

**EFFECTIVE ACCESS TO INFORMATION AND PUBLIC PARTICIPATION
WITH RESPECT TO SHALE GAS ISSUES:
A COMPARATIVE ANALYSIS IN THE LIGHT OF THE AARHUS CONVENTION AND
US EXPERIENCE**

Supervisor: **Prof. Dr. G. Van Calster**
Teaching assistant: L. Reins



Master's thesis, submitted by
Kristine ZAICEVA
as part of the final examination for the
degree of MASTER OF LAW

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KU LEUVEN
FACULTY OF LAW
Academic year 2014-2015

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SUMMARY

This paper provides an analysis of the legal challenges associated with public participation rights and the accessibility of information with respect to shale gas issues in the light of the Aarhus Convention and US' experience. In addition, the paper explains the importance of the effectiveness of the mentioned rights. It discusses the regulatory regime in the US (Wyoming, Texas, Pennsylvania) and the EU (Poland, UK) and analyses problematic parts such as chemical disclosure and Environmental Impact Assessment. It provides a comparison between states and analyses case law relevant to the analyses. The significance of the paper lies in its highlighting of existing problems and the proposal of possible improvements within the present system to make public participation and access to information both effective and transparent.

Key words: Shale gas extraction, Aarhus Convention, access to information, public participation, chemical disclosure, trade secret, Environmental Impact Assessment, regulation in US/EU.

ACKNOWLEDGMENTS

I wish to express my sincere thanks to Prof. Dr. Geert Van Calster for providing necessary guidance concerning the topic of the research.

I am also grateful to Leonie Reins for her guidance, helpful comments and expertise throughout the development of this thesis. Warm thanks for her patience and encouragement.

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PREFACE

Shale gas is presently one of the most popular topics in energy law. As of 2009, the level of natural gas production from shale formations increased in the United States (US) — one of the world's top producers of natural gas, after Russia — which has been a significant factor in this. By 2010, shale gas accounted for up to 23% of US gas production.¹ The production of gas from shale continues to attract attention from all over the world, especially from Europe.

Shale gas fracturing, or 'fracking', poses a number of challenges with respect to environmental protection². Public participation is crucial to legitimate decision making and improving outcomes for sustainability. Affected communities must have meaningful opportunities to express their concerns. According to the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the Aarhus Convention), which was adopted in 1998, governments need to take all necessary steps in order to comply with this Convention.³ Article 1 of the Convention is as follows: *'In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention.'*⁴

This thesis will examine the effectiveness⁵ of two pillars of the Aarhus Convention as they are applied, namely: access to information and public participation. It will provide a comparative analysis of legislative development in the US and Europe in relation to shale gas exploration. I will include analyses of the situations in the US states of Texas, Wyoming, and Pennsylvania. These states were chosen based on their significant experience in shale gas fracturing and a great many issues regarding the production of shale gas. Furthermore, the European situation will be analysed, with data from Poland and the UK. Both countries have a high relevance in shale gas fracturing. Poland is considered one of the regions in the EU with the most recoverable shale gas, due to its favourable infrastructure and public support for shale gas development⁶, while the UK follows closely behind in pursuing its shale gas potential. However, there is greater political opposition to shale gas in the UK than there is in Poland.

¹ I. Dreyer, G. Stang, 'The shale gas 'revolution'. Challenges and implementation for the EU', 2013, available at <www.iss.europa.eu/uploads/media/Brief_11.pdf> (consulted 18.03.2014.)

² It includes topics such as water and ground contamination, air pollution and dangerous chemicals for human health, etc.

³The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters: Aarhus Convention, Aarhus, 1998

⁴ Ibid.

⁵ See section 1.3.

⁶ U.S. Energy Information Administration report, 'Technically Recoverable Shale Oil and Shale Gas Resources: An Assessment of 137 Shale Formations in 41 Countries Outside The United States' 2013, Washington p. 301

Regarding the regions in question, the main question posed by this research is: How effective⁷ is access to information and which public participation problems exist with respect to shale gas issues in the light of the Aarhus Convention and US experience? To answer this question I will need to answer following sub-questions:

- Do intellectual property rights and, more specifically, trade secrets, provide sufficient justification for chemical disclosure exemption from the right to access to information?
- Do chemical disclosure registries solve the transparency problem of chemical additives used in the fracturing process?
- Is there any gap in the Environmental Impact Assessment procedure, either in European or US experience, which infringes upon public participation rights with respect to shale gas issues?
- Are there any attempts being made to reduce public participation in shale gas issues by introducing amendments to existing legislation?

In order to develop comprehensive and useful research, and to be able to answer to the above research question, both qualitative and quantitative research methods have been used. This involved the use of primary and secondary data, content analysis, case studies, comparisons and statistics.

⁷ See section 1.3.

I A GENERAL OVERVIEW

1.1. Shale gas and hydraulic fracturing

There are three different types of unconventional gas: tight gas, coalbed methane and shale gas. Tight gas can be found in a very tight formation, trapped in hard rock, and cannot be developed profitably, while coalbed methane is contained in coal beds which are too deep or too poor to be profitable.⁸ Shale gas can be found in shale rock reservoirs in the Earth's subsurface. Shales are sedimentary rocks which can be rich resources of petroleum and natural gas.⁹ Due to its deep location, shale gas was once also considered a problematic resource; the process of its extraction was difficult and therefore very costly. Nevertheless, new technologies have contributed to the recent developments in the unconventional gas sector and made shale gas a potential resource for gas extraction.

In terms of chemical makeup, shale gas is typically a dry gas composed primarily of methane (60-95 % v/v), however it is possible that some formations will produce wet gas as well.¹⁰

Thus, by definition, shale gas is the hydrocarbon gas present in organic-rich, fine-grained sedimentary rocks. The gas is created and stored in gas shale as both sorbed gas and free gas. As such, shale rock units containing gas exist as self-sourced reservoirs.¹¹

In order to extract shale gas, a special procedure is used called 'hydraulic fracturing'. Historically, it is not a new way of stimulating oil and gas production. The first registrations of this technology appeared in Kansas in 1946. As the technology has continued to develop and improve year after year, operators are now able to work with different fracturing techniques, both horizontal and vertical.¹²

Fracturing involves drilling in the Earth, both vertically and horizontally at a great depth (normally around 1,500- 6,000 metres). After the drilling is finished, the pumping process starts. A mixture of water, a granular substance such as sand and special chemicals are pumped under a high pressure to fracture the shale and force the gas out of pores in the rock. Afterwards, water contaminated by additives is returned to the surface (Figure 1).¹³

⁸ Martha M. R., Olivia W., 'European energy law report IX', 2012, Cambridge, Intersentia Publishing, p. 199.

⁹Shale Training & Education Center, 'What is shale gas and why it is important?' available at <<http://www.shaletec.org/whatis.htm>> (consulted 02.04.2014.)

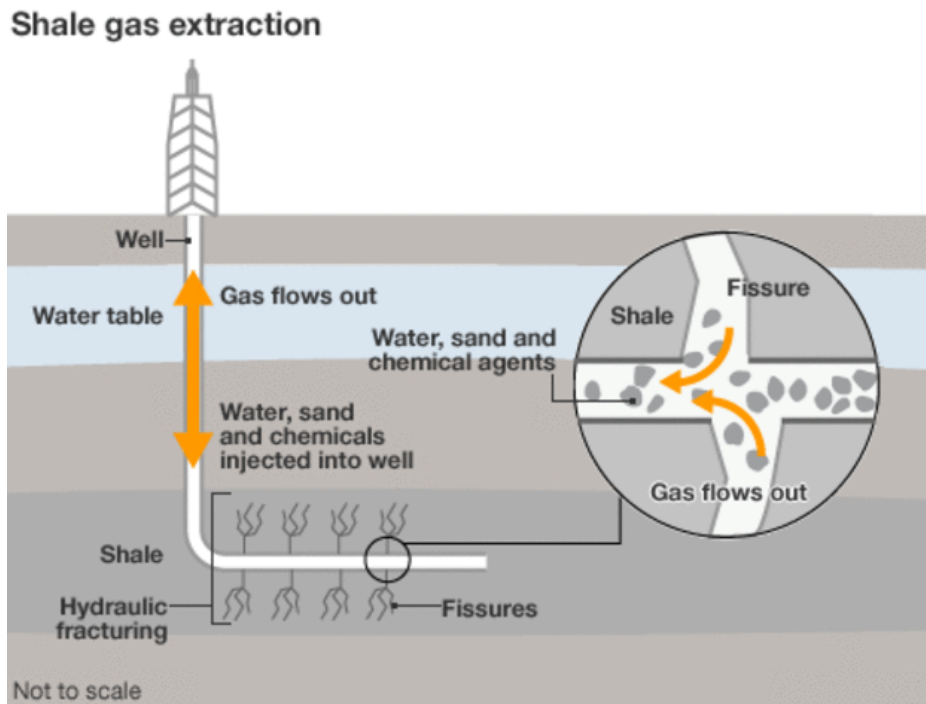
¹⁰ J.G. Speight, 'Shale gas production processes', Oxford, Gulf Professional Publishing, 2013, p.10

¹¹ Ibid., p.11

¹² Chemical Disclosure Registry FracFocus, 'A History of hydraulic fracturing. A historic perspective', available at <<http://fracfocus.org/hydraulic-fracturing-how-it-works/history-hydraulic-fracturing>> (consulted 02.04.2014.)

¹³ G. Aitken, H.Burley, 'Shale gas. Unconventional and unwanted: the case against shale gas', 2012, available at <<https://www.foeurope.org/publications>> p. 5 (consulted 02.04.2014.)

Figure 1 Extraction of shale gas



Since 2007, the US has become very active in extracting shale gas. Effective techniques have led to the exploitation of a considerable amount of natural gas resources. This, in turn, led to a drop in the price of shale gas and making shale gas an interesting prospect all over the world. This success started to be referred to as ‘the shale gas revolution’¹⁴. However, there are several negative aspects associated with the extraction of shale gas. First of all, a considerable amount of drinking water is needed. Secondly, shale gas fracturing leads to water and land contamination; the fracturing process involves the use of different kinds of chemicals. Furthermore, air pollution and noise pollution are considered to be problematic points.¹⁵

Several European countries are showing interest in shale gas. The estimate of shale gas resources from 2013 predicts that EU potentially has 13,309 billion cubic meters (m³) of recoverable shale gas resources with 4,19 billion m³ in Poland and 730 million m³ in UK¹⁶. Shale gas could give countries such as Poland a chance to be more independent from Russia with respect to its gas usage, as it currently imports a large amount. However, there are a lot of discussions about shale gas

¹⁴ Sometimes referred to as ‘the shale boom’. The term is widely used in the media and scholar works.

¹⁵ R. Fleming, ‘Shale gas - a comparison of European Moratoria’, *European Energy and Environmental Law Review*, Volume 22, Issue 1, 2013, p. 16-18

¹⁶ L. Reins, ‘In Search of The Legal Basis in Environmental and Energy Regulation in EU Level: The Case of Unconventional Gas Extraction’, *RECIEL*, Volume 23, Issue 1, 2014, p. 2

possibilities in Europe, especially from an environmental point of view. This was the reason why, in 2011, France became the first EU Member State to ban shale gas fracturing.¹⁷

1.2. Legislative framework concerning shale gas

Currently, no binding legislation has been adopted in the EU specifically relating to shale gas issues. Nevertheless, the development of such legislation has recently received considerable attention, compared with previous years.

Firstly, a legal assessment conducted by the Commission Services in 2011 concluded that the existing EU environmental legislation applies to practices required for shale gas exploration and production, from planning to cessation.¹⁸ However, the information available at the time was not sufficient to determine the level of effectiveness being achieved by the existing legislation with respect to the management of risks associated with shale gas exploration. A report for the European Parliament's Committee on Environment, Public Health and Food Safety, submitted to the European Commission in June 2011, called for 'consideration to be given to developing a new directive at European level regulating all issues in this area comprehensively'. The report also recommended that 'all chemicals to be used should be disclosed publicly, the number of allowed chemicals should be restricted and its use should be monitored.'¹⁹

In 2012, in a Transmission Note on the EU environmental legal framework applicable to shale gas projects, it was confirmed that, despite many risks associated with shale gas production, the existing legislative framework was considered applicable.²⁰ Starting in 2012 there were several studies conducted on shale gas exploitation that examined potential risks, such as those to the environment and human health, regulatory provisions in MS, climate impact, etc.²¹ Studies were made in order to collect more information for in the event of possible complications and to examine the necessity of further steps with respect to the legislative framework surrounding shale gas.

¹⁷ The Connexion. France's English Language Newspaper, 'France bans shale gas 'fracking'', 2011, available at <<http://www.connexionfrance.com/shale-gas-fracking-hydraulic-fracturing-france-senate-bans-environment-12834-view-article.html>> (consulted 05.05.2014.)

¹⁸ Council of the European Union, Communication 6207/11, 11.02.2011

¹⁹ European Parliament directorate general for internal policies, 'Impacts on shale gas and shale oil extraction on the environment and on human health', 2011, available at <<http://www.europarl.europa.eu/document/activities/cont/201107/20110715ATT24183/20110715ATT24183EN.pdf>> p.77 (consulted 01.11.2014.)

²⁰ J. Potocnik, Transmission Note on the EU environmental legal framework applicable to shale gas projects', 26.01.2012, available at <http://ec.europa.eu/environment/integration/energy/pdf/legal_assessment.pdf> (consulted 01.11.2014.)

²¹ European Commission, 'Environmental aspects on unconventional fossil fuels. Related studies', available at <http://ec.europa.eu/environment/integration/energy/uff_studies_en.htm> (consulted 01.14.2014.)

The European Commission also conducted a public consultation, ‘Unconventional fossil fuels in Europe’, between 20 December 2012 and 23 March 2013. It was intended to listen to stakeholders and the general public, to understand concerns and to obtain some relevant evidence about shale gas.²²

Finally, on 22 January 2014, the Commission responded to the calls for urgent action by issuing a Recommendation on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing.²³

The Recommendation is intended to complement existing EU legislation, covering issues such as strategic environmental assessments and planning, underground risk assessment, well integrity, baseline reporting and operational monitoring, the capture of methane emissions, and the disclosure of chemicals used in each well. The principles of this Recommendation were expected to be made effective by the EU Member States within 6 months of their publication. Member States are also invited to inform the Commission each year of the measures undertaken. The Recommendation includes a review clause to assess the effectiveness of this approach.²⁴

As stated in the Preamble of the Recommendation, this step was necessary as certain environmental aspects associated with the exploration and production of hydrocarbons involving this practice are not comprehensively addressed in current EU legislation. It is believed that ‘a set of rules would level the playing field for operators, and improve investors’ confidence and the functioning of the single energy market. Clear and transparent rules would also help alleviate public concerns, and possibly opposition to shale gas development’.²⁵

The Recommendation highlights the need for flexibility in MS decisions concerning shale gas issues. The Recommendation neither implies that Member States are under any obligation to pursue the exploration or exploitation shale gas if they choose not to, nor that Member States are prevented from maintaining or introducing more detailed measures matching the specific national, regional or local conditions. This can be connected to a diversity of MS approaches towards shale gas fracturing.

²² K. De Smedt, A. Rigamonti, ‘Towards a common framework for shale gas extraction in the EU’, *Environmental liability. Law, policy and practice*, Volume 21, issue 4, 2013, p. 148

²³ Commission Recommendation (2014/70/EU) on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing OJ L39

²⁴ European Commission, ‘Energy and environment. Environmental Aspects on Unconventional Fossil Fuels’, available at <http://ec.europa.eu/environment/integration/energy/unconventional_en.htm> (consulted 01.11.2014.)

²⁵ Commission Recommendation (2014/70/EU) on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing OJ L39

1.3. The importance of effectiveness in access to information and public participation

Firstly, it is worth clarifying the exact meaning of the word effective. As stated in the Oxford Dictionary, effective means *successful in producing a desired or intended result*.²⁶ This leads to the question of what the desired result is when discussing the access to information and public participation with respect to shale gas issues. To provide an answer to this question, it is necessary to check the aim and the subject of the legislation.

The subject of the Aarhus Convention creates a connection between people and government. The Convention is not only an environmental agreement, it also concerns government accountability, transparency and responsiveness.²⁷ The aim of the Convention is set out in the Article 1 and requires parties to guarantee the rights of access to information, public participation in decision-making and access to justice in environmental matters in order to contribute to the protection of the right of every person, of present and future generations, to live in an environment adequate to his or her health and well-being.²⁸

The Preamble of the Convention emphasises another essential concept: the importance of access to information, public participation and access to justice, in the context of sustainable and environmentally sound development. For example, Paragraph 8 of the Preamble of the Convention states that, in order to meet the objective of the environment adequate for well-being, citizens *must* have access to information and *must* be entitled to participate in decision making.²⁹ The same idea is developed in other paragraphs of the Preamble, recognising that access to information and public participation will enhance the quality and implementations of decisions.

In order to talk about effective access to information and public participation in shale gas issues, several criteria need to be fulfilled:

1. There should be a sufficient amount of information available for the public, access to which is not limited by wide exemptions;
2. Government work needs to be fulfilled in line with accountability and transparency principles³⁰;
3. The public should be informed in a timely manner about possibilities for participation;

²⁶ Oxford Dictionary, Definition of *effective* in English, available at <<http://www.oxforddictionaries.com/definition/english/effective>> (consulted 20.10.2014.)

²⁷ S. Stec, S. Casey-Lefkowitz, 'The Aarhus Convention: an implementation guide', New York, United Nations Publication, 2000, p. 1.

²⁸ The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters: Aarhus Convention, Aarhus, 1998, Art.1

²⁹ Ibid. para. 8 of the Preamble

³⁰ K. Lenaerts, P. Van Nuffel 'European Union Law. 3rd edition', London, Sweet & Maxwell, 2011, p. 746. Transparency requires that the decisions and actions of the government are open to public scrutiny and that the public has a right to access such information. It is a democratic characteristic of the Union; institutions and the administration are reinforced to make their work as open as possible.

4. Public opinion after public participation should be taken into account not only for statistical purposes but for the real decision making;

These criteria will help to avoid the situation where, theoretically, access to information and public participation will exist; nevertheless, due to serious obstacles and a lack of transparency, it will be practically ineffective.

II FIRST PILLAR: ACCESS TO INFORMATION

2.1. Legal framework. A brief comparison of US and EU regulatory regimes

Access to environmental information ensures that members of the public can understand what is happening in the environment around them. It is a crucial element in democratic society and is a necessary starting point for any public involvement in decisions. It can be seen as a basis of formal enforcement opportunities enjoyed by the public or an educational element to promote environmentally friendly measures.³¹ The provisions relating to access to information can be found in Article 4 of the Aarhus Convention, which allows the public to request and receive environmental information from public authorities, and Article 5, which sets out the obligations of parties and public authorities with respect to the collection and dissemination information.³² It is divided in two parts: passive and active access to information.

Article 4 of the Aarhus Convention covers a set of requirements. It includes a general provision to make information available upon request, sets time limits for public authorities to respond and also provides exceptions whereby access to information may be rejected. These exceptions are listed in Paragraph 4, with the statement that ‘the information may be refused if the disclosure would adversely affect the confidentiality of the proceedings, international relations, the course of justice, the confidentiality of commercial information, intellectual property rights, person data or interests of third parties’.³³

Article 5 of the Aarhus Convention establishes general obligations for authorities to ensure that information is made public and accessible. In general, it covers emergency information, product information, pollutant release, information concerning specific laws, etc. To a large extent, this Article focuses on implementation guidance for collecting and disseminating information. Whereas Article 4 was generally applicable to all environmental information, Article 5 focuses specifically on several categories of information. Paragraph 7a states that the *party shall publish the facts and analyses of facts which it considers relevant and important in framing major environmental policy proposals*.³⁴ This also requires the publication of background information concerning the relevant facts.

Since shale gas issues involve the usage of chemicals during the fracturing process, it is clear that the question of trade secret exemption is a very sensitive issue. Already in 1986, the US Congress enacted the Emergency Planning and Community Right to Know Act (EPCRA). EPCRA established

³¹J. Holder, M. Lee, ‘Environmental Protection, Law and Policy. Second edition’, Cambridge, Cambridge University Press, 2007, p. 101

³²The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters: Aarhus Convention, Aarhus, 1998, Art.4

³³ Ibid.

³⁴ Ibid. Art. 5

requirements for federal, state and local governments, tribes, and industry regarding emergency planning and ‘community right-to-know’ reporting on hazardous and toxic chemicals.³⁵ Under Sections 311 and 312 of the EPCRA, facilities manufacturing, processing, or storing designated hazardous chemicals must make Material Safety Data Sheets (MSDS), describing the properties and health effects of these chemicals, to be made available to state and local officials and local fire departments.³⁶

While shale gas production facilities do not normally store the materials subject to EPCRA reporting, a limited number of chemicals used in the hydraulic fracturing process are classified as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which requires the reporting of any release of these materials into the environment.³⁷ In addition to federal disclosure laws, many states have developed or are developing public disclosure rules related to hydraulic fracturing, which include the mandatory use of the chemical disclosure registry. The system as such makes it possible to develop different laws, which will vary from state to state.

While the US allows its states to have a different approaches towards shale gas, the EU transposed the Aarhus Convention and its requirements can be found in the Directive 2003/4/EC, in which Article 3 provides general information about the request to access the information and the lack of a need of interest, while Article 4 sets exceptions for the information disclosure. Exceptions generally cover the same categories as the Aarhus Convention as well as intellectual property rights.³⁸ This approach leads to the identical level of regulation in all Member States after the directive has been implemented in the state in question.

The most important legislation concerning chemical disclosure is the so-called ‘REACH’ Regulation. The proposal for the Regulation was submitted by the Commission in 2003 as a far-reaching reform for the chemicals legislation. It was preceded by a white paper published in 2001 detailing a strategy for future chemicals policy in 2001.³⁹ Article 1 of the Regulation states that ‘the purpose of this Regulation is to ensure a high level of protection of human health and the environment, including the promotion of alternative methods for assessment of hazards of substances, as well as the free circulation of substances on the internal market while enhancing competitiveness and’.⁴⁰

³⁵Chemical Disclosure Registry FracFocus, ‘Chemicals & public disclosure’, available at <<https://fracfocus.org/chemical-use/chemicals-public-disclosure> (consulted 09.11.2014.)

³⁶ The Superfund Amendments and Reauthorization Act, US Federal Law 99-499,1986, Title III

³⁷ Ibid.

³⁸ Directive 2003/4/EC of the European Parliament and of the Council of January 28, 2003 on public access to information [2003] O.J. L41. This directive repeals Dir. 90/313/EEC

³⁹ L. Kramer, ‘EC Environmental Law. Sixth Edition’, London, Sweet & Maxwell, 2007, p. 248

⁴⁰ Regulation No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) OJ L 396, [2006], Art. 1,11

The Regulation imposes on industry a burden of registration of certain substances. It establishes detailed rules for substances requiring registration⁴¹ and includes substances above the threshold of one tonne. Certain substances of very high concern may not be put on the market without authorisation. These substances are listed in Annex to the Regulation.⁴²

Article 11 provides exemptions for chemical disclosure. Before embarking on a joint submission, a registrant should identify whether any of the information he may be required to submit could be considered to be a trade secret or otherwise commercially sensitive, such that sharing it would be detrimental to the registrant's commercial interests.⁴³ Therefore, any company that can prove that the disclosure of information will have a harmful effect on their company will be able to keep the information confidential.

Commission Recommendation 2014 provides additional information on chemical disclosure. Member States should ensure that the operator provides information on the chemical substances which are used for high-volume hydraulic fracturing. The information should list names and CAS numbers⁴⁴ of all substances and include a safety data sheet.⁴⁵

2.1.1. Chemical disclosure registries

Several voluntary registries were set up in order to improve transparency with respect to the public disclosure of additives in fracturing, and to support legislative developments. One can consult successful cases in these registries to assist in increasing the effectiveness of access to information.

On April 11, 2011 in the US, Interstate Oil and Gas Compact Commission, together with the Ground Water Protection Council, launched the FracFocus Chemical Disclosure Registry (FracFocus).⁴⁶ The site was created to provide the public with access to reported chemicals used for hydraulic fracturing within their area. To help users put this information into perspective, the site also provides objective information on hydraulic fracturing, the chemicals used, the purposes they serve

⁴¹ Ibid., Art. 3, *substance* means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

⁴² Ibid., Annex XIV

⁴³ Ibid., Art 11.

⁴⁴ A division of American Chemical Society, 'CAS Registry', A CAS Registry Number is a numeric identifier that can contain up to 10 digits, divided by hyphens into three parts. It is a link to a wealth of information about a specific chemical substance. For more information see <<https://www.cas.org/content/chemical-substances/faqs>> (consulted 09.04.2015.)

⁴⁵ Commission Recommendation (2014/70/EU) on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing OJ L39 Art. 15

⁴⁶ P. Legette 'Trade Secrets and the Regulation of Hydraulic Fracturing: Toward a global perspective' *International Enforcement Law Reporter*, Issue 4, 2013, p. 158

and the means by which groundwater is protected. During one year, from 2011 to 2012, the site recorded over 15,000 chemical disclosures.⁴⁷

Although the website was created as a voluntary registry, it gained far-reaching popularity, even more, in several states it became a compulsory procedure. For instance, in Texas the supplier of a substance needs to provide the operator with all relevant information concerning additives, chemical ingredients, and concentration. The operator must then provide this information to FracFocus registry. However, information that is considered to be a trade secret does not need to be disclosed unless the court determines that the information is not eligible for exemption.⁴⁸ This gives operators sole discretion to make a decision in regard to that question.

In Europe, the International Association of Oil and Gas Producers (OGP) has launched (18 June 2013) a web-based European chemical disclosure registry. The voluntary registry NGS FACTS (Natural Gas from Shale Hydraulic Fracturing Fluid and Additive Component Transparency Service), will provide the public with easy access to comprehensive information on the fracturing fluids used for hydraulic fracturing in Europe on a well-by-well basis.⁴⁹ The website was built following the example of FracFocus in the US, while NGS FACTS will provide information on chemicals used in drilling operations across Europe. This site aims to address public concerns with hydraulic fracturing through the open sharing of information and knowledge. In contrast with FracFocus, the website is fully voluntary and submission is not compulsory. It is difficult to debate how successful the NGS FACTS website is at the moment, as it is relatively new and hydraulic fracturing in Europe is itself still in a nascent period of development. Nevertheless, the website provides information about disclosure sheets and is reviewed annually.⁵⁰

In overview, FracFocus looks to be a perfect solution for the problem of transparency. However, it is doubtful whether it is as effective as it is presented. FracFocus has very few safeguards to ensure the accuracy of information. There is currently no review procedure in place, neither as part of the website itself nor under the initiative of the state. Unsurprisingly, this has led to the disclosure of incorrect data⁵¹. A review of all disclosures submitted over the course of a month in Texas found that 29% of the chemical identification numbers submitted⁵² did not actually exist. Another problem

⁴⁷ Chemical Disclosure Registry FracFocus, available at <<http://fracfocus.org/welcome>> (consulted 07.04.2014.)

⁴⁸ P. Legette 'Trade Secrets and the Regulation of Hydraulic Fracturing: Toward a global perspective' *International Enforcement Law Reporter*, Issue 4, 2013, p. 160-161

⁴⁹ NGS Facts, 'Natural gas from shale', available at <<http://www.ngsfacts.org/>> (consulted 07.04.2014.)

⁵⁰ Ibid.

⁵¹ Switchboard-Natural Resources Defense Council Staff Blog. 'New Harvard Study: 'Serious Flaws' in industry self reporting website FracFocus', available at <http://switchboard.nrdc.org/blogs/mmcfeeley/new_harvard_study_serious_flaw.html> (Consulted 06.11.2014.)

⁵² CAS numbers are the global standard for authoritative identification of chemicals and allow each chemical constituent to be unambiguously identified, which is essential to provide an accurate picture of the substances used in each hydraulic fracturing treatment.

is that companies often leave out relevant information when there is no space to fill it in.⁵³ Furthermore, information is submitted as individual PDF documents; this makes it difficult to use the website, as in order to find the necessary information one would need to open every single file.

To conclude, although chemical disclosure registries seem to be a good way to promote transparency and effectiveness with respect to chemical disclosure issues, they have several significant drawbacks, which means that the registries will not contribute to a useful, open and comprehensive disclosure of information concerning hydraulic fracturing. As such, chemical disclosure registries do not currently solve the transparency problem with respect to the chemical additives used in the fracturing process.

2.2. Trade secrets and shale gas

The trade secret is a form of intellectual property right. Broadly speaking, any confidential business information which provides an enterprise a competitive edge may be considered a trade secret. Trade secrets encompass manufacturing or industrial secrets as well as commercial secrets. They are defined very broadly and include sales methods, distribution methods, consumer profiles, advertising strategies, lists of suppliers and clients, and manufacturing processes. A definitive answer as to what information constitutes a trade secret will therefore depend on the circumstances of each individual case.⁵⁴

As mentioned in Chapter I, during the shale gas fracturing process chemical additives are used in order to keep fractures from closing up while gas is being extracted. To perform this action, operators usually follow one of the two basic approaches, namely the addition of either guar gum — to make water more viscous — or synthetic polymers. Operators also use other additives for several reasons. Corrosion inhibitors protect the pumping and downhole equipment, salts prevent the swelling of clays, and acids help in cleaning entryways. Many of these compounds are well established in the industry. Others, however, are specially designed and based on multi-million-dollar investments.⁵⁵ Of course, the percentage of additives is relatively small; nevertheless, companies are trying to keep most additives as trade secrets.

⁵³ Switchboard-Natural Resources Defense Council Staff Blog. ‘New Harvard Study: ‘Serious Flaws’ in industry self reporting website FracFocus’, available at <http://switchboard.nrdc.org/blogs/mmcfeeley/new_harvard_study_serious_flaw.html> (Consulted 06.11.2014.)

⁵⁴ World Intellectual Property Organization, available at <http://www.wipo.int/sme/en/ip_business/trade_secrets/trade_secrets.htm> (consulted 02.11.2014.)

⁵⁵ P. Leggette, J. L. McQuaid, A. Harvie, ‘Trade secrets and the Regulation of Hydraulic Fracturing: Toward a Global Perspective-Pt1’, *International energy Law Review*, Issue4, 2013, p. 155

With regard to this topic, the new Recommendation⁵⁶ makes reference to the Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).⁵⁷ While it can be considered the main legislative document for chemical substance disclosure for ensuring effective risk management, it still allows for the possibility of trade secret exemptions.⁵⁸

As trade secrets are among the possible exemptions to the open access to chemical substance information, we can observe a contradiction. On the one hand, access is granted to information regarding environmental issues in service of transparency, while, on the other hand, there are also trade secret exemptions which are intended to protect legitimate interests. Furthermore, trade secrets foster competition, as innovative creations will also benefit the public. Nevertheless, the debate surrounding this issue continues and opinions may differ a lot.

The European Court of Justice (ECJ) held an important case in 2013 by making an exception for the protection of a trade secret. Stichting Greenpeace Nederland and Pesticide Action Network Europe (PAN Europe) requested access to several documents concerning the bringing of plant protection products to the market. The Commission refused to grant access to the requested documents. In its view, disclosure of the information contained in the document would lead to a violation of the commercial interests and intellectual property rights of the operators. The Court ruled that an institution is obliged to disclose documents relating to emissions into the environment, even if such disclosure is liable to undermine *'the protection of the commercial interests of a particular natural or legal person, including that person's intellectual property'*.⁵⁹

According to Kramer, the scope of the exception is very broad. Kramer believes that the exception for commercial and industrial confidentiality is capable of being stretched to cover all sorts of business information, not only limited to sensitive information which requires confidential treatment to avoid disclosure.⁶⁰

This leads to the question of where the responsibility for determining the necessity of confidentiality lies. Must the public authority accept an operator's information concerning necessity of confidentiality or it is obliged to pass its own judgement?

⁵⁶ Commission Recommendation (2014/70/EU) on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing OJ L39

⁵⁷ Regulation No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) OJ L 396, [2006]

⁵⁸ Ibid., Art. 11

⁵⁹ Case T 545/11 *Stichting Greenpeace Nederland and Pesticide Action Network Europe v Commission* [2013] para 38.

⁶⁰ L. Kramer, 'Focus on European Environmental Law, London, Sweet and Maxwell, 1992, p. 304-305

2.3. Developments relating to the issue of chemical disclosure in the US and EU

As mentioned previously, in addition to federal laws, US states are developing their own rules concerning chemical disclosure.

In 2010, Wyoming became one of the first of the United States to require well operators to disclose the chemicals used during their hydraulic fracturing operations. The Regulation is very strict and requires disclosure of all chemical additives, compounds and concentrations to be injected at each stage of the stimulation programme.⁶¹ Together with this requirement there is a set of exemptions for information disclosure. Upon request, Wyoming's rules require the Oil and Gas Conservation Commission to keep trade secrets confidential.⁶² However, existing regulation identifies neither who should evaluate a request for information being kept as confidential nor the standard applicable for determining the information to be confidential. Since this regulation was adopted, the Commission has granted companies the right to keep those chemicals secret for a considerable amount of time. Approved trade secrets can be seen on the Commission's website.⁶³

Following Wyoming example, other states started to create rules concerning chemical disclosure. On December 13 2011, Texas agency adopted far-reaching rules governing the disclosure of chemicals contained in hydraulic fracturing fluids. The Texas rule, codified in 16th Texas Administrative Code §3.29, sets forth disclosure requirements for suppliers, service companies, and operators involved in hydraulic fracturing operations.⁶⁴ Specifically, it requires that, no later than 15 days following the completion of a hydraulic fracturing treatment on a well, suppliers and service companies must provide the operator of the well with the identity of each chemical additive and each chemical ingredient intentionally added to the hydraulic fracturing fluid. Operators, in turn, are required to submit information to the hydraulic fracturing chemical disclosure registry website of the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission known as 'FracFocus' and referred to in the rule as the Chemical Disclosure Registry, on or before a well completion report is submitted to the Commission.⁶⁵

The Texas rule allows suppliers, service companies, and operators to claim that the specific identity and/or concentration of any additive or chemical ingredient is entitled to trade secret protection and to withhold disclosure of this information on this basis. The Texas rule includes procedures and requirements for challenging a trade secret claim. Trade secret information may be withheld unless the Office of the Attorney General or a court of proper jurisdiction determines that the information is not

⁶¹ Wyo. Admin. Code OIL GEN Ch.3 § 45d

⁶² Ibid., Ch.3 § 45f

⁶³ Wyoming Oil and Gas Conservation commission, 'Approved trade secrets', available at <http://wogcc.state.wy.us/ap_trade_secrets_new.cfm> (consulted 11.11. 2014.)

⁶⁴ Tex. Admin. Code § 3.29b.

⁶⁵ Ibid.

entitled to trade secret protection under The Texas Public Information Act.⁶⁶ The system can be seen as being more detailed in comparison with the situation in Wyoming.

Pennsylvania, together with a number of other states, took an enthusiastic approach toward shale gas. In the first stages of shale gas development, it has welcomed shale gas producers, emphasising economic development, job creation, and state income.⁶⁷

In 2012, a state legislator passed a new law, Oil and Gas Act 13⁶⁸, which consolidates the older Oil and Gas Act 223 (1984). Together with a newly introduced fee for hydraulic fracturing, the law also provides requirements for chemical disclosure. Subchapter B, section 3222, states that ‘*Within 60 days following the conclusion of hydraulic fracturing, the operator of the well shall complete the chemical disclosure registry form and post the form on the chemical disclosure registry in accordance with regulations promulgated under this chapter in a format that does not link chemicals to their respective hydraulic fracturing additive.*’⁶⁹ The following subsections allow exemption from information disclosure in the case of a trade secret or confidential information. In order to be eligible for this exemption, the operator must submit a signed written statement that the record contains a trade secret or other sensitive information. In such a case, the operator must submit to the disclosure registry information about the chemical family, which can be considered a positive development for the increase of effectiveness.⁷⁰

All the states mentioned have legislation which requires chemical disclosure. However, all of them also have rules on trade secret exemption, which are actively applied. Wyoming has the friendliest system for drilling companies, since the commission grants them trade secret exemptions easily. This state also refuses to provide any confidential information to health professionals, while Texas and Pennsylvania will do so after a confidentiality agreement has been signed.⁷¹ Texas is the most developed in terms of the time scale of disclosure, as chemical additives need to be disclosed within 15 days. However, the effectiveness of the disclosure is not clear, since Texas requires chemicals to be disclosed in FracFocus, where it is easy to avoid disclosing all information. The same can be concluded about Pennsylvania, although, interestingly, here information is required concerning the chemical family in the case of trade secrets. Nevertheless, all three states share a practical problem: that of who determines the confidentiality of information – either the company who sends the signed document or the authority who checks it.

⁶⁶ The Public Information Act, Texas Government Code ch. 552

⁶⁷ T. Boersma ‘The Shale Gas Revolution :U.S. and EU Policy and Research Agendas’, *Review of Policy Research*, Issues 4, 2012, p. 572

⁶⁸ Pen. Oil and Gas Act 13/2012, 58 Pa.C.S.

⁶⁹ *Ibid.*, Subch. B § 3222.2.

⁷⁰ Pen. Oil and Gas Act 13/2012, 58 Pa.C.S, Subch. B § 3222.2 (3)

⁷¹ M. McFeeley, ‘State Hydraulic Fracturing Disclosure Rules And Enforcement: A Comparison’, 2012, p. 13, available at <<http://www.nrdc.org/energy/files/fracking-disclosure-IB.pdf>>(Consulted 08.04.2015.)

In Europe, the situation is different. Member States are first of all required to implement legislation provided by the EU. Poland, as a member of the EU transposed directives on access to information into Polish law. The rules on access to environmental information secure numerous rights for individuals and associations. They require public authorities at the national, county and municipal levels to contribute towards making these rights effective. Many of them are currently laid down in the *Statute of 3 October 2008 on Access to Information on the Environment and its Protection, Public Participation in Environmental Protection As Well As on Environmental Impact Assessments*.⁷² Currently, the possibility of enacting one particular legislation dealing with all aspects of shale gas is under general political consideration.⁷³ Poland must also comply with all requirements in the REACH Regulation with respect to all chemical disclosure issues⁷⁴. Poland has also introduced penalties for breaches of obligations under REACH.⁷⁵

Under the State and Official Secrecy Act, information can be considered an official secret and will not be disclosed for public. Some such information will be covered by the same exemptions as in EU Directives. The notion of secrecy is very broad and theoretically almost all files in the state and public administration offices could be treated as confidential.⁷⁶

The UK is also showing interest in shale gas. The two primary laws for accessing information in the UK are the Freedom of Information Act⁷⁷ (FoIA) and the Environmental Information Regulation⁷⁸ (EIR). Information held by Scottish public authorities is covered by Scotland's own Freedom of Information (Scotland) Act⁷⁹. FoIA is domestic whereas the EIR implements the Aarhus Convention and European Directive 2003/4/EC on public access to environmental information. EIR, under Article 12, provides list of exceptions for information disclosure and also includes intellectual property. Just like Poland, the UK must comply with the REACH Regulation.

The Environment Agency has powers to require full disclosure of chemicals used in hydraulic fracturing in England and Wales, both under the Water Resources Act⁸⁰ and the Environmental

⁷²Act on providing information on the environment and environment protection, public participation in environmental protection and on the environmental impact assessment [*Ustawa z dnia 3 Października 2008 r. o Udostępnianiu Informacji o Środowisku i Jego Ochronie, Udziale Społeczeństwa w Ochronie Środowiska Oraz o Ocenach Oddziaływania na Środowisko*], [2008]

⁷³ E. Rutkowska-Subocz, 'Poland: Legal aspects of shale gas exploration and production', 2012, Ch. 2, available at <<http://www.shale-gas-information-platform.org/de/categories/legislation/expert-articles/rutkowska-article.html>> (consulted 13.11.2014.)

⁷⁴ Refer to previous page for more information.

⁷⁵ Act on chemical substances and their mixtures, J. o L. 2011 No. 63, item 322

⁷⁶ R. E. Hello, 'Access to Environmental information in Europe', London, Kluwer Law International Ltd, 1996, p. 380

⁷⁷ U.K.'s FOI Act 2000

⁷⁸ Environmental Information Regulation, SI 2004 No. 3391

⁷⁹ Scotland's FOI Act 2002

⁸⁰ Water resources Act, 1991 c. 57

Permitting Regulation⁸¹ and assesses the hazards presented by fracking fluid additives on a case by case basis. The Scottish Environment Protection Agency (SEPA) has similar powers in Scotland.

In 2013, United Kingdom Onshore Operations Group⁸² (UKOOG) adopted guidelines for UK operators on Onshore Shale Gas Wells.⁸³ It states, that operators, just like in several US states, must disclose chemical additives on a well-by-well basis on the UKOOG website. The information should include authorisations for fluids and their statuses, safety data sheets, volumes of fracturing fluids, trade names of additives and their general purpose.⁸⁴

A very interesting situation can be seen in the implementation of the Recommendation both in Poland and the UK. Member States were invited to inform the Commission about the measures they introduced to comply with the Recommendation. With regard to chemical disclosure, neither state has measures in place to ensure that operators refer to hydraulic fracturing. This could be explained by the ongoing updates to the database. Nevertheless, the UK provides CAS numbers as requested by the Recommendation, while Poland complies with this requirement only partially. Even though Poland states that operators usually include information on CAS themselves, there are no specific requirements in the ordinance. In comparison, the report from the UK gives mainly positive answers in the survey with open and comprehensive explanations, while Poland gives short answers, sometimes with no explanation. In Poland, a lot of measures are implemented only partially. This shows that the UK complies with the Recommendation better than Poland.⁸⁵

Overall, it is possible to find similarities between UK and US state regulation concerning chemical disclosure, for instance, in the use of registries. Poland can be compared to Wyoming, where trade secret exemption is easily achieved. Such an attitude reduces the effectiveness of access to information.

2.3.1. The answer of the court regarding exemptions on chemical disclosure

After developments in shale gas legislation took place, several problematic situations occurred in respect of trade secret exemptions.

In 2011, a coalition of environmental and landowner groups challenged the justification for the exemptions granted by the Commission in Wyoming. In November 2011, appellants submitted a request to receive chemical information not publically available from the Commission. On March 23

⁸¹ Environmental Permitting Regulation, SI 2010 No.675

⁸²UKOOG is the representative body for the UK onshore oil and gas industry including exploration and production

⁸³Onshore Operation Group, 'Guidelines for UK operators on Onshore Shale Gas Wells', 2013, available at <<http://www.ukoog.org.uk/onshore-extraction/industry-guidelines>> (consulted 14. 11.2014.)

⁸⁴ Ibid, Sec. 9.2.

⁸⁵Individual Country Report on Implementation of the Recommendation (Poland, UK), available at <http://ec.europa.eu/environment/integration/energy/unconventional_en.htm> (Consulted 09.04.2015.)

2012, Applicants initiated Administrative Action, claiming that the Supervisor's refusal to disclose information of certain chemicals was arbitrary, capricious and an abuse of discretion not in accordance with the law. Applicants challenged the decision not to disclose chemical information regarding thirty-eight approved trade secret submissions, arguing that these approvals were based upon requests which were unlawfully broad or not sufficiently justified.⁸⁶ The groups argue that when it comes to fracking chemicals and the potential harm to landowners and residents, the interests of public health and the public good far outweigh the interests of protecting companies' so-called trade secrets.

A district court judge ruled against applicants, deferring to the Commission's expertise in making decisions about what constitutes a trade secret. In affirming the Commission's decision, the district court referenced three different definitions of trade secrets and found that fracking chemical information could qualify as a trade secret under all three. The court reviewed the definition of a trade secret under: the Freedom of Information Act, where it is stated that 'a trade secret is a secret, commercially valuable plan, formula, process, or device that is used for preparing, making or processing of trade commodities and that can be said to be the end product'⁸⁷; the Restatement (Third) of Unfair Competition, where trade secret is defined as 'any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others'⁸⁸; and the Uniform Trade Secrets Act, where trade secret is defined as 'information, including a formula, pattern, compilation, program device, method, technique or process that derives independent economic value, actual or potential, from not being generally known to and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use; and is the subject of efforts that are reasonable under the circumstances to maintain its secrecy'.⁸⁹

The Wyoming Supreme Court responded that the ruling of the district court was a mistake, and that the district court should have evaluated the merits of the exemptions on its own. The court did not independently determine whether the information sought was actually a protected trade secret, and instead reviewed the reasonableness of the Commission's decision.⁹⁰ The Wyoming Supreme Court also adopted the definition of trade secrets. This definition is narrower than the common-law alternatives, and requires a 'direct relationship' between the trade secret and the productive process.⁹¹

⁸⁶ Supreme Court of state of Wyoming case WY37 2014, S-13-0120

⁸⁷ *Anderson* [v. Dep't of Health & Human Servs., 907 F.2d 936, 943-44]

⁸⁸ Restatement (Third) of Unfair Competition, 1995, para. 39, available at <http://www.wipo.int/wipolex/en/text.jsp?file_id=194019#LinkTarget_471> (consulted 15.03.2015.)

⁸⁹ Uniform Trade Secrets Act, Wyo. Stat. Ann. Para. 40-24-101

⁹⁰ Supreme Court of state of Wyoming case WY37 2014, S-13-0120

⁹¹ *Ibid*, para. 45: 'A trade secret is a secret, commercially valuable plan, formula, process, or device that is used for preparing, making or processing of trade commodities and that can be said to be the end product, with a direct relationship between the trade secret and the productive process.'

The case can be seen as a starting point in the balancing of trade secret confidentiality and information disclosure. Such an attitude will make access to information more effective, since a lack of the connection between trade secret and productive process will exclude information to be secret. It was an important decision which established that several requirements must be met in order to determine whether information can be considered a trade secret and in order to comply with the transparency principle.⁹²

In Pennsylvania, some aspects of the law were opposed by the medical community. The law states that the operator may be obliged to share confidential information or trade secret with any health professional who requests the information in writing, provided the information is required in order to treat a patient. In this case, the health professional also needs to sign a confidentiality agreement.⁹³

In 2014, the Pennsylvania Commonwealth Court gave its ruling in respect to this Article. A Dr. Khan, who treats patients in locations where drilling operations take place, was a plaintiff as part of the original legal challenges to Act 13⁹⁴ and objected to Section 3222.1(b)(10). According to Dr. Khan, ‘the restrictions on sharing fracking chemicals’ composition places medical professionals in a position to choose between abiding by the mandatory provisions of Act 13 and adhering to their ethical and legal duties to report findings in medical records and to make these records available to patients and other medical professionals.’ The Commonwealth Court dismissed the action since his interest was remote. In December, the state Supreme Court ruled that Dr. Khan had standing to challenge the law.⁹⁵ The case was sent back to the Commonwealth Court, where it was decided that health professionals are adequately protected under the law and that it is unaware of any case to the contrary.

In another similar case, Rodriguez, a Luzern County physician, claimed the same. A nephrologist who specialises in the treatment of renal diseases, hypertension, and advanced diabetes, Rodriguez said he was unable to obtain critical information about the quality of local water needed on a daily basis for his practice from gas drillers as a direct cause of the ‘medical gag rules’ contained in Act 13. The court dismissed the case due to a lack of standing.⁹⁶

Several UK cases are worth mentioning in the context of the disclosure of sensitive information. In the Veterinary Medicines Directorate it was held that it is not enough to simply assert that certain information is a trade secret; rather, the public authority needs to specify the intellectual

⁹² K. Lenaerts, P. Van Nuffel ‘European Union Law.3rd edition’, London, Sweet & Maxwell, 2011, p. 746. Transparency requires that the decisions and actions of the government are open to public scrutiny and that the public has a right to access such information. It is a democratic character of the Union, institutions and the administration are reinforced to make their work as opened as possible.

⁹³Pen. Oil and Gas Act 13/2012, 58 Pa.C.S., Subch. B sec. 32222 (10)

⁹⁴ *Robinson Township, et al v. Commonwealth of Pennsylvania*, Commonwealth Court at 284 MD [2012]

⁹⁵ *Robinson Township, et al v. Commonwealth of Pennsylvania*, Supreme Court of Pennsylvania, Middle District, Dec. 19, [2013]

⁹⁶ *Rodriguez v. Abruzzo et al.*, case 3:12 –cv-01458, [2014]

property right which is being infringed upon.⁹⁷ In Queens University Belfast it was held that it is not enough that the information could in fact be protected under intellectual property rights; rather, it is necessary to demonstrate that a particular intellectual property right has been infringed upon.⁹⁸ Both cases could perfectly be applied in the context of chemical information disclosure, which would mean that there would be a smaller chance for unappropriated applications for exemption from disclosure.

2.4. Lessons to be learned

To begin with, after analysis of all the states mentioned, it is difficult to disagree with Kramer, who believes that the granting of exemptions is not only limited to sensitive information but also covers all sorts of business information.⁹⁹ Often, a trade secret is not sufficient justification for exemption from chemical disclosure. It is clear that exemptions are widely granted from chemical disclosure due to trade secrets. As the research shows, in several states it is very easy to get a trade secret exemption and sometimes there is no clear guideline on the procedure by which exemptions are issued. It is not clear who makes the decision about sensitive information: the company itself, who states that their interests are in danger, or the authority who evaluates the submitted documents. Such a situation leads to information being hidden, which could be available to the public, at least in part. Exemptions being granted too freely will reduce effectiveness of the access to information and will infringe on the principle of transparency.

There is a need to reduce the level exemptions being granted due to trade secrets. Strict procedural rules must be developed for granting exemptions in order to avoid any kind of misunderstanding. Furthermore, there must be a direct link between trade secrets and the production process. The operator needs to show that a particular intellectual property right is being infringed upon and not just information in general. I also believe that, in the case of trade secret exemptions, the operator must present additional information, such as the chemical family and its closest possible connections, as it is done in Texas.

Of course, the right to access information is not an absolute right. However, human health should in particular cases outweigh corporate interests. We can learn a good lesson from Texas and Pennsylvania, where health professionals are able to obtain confidential information after signing a confidentiality agreement. I believe that in the case of emergency situations health professionals should be able to obtain information without delay from both the authorities and from the company itself.

⁹⁷ *Veterinary Medicines Directorate* FER0137609 [2009]

⁹⁸ *Queens Univeristy Belfast* FS50163282 [2010]

⁹⁹ See p.14

Chemical disclosure registries do not solve the transparency problem for several reasons. The European registry has a purely informative character and is voluntary for the operators, while the US registry has significant gaps in its scope, in the light of which the registry cannot be seen as an effective tool to promote transparency and access to information. In order to improve the situation, there is a need for updates. A screening procedure should be developed, whereby all entered information is strictly checked and whereby operators cannot leave any blank spaces when completing the application.

The newly established Recommendation has not been fully implemented in either Poland or the UK. Database updates are necessary as soon as possible in the European Chemical Agency. Only then can operators be directly classifiable according to a hydraulic fracturing descriptor. Poland must make amendments to the legislation to include the requirement that CAS numbers are provided in the disclosure procedure. Even though it currently maintains that operators do so voluntarily, it is possible to evade this obligation.

There is a long way to go to make access to information fully effective in the context of shale gas issues. Nevertheless, any amendment towards this goal will be a positive step towards further improvements.

III SECOND PILLAR: PUBLIC PARTICIPATION IN DECISION MAKING

3.1. Legal framework. A brief comparison of US and EU regulatory regimes

Public participation involves the activity of members of the public in partnership with public authorities in order to reach an optimal result in decision- and policy-making. There is no set formula for public participation but it requires effective notice, adequate information, proper procedures and the taking into account of the outcome of participation. The involvement may be present at different stages: decision making, administrative status, participation or consultation. The articles in the second pillar of the Aarhus Convention remind public authorities of how important it is to allow public participation in order to make correct decisions.¹⁰⁰

The public participation provisions of the Convention are divided into three parts. Article 6 covers public participation in decisions on specific activities with a potentially significant effect on the environment, e.g. licensing or the construction and operation of large facilities. Paragraph 2 of the same article provides that ‘the public concerned shall be informed. Either by public notice or individually as appropriate, early in an environmental-decision making procedure, and in an adequate,

¹⁰⁰ S. Stec, S. Casey- Lefkowitz ‘The Aarhus Convention: an implementation guide’, UN Publication, 2000, p. 85

timely and effective manner',¹⁰¹ while Section D mentions possible ways of participating such as participation, commenting and public hearing etc.¹⁰² Article 7 covers public participation in the development of plans, programmes and policies relating to the environment, which include sectoral or land-use plans, environmental action plans and environmental policies at all levels. Article 8 covers public participation in the preparation by public authorities of laws and regulations.¹⁰³

Gas exploration in US is regulated mostly under the Department of Interior and the Environmental Protection Agency through various federal acts such as National Environmental Policy Act (NEPA)¹⁰⁴, the Clean Water Act¹⁰⁵ (CWA), the Clean Air Act¹⁰⁶(CAA) and the Safe Drinking Water Act¹⁰⁷ (SDWA), etc. However, the biggest part of those acts do not apply to shale gas exploration. For instance, the Energy and Policy Act¹⁰⁸(EPA) exempted hydraulic fracturing from SDWA and broadened exemptions in CWA. There were attempts to introduce new bills to repeal the exemption in SDWA, such as a Bill to amend the Safe Drinking Water; nevertheless, it was unsuccessful in becoming law.¹⁰⁹

Public participation issues are developed under the NEPA. This is an act which has similarities with the Environmental Impact Assessment (EIA) and sets out requirements for public involvement and environmental review when it comes to oil and gas related activities that significantly affect the environment. When Environmental Assessment is required, the federal agency will have discretion as to the level of public involvement. A different situation can be expected with the Environmental Impact Statement (EIS). The process starts with the publication of a Notice of Intent, which gives an explanation of how the public can be involved along with all relevant information of contacts for questioning.¹¹⁰ However, unless federal land or funds are involved it is not applicable. Another obstacle for public participation was created by the EPA. It introduced a much narrower and weaker process called Categorical Exclusion (CE), which is used when no significant environmental effect is

¹⁰¹The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters: Aarhus Convention, Aarhus, 1998, Art.6

¹⁰² Ibid

¹⁰³ Ibid Art. 7,8.

¹⁰⁴ The National Environmental Policy Act [42 U.S.C. 4321 et seq.]

¹⁰⁵ Clean Water Act (CWA) [33 U.S.C. §1251 et seq.] (1972)

¹⁰⁶Clean Air Act [42 U.S.C. §7401 et seq.] (1970)

¹⁰⁷ Safe Drinking Water Act [42 U.S.C. 300f]

¹⁰⁸ Energy Policy Act of 2005 [42 U.S.C. 15801]

¹⁰⁹ L.Reins, 'The Shale Gas Extraction Process and Its Impacts on Water resources', *RECIEL*, Volume 20, Issue 3, 2011, p. 303

¹¹⁰ Council on Environmental Policy, 'A Citizen's guide to NEPA', 2007, available at <https://ceq.doe.gov/nepa/Citizens_Guide_Dec07.pdf>(Consulted 06.02.2015.)

expected. In addition, it does not allow any public comments. In 2006 and 2007, this exemption was granted to 25 percent of all oil and gas wells approved on public land.¹¹¹

Despite the possibility to regulate shale gas issues at a federal level, the regulation of the technology and of the oil and gas industry in general is largely left to the states. The prevailing view is that states are better positioned than the Federal Government to govern the unique geological and resource-protection challenges of their jurisdictions. This gives a great deal of discretion to the state to decide the scope of regulation and creates different rules across the different states.

The European Directive 2003/35/EC¹¹² transposed the second pillar of the Convention in order to contribute to the implementation of obligations arising from the Convention and provides information on public participation in respect of drawing up certain plans and programmes related to the environment. Article 2 states that ‘Member States shall ensure that the public is informed, whether by public notices or other appropriate means such as electronic media where available, about any proposals for such plans or programmes or for their modification or review and that relevant information about such proposals is made available to the public including inter alia information about the right to participate in decision-making and about the competent authority to which comments or questions may be submitted’.¹¹³ Moreover, the public is entitled to express comments and opinions when all options are open. Before decisions on the plans and programmes are made and in making those decisions, due account shall be taken of the results of the public participation. Directive 2014/52/EU¹¹⁴ and Directive 2001/42/EC¹¹⁵ are of great importance in this and will be discussed in detail below. The newly adopted Recommendation mentions public participation only in connection with the EIA.¹¹⁶

Provisions for public participation in environmental matters can further be found in a number of other directives such as 2000/60/EC¹¹⁷ or the so-called Water Framework Directive, where Article 14 stipulates the necessity of public involvement and information disclosure with respect to river basin management plans. Another example is Directive 2010/75/EU¹¹⁸ (Industrial Emissions Directive)

¹¹¹ L. Page, L. Sum, Oil and gas accountability project, ‘The oil and gas industry’s exemptions to major environmental laws’, Washington, Earthworks, 2011, p. 2

¹¹² Directive 2003/35/EC of the European Parliament and the Council of the Council of May 26, 2003 [2003] O.J. L156

¹¹³ Ibid, Art. 2

¹¹⁴ Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment OJ L 124

¹¹⁵ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment OJ L 197

¹¹⁶ Commission Recommendation (2014/70/EU) on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing OJ L39 Art. 3 (4)

¹¹⁷ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy OJ L 327 Art. 14

¹¹⁸ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) OJ L 334 Art. 24

which contains provisions necessitating public participation prior to the issue of permits for new installations.

Between 20 December 2012 and 23 March 2013, the European Commission conducted the public consultation ‘Unconventional fossil fuels in Europe’, regarding shale gas. It was intended to provide an opportunity to listen to stakeholders and the general public, to understand concerns and to obtain some relevant data with respect to shale gas.¹¹⁹ In total the Commission received 22,875 responses.¹²⁰ The consultation can be seen as a form of participation as opinions were expressed and gathered. As stated in the Commissions Minimum Standards on Consultation, ‘Civil society plays an important role in giving voice to the concerns of the citizens and delivering services that meet people’s needs [...] It is a real chance to get citizens more actively involved in achieving the Union’s objectives and to offer them a structured channel for feedback, criticism and protest.’¹²¹

3.1.1. Applying for drilling permission

Applying for drilling permission is one of the main ways to check the effectiveness of the public participation. Depending on the different regulations of the states, the involvement of the public can vary drastically.

In Wyoming, the Wyoming Oil and Gas Conservation Commission (WOGCC) has the authority to regulate oil and gas development in the state, handling the permitting process, and enforcing Wyoming’s oil and gas statutes and regulations. Under the Wyoming Administrative Code, before drilling activity can commence, the well operator must apply for and obtain a permit to drill or deepen a well.¹²²

Applying for permission must be done in accordance with Section 8 of the drilling rules. The application shall be accompanied by an accurate plat showing the location of the proposed well with reference to the nearest lines of an established public survey. It must include detailed information about the depth of the well, the tools used for drilling, a description of the cementing programme, etc. It must also include the statement in which the operator has proved that all necessary information about the project was presented to the surface owner and the agreement for drilling was reached in a good faith.¹²³

¹¹⁹ K. De Smedt, A. Rigamonti, ‘Towards a common framework for shale gas extraction in the EU’, *Environmental liability. Law, policy and practice*. Volume 21, issue 4, 2013, p. 148

¹²⁰ http://ec.europa.eu/environment/consultations/uff_en.htm (consulted 05.04.2014.)

¹²¹ General principles and minimum standards for consultation of interested parties by the Commission, COM(2002) 704 final p. 6

¹²² Wyo. Admin. Code OIL GEN Ch.3 § 8

¹²³ Wyo. Admin. Code OIL GEN Ch.3 § 8

In Texas, the regulatory framework for shale gas exploration started to develop later than in other states. Some efforts have been attempted, but they have not gone far. The reasons are interrelated and primarily due to the fragmentation of regulatory bureaucracy, a fundamental anti-regulatory disposition, and a well-entrenched legal and administrative structure that promotes oil and gas extraction above other concerns. For instance, in 2011, in Texas, operators still could use as much water as they needed for drilling operations without any extra permission.¹²⁴ This meant that the public was in principle not able to participate in shale gas issues, since the regulatory framework was very weak.

Presently, regulations concerning oil and gas exploration, production and development can be found in the Texas Administrative Code. The Texas Railroad Commission is the primary institution responsible for the regulation of the oil and gas industries. In order to drill, deepen, plug back or re-enter any oil or gas well, a special permission must be obtained from the Railroad Commission.¹²⁵ However, to see the level of public engagement, it is necessary to closer examine the application procedure. The application process requires an online application to be made, whereby all relevant information is submitted. Afterwards, however, the procedure is divided into two parts: problem-free applications and exceptions. If an application falls under the exceptions category, the operator must publish a notice once a week for four consecutive weeks in a newspaper of general circulation in the county of the proposed well site. The normal application period allowed is six weeks. At the end of this publication period, the operator must submit to the Commission a publisher's affidavit that records this publication. If, during the notice period, no complaints were received, the application proceeds further and receives permission. Problem-free applications do not require notice to be given, which means that public opinion is not taken into account in this case.¹²⁶

In Pennsylvania, responsibility for governing shale gas issues fell on the Bureau of Oil and Gas Management in the Pennsylvania Department of Environmental Protection (DEP). As is the case in many other states with prior experience in fossil fuel extraction, Pennsylvania had established statutes outlining permit and inspection requirements for drilling. The most far-reaching single legislation on hydraulic fracturing is the Pennsylvania Unconventional Gas Well Impact Fee Act. It is considered to be a complicated piece of legislation, which covers 175 pages.¹²⁷ That complexity increased when Pennsylvania passed Act 13¹²⁸, which significantly changed the central laws governing drilling activity.

¹²⁴ D. Rahm, 'Regulating hydraulic fracturing in shale gas plays: The case of Texas', *Energy Policy Journal*, Volume 39, 2011, p. 2978–2979

¹²⁵ Tex. Admin. Code

¹²⁶ Railroad Commission of Texas, 'Drilling permissions- step by step guide', available at <<http://www.rrc.state.tx.us/oil-gas/applications-and-permits/drilling-permits/>> (Consulted 11.02.2015.)

¹²⁷ B. G. Rabe, 'Conventional Politics for Unconventional Drilling? Lessons from the Pennsylvania's early move into fracking policy development', *Review of Policy Research*, Volume 30, Issue 3, 2013, p. 327-329

¹²⁸ Pen. Oil and Gas Act 13/2012, 58 Pa.C.S.

Legislation specifies that the DEP must issue drilling permits within 45 days after the application was submitted unless it denies a proposal for a specific reason. It is allowed to make one 15-day extension to reach a final decision if it can demonstrate a cause. The surface landowner must be notified within 15 days.¹²⁹ In the event that the landowner provides any comments, the DEP must take these into consideration when deciding whether to grant permission. Since many landowners and municipalities were interested in permit applications, the DEP developed a no-cost subscription service, eNotice, which notifies interested parties by email when a well drilling application is received.¹³⁰ This is a good and fast way of exchanging information, which gives the landowner and municipality more time to comment on the application if they wish to do so.

Act 13 made substantial changes to the authority of the government with respect to land use. Historically, Municipal Planning Code¹³¹ granted extensive rights to the government concerning zoning and land-use approval considerations linked to the opening of well operations, public health protection and basic safety. It was supported by the Supreme Court in 2009, when the court upheld the far-reaching authority of the government.¹³² New rules require that all local ordinances regulating oil and gas should allow for a reasonable development of oil and gas resources. It also states that drilling operations must be allowed in all zoning areas, thus reducing the power of government to regulate drilling operations.¹³³ Amendments were challenged in the court. The court analysed the Pennsylvania Constitution's section on Environmental Rights and based its decision on the rights of the citizen. It was held that the government has a duty to protect the environment through legislative actions. Both sections 3303 and 3304 of Act 13 were found to be unconstitutional.¹³⁴

The new legislation tried to establish general standards for most key areas of well siting and operations. It placed several restrictions on local governments which are contrary to the legislation of other states. In practice, together with government limitations, it places limitations on public participation as well. Strict requirements on the local interpretation of state zoning codes significantly constrain the possibility of local awareness of and involvement in those decisions.

Generally, all states require information disclosure to the public concerning planning permission, who can in turn comment on specific applications. This is done by the responsible authority of the state using official newspapers (Wyoming) or the eNotice system (Pennsylvania).

¹²⁹ Ibid, 3211b

¹³⁰ Pennsylvania Department of Environmental Protection, 'eNOTICE Subscription Site', available at <<http://www.ahs.dep.pa.gov/eNOTICEWeb/>>(Consulted 13.02.2015.)

¹³¹ Municipal Planning code P.L. 805, no. 247

¹³² B. G. Rabe, 'Conventional Politics for Unconventional Drilling? Lessons from the Pennsylvania's early move into fracking policy development', *Review of Policy Research*, Volume 30, Issue 3, 2013, p. 331

¹³³ Pen. Oil and Gas Act 13/2012, 58 Pa.C.S., section 3303,3304

¹³⁴Decisions, 'Pennsylvania Supreme Court invalidates sections of Act 13 that eliminated local regulation of oil and gas development', *Planning & Environmental Law*, Volume 66, issue 3, 2014, p. 15

Texas has developed the fewest rules in this area, since problem-free applications do not require any notice to be given. The consultation period varies from state to state, starting from 45 days up till 60 days. A strong connection is made with landowners, who always need to be informed and need to give their permission, but this is done due to the property rights.

In Polish law, the main regulative instrument for shale gas is the Act on Mining and Geological Law¹³⁵, while rules and procedures for public participation in environmental proceedings are set out under the Act of 3 October 2008 on providing information on the environment and environment protection, public participation in environmental protection and on the environmental impact assessment¹³⁶ (formerly, the relevant provisions were included in the Act of 27 April 2001 Environmental Protection Law). According to Polish environmental law, public participation is required to occur before: issuance of any decision in which an environmental impact assessment procedure is conducted for projects likely to significantly impact the environment or before the amendment of such a decision; issuance of any decision in which an impact assessment procedure is conducted on NATURA 2000 network areas other than the above projects and not directly related to area protection or arising out of this protection or before amendment of a decision. Public participation is also allowed in case of issuance of any decision on GMOs expressing consent for the contained use of GMOs, marketing of GMOs, or the deliberate release of GMOs into the environment for purposes other than placing on the market, exporting and transporting GMO products.¹³⁷ Under Polish law, everyone has the right to participate in the procedures requiring public participation. The right to participate includes an entitlement to access the case files as well as to file comments and proposals.

As in most EU countries, in the UK there is no specific regulation on shale gas issues and all relevant legislation belongs to the general category of hydrocarbon regulations. As a part of the EU, the UK transposed the Directive on public participation in environmental issues¹³⁸. In England and Wales, public participation is regulated under the Environmental Permitting Regulation¹³⁹ while in Scotland public participation issues can be found in the Pollution Prevention and Control Regulation.¹⁴⁰ The Town and Country Planning Act¹⁴¹ plays a major role in public participation.

¹³⁵Act on Mining and Geological Law, [2011]

¹³⁶Act on providing information on the environment and environment protection, public participation in environmental protection and on the environmental impact assessment [*Ustawa z dnia 3 Października 2008 r. o Udostępnianiu Informacji o Środowisku i Jego Ochronie, Udziale Społeczeństwa w Ochronie Środowiska Oraz o Ocenach Oddziaływania na Środowisko*], [2008]

¹³⁷ Act on providing information on the environment and environment protection, public participation in environmental protection and on the environmental impact assessment [*Ustawa z dnia 3 Października 2008 r. o Udostępnianiu Informacji o Środowisku i Jego Ochronie, Udziale Społeczeństwa w Ochronie Środowiska Oraz o Ocenach Oddziaływania na Środowisko*], [2008]

¹³⁸ Directive 2003/35/EC of the European Parliament and the Council of the Council of May 26, 2003 [2003] O.J.

¹³⁹ Environmental Permitting Regulation, SI 2010 No.675

¹⁴⁰ Pollution Prevention and control Regulation 2005 SI 2005

¹⁴¹ Town and Country Planning Act, SI 1990

Before drilling can start, several requirements must be complied with. Firstly, it is necessary to get a Petroleum Exploration and Development License, which is issued by the Department of Energy and Climate Change and grants exclusivity for the operator in the particular area.¹⁴² The required permits must then be acquired: planning permission, environmental permits and access rights from landowners, etc. Planning permission is granted by the Minerals Planning Authority for the area in which the development is located. The procedure used to determine these applications is set out in the Town and Country Planning Act¹⁴³ and the Town and Country Planning (Development Management Procedure) (England) Order.¹⁴⁴ Under these rules, planning applications must be publicised by site display and in local newspapers, and information about the application must also be available on the relevant local authority website. This must include a section on how interested parties can submit their opinion about the application, giving a period of at least 14 days.¹⁴⁵ This means that citizens, who would like to make an impact by giving their opinion about the application can do so, thus participating in the decision as to whether planning permission will be granted.

3.1.2. Problems in EIA procedure in Europe

First and foremost, it is important to mention Directive 2014/52/EU¹⁴⁶ (Environmental Impact Assessment). This Directive requires an environmental assessment procedure to be carried out by the competent national authority for certain projects which are likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location, before development consent is given.¹⁴⁷ MS have power of discretion to specify which project is a subject to an assessment. The question, whether MS went beyond the limits of its discretion will depend on an overall assessment of the characteristics of projects of that nature and not only in relation to a single project.¹⁴⁸ An assessment is obligatory for projects which are listed in Annex I, while projects mentioned in Annex II need to be checked case by case. Furthermore, Article 6 mentions that the public needs to be informed about projects in Annex I before the final decision is made. Concerned members of the public

¹⁴² A. Kotsakis “The Regulation of Technical, Environmental and Health Aspects of Current Exploratory Shale Gas Extraction in United Kingdom: Initial Lessons for the Future of European Union Energy Policy”, *RECIEL*, 21(3), 2012, p. 284

¹⁴³ Town and Country planning Act, SI 1990

¹⁴⁴ Town and Country Plannign Order, SI 2010/2184

¹⁴⁵ Town and Country Plannign Order, SI 2010/2184, Art. 13

¹⁴⁶ Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment OJ L 124

¹⁴⁷ Directive 2011/92/EU of the European Parliament and of the Council on the assessment of the effect of certain public and private projects on the environment. OJ L 26

¹⁴⁸ Jan H. Jans, ‘European Environmental Law after Lisbon. 4th edition, Europa Law Publishing’, 2012, p. 350

have the opportunity to participate in the project.¹⁴⁹ The problem arises when shale gas projects are considered to be subject to Annex II. Natural gas projects are covered by EIA Annex I if at least 500,000 cubic metres are extracted each day. Many shale gas projects, however, yield less, due to the rock fracturing process, and hence are not subject to the impact assessment requirement. This means that public participation is then no longer obligatory.

In 2012, a proposal was made towards making the EIA clearer. The newly amended Directive entered into force on 15 May 2014. Amendments include stricter rules for report submission. Now, reports must be prepared only by competent experts. New aspects of gas projects will have to be taken into account. If a Member State decides that no assessment procedure is needed, more detailed considerations on likely environmental effects are required.¹⁵⁰ The amendments were expected to have a greater impact on shale gas issues. On 9 October 2013, a European Parliament vote took place, whereby amendments were made to the proposed directive, calling for the shale gas operations to be subjected to mandatory environmental impact assessments. According to the adopted text ‘The production thresholds laid down for crude oil and natural gas in Annex I to Directive 2011/92/EU do not take into account the specificity of daily production levels of non-conventional hydrocarbons, which are often highly variable and lower. Accordingly, despite their environmental impact, projects concerning such hydrocarbons are not subject to compulsory environmental impact assessment. In accordance with the precautionary principle, as called for by the European Parliament resolution of 21 November 2012 on the environmental impacts of shale gas and shale oil extraction activities, it would be appropriate to include non-conventional hydrocarbons (shale gas and oil, “tight gas”, “coal bed methane”), defined according to their geological characteristics, in Annex I to Directive 2011/92/EU, regardless of the amount extracted, so that projects concerning such hydrocarbons are systematically made subject to environmental impact assessment’.¹⁵¹ However, the Council of Ministers rejected this proposal due to the opposition of some Member States, including Poland and the UK, where the Prime Minister commented, ‘I am not in favour of new legislation where the lengthy time-frames and significant uncertainty involved are major causes for concern. The industry in the UK has told us that new EU legislation would immediately delay imminent investment’.¹⁵²

¹⁴⁹ Directive 2011/92/EU of the European Parliament and of the Council on the assessment of the effect of certain public and private projects on the environment. OJ L 26 Art. 6

¹⁵⁰ European Commission, ‘Review of the EIA Directive’, available at <<http://ec.europa.eu/environment/eia/review.htm>> (consulted 05. 05. 2014.)

¹⁵¹ Amendments adopted by the European Parliament on 9 October 2013 on the proposal for a directive of the European Parliament and of the Council amending Directive 2011/92/EU of the assessment of the effects of certain public and private projects on the environment (COM(2012)0628 – C7-0367/2012 – 2012/0297(COD)). First reading, Amendment 31

¹⁵²The letter of David Cameron to EC president Jose Manuel Barroso, available at <https://docs.google.com/file/d/0B__JqTUh86obTTI5RFowLTJvNHN1TXQweVJnY0U5Wmd5bmdj/edit> (consulted 05.02.2015.)

If we check the Recommendation, public participation is mentioned only in connection with the EIA. This means that if an EIA is not conducted, public participation does not apply. In the guidance note about the application of the EIA directive to the projects related to exploration, public participation is mentioned as being crucial for transparency purposes. Again, it was mentioned only in relation to the EIA. However, it also states that all information about the screening procedure for projects listed in Annex II need to be available to the public and that, in the event that they disagree with the outcome, an appeal procedure is available.¹⁵³

In Poland, the EIA procedure is sought to be evaded altogether.¹⁵⁴ On 15 February 2013 the Polish government published a Bill to amend the Act on Mining and Geological Law and other laws governing the process of mineral exploration and production (the 'Bill'). The Bill introduces special solutions with respect to hydrocarbon exploration and production and hence is of particular importance for the shale gas industry. The Bill contains amendments to Environmental Impact Assessment laws aimed in particular at facilitating shale gas projects. The Bill allows the drilling of shale gas wells up to 5,000 m without any preliminary environmental assessment, which in practice will apply to almost all exploratory wells.¹⁵⁵

According to the Commission, Poland infringed on the EIA Directive by introducing such amendments in their national law. Legal actions were started, which can lead to a heavy fines in the event that Poland does not comply with requirements.¹⁵⁶ It must be noted that, as a Jan H. Jans says, the court is very reluctant to accept any excuses of the MS for not complying with their obligations under EU law. MS will not be able to plead that the national measures are better than the European law.¹⁵⁷ This is not the first time Poland has failed to comply with the EU legislation in this area. In the Poland Hydrocarbon case¹⁵⁸, the court decided that the country had failed to fulfil its obligations under Directive 94/22/EC¹⁵⁹ on the conditions for granting and using authorisations for the prospecting, exploration and production of hydrocarbons. Poland failed to ensure that access to activities was free of all discriminations.

¹⁵³ Guidance note on the application of the EIA Directive to projects related to the exploration and exploitation of unconventional hydrocarbon, available at <<http://ec.europa.eu/environment/eia/eia-support.htm>> (Consulted 10.04.2015.)

¹⁵⁴ Guidance note on the application of the EIA Directive to projects related to the exploration and exploitation of unconventional hydrocarbon, available at <<http://ec.europa.eu/environment/eia/eia-support.htm>> (Consulted 10.04.2015.)

¹⁵⁵ E. Rutkowska-Subocz 'Poland: New draft rules on hydrocarbon exploration and production', 2013, available at <<http://www.shale-gas-information-platform.org/categories/legislation/expert-articles/rutkowska-article-may-2013.html>> (Consulted 06.02.2015.)

¹⁵⁶ G. Chodkowski- Gyurics, CleanTec Poland, 'European Commission sues Poland', available at <<http://shalegas.cleantechpoland.com/?page=news&id=176&link=european-commission-sues-poland>> (Consulted 06.02.2015.)

¹⁵⁷ J. H. Jans, 'European Environmental Law after Lisbon. 4th edition, Europa Law Publishing', 2012, p. 142-143

¹⁵⁸ Case C-569/10 *Commission v Poland* [2013], action brought on 3. December 2010.

¹⁵⁹ Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the conditions for granting and using authorizations for the prospecting, exploration and production of hydrocarbons *OJ L 164*

Another potentially problematic situation is also worth noting here. As previously mentioned, the UK was against a mandatory EIA procedure for all shale gas issues proposed by the parliament. However, it did not also try to make the procedure less strict as in the case of Poland. Nevertheless, even under the existing framework, public participation in this field can be restricted. For example, the first drilling permission granted to Cuadrilla for exploratory drilling in the Lancashire region was not subject to the EIA procedure at all due to the clever classification used in the application for permission. The proposed mining operations did not fall under Annex I, since they were exploratory and not commercial. Nor did they classify under Annex II as they were declared as covering an area of 0.99 hectares, while screening threshold for Annex II is 1 hectare.¹⁶⁰ From this example it can easily be concluded that national authorities hold significant discretion in the implementation of the EIA Directive as it relates to shale gas extraction. This can be confirmed by the following case. In *Commission v Ireland*¹⁶¹, the court ruled that Ireland had failed to fulfil its obligations under Directive 85/337/EEC by allowing a private road project without carrying out any Environmental Impact Assessment despite the sensitivity of the project. This confirms that the public was not involved in the project, even though normally it should have been.

The situation became clearer following the ECJ judgment concerning exploratory drilling in 2015.¹⁶² The operator obtained authorisation for drilling in the territory of Austria without an EIA. Applicants challenged that decision in the court. First of all, the court held that the project did not meet conditions to fall under the Annex I of the Directive. Furthermore, ‘it is only on the basis of an exploratory drilling operation that the quantity of hydrocarbons that can be extracted per day can be determined’¹⁶³. However, it was held that not all exploratory drilling escapes the necessity for an EIA and that they can fall under Annex II. The Court suggests that exploratory drillings must be subject to an EIA if they constitute deep drilling and are likely to have significant effects on the environment.

3.2. US towns stand up for their rights in shale gas issues

Even though shale gas is very popular in US there might be misunderstanding between the state and particular towns of the state. First of all, towns are developing their own rules regarding shale gas. For instance, in Dish- a town of Texas, if a gas drilling operator has requested a drilling permit within 1000 feet from people residence, they will receive a notification concerning the request. Afterwards,

¹⁶⁰ A. Kotsakis ‘The Regulation of Technical, Environmental and Health Aspects of Current Exploratory Shale Gas Extraction in United Kingdom: Initial Lessons for the Future of European Union Energy Policy’, *RECIEL*, Volume 21, Issue 3, 2012, p. 284

¹⁶¹ Case C-427/07 *Commission v Ireland* [2009] ECR I-6277, para 44-45

¹⁶² Case C-531/13 *Marktgemeinde Straßwalchen* [2015]

¹⁶³ *Ibid.*, para 24-25

when the permission will be obtained the operator will place a sign near the proposed well site advising that a permit application has been approved.¹⁶⁴ This shows a direct link with public involvement.

Secondly, very contradictive situation may arise in case towns are against shale gas drilling. Interesting situation can be seen in Denton. It became the first town in Texas which banned shale gas drilling. Denton Drilling Awareness Group has presented the city council with a petition containing 1,871 signatures asking the council to consider a ban on hydraulic fracturing. Due to complains the council on 6 May 2014 adopted an ordinance on moratorium about shale gas. The moratorium prohibited the acceptance, receipt, processing, or approval of applications for gas well permits within Denton.¹⁶⁵ This is a very clear example of public participation, since people could give their opinion and vote. On 4 November 2014 Denton banned fracking in their city adopting an ordinance which passed a voting with 59 percent¹⁶⁶, which means that public opinion was taken into account. However, this directly led to lawsuits, which were filed in by the Texas General Land Office and the Texas Oil and Gas Association stating that the ban is unconstitutional under Texas law. Cases are still pending, however, if the court will rule that the ban was illegal effectiveness of public participation in decision making in relation to shale gas can be questioned. Basically, then instead of taking into account public opinion it will be used merely for statistical, informal reason, which will make public participation ineffective.

3.3. Different approach to landowners' rights between common law countries with respect to shale gas issues

Both the US and the UK are common law countries, so the expectation would be that they are following more or less identical legal traditions. However, a significant difference can be observed with respect to landowners' rights and shale gas issues. The US is very strict on landowners' rights and very often, during the application for the drilling permission, landowners must be notified of the project. In Pennsylvania, for instance, landowners must be notified within 15 days of the application for permission. Even more, any comments submitted by the landowner must be taken into account

¹⁶⁴Town of Dish, 'Oil and Gas Development', available at <<http://townofdish.com/index.php?id=ekc4ls3o4>> (Consulted 11.02.2015.)

¹⁶⁵J. Scott, The North America Shale Blog 'Denton city council enacts drilling moratorium and will consider possible ban on fracking', available at <<http://www.northamericashaleblog.com/2014/05/14/denton-tx-city-council-enacts-drilling-moratorium-and-will-consider-possible-ban-on-fracking/>> (Consulted 11.02.2015.)

¹⁶⁶J. Phillips, The North America Shale Blog 'Frac free Denton faces legal fight', available at <<http://www.northamericashaleblog.com/2014/11/07/frac-free-denton-faces-legal-fight/>> (Consulted 11.02.2015.)

during the permission issuing process.¹⁶⁷ It is possible to find several requirements in other states, together with guidelines for landowners in the event that they wish to lease out their mineral rights.¹⁶⁸

Despite the strong protection of landowners in the US, the UK has decided to take totally different approach. On 23 May 2014, the UK Department of Energy and Climate Change published for consultation a proposal to reform the land access regime for sub-surface rights, seeking to address the barriers that land access poses to shale gas development in the UK.¹⁶⁹ It has been proposed that shale gas operators should have an automatic right of access to undertake horizontal drilling which takes place at least 300 m below the surface of the land. To offer a comparison, in 2010, in the landmark *Bocado* case¹⁷⁰, the Supreme Court found that an oil and gas company had committed trespass by drilling and installing pipelines under the landowner's land, even though the deepest well was at 2,800 feet below the surface. The case is very significant because it confirmed that any activity on or under a landowner's land will constitute trespass, even if deep underground and with no impact on the landowner. To avoid committing trespass, an oil and gas company needed to come to an agreement with the landowner. This shows that the proposed changes would have a significant impact for landowners.

The consultation received over forty thousand responses, the vast majority of which came as letters from individuals opposing the proposal.¹⁷¹ Despite that, new amendments were adopted¹⁷² with a response: 'Having carefully considered the consultation responses, we believe that the proposed policy remains the right approach to underground access and that no issues have been identified that would mean that our overall policy approach is not the best available solution.'¹⁷³ This suggests that a decision about amendments was already made before the consultation and public opinion was not taken into account. I believe that this kind of decisions do not reflect the will of the people; even though Kramer makes a distinction between participation and consultation. He states that despite the fact that

¹⁶⁷ Pennsylvania Department of Environmental Protection, 'eNOTICE Subscription Site', available at <<http://www.ahs.dep.pa.gov/eNOTICEWeb/>> (Consulted 13.02.2015.)

¹⁶⁸ North Carolina House bill 242, part 3, 2011 'If an oil or gas operator is not the owner of the surface before entering the property...an operator shall give a writtne notice to the lannwoner at least 7 days before the desired day of entry of the propery.' <http://rafiusa.org/issues/landowner-rights-and-fracking/landowner-oil-and-gas-rights-leasing-education-packet/> (Consulted 29.03.2015.)

¹⁶⁹ Consultation on Proposal for Underground Access for the Extractio of Gas, Oil or Gheothermal Energy, available at <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313576/Consultation_on_Underground_Drilling_Access__final_web_version.pdf> (Consulted 06.02.2015.)

¹⁷⁰ *Bocado SA v Star Energy* [2010] UKSC 35

¹⁷¹ Government Response to the Consultation on Proposal for Underground Access for the Extraction of Gas, Oil or Geothermal Energy, 25 September 2014

¹⁷² Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment No. 2) Order 2013 (SI 2013/3194)

¹⁷³ Government Response to the Consultation on Proposal for Underground Access for the Extraction of Gas, Oil or Geothermal Energy, 25 September 2014, p. 10

EU legislation declares both as synonymous it is not so and consultation as a unilateral concept gives administration freedom to decide how to use information obtained.¹⁷⁴

3.4. Lessons to be learned

It is difficult to disagree with Buxton, who writes in his publication that ‘the community involvement overall cannot be considered an area of achievement, and remains one of the biggest challenges for minerals and sustainable development’.¹⁷⁵ To summarise, public participation in shale gas issues is not effective. In the vast majority of cases, public participation is restricted. Even though the EU decided to simply apply all existing regulations to shale gas fracturing while US federal rules are almost non-applicable in this field, no separate legislation was adopted in place of the Recommendation. The EIA poses some serious obstacles. Even though it was created to provide a high level of environmental protection and to contribute to the integration of environmental considerations in the preparation of projects, plans and programmes—with a view to reducing their environmental impact and strengthening the quality of decision-making through public participation in shale gas issues—it fails to achieve the desired result. Often shale gas projects are not required to undergo an EIA, which leads to a reduced level of public involvement. In Poland, the situation is even worse, since the country’s amendment of their EIA rules to make shale gas projects exempt from EIAs.

The process of granting permission to drill is also not without problems. The central task of the authorities is seen as serving a public interest in cities and suburbs rather than public participation.¹⁷⁶ Contrary to the hope of politicians, planning theorists did not see the participation opportunities in planning as a forum by which to enter into dialogue regarding future development. It enjoys only limited success.¹⁷⁷ Firstly, rules are very diverse across all states. In some cases, such as in Texas and Poland, planning permission does not require any public involvement. In these examples, NEPA and EIA are not applicable and drilling permission is issued without any public involvement, meaning that the effectiveness of public participation is close to none. Secondly, the timeframe for the involvement of public opinion varies drastically.

Changes must take place in order to improve public involvement. The best solution would be to make shale gas issues subject to the mandatory EIA. Another possibility is to balance the EIA with the drilling permission procedure. If neither EIA nor NEPA are applicable, the public should be involved through the drilling permission issuing process. This would make it possible to avoid the

¹⁷⁴ L.Kramer, ‘EU Environmental Law. Seventh Edition’, London, Sweet & Maxwell, 2012, p. 144

¹⁷⁵ G. Bandi, ‘Environmental Democracy and Law’, Europa Law Publishing, 2014, p. 349

¹⁷⁶ E. Fisher, B. Lange, E. Scotford, ‘Environmental Law. Text, Cases and Materials’, Oxford, Oxford University Press, 2013, p. 798-805

¹⁷⁷ J. Holder, M. Lee, ‘Environmental Protection, Law and Policy. Second Edition’, Cambridge, Cambridge University Press, 2007, p. 538

situation whereby the public is excluded from participation in the decision-making concerning shale gas issues. Moreover, the timeframe for submitting opinions should be strictly set at a minimum of 4 weeks, which I believe is a reasonable period.

There are strong doubts as to the appropriateness of the newly established rules in the UK concerning landowners' rights. Despite the fact that the UK is a common law country like the US, it takes a different view of landowners' rights in shale gas issues. While the US still respects landowners' rights and in reviewed states the operator must obtain the landowner's permission for drilling, the UK decided to abolish this requirement when the drilling takes place above 300 m of surface. This significantly reduces the right to public participation of landowners. Furthermore, the UK government ignored public opinion during the consultation process for this amendment; despite the fact that the majority opposed it, the amendment was still adopted. This is totally against one of the requirements of effectiveness, namely that of due account of the public opinion.

States in North America are trying to adopt amendments to legislation in order to favour shale gas manufacturers and to provide them with an easier procedure for obtaining permission to start drilling. However, in doing so they are reducing the rights of people with respect to public participation.

IV CONCLUSION

Shale gas has become an increasingly important source of natural gas in the US. The interest in it has spread around the world, including in Europe. However, while facilitating the production of a significant amount of natural gas, it poses a series of environmental protection challenges, which concern people in the context of their right to live in the environment adequate to their well-being. In the light of the Aarhus Convention and US experience, several problems are apparent with respect to shale gas issues, concerning effective access to information and public participation:

1. Access to information and public participation can be considered a complete tool only when it is effective. Often, the effectiveness of the issue in question is reduced to the obstacles, which makes it impossible to fully exercise explicitly provided rights. Those obstacles include: exemptions from information disclosure being granted too freely, problems with the principle of transparency, differences in the timeframe observed for informing the public and not taking due account of public opinion;
2. The criteria for trade secret exemption from chemical disclosure are too broad and trade secrets often cannot be considered as a sufficient justification to deny access to information. This leads to only partial access to information and creates problems with respect to transparency;
3. Chemical disclosure registries do not solve transparency problem concerning chemical disclosure. While the European registry has an informative and voluntary character, the US register leaves the possibility open for operators to avoid the disclosure of chemicals or to give only partial information;
4. Public participation is heavily disrupted by the very loose application of the EIA procedure. Often shale gas projects escape the mandatory EIA, as part of which public participation is a requirement, thus reducing the effectiveness of public participation;
5. Several legislative amendments attempt to reduce public participation. Firstly, instead of binding legislation, the EU adopted only the Recommendation. Secondly, several states have introduced crucial changes in their system. For instance, Poland has changed its rules concerning EIAs, while the UK has excluded landowners' rights;

This thesis presents several suggestions regarding how to make access to information and public participation more effective.

Firstly, there is a need to reduce the threshold for trade secret exemption. It is necessary to develop strict procedural rules for granting exemptions. As a court stated, there needs to be a direct link between a trade secret and the production process. The operator needs to show that a particular

intellectual property right is being infringed upon and not just information in general. I also believe that, in the case of trade secret exemptions, the operator must present additional information, such as the chemical family and its closest possible connections, as it is done in Texas.

Of course, the right to access information is not an absolute right. However, human health should in particular cases outweigh corporate interests. With regard to chemical disclosure registries, several improvements are necessary. A screening procedure should be developed, whereby all submitted information is strictly checked and whereby operators cannot leave any blank spaces in the application. Only then can those registries serve as a tool to promote the principle of transparency.

Secondly, I believe that the idea of the European Parliament to make shale gas projects undergo a mandatory EIA is a good way to promote public participation. I insist that this idea should be promoted for the next amendments to the legislation. I believe this to be the strongest way to make public participation effective. Another option would be to enlarge public participation possibilities—for instance, by allowing public opinion to play a role during the drilling permission issuing process;

Thirdly, there should be consistency with respect to the aspect of time management. Of course, the time allowed for public participation cannot be totally standardised, as differentiation must be allowed for according to the complexity of the situation at hand. However, I suggest the introduction of a minimum timeframe for the public consultation in the drilling permission issuing process. After analysis of the different states, I believe that 4 weeks is a reasonable minimum time, which could be extended by the state.

Finally, due account should be taken of public opinion following public consultation. The improvements mentioned above will allow an increase in the level of effectiveness in the access to information and public participation issues concerning shale gas. It will also increase transparency, which is crucial in maintaining a relationship of trust between the government and its citizens.

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