and energy committee (ITRE). Unfortunately, both have done very little to narrow the gap between the opponents and supporters of shale gas. Rather than resorting to the associated committees procedure, which could help in developing a joint parliamentary report on the prospects of developing unconventional fossil fuels, ITRE and ENVI have each issued their own rival reports on shale gas-related implications. The latter committee in particular adopted a narrow approach, simply listing environmental risks associated with the development of shale gas. The tendency of ENVI to take the lead on such issues is likely to endure, with ITRE being sidelined and relegated to the role of a passive onlooker.

Indeed, as early as in November 2012, the EP concluded that the development of shale gas deposits should proceed only with strong regulation in place.<sup>16</sup> Much in the same vein, of note was that an amendment to a draft resolution tabled by ENVI, urging Member States not to authorise new fracking operations, garnered quite a few votes of support. Even if unsuccessful, and with no legal implications for Member States, such initiatives are an indication that this logic is unlikely to change anytime soon. The ongoing legislative process of amending Directive 2011/92/EU, which would introduce assessments of the effects of certain public and private projects on the environment, has recently become a platform for potential clashes between proponents and opponents of shale gas. The latter want to make projects in the unconventional hydrocarbon industry subject to mandatory environmental impact assessments.<sup>17</sup>

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<sup>12</sup> “Waterless Fracking Method Could Sidestep NY Gas Drilling Ban”, *Reuters*, 16 April 2012, [www.reuters.com](http://www.reuters.com).

<sup>13</sup> J. Katz, “Report: Fracking to Grow U.S. Frack Water-Treatment Market Nine-Fold by 2020”, *IndustryWeek*, 1 May 2012, [www.industryweek.com](http://www.industryweek.com).

<sup>14</sup> S. Griffiths, “Fracking could lead to ‘earthquake domino effect’ as it weakens fault lines deep in the earth’s crust, scientists claim”, *Daily Mail*, 12 July 2013, [www.dailymail.co.uk](http://www.dailymail.co.uk).

<sup>15</sup> J. Roach, “New tech said to clean up fracking water”, *NBC News*, 5 February 2013, [www.nbcnews/science](http://www.nbcnews/science).

<sup>16</sup> EP resolution of 21 November 2012 on industrial, energy and other aspects of shale gas and oil; EP resolution of 21 November 2012 on the environmental impacts of shale gas and shale oil extraction activities.

<sup>17</sup> Draft report on the Proposal for a Directive of the European Parliament and of the Council amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, 11 April 2013, 2012/0297(COD).

In addition, the prospect of the 2014 EP elections falling prey to MEP grandstanding is probable, especially on environmental issues, which have always belonged to the most divisive ones.<sup>18</sup> Some commentators are warning that they could be picked up by Eurosceptic MEPs, who are well versed in putting the problems of common societal concerns in a pan-European spotlight.<sup>19</sup>

What follows is a risk that rather than providing the public with the best possible information about the pros and cons of shale gas, others will be tempted to follow the beaten path and align themselves with simplified, one-sided positions. As the election campaign heats up, the chances for a debate that would answer the European public's call for more substance in the discussion about unconventional hydrocarbons are fading.

To a certain extent, the EC is hostage to the European political calendar, too. After including in its work programme for 2013 an assessment framework for safe and secure hydrocarbon extraction, the EC will be tempted to avoid unfinished business once its five-year term ends. Further, ending on a high note is likely to be considered a way to boost the outgoing Commission's political ratings. Finally, there is the desire to limit the phenomenon of the re-nationalisation of energy policies. Shale gas is just one example of this trend.<sup>20</sup> The recent debates on the drawbacks of the Emissions Trading Scheme could be another. All in all, the EC would like to see a more coordinated approach, rather than a "patchwork of conditions" for the growth of the shale gas industry.<sup>21</sup>

Perhaps crucially, this would be in line with what the public consultations reveal, i.e., that "doing nothing" about the current legal framework governing the development of unconventional hydrocarbons belongs to the least-favourable options. According to media reports, by the end of this year the EC will come up with a legislative initiative.<sup>22</sup> However, the president of the EC will likely face an uphill struggle trying to reconcile the differences in his own College on this matter, in particular the commissioners responsible for energy, environment and climate action. As if in anticipation of the Commission's move, other key actors at the EU level are already readying their positions. The prospect of strengthening the rules governing the risk assessment associated with shale gas made it onto the agenda of the Council of the European Union in mid-July.<sup>23</sup>

## **The Path to Take: Lowering Ambitions, Adding Substance**

What's doubtful, however, is whether the debate is in fact ripe enough to allow for the elaboration of a comprehensive legal framework. The preliminary outcome of the public consultations shows that the EC is caught between the Scylla of expectations to act on the unconventional hydrocarbon front and the Charybdis of an insufficiently informed European audience. Thus, the greatest danger is that whatever the EC comes up with, it will fall victim to overheated public discourse and will be tilted in the direction of often unjustified or overblown concerns about the technology. As a result, insufficient attention could be devoted to other important aspects of shale gas and its potential impact on Europe's energy and climate policy: reducing costs of moving towards a low-carbon future, safeguarding the competitiveness of European industry, or enhancing energy security. In order to avoid this, the EC could play a leading role in setting the record straight about shale gas. However, the outgoing College vulnerability to MEPs playing to the audience before the 2014 EP elections does not make this goal any easier to achieve. Tabling the legislative proposal to define the framework for shale gas exploration at the peak of EU legislative work not only poses a risk of instrumentalising this problem but also means there is little chance it will be adopted

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<sup>18</sup> "Report authors fear Eurosceptic ripple in 2014 EU elections", *EurActiv*, 11 July 2013, [www.euractiv.com](http://www.euractiv.com).

<sup>19</sup> *Ibidem*.

<sup>20</sup> Indeed, a bitter fight over the degree of oversight over the exploration of unconventional hydrocarbon deposits is in the making. Just as the ENVI committee endorsed a more stringent approach to EIAs, the Polish government allowed concession owners to drill as deep as 5,000 meters without the need for an EIA—much to the delight of the industry. Beforehand, any attempt to drill beyond 1,000 meters was by default considered to "significantly affect the environment", and as such had to be preceded by an EIA.

<sup>21</sup> See, P. Dechamps, "Shale Gas—A Revolution?", *BEPA Monthly Brief*, Issue 66, June 2013, pp. 7–8.

<sup>22</sup> B. Fox, "Brussels to Draft Shale Gas Rules by the End of Year", *EU Observer*, 29 May 2013, [www.euobserver.com](http://www.euobserver.com).

<sup>23</sup> "EU Environment ministers: securing biodiversity has its price", [www.eu2013.lt/en](http://www.eu2013.lt/en).

before the new EP is elected and a new College is approved. Instead, the EC should focus on eliminating the imbalances in the manner that shale gas is debated.

By now it is clear that the root cause of these imbalances lies in inadequate information about the state of play of the oil and gas business, especially the progress since the outset of the “shale gas revolution”. The European public harbours a static picture of the industry, and it is reinforced by reports that often do not follow the latest developments in the shale gas industry.<sup>24</sup> This points precisely to what the European debate lacks—a reliable mechanism for gathering and channelling facts about the development of unconventional hydrocarbons.

Hence, the EC should be at the forefront of monitoring technological advancements and the development of good practices as well as identifying problems associated with the exploration and production of unconventional hydrocarbons. Such an initiative could involve both public and private partners, and proceed along two distinct tracks.

The first would consist of cooperation with national geological surveys and bureaus from EU Member States with ongoing or planned exploration activities. These institutions possess the necessary expertise, which in turn translates into a sufficient degree of clout and social confidence back in their respective countries, to deliver reliable, unbiased assessments of the key aspects of the development of shale gas, shale oil and other types of unconventional fossil fuels.

In fact, in some cases, independent oversight of drilling sites has already been established and their results are available to the public. Back in 2011, the Polish National Geological Institute, directed by the Ministry of Environment, examined the operations on one concession, taking into account problems such as noise, handling of flowback water, or recultivation of the site.<sup>25</sup> This, could be the avenue that the EC might want to pursue—relying on first-hand accounts of industry activity in European circumstances, which are vastly different than those in North America. Of course, the more such “pilot investigations”, the larger the probe into the industry activity, and, ultimately, the greater the reliability of the findings. The challenge is to have them integrated into a coherent, Europe-wide picture.

Of course, the programme should also monitor the developments in the North American market, currently boasting by far the most dynamic upstream sector worldwide. Over the past few years, both Americans and Canadians have been doing a pretty good job with increasing understanding of the nature of the unconventional hydrocarbon industry. However efficient, programmes such as the U.S. Global Shale Gas Initiative, which later morphed into the Unconventional Gas Technical Engagement Program, were as much about channelling technical expertise and promoting success stories of the “shale revolution” as they have been about advancing (in this particular case) U.S. commercial interests. A similar instrument that would help eliminate the inherent tension between informing people about shale gas and promoting it would help add substance to the European debate.

At the same time, it is clear that industry needs to be on board. Ultimately, this is the repository of information about the current state of play concerning technology development, and other aspects. Hence, the second track of the programme: dialogue with industry stakeholders. The purpose of such regular dialogue would be to draw up a framework that would incorporate both the good practices that the industry has developed in order to address issues of greatest concern to the public, e.g., safety of water supplies, excessive noise, or increased seismicity, and the environmental standards developed so far via European law.

In the end, the EC could become a champion for creating voluntary, EU-wide standards for corporate social responsibility for the unconventional fossil fuel business. This need not be equal with adopting a less

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<sup>24</sup> For example, the report addressing the “potential risks for the environment and human health arising from hydrocarbons operations involving hydraulic fracturing in Europe”, commissioned by DG Environment in 2011, and delivered in August 2012, when listing the chemicals most commonly used as fracturing fluid additives, goes back to data from the period 2005–2009. For more, see: <http://ec.europa.eu/environment/integration/energy/pdf/fracking%20study.pdf>, pp. 13–14.

<sup>25</sup> For more details, see: “Environmental Impact of Hydraulic Fracturing Treatment Performed on the ŁEBIEN LE-2H WELL”, Polish Geological Institute—National Research Institute, March 2012: <http://www.pgi.gov.pl/en/all-events/4087-environmental-impact-hydraulic-fracturing-lebien.html>.

ambitious agenda. The EC would still stand a chance of charting a path towards a better-informed, EU-wide discussion about shale gas, and staying true to its goal of building a common European energy policy. A mechanism that would enable both a robust dialogue with the industry and encourage the inflow of new, advanced technologies would be a fitting way to achieve these tasks.