
Legal Regime of Shale Gas Extraction

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Some countries with large reserves intend to promote shale gas production, in order to reduce their dependency on imported gas. Shale gas will be an important new aspect in the world energy scene, with many effects. European Union wants secure and affordable sources of energy. Natural gas is the cleanest fossil fuel and a vital component of European Union's energy strategy. One of the most important aspects is that gas produces significantly cleaner energy than other fossil fuels. From a legal point of view, extraction of oil and natural gas is one of the most highly-regulated activities. In European Union, the regulation of shale gas activities is different if we compare with United States. United States has a complete framework of federal and state regulation of shale gas extraction. More than that, these regulations have evolved in order to respond to the United States shale gas boom. Legal regime of shale gas extraction in every member state of European Union must put together national and European Union regulations in this field of activity.

Methodology: *The analysis is based on a survey of relevant national legal frameworks. The purpose of the article is not to provide an assessment of the applicable legal framework but to analyse how the current legal framework is applied in practice and to point to possible areas for further review.*

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JEL classification: *K 33, K 40*

Introduction

In the European Union it is a lack of relevant regulations relating to the shale gas extraction method. As a result, the problem is regulated by the laws of the member states. It is also clear that any goals set up in the field of the European Union energy policy should not affect the right of each member state to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply.

General aspects

Even it is not any comprehensive regulation on the EU level in the field of the extraction of unconventional gas, we can mention some regulations that are applicable. Any new regulation could be based either on Articles 191 and 192 of the Treaty on the Functioning of the European Union (TFEU) or Article 194 TFEU. Articles 191 and 192 contain provisions on environmental protection. Art. 194 are regulating the goals of the EU within the field of energy. [1]

Article 194 TFEU declares that 'EU energy policy shall take into account the need to preserve and improve the environment'. In the same time, there are some secondary law regulations which can be applicable to shale gas extraction. Legislation on permits includes 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 prospection, exploration and production of hydrocarbons, imposing objective and non-discriminatory criteria based on which permits are granted. (The "Hydrocarbons Directive").

The Directive regulates the procedures for granting and using authorizations. The concept of authorizations is specified in Article 1 as "Any law, regulation, administrative or contractual provision instrument issued there under by which the competent authorities of a Member state entitle an entity to exercise, on its behalf and at its own risk, the exclusive right to prospect or explore for, or produce hydrocarbons in a geographical area."

Article 3 of the Hydrocarbons Directive specifies that the procedure to obtain an authorization must be initiated at the initiative of the competent authorities by means of a notice inviting applications, to be

published in the Official Journal of the European Union, or by means of a notice inviting applications to be published in the Official Journal of the European Union following submission of an application by an entity. Other interested parties then have at least 90 days to submit an application. [7]

There is not separate authorizing or permitting procedures of granting authorizations to prospect for explore or produce shale gas. The general authorization and permitting procedures for hydrocarbons are valid too for exploration, prospection and production activities in the field of shale gas. [7]

In the same time, there are some other directives. [1] The directives regarding water legislation are Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, the so-called Water Framework Directive, and Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration, the so-called Groundwater Directive. [1] Because fracturing fluid contains chemicals, will be applicable to this method of shale gas extraction Regulation (EC) no 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Undertakings connected with shale gas extraction would be regulated by the Mining Waste Directive (Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries).

The hydraulic fracturing method may influence special protection areas established by the Birds Directive (Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds) and special areas of conservation established by the Habitats Directive (Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora).

The most used technical method for extracting shale gas is fracking. Hydraulic fracturing, known as fracking is a process in which fluid is injected into a well at very high pressures in order to either widen and deepen existing cracks or create new fractures. The fluids used can include water, water mixed with solvents, or drilling mud. The fluid is mixed with the “proppant,” which is typically sand, aluminum pellets or other small

granular material that is carried into the fractures where it remains to prop the crack open thereby allowing the oil or gas to flow. [5]

Hydraulic fracking it is not a new technology. It was tested for the first time in 1903 and first used commercially in 1948. In 1988, hydraulic fracturing was used to one million wells. Another practical application is to enhance production from water wells. In present about 35,000 wells per year are using some measure of hydraulic fracturing and a majority of oil and gas Wells have undergone some form and level of fracturing during their productive lifetime. [5]

National legislations

We are analyzing here 4 countries (Poland, France, Germany, Poland and Sweden).

Two groups of authorization procedures can be mentioned. The Polish and French mining legislation provides for tender procedures. In Sweden and Germany, it is not a tender procedure. [7]

In Poland we have a tender procedure, a quasi-tender procedure and a no tender procedure;

In France is a quasi-tender procedure.

In Germany and Sweden we are speaking about non-tender procedures without formal licensing rounds.

In Poland, the law specifies a tender procedure according to Article 3 of the Hydrocarbons Directive. Applicants can initiate a quasi-tender procedure in accordance with Article 3 of the Hydrocarbons Directive. A koncesja can be granted through a non-tender procedure, if no more than one company wants to obtain an authorization. [6]

In France, the procedure regulated by the mining legislation is an application of the quasi-tender procedure mentioned under Article 3 of the Hydrocarbons Directive. The first stage is when the applicant initiates a tender procedure by submitting a first application to the competent minister. After the Prefect verifies the application file is complete, the competent minister publishes the notice inviting other applications in the Official Journal of the EU and the Official Journal of the French Republic. Competing applications are submitted to the competent minister too. The quasi-tender procedures for obtaining an exploration or prospection permit

and a concession permit are similar. The tender notice with the purpose of granting a concession is subject to a public inquiry. [7]

In Germany and Sweden, the Federal Mining Act and the Minerals' Act regulate no tender procedures. In both countries, applications for exploration authorizations and exploitation concessions are made directly to the competent authorities by means of an application submitted by the concerned entity. Individuals, corporate bodies or commercial partnerships can submit applications for licenses at any time. In the texts of these applications must be specified the field proposed for exploration or envisaged for production, a work program and evidence of financial resources.

The new Polish Geological and Mining Law entered into force on 1st January 2012 and stipulates that hydrocarbons deposits, such as natural gas, are covered by the mining ownership of the State Treasury. The State Treasury may dispose of its right to the mineral deposits by establishing a mining usufruct by way of an agreement, concluded for a period of time longer than 50 years. [1]

Sometimes it is possible that an entrepreneur who has obtained a concession for extraction of hydrocarbons may request acquisition of the relevant real estate (article 19).

The new law is maintaining the obligation to obtain a concession for prospecting and exploration as well as for extraction, regulating different conditions of obtaining concessions for prospecting, exploration and extraction of hydrocarbons.

In order to obtain a concession is necessary a tender procedure, unless the law states otherwise. The law defines the criteria on the basis of which the authority selects the best offer (technical and financial capabilities of the entrepreneur, proposed technology for conducting works, proposed remuneration for establishment of the mining usufruct). [1]

A new obligation is also being provided by the new law, one under which the Minister of the Environment will be required to obtain an environmental condition decision as well as approvals and decisions, necessary for granting a concession before opening a tender procedure. The law stipulates the obligations of applicants to submit proper documentation in the tender procedure, and in addition states that the applicant would be also obliged to identify areas covered by special forms of protection, including nature protection and protection of historical monuments as well

as requiring the submission of methods for preventing and remedying any adverse impact of the intended activities on the natural environment.

In Poland and France the mining legislation are regulating fixed maximum durations for the tender procedure or the authorization procedures. In Poland, the tender procedure may not last longer than nine months (starting from the date of publication of the tender notice). It may take at least six months from the announcement of the tender. The exact duration depends on what is mentioned in the tender specifications. The non-tender may be between one and three months (based on the general rules specified in the Administrative Procedure Code). In Poland the opinion required by the concerned municipalities (exploration) and the Minister of economy and the State Mining Authority (exploitation) takes place before the authorization is granted. According to the law, they have about fourteen days to express their consent on an application. [1]

In France, the competent Minister has two years to decide on an exploration authorization application. A decision on a concession application needs to be reached within three years. [7]

In Sweden, the procedure for obtaining an exploration/prospection authorization may last between three and six months. The Swedish Mining Inspectorate must analyze one application for shale gas production. This procedure lasted two and a half years. The difference of time between the procedure leading to the grant of an exploration authorization and leading to the grant of a production authorization is significant. This difference is not due to the specific nature of shale gas activities.

In Germany, the mining legislation does not provide for a specific time period during which the authority has to decide upon the application. In Poland the exploration concession (koncesja) includes the survey stage (geophysical, geochemical, seismic, etc.), the vertical drilling stage (drilling assessment), the initial horizontal drilling and vertical drilling with limited hydraulic fracturing (pilot drilling) and multiple horizontal drilling hydraulic fracturing (pilot production testing). Applications for exploration authorization include a geological work programme, determining the geological works that must be done during a certain period at a given stage. These working programmes (and the mentioned stages) are not the same with to every granted authorization. [6]

In Sweden, the plan of operations required for any drilling activity may cover the stages. No such stages are explicitly identified in the authorization or permitting procedures.

In France, beginning of prospection (exploration) mining activities requires a « Déclaration d'Ouverture de Travaux Miniers » (“DOTM”), and beginning of production activities requires an « Authorization d'Ouverture de Travaux Miniers » (“AOTM”).

Exploration authorizations and permits have different durations in time.

Germany: 5 years (renewable for a maximum period of three years); no specific of the schedule (only the main operating schedule is limited to two years);

France: 5 years (twice renewable for maximum duration of 10 years and reduction by half of authorized geographical area per renewal); duration of DOTM and AOTM limited to duration of authorization;

Poland: 3 - 50 years (unless demand for shorter period);

Sweden: 3 years (renewable twice with maximum duration of 15 years)

The same principle is valid for exploitation authorizations (permits cannot exceed duration of authorization)

Germany: 50 years;

France: 50 years;

Poland: 3 - 50 years;

Sweden: 25 years (renewable once with ten years).

In Sweden, France and Germany there is a significant difference between the duration of validity of the exploration authorization and of the exploitation concession. Exploration authorizations in France and Germany are valid for five years (renewable two times, in Germany for a maximum period of three years) and the exploitation concessions have maximum validity duration of fifty years. Under the French Mining Code, the geographic area of the authorization is reduced by 50% at the first renewal and an additional 25% at the second renewal. [7]

This rule, applicable to all gas exploration activities, including shale gas, can be problematic for shale gas activities, because the availability of shale gas deposit is diffuse throughout a large territorial area, the conventional gas being available in a more concentrated form.

In Sweden, the validity duration of an exploration authorization is three years, and the exploitation concession is valid for 25 years. Poland appears to be the only member state where both production authorization and exploitation concession are granted for a period of no less than three years and no more than fifty years (unless the applicant demands a shorter period).

In all member states non-activity has a negative impact on the validity of the authorization. [1]

In Sweden the non-activity will lead to a refusal to prolong the authorization. In Poland, the authorization contains a deadline for commencing the prospecting or exploration. If the operator fails to take up or resume activity, the authorization ultimately can be withdrawn. If the validity of the authorization is questioned due to non-activity, this of course also has an adverse impact on the permits granted under it. It must be made a distinction between ground ownership and the ownership of mineral deposits below the surface. [7]

In France article L 122-1 of the New Mining Code says that any holder of an exploration authorization is entitled to conduct all necessary prospecting activities (regardless of consent by the ground owner). Article 552 of the Civil Code, stipulates that ownership of the ground involves what is above and below ground, is not applicable to mineral deposits that may be contained there. These are distinct from the ground ownership and owned by the State.

In Sweden, according to section 1 of the Minerals' Act, exploration and exploitation of gaseous hydrocarbons can be done, no matter what is the ownership of the covered land.

In Germany mineral resources are considered to be *Bergfrei* (free from land-property) according to the article 3, §3 of the Federal Mining Act.

In Poland, the law says that all mineral resources are owned by the State Treasury, except for those minerals that constitute parts of land surface properties (not applicable to shale gas). [1] The grant of authorizations and permits is regulated by the general legislation in the field of prospecting, exploration and production of hydrocarbons.

Due to its important environmental impact, environmental legislation has an important role in shale gas activities. In Sweden and France, these different aspects are regulated by the Environmental Code, whereas in Germany and Poland several laws apply. The majority of the

environmental legislation is the effect of transposition of EU Directives. There are more official institutions involved in such activities. [7]

In Germany there are State Economic Ministry on a Länder (regional) level and state mining authorities on a departmental level (except Hesse and Thuringia) and State Environmental Ministry. Some Länder work together by sharing just one competent authority governing mining activities in two or more Länder.

In France we have Ministry of Environment, Energy and Sustainable Development with the support of the General Directorate Energy Climate (grant of authorizations) and the Prefects of the concerned departments.

In Sweden we can speak about Swedish Mining Inspectorate (in some cases: the Government) for grant of authorizations and Country Administrative Board and concerned municipalities (environmental notification) and Land and Environmental court (grant of environmental permits).

In Poland are working together Ministry of Environment, with the support of the Department for Geology and Geological Concessions (grant of authorizations) and the State Mining Authority (approval of the operational plant).

A special problem is the problem of royalties. In France, royalties must be paid only during the production phase. In Germany, Poland and Sweden application fees and royalties are paid for exploration and production activities. During the exploration phase the application fee is calculated according to the number of square kilometers of the covered area. Royalties for the production phase are generally calculated according to the production output and market value of that production (on a yearly, half-yearly or quarterly basis). In Poland, additional increasing need to be paid upon conclusion of the mining usufruct agreement (to be established in the agreement itself). In Poland and Germany, all of the royalties go to the State. In Sweden and France, the owners of the surface obtain a part of the royalties. [7]

In Poland, the authority granting the exploration and exploitation authorizations, increases the royalties and exploitation fees for any activity and controls the accordance of the payment

In Germany royalties are collected by the respective Länder.

In Poland royalties are paid to the municipalities where the activity is pursued and the National Environment Protection and Water

Management Fund. The money for establishment of the mining usufruct agreement goes to the State Treasury. [6]

In France royalties are going to the State. An important part goes to the Caisse autonome nationale de sécurité sociale dans les mines) and to the surface owners in accordance with their proportional share of the area.

In Sweden 1,5 % of the royalties are paid to the land owners in accordance with their proportional share of the area and 0,5% goes to the State. The Swedish Mining Inspectorate decides on what a company will pay. [7]

Environmental aspects

Conditions regarding environmental protection, including the environmental impact assessment (EIA), are specified in laws such as the Environmental Code, laws on environmental liability or laws on environmental impact assessment. Some sectors specific rules (rules specific to the gas sector) may include some conditions related to the environment, such as the Mineral Act in Sweden, the Ordinance on Environmental Assessment of Mining Activities in Germany or the Decree on mining works, on works of underground storage and on the mining and underground storage policy in France.

In Sweden, any “environmentally hazardous activity” is regulated by the Swedish Environmental Code. There are three types of activity (type A, B or C). As a rule, a notification must be done (type C) or an application must be done with the view of obtaining a permit (types A and B). Exploration and prospection are type C activities, production is a type B activity, and production in mountainous areas is a type A activity. [7]

The procedure concerning environmentally hazardous activities is a complete procedure, including all aspects related to the environment are examined in one single procedure, (water use, emission, protection of wildlife, noise, disposal of waste, use of soil, use of chemical substances).

In Germany, the EIA is an integral part of the planning approval for any project intending to extract over 500k m³ a day. There is no EIA requirement during the exploration authorization procedure. The Land of North Rhine Westphalia has submitted a motion in the Bundesrat to change the EIA decree in order to make an EIA compulsory for any framework operation plan approval involving hydraulic fracturing.

In Poland, the EIA is specified in the Act on Access to Environmental Information and its Protection, a close transposition of Directive 85/337/EC.¹⁰³ According to the Polish authorities, exploration projects are usually seen as “annex II project”, which require an EIA, if they have a significant impact on the environment. [1]

Exploitation projects in most cases can be considered to be “annex I projects”, which may always have a significant impact on the environment. In such a case the EIA requirement must be done before initiating the main authorization procedure. Other activities will be considered as annex II projects, for which a screening is mandatory.

In France, the EIA requirement is regulated by the Act on Access to Environmental Information and its Protection, a close transposition of Directive 85/337/EC. [7] During the phase of the exploration authorization, an “environmental impact notice” must be submitted to the administration. The environmental impact notice contains geographical data, data on the wildlife in the area, data on the state of pollution of the area, evaluation of different sources of pollution, measures to avoid adverse effects caused by the activities, etc. The notice is not as extensive as a regular EIA. Its goal is to demonstrate that the candidate is aware of the (environmental) legal constraints surrounding the activity as well as of the environmental issues. If the notice is considered incomplete, the administration may ask further analysis or information and the administration can refuse, on the basis of the notice, to give authorization for some activities that would seem incorrect from the point of view of environment.

Civil liability

Shale gas activities cannot exclude the problem of civil liability. Civil liability is different from environmental liability where we have the principle “the polluter pays”. [7] Civil liability is covered by the mining legislation, general civil legislation and environmental legislation.

In France, Germany and Poland the mining legislation is regulating a separate regime on mining damage, the damage produced as a result of mining plant operation. The owner of the mine is liable for all damages occurring from the mining activities. In France, the new Mining Code lays down that the authorization (permit) holder must act with caution (“se porter caution”) to the advantage of surrounding buildings and to pay

compensation for any damage caused by the mining activities. If the operator goes bankrupt or disappears, the State must be warrant (“être garant”) for the compensation of the damages.

In Poland, the land owner as well as any other entity with jeopardized property rights has the right to demand the repairing of the damage resulting from the mining operations. The provisions of the Civil Code must be followed for damage rectification. The concession holder has the full civil liability for damages. [7]

In Germany, civil liability is based on the Federal Mining Act, the German Environmental Liability Act and the German Civil Code. General liability terms must protect general interests such as life, body, legal property, etc. The Federal Mining Act provides stipulations resulting in liability not requiring fault for damage caused by the listed activities. The German Civil Code does not consider necessary a fault in case of damage to land property. The German Environmental Liability Act stipulates that strict liability applies to several profession activities.

In Sweden, damage produced by exploration (prospection) of hydrocarbons activities is covered by the Environmental Code. The operator must implement protective measures with a view of damage prevention and take the necessary precautions as soon as there is a reason to assume damage to environment or human health.

As a general rule, compensation must lead to a restoration of the conditions existed before the damage occurred.

In France, the compensation must cover all rights of the owners of the damaged buildings. If restoration to the previous situation is not possible, the compensation must permit to the owner of the building(s) to buy a new equivalent building in the short term.

In Poland, damage reparation takes place by restoring land, buildings, equipment, premises, water and other goods in the same state as they were before the damage. Any additional expenses supported by the aggravated party in the process of remedying damage, must be compensated. Claims following damage resulting from mining activities expire after five years. This period is longer than the period under general civil liability rules. [7]

In Sweden, a difference must be made between compensation of damage caused to the affected landowners and compensation of damage caused to other persons. More than that, a distinction must be made

between the above mentioned compensation and the compensation for rehabilitation of the area after termination of the exploration (exploitation) activities.

During the exploration phase, the authorization holder is deciding the amount of compensation to be provided to the affected land owners. If they contest it, this compensation must be modified. During the exploitation phase, the compensation for foreseeable damage is set-up by the Chief Mining Inspector. The normal compensation rules are valid for unforeseeable damage. [7]

Shale gas activities are including many different aspects. We are speaking about mining (hydrocarbons) legislation, legislation regulating land property, workers' safety and security, liability, pressure equipment, the use of chemical substances and environmental legislation as a whole is, to a different extent, applicable to shale gas activities. Complexity of the activity automatically has as effect the complexity of the legislative framework applicable to these activities.

One of the main bad aspects specified against the authorizations for shale gas projects was the fact that the public had not been consulted during the procedure for granting such authorizations. The public participation is limited. The administrative procedures regulated by the mining legislation rarely lay down such a requirement. Participation of the public is foreseen by environmental legislation, and more specifically, legislation on environmental impact assessment.

United Kingdom and United States model

In some states, such as USA, landowners own the hydrocarbons under their land and thereby hold the rights to exploit them. In the UK, ownership is belonging to the state. [2]

An operator must obtain a set of environmental permits before operations can begin under the Environmental Permitting (England and Wales) Regulations 2010. The conditions are based on an Operational Risk Assessment (OPRA) methodology developed by the UK's environmental regulators. The OPRA methodology is taking into consideration the type of facility, the type and quantity of wastes involved, the type and levels of emissions released, the risk receptors in the area and the environmental management system to be implemented. Even if a site is receiving a permit,

the environmental regulators continue to use the OPRA methodology and rating system to monitor a site's performance and concordance with permit conditions. [2]

Shale gas drilling is now in the exploratory phase in Great Britain. It is regulated by the normal legal regime for all oil and gas exploration and development activities. A Petroleum Exploration and Development license (PEDL) is allowing a company to engage in a range of oil and gas exploration activities (including exploration and development of unconventional onshore gas), subject to necessary drilling consents and planning permission. [8]

The production licenses are released (Petroleum Exploration and Development Licenses-PEDL) under the regulations granted by the Petroleum Act 1998. The license is the legal base for the right to search, to bore for and get hydrocarbons, but do not confer any exemption from other legal requirements (any need to gain access rights from landowners, health and safety regulations, planning permission from relevant local authorities). [8]

In July 2013, in the Planning practice guidance for onshore oil and gas, there were mentioned some "principal issues" taken into consideration in the field of fracking permits (noise associated with the operation, dust, air quality, lighting, visual intrusion into the local setting and the wider landscape caused by any the placement of any building or structure within the application site area, landscape character, archaeological and heritage features, traffic, risk of contamination to land, soil resources, the impact on best and most versatile agricultural land, flood risk, land stability, internationally, nationally or locally designated wildlife sites, protected habitats and species, and ecological networks, nationally protected geological and geomorphological sites and features, site restoration and aftercare). [8]

In United States, the topic of shale gas is divided between federal and state authorities. On June 9, 2009, initiators from the House and the Senate introduced the "Fracturing Responsibility and Awareness of Chemicals Act," - FRAC Act. The bill (act) contains three major changes to the existing regulatory scheme for hydraulic fracking operations. First, the bills have amended the SDWA (Safe Drinking Water Act) so that hydraulic fracturing operations would fall under the UIC program. [3] Secondly, the

bills would have required the public disclosure of “the chemical constituents (but not the proprietary chemical formulas) used in the fracturing process. Thirdly, the bills would require the disclosure of the complete formulas of to EPA, a state, or medical personnel in case of a ‘medical emergency. The bill is not yet voted. [3]

The Federal Clean Water Act had forbidden the “discharge of any pollutant from any point source” without a permit. [4] Fracking companies dealing with their produced water and returned wastewater by discharging it into nearby surface water bodies are subject to the Clean Water Act, more specific, to the Act’s National Pollutant Discharge Elimination System (NPDES) permit program. Congress and the Federal Environmental Protection Agency (EPA) excluded uncontaminated storm water discharges connected with oil and gas construction and field operation activities from the NPDES permit requirement. Even so, the U.S. Court of Appeals for the Ninth Circuit annulled parts of the EPA’s regulation that would have exempted contaminated discharges. As an effect, contaminated discharges of storm water from fracking operations are also subject to the NPDES permit requirement. [4]

The federal Safe Drinking Water Act wants to protect the nation’s public drinking water supplies by imposing the necessity that all drinking water must meet national health-based quality standards. The Safe Drinking Water Act is setting-up an Underground Injection Control program to protect aquifers from wastewater injections. If fracking operations inject water and other materials into wells in order to increase the production of natural gas or dispose their wastewater through underground injection, they are potentially subject to the Safe Drinking Water Act.

Forty states have received delegated authority to regulate Class II oil and gas injection wells. The EPA is regulating such wells in the other ten states, including seven oil and gas states, on federal lands and Indian lands. [4]

Recent developments

The French Constitutional Council received a judicial action on July 12, 2013 from the State Council (Decision No. 367893 of 12 July 2013), in accordance with Article 61-1 of the Constitution.

The complaint contained an priority issue of constitutionality raised by the American company Schuepbach Energy LLC, relating to compliance with the rights and freedoms guaranteed by the Constitution of Articles 1 and 3 of Law No. 2011-835 of 13 July 2011 prohibiting the exploration and mining of liquid or gaseous hydrocarbons by hydraulic fracturing and to repeal the exclusive licenses with projects using this technique.

Among the grounds invocated, the American company considered that the legislature treated differently distinct methods of research and exploitation of mineral resources. Considering that the state of technology, the methods of drilling followed by hydraulic fracturing for applied research and hydrocarbon exploitation differ from those applied to stimulate the flow of water in reservoirs. By limiting the scope of the prohibition to only drilling followed by hydraulic fracturing for the exploration and exploitation of oil and gas mining, the law is a violation of freedom of enterprise resulting from the prohibition of the use of drilling followed by hydraulic fracturing.

The prohibition of use of drilling followed by hydraulic fracturing search or exploit hydrocarbons in the country in general and absolute, for all research and oil operations. The legislature was pursuing an objective of general interest in environmental protection.

According to the applicant, the prohibition of the use of any hydraulic method fracturing of the rock for the exploration and exploitation of oil and gas by Article 1 of the Law of 13 July 2011 mines ignores the precautionary principle enshrined in Article 5 of the Charter of the environment, as long as the ban repeal exclusive licenses for mining oil and gas under section 3 of the Act of July 13, 2011 and Article 6 of the Charter of the environment , which requires the reconciliation of public policy with the protection and enhancement of the environment , economic development and social progress.

On the other hand, Constitutional Council stated that under the terms of Article 5 of the Charter of the environment: "When the occurrence of any damage, although uncertain in the state of scientific knowledge, may seriously so irreversible and the environment, ensure public authorities, applying the precautionary principle.

Art. 6 of the Charter of the environment stipulate that „Public policy should promote sustainable development. In October 2013, members of the European Parliament voted in favor of a mandatory Environmental Impact

Assessment (EIA) for all shale gas and other unconventional drilling activities in the European Union. The vote is part of a revision of the EU's 28-year-old rules on EIA.

Shale gas companies operating in Europe must respect in the future a strong legislative package which the European Commission will publish in December or January; European Commission will make public the results of public consultation on unconventional fossil fuels, including shale gas, and announce regulatory steps. The European Parliament proposed that exploration and hydraulic fracturing extraction activities for non-conventional hydrocarbons must be subject to environmental impact studies, adopting an amendment to existing EU legislation. MEPs also suggest measures to prevent conflicts of interest and to ensure that the public is informed and consulted.

Now, the Environmental Impact Assessment (EIA) Directive applies to both public and private projects. It sets out certain criteria, including the information that must be submitted to national authorities for a project to be assessed for approval. Current legislation covers natural gas projects that extract at least 500,000 cubic meters each day. Many shale gas projects are not subject to an impact assessment requirement. This requirement is now compulsory, whatever the quantity extracted, for all exploration and exploitation of non-conventional hydrocarbons (shale gas and oil, coal gas, etc.), including shale gas projects, for the phase in which the hydraulic fracturing technique is used.

Are included measures having as to prevent conflicts of interest between developers and people carrying out studies? Amendments are intending to ensure that experts have the necessary qualifications, experience and technical skills. They must be able to work in a scientifically objective fashion, independently of the developer or the public authorities themselves.

Results

Shale gas has the potential to diversify and secure European energy supplies. National estimations could reduce the Romania's dependence on imports, but the effect on energy security is unlikely to be great.

The article recommends that the Government must take into account the impact of shale gas in its decisions on reform of the energy industry.

The Romanian legislation and regulation should take specific into account the aspects specific only to shale gas exploration and production. We are speaking about the hydraulic fracturing, requiring large volumes of water and chemicals and leading to the production of large volumes of waste water.

Because in Romania and in Europe we are facing stronger environmental regulations and increased population density means that shale gas development will develop in a different way to that of the United States.

Conclusions

As a conclusion, we can say that it is not a comprehensive directive providing for a European mining law. The current EU regulatory framework concerning hydraulic fracturing has a number of negative aspects. The most important is that the threshold for Environmental Impact Assessments in the field of on hydraulic fracturing activities is set far above any potential industrial activities of this kind, and should be lowered in a big proportion.

The coverage of the water framework Directive must be written again with special focus on fracturing activities and their possible impacts on surface water. Present mining laws in Europe and related regulations in the field mining activities do not take in consideration the specific aspects of hydraulic fracturing. There are big differences between mining legislations in European member states. In many situations, mining rights are considered more important than citizens' rights.

As a result, local political authorities many times can not influence possible projects or mining sites as these are granted by national or state governments and their authorities.

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