

Technical Working Group on Environmental aspects of unconventional fossil fuels, in particular shale gas

Second Meeting on 4th October 2012, Brussels

Minutes

In this meeting, representatives from 15 EU Member States and from services of the European Commission (ENV, ENER, CLIMA, JRC) were present. Chatham House rules apply to the discussions in this working group.

Welcome and Introduction

The Chair summarised the latest developments since the first working group of January 2012. A number of EU Member States (MS) have granted shale gas prospection and/or exploration licenses. In parallel, public concerns have been raised as to the health and environmental impacts of such operations. A number of MS have reviewed or are in the process of reviewing the applicable legislation, while certain MS have put in place bans or moratoria on the use of hydraulic fracturing. In parallel, the Commission has completed its initial information gathering process. This has led to the release on 7th Sept. 2012 of three studies on the potential impacts of EU shale gas developments, respectively on the environment, EU energy markets and climate. All three studies are available on DG ENV's website¹.

In the European Parliament, two own-initiative reports have been adopted by the Environment (ENVI) and Industry (ITRE) parliamentary committees, respectively on environmental impacts and on the energy and industrial aspects of shale gas on 18-19 September 2012. An upcoming workshop on shale gas is to be held by the Petitions Committee (9th Oct.) which will address petitions on shale gas received from citizens, most calling for either a moratorium or a ban on shale gas extraction.

Main findings on environmental aspects

The Commission presented the main findings of the study on potential environmental risks arising from hydrocarbons operations involving hydraulic fracturing in Europe,² released in September 2012. The study finds that shale gas practices involving the combined use of horizontal drilling and high volume hydraulic fracturing have not been used to any great extent in the EU so far and generally involve a larger environmental footprint than conventional gas development. These findings are consistent with other recent reports, including from the International Energy Agency. Risks of surface and ground water contamination, water resource depletion, air and noise emissions, as well as community disruption (e.g land take, disturbance to biodiversity and traffic) are deemed to be high particularly in the case of multiple projects. Measures addressing sub-surface and surface aspects can help addressing such risks: these measures relate notably to a careful site selection and underground risk characterization, robust well integrity, monitoring and reporting, reduced use of freshwater and hazardous chemicals, adequate waste management and control of air emissions. In this regard, a considerable number of questions relating to the applicable EU legislation have been identified, requiring further consideration by the Commission. One Member State mentioned that it will provide written comments on the study.

¹ http://ec.europa.eu/environment/integration/energy/uff_studies_en.htm

Main findings on climate aspects

The Commission presented the main findings of the study on climate impacts of potential shale gas production in Europe, released in September 2012. The study estimates based on existing literature, that shale gas produced in the EU would cause more greenhouse gas (GHG) emissions than conventional natural gas produced in the EU, but – if well managed – less than imported gas from outside the EU, be it via pipeline or by LNG due to the impacts on emissions from long-distance gas transport. In the worst case (where all flow back emissions at well completion are vented), it would be similar to the upper emissions level for electricity generated from imported LNG and for gas imported from Russia. The study stressed that well completion is a critical phase in the management of GHG emissions. It also pointed to recent regulatory drivers (new air rules making the use of reduced emissions completion from 2015 compulsory in the US) as well as economic drivers to capture methane emissions. The study finally underlined the lack of quality data assessing life cycle emissions from shale gas extraction.

Discussion

Following questions on the Environmental Impact Assessment and the Strategic Environmental Assessment Directives³, the Commission recalled the need to assess the likely significant effects from all related associated work and sub-activities intrinsically linked to the implementation and purpose of the project (e.g. new infrastructure, storage facilities)⁴. The issue of the very large areas that are typically granted for shale gas concessions and how best to address environmental impacts on such wide areas was raised. On the other hand, the benefits of conducting a strategic environmental assessment early on in terms of public acceptability were mentioned. Following questions from Member States, the Commission explained that an update of the existing reference document (BREF) on mining waste is planned.

Roundtable on relevant national developments

The roundtable pointed to different national regulatory approaches in the application of environmental legislation to shale gas projects (e.g. Environmental Impact Assessment (EIA) Directive; Strategic Environmental Assessment (SEA) Directive; IPPC Directive).

The issue of transboundary aspects of shale gas plays as well as the complexity of the geology in certain areas was raised (e.g. aquifers below and above the shale gas strata). The importance of an appropriate site selection and groundwater protection were emphasised, as well as the need for transparent information. Further research is being conducted in certain Member States, notably on the monitoring of environmental impacts, well integrity, local geology, carbon footprint and best practices. Certain Member States are also in the process of reviewing their licensing regime as well as the environmental legislation applicable to shale gas projects. Issues of legal uncertainty were raised with regard for instance to the interaction between waste water management provisions and recycling practices.

One Member State presented the results of environmental monitoring of hydraulic fracturing conducted over four months at one exploratory well. This monitoring concluded on a limited short term environmental impact of hydraulic fracturing in the context of this particular project, provided it is appropriately performed. The analysis could not examine medium to long term effects. Further monitoring of impacts is foreseen in other exploratory sites.

³ Directives 2011/92/EU and 2001/42/EC

⁴ http://ec.europa.eu/environment/integration/energy/pdf/guidance_note.pdf

Presentation of upcoming work

The Commission explained that further studies have been commissioned that will provide further technical, socio-economic and regulatory support in the framework of the on-going assessment. As a complement to the analysis of the applicable EU regulatory framework, a study will examine national legal requirements applicable to unconventional gas projects in 8 Member States (BG, DE, DK, ES, LT, PL, RO, UK). The latter were selected as illustrative cases, based on their geographical and legal diversity as well as their differing levels of experience with hydrocarbons projects. National experts will be interviewed in this context.

An on-line consultation will be launched by the end of the year, to be followed by a stakeholders' event in the first semester 2013.

Summary and Conclusions

The Commission concluded that the current EU environmental legislation *applies* to practices required for shale gas exploration and production from planning to cessation. Further examination is however deemed necessary to assess whether the current EU legislative framework is *appropriate* for the extraction of shale gas in Europe and whether it is fit to manage environmental risks of such projects. A number of surface and subsurface risk areas were identified, which will be followed up. Geological aspects, in particular site selection and underground risk characterisation, will require more detailed consideration at a forthcoming workshop to be held in December 2012. Reaping possible climate benefits also requires that fugitive methane emissions are appropriately mitigated. Control measures that can reduce environmental and climate risks exist and will be further investigated.

The Commission will pursue its work towards the assessment of the need for a risk management framework by the end of 2013. The next meeting of the Technical Working Group will be held in April 2013. The agenda as well as practical details of the next meeting will be provided to national experts closer to the date.