



Environmental aspects of Unconventional Fossil Fuels (e.g shale gas)

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Overall context



- Rapid shale gas development in North America
- Interest of market operators and EU Member States
- Public concerns on health and environmental risks

State of play in Member States (MS)



- A number of EU MS have given out concessions for prospecting/exploration
- A few shale gas exploratory wells drilled and fracked in PL, UK, DE;
- FR and BG enacted bans on hydraulic fracturing; moratoria/suspension of activities proposed or in place (e.g. in CZ; DK; NL; RO; UK)
- Certain MS have reviewed/are reviewing the applicable legislation

Main unconventional gas resources in Europe



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Source: IEA, 2012

- **Council Conclusions, Feb. 2011:** *need to assess EU's potential for sustainable extraction and use*
- **European Parliament:**
 - Study on environmental impacts of shale gas (ENVI Committee), June 2011: *possible gaps in EU environmental legislation*
 - Workshop on shale gas, Oct. 2012- Petitions Committee: *public concerns on health and environmental risks*
 - Two resolutions adopted in plenary session, Nov. 2012: *call on COM to check the EU regulatory framework and propose measures, incl. legislative ones, as necessary*

EC legal assessment of the applicable environmental legislation



- Existing EU legislation applies to shale gas practices from planning until cessation

- E.g. legislation on environmental impact assessment, mining waste, water, chemicals, environmental liability, environmentally protected areas

- More information needed to determine whether the level of protection provided by the existing EU legislation is appropriate

Study on environmental risks



- Conducted by AEA for DG ENV- Released on 7th Sept. 2012
- **Objective:** to support the identification of the most salient risks that could occur over and above those of conventional gas exploration and extraction (*individual; cumulative developments*)
- **Scope:**
 - Focus on shale gas associated practices
 - Climate aspects not in the scope (→ *CLIMA study*)
- **Methodology:**
 - Literature review on shale gas and associated environmental risks
 - More weight given to peer-reviewed studies
 - Cross-examination: regulators, geological surveys, academia (from both North America and the EU)

Study on environmental risks

- Main conclusions -



- Shale gas practices have not been used to any great extent in the EU so far (intensity and scale of operations)
- Shale gas extraction entails specific risks to the environment that need to be addressed
- The implementation of risk management measures would help achieve protection against known health and environmental risks.
- Questions are raised on the appropriateness of the EU legislation.

Questions raised on EU Legislation



- **Sub-surface aspects** (site selection, well integrity)
 - No explicit obligation to assess underground risks (e.g. EIA Directive)
 - Sufficiency of well integrity requirements?
- **Operations**
 - Uncertainties whether the IPPC/IED, Seveso and certain provisions under the Mining Waste Directive apply (subject to the hazardous character of chemicals; characteristics of waste water)
- **Monitoring**
 - Missing / unclear requirements for baseline monitoring (e.g. for water, air, seismicity) and to track possible impacts during and after operations
 - Fragmented regime (e.g. Mining Waste Directive, Water Framework Directive, possibly also IPPC/IED Directives)
- **Regulatory uncertainties/ Obstacles**
 - e.g. under the Water Framework Directive

- **2013 Commission Work Programme:** initiative to to enable safe and secure unconventional hydrocarbon extraction
- **Subject to an Impact assessment:**
 - All policy options to be examined (*legislative/non-legislative*)
 - Economic, environmental and social impacts of the identified policy options to be assessed



- **Internet-based public consultation** (*planned: Dec. 2012*)
- **Stakeholders' workshop** (*planned: 1st quarter of 2013*)
- **Ad hoc expert workshop** (for EU competent authorities):
 - 6 December 2012 → discussion on sub-surface aspects
- **Next meeting of the Technical WG of MS:**
 - April 2013 (*tbc*)

Conclusion



- Addressing health and environmental risks will be essential for the industry to get a “public license” to operate in Europe
- Need for a balanced approach so as to provide maximum clarity and predictability to both market operators and citizens, and managing adequately health and environmental risks
- On-going work assessing the need for a framework for safe and secure unconventional hydrocarbons (e.g. shale gas) extraction and the form it would take (in consultation with competent authorities, industry and the civil society)

Thank you for your attention

➤ *For further information on DG ENV's activities on unconventional fossil fuels:*

http://ec.europa.eu/environment/integration/energy/unconventional_en.htm

➤ *The stakeholders' consultation will also be posted on this website:*

http://ec.europa.eu/yourvoice/consultations/index_en.htm