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## Extraction of non conventional gas in Europe and in Switzerland - where do we stand?

### Non-conventional extraction of gas

Over the last few years, nothing has shaped the global energy markets as much as the extraction and production of non-conventional natural gas.

The non-conventional extraction and production of fossil fuels refers to, among other things, the production of shale gas, whereby the designation „non-conventional“ refers to the deposits or location of the natural gas. If the natural gas is trapped in easily permeable rock (so-called conventional occurrence), it can be exploited and used without using special drilling technology. In contrast, the production of gas in non-conventional locations requires an initial breaking open or stimulating of the surrounding rock, so that the natural gas trapped in the rock can escape and flow to the surface via the borehole (so-called fracking).

Based on experiences in the USA, the so-called shale-gas extraction in Europe has gained considerable attention and this has led to both various member states of the European Union and Swiss Cantons beginning to award concessions for the non-conventional extraction of natural gas.

### The European Union recommends minimum tenets for shale gas production

At present, there is no comprehensive set of rules concerning the production of shale gas and -oil in the European Union. At the beginning of this year, efforts towards creating a uniform guideline for Europe failed. Consequently, the regulations which apply to the production of non-conventional sources of gas must be looked for in the maze of European guidelines. Amongst the most important rulings are the following:

- Directive 2006/21/EC of the European Parliament and of the Council on the management of waste from the extractive industries;
- 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;
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora;
- Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment; and
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

On 22 January 2014, the European Commission published a recommendation which specifies minimum requirements for the extraction and production of hydrocarbons using large scale hydraulic fracturing.

The content of this recommendation is based on the existing European Union regulations and instructs the member states:

- to plan projects ahead of time and to evaluate possible cumulative effects before permission is given;

- to carefully examine environmental impact and environmental risks;
- to ensure that the borehole integrity corresponds to best practices;
- to check the quality of waters, air and soil locally before the drillings starts in order to determine whether any changes occur and to deal with arising risks;
- to control emissions into the air, including greenhouse gas emissions, by gas separation;
- to inform the public about the chemicals used in the individual boreholes, and
- to guarantee that borehole operators use best practices during the entire project.

Member states are encouraged to apply these principles within six months and, starting from December 2014, to inform the Commission annually which measures have been introduced.

However, due to the lack of legal force of recommendations, no binding commitment arises for member states, the disregard of which could be sanctioned. Nevertheless, in June 2014, a case was made against Poland because that member state wanted to permit boring in shale rock to depths of 5000m without having previously examined the potential effects on the environment.

### **Regulation of shale gas production in Switzerland**

In Switzerland, there is no Federal law regulating the extraction and production of shale gas. The Concordat on Oil Digging and Exploitation was in force between 1955 and 2013. However, it was not renewed, as most Cantons decided to adopt and pass their own regulations.

Thus, the use of land and the exploitation of natural resources continue to be controlled by the Cantons. The current regulation - so-called cantonal prerogatives (*Regalrechte*) - originated in part during the 19<sup>th</sup> century. Consequently, the Cantons have either completely forbidden shale gas production, and even relevant soil analysis, or the extraction is subject to mandatory concessions. For example, the Canton of Aargau recently introduced

mandatory authorization for the exploration or exploitation of the deep underground. The Cantons of Freiburg and Vaud introduced a moratorium on shale gas production. Whereas in the Canton of Berne, the exploration of the underground has been authorized between the cities of Aarberg and Bienne.

Despite the aforementioned Cantonal rights, the Federal Authorities remain the predominant regulatory authority in the area of environmental law. Accordingly, the Federal Environmental Protection Act (USG) and its Ordinance require a prior environmental compatibility test on the Cantonal location for each shale gas extraction (cf. Section 21.7 Appendix to UVP Ordinance).

From a legal point of view, a further sensitive aspect is to be seen in the evaluation of the induced seismicity which can become a central issue of natural gas drilling. The liability for seismic damage caused by geothermal or fracking drilling is predominantly regulated under private law, in particular Art. 679 Swiss Civil Code and, in certain instances, Art. 58 Swiss Code of Obligations. Additional provisions on liability can be found in the Federal Environmental Protection Act (Art. 59a). However, in this connection, the public law provisions on liability are of subordinated importance. The responsible Cantonal authorities are therefore well advised to provide that the holders of drilling licenses must take out liability insurance as, according to Art. 679 Swiss Civil Code, the Cantons as holders of the rights over the deep underground can potentially be made liable for damages caused to third parties.

### **Summing up and looking ahead**

Compared to the United States, both the European and Swiss research and development efforts in relation to the extraction and production of shale gas are still relatively young. Although both in the European Union and in Switzerland attempts are made to separately codify unorthodox energy production, the specific content of the regulation is at present - in particular in Switzerland - left to several legislators. This opens door for the synchroni-

zation in the area of shale gas production to be fraught with difficulties.

Due to this initial position it remains to be seen in which direction the conditions for the non-conventional production of natural gas will develop in the near future in both Switzerland and the European Union.

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