

**Committee of the Regions****ENVE-V-034****103rd plenary session, 7-9 October 2013****OPINION****LOCAL AND REGIONAL AUTHORITIES PERSPECTIVE ON
SHALE/TIGHT GAS AND OIL
(UNCONVENTIONAL HYDROCARBONS)****THE COMMITTEE OF THE REGIONS**

- concurs with the European Commissioner for the Environment that studies carried out to date indicate that there are a number of uncertainties or gaps in current EU legislation, stresses that addressing health and environmental risks will be of paramount importance if the industry is to gain public acceptance and calls on the EC to deliver a framework on managing the risks and addressing shortcomings in relevant EU regulation;
- requests that decisions by Local and Regional Authorities to prohibit, limit and control development/activity associated with the extraction of unconventional hydrocarbons are respected. Local and regional authorities should possess the right to exclude sensitive areas (e.g. potable water protection zones, villages, arable land, etc.) from possible Unconventional Hydrocarbon Development activities;
- underlines the crucial importance of the principle of transparency and of involving affected sections of the public as well as local and regional authorities in decision-making in this sensitive area, and is concerned that not enough consideration is yet given to these principles in all Member States;
- supports the proposal that unconventional hydrocarbons should be included in Annex I of the revised EU Environmental Impact Assessment (EIA) directive, so that the relevant projects are systematically made subject to EIA, and calls on the European Commission to explore the establishment of common environmental standards for exploration and extraction of unconventional hydrocarbons in the EU to facilitate coherent and understandable EIAs.

Rapporteur

Cllr Brian Meaney (IE/EA), Clare County Council and Mid-West Regional Authority

Reference document

Own-initiative opinion

Opinion of the Committee of the Regions - Local and regional authorities perspective on shale/tight gas and oil - (unconventional hydrocarbons)

I. POLICY RECOMMENDATIONS

THE COMMITTEE OF THE REGIONS

1. acknowledges Europe needs affordable, carbon neutral, sustainable, globally competitive, secure energy sources. This represents a major challenge to the European Union. This has led to the need for Member States to seek every alternative which has prompted significant interest in unconventional hydrocarbons. This interest has developed in the context of a currently differing and uncoordinated regulatory framework across the EU; points out, however, that unconventional hydrocarbons are not sustainable in terms of either climate change or long-term energy supply, and entail high risks;
2. recognises the significant environmental and health risks posed by the process of high volume slick-water horizontal hydraulic fracturing (Unconventional Hydrocarbon Development) used to access unconventional hydrocarbons;
3. stresses the need for a strong policy response from the European Commission and calls on the European Commission to require Member States to provide competent Regional and Local Authorities the resources to correctly fulfil the regulatory and oversight roles and responsibilities, particularly in the social and environmental fields, including the proper management of all natural resources, relevant to the varying competences of Regional and Local Authorities across the EU;
4. stresses that the transition towards the possibility of 100% renewable energy sources must be kept in clear view, and that the attention and resources needed for this transition must not be diverted to "unconventional" or other forms of energy. Acknowledges the role that unconventional hydrocarbons may have in the transitional stage between fossil and renewable energy;

A. General principles

5. noting the Lisbon Treaty (2009, Art. 194), each Member State has "the right to determine the conditions for exploiting its energy sources, its choice between different energy sources and the general structure of its energy supply". There are therefore very different positions on shale gas across the EU. The CoR requests that the competences, responsibilities, opinions and views of local and regional authorities be acknowledged, respected and heeded by all and in particular, the European Commission, when drafting the proposals to enable safe and secure unconventional hydrocarbon extraction which respects local natural resources;
6. taking account of local and regional authorities competence, specific local knowledge and resource constraints, taking further account of the substantial multiple impacts and risks of

unconventional hydrocarbon extraction, the CoR requests that decisions by Local and Regional Authorities to prohibit, limit and control development/activity associated with the extraction of unconventional hydrocarbons are respected. Stresses that local and regional authorities should possess the right to exclude sensitive areas (e.g. potable water protection zones, villages, arable land, etc.) from possible Unconventional Hydrocarbon Development activities or where those activities would render authorities unable to meet their targets for reducing greenhouse gas emissions. Moreover, local and regional authorities should be strengthened in their autonomy to decide about the banning of Unconventional Hydrocarbon Development in their territory; draws attention, in this connection, to the bans on the extraction of unconventional hydrocarbons adopted in, for example, Bulgaria, France, Luxembourg, the Swiss canton of Fribourg and the Spanish region of Cantabria;

7. concurs with the EP that voluntary guidelines that exist for the industry requiring companies to address the negative social and environmental impact of the activities of extractive industries, such as the Global Reporting Initiative, the UN Global Compact and the OECD Guidelines for Multinational Enterprises are insufficient to mitigate the negative impact of extraction;
8. concurs with the European Commissioner for the Environment that studies carried out to date indicate that there are a number of uncertainties or gaps in current EU legislation, stresses that addressing health and environmental risks will be of paramount importance if the industry is to gain public acceptance and calls on the EC to deliver a framework on managing the risks and addressing shortcomings in relevant EU regulation;
9. requests the commission to consider asking Member States to limit Unconventional Hydrocarbon Development until the regulatory gaps in the relevant EU directives are amended;
10. notwithstanding Member States prerogative in exploiting its energy resources, any development of unconventional hydrocarbons should ensure a fair and level playing field across the Union in full compliance with relevant European law safeguarding the environment and public health. A clear and legally binding regulatory framework of the EU, preferably in the form of a directive on the exploration and extraction of unconventional hydrocarbons, to provide an adequate guarantee against the risks to the environment and human health resulting from shale gas activities;
11. believes that the EU environmental policy precautionary principal should be consistently implemented across the EU, and that environmental impact assessment should be mandatory, irrespective of the scale of exploration and extraction of unconventional hydrocarbons, taking account of economic interests, and the need to ensure security of energy supply and support for sustainable development;
12. insists that mandatory Life Cycle Analysis, is conducted for each individual Unconventional Hydrocarbon Development project ahead of exploitation authorisation as the cornerstone of a

new EU directive concerning the exploration and exploitation of unconventional hydrocarbons in the EU;

13. underlines the crucial importance of the principle of transparency and of involving affected sections of the public as well as local and regional authorities in decision-making in this sensitive area, and is concerned that not enough consideration is yet given to these principles in all Member States;

B. General understandings

14. noting recent technological advancements have spurred a rapid, commercial scale extraction of unconventional gas in certain parts of the world, notably in the U.S. where shale gas has been labelled as a "game changer", the CoR is aware of the technical and economic limits of shale gas in the EU. There is growing awareness that Europe may be unlikely to experience the kind of boom seen in the U.S.¹. European resources of unconventional gas are seen as at best compensating for the decline in conventional gas production, limited in part by the different geology², legislation and also by higher population density. Acknowledges that substantial assessment is still required in this area.
15. notes also that unconventional hydrocarbon wells dry up much more quickly than conventional hydrocarbon wells, and more drilling is therefore needed, with the resulting impact on production costs. Notes, however, that unconventional hydrocarbon extraction takes place using modern techniques e.g. horizontal drilling and multi-well pads (where several wells are drilled on a single pad), which may reduce the impact on the environment and local area.
16. at current gas prices the CoR considers that the potential for shale gas is too small to have a substantial impact on the European gas supply situation. Even an accelerated development of gas shales in Europe could only contribute to the European gas supplies at one-digit percentage share at best. It will not reverse the continuing trend of declining domestic production and rising import dependency³; Acknowledges that further assessment is required in this area.
17. conscious that lax regulation may have been one of the preconditions for the economic viability of shale gas, since shale gas's exemption from a number of environmental protection acts has been one of the driving forces behind the shale gas boom in the U.S., for example the exact composition of fracking additives is protected by the patent law and does not have to be disclosed; strongly emphasises, therefore, that approval of such activities in the European

¹ Dr Werner Zittel, Shale Gas European Perspectives, European Parliament 14 May 2013.

² <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/shale-gas/Documents/cee-shale-gas-2.pdf>.

³ European Parliament <http://europeecologie.eu/IMG/pdf/shale-gas-pe-464-425-final.pdf>.

Union should be strictly conditional on disclosure of all chemical ingredients and their relative amounts in the fracking liquid;

18. notes that during drilling, the unavoidable impact of shale gas and tight oil extraction is a high and spatially intense land occupation with the possible threat to sustainable urban/rural settlements and natural habitats due to drilling pads, parking and manoeuvring areas for trucks, equipment, gas processing and transporting facilities as well as access roads. Major proven and possible impacts are air emissions of pollutants, groundwater contamination due to uncontrolled gas or fluid flows due to blowouts or spills, leaking fracturing fluid, and uncontrolled waste water discharge. Fracturing fluids contain hazardous substances, and flow-back in addition contains heavy metals and radioactive materials from the deposit, shale gas drilling poses a "high risk" to human health⁴ and the environment that is worse than that posed by other fossil fuels⁵, particularly since there is more drilling for the same amount extracted;
19. is concerned that existing mining laws in Europe and related regulations affecting mining activities do not take care of the specific aspects of Unconventional Hydrocarbon Development. There are major differences between mining related regulations in European Member States. In many cases, mining rights are privileged over citizens' rights, and local political authorities often do not have an influence on possible projects or mining sites as these are granted by national or state governments and their authorities; further notes that in Europe, unlike in the United States, landowners do not automatically own the mineral resources beneath their land, which means that they do not always profit from their exploitation;
20. requests a proper evaluation of the real potential of unconventional gas in the EU, an aspect which could be crucial to any energy plans and/or policies that might be implemented, as a transition resource towards a bigger percentage of renewable energy across the EU, as has been declared in such EU trend-setting documents for Europe's energy future as Roadmap 2050. This evaluation should also make it possible to examine the scope available for the more systematic use of local energy sources. One of goals of these plans and policies must seek to ensure that the transition to future, economically competitive, energy sources with a minimal carbon footprint is undertaken in such a way that the EU becomes competitive vis-à-vis other geopolitical regions. In addition to posing unforeseeable risks to the environment, the climate and human health, shale gas could also undermine the development of renewable energies and lock Europe into even deeper fossil fuel dependency. Shale gas, like carbon capture and storage, cannot be a political goal itself separately from the citizen's needs and should not be promoted as a green alternative for Europe's energy future. Given its high carbon intensity, the scale of expansion and level of investment, it needs to be made clear

⁴ Human health risk assessment of air emissions from development of unconventional natural gas resources, Lisa M. McKenzie, Roxana Z. Witter, Lee S. Newman, John L. Adgate, Colorado School of Public Health, University of Colorado, Anschutz Medical Campus, Aurora, Colorado, USA.

⁵ http://ec.europa.eu/environment/integration/energy/unconventional_en.htm.

how shale gas could be a "transition fuel". The impact of falling gas prices as a result of increased shale gas development in the U.S. could threaten the viability of low carbon alternatives and put pressure on government support schemes;

21. is concerned that increased shale gas exploration and production world-wide could lead to a considerable increase in fugitive methane emissions which have a greenhouse effect 20 to 25 times greater than that of CO₂, and that the overall greenhouse warming potential (GWP) predicts a rise of more than 3.5 degrees⁶. (Target acceptable rise is 2 degrees). Furthermore, the exploitation of unconventional oil and gas resources could hamper the achievement of UN Millennium Development Goal (MDG) 7 – ensuring environmental sustainability – and undermine the latest international climate change commitments enshrined in the Copenhagen Accord;
22. supports the idea of increasing EU R&D support to the eco-design sector via the Structural and Cohesion Funds and the European Investment Bank, whilst noting that alongside these efforts, greater attention must be paid to the distorting effects that the adoption of new standards might have on competition; welcomes the Commission's preliminary assessment of the EU environmental legal framework applicable to unconventional hydrocarbons the CoR urges the Commission to urgently:
 - a. conduct a thorough evaluation of the appropriateness of these provisions to fully cover all aspects both of exploration and full commercial high volume exploitation of Unconventional Hydrocarbon Development in Europe;
 - b. identify gaps and shortcomings in existing environmental legislation and come up, where necessary, with appropriate proposals adjusting it to the Unconventional Hydrocarbon Development specifics and closing loopholes which allow for misinterpretation or special derogations for Unconventional Hydrocarbon Development in national transposition as effects local and regional authorities;
 - c. carry out an assessment of the proper transposition of key European environmental legislation in all Member States and take immediate action in cases of non-compliance;
 - d. consider, look and learn from the experiences of County and State authorities in the U.S.;

Technical issues relating to the previously referenced preference for a directive

C. Baseline assessments

23. demands that the Commission requires industry provide for independent, verifiable, determination of existing environmental conditions in areas where Unconventional Hydrocarbon Development is proposed:

⁶ IEA Golden Rules for a Golden age of Gas, page 91.

- a. this base line determination should give specific emphasis on background human and animal health conditions and on natural habitat's quality and connectivity;
- b. bedrock geology relating to the storage and movement of ground water;
- c. habitat that groundwater itself provides for microbial fauna and flora;
- d. existing air, surface water and soil quality and seismological data, to include study of natural pre-existing geological faults;
- e. verifiable micro-seismological data;
- f. 3D and 4D Visualisation of Groundwater systems;

D. Environmental Impact Assessment (EIA)

- 24. notes with concern that the current EIA directive does not take account of the daily production levels of non-conventional hydrocarbons. This means that despite their environmental impact, the relevant projects are not subject to mandatory EIA. In accordance with the precautionary principle, and as requested by Parliament in its resolution of 21 November 2012. the CoR supports the proposal that unconventional hydrocarbons be included in Annex I of the revised directive, so that the relevant projects are systematically made subject to EIA;
- 25. calls on the Commission to explore the establishment of common environmental standards for exploration and extraction of unconventional hydrocarbons in the EU to facilitate coherent and understandable EIAs;
- 26. acknowledges the lack of experience and expertise in Europe; stresses that proper regulation of Unconventional Hydrocarbon Development exploration and extraction is in part dependent on the competence and resources of regional and local authorities. Recognises the need to increase the competence and strengthen the human resources of regional and local authorities with regard to unconventional hydrocarbons;

E. Water

- 27. believes that, given the depth of 2+ km at which Unconventional Hydrocarbon Development takes place, the first and foremost concern with regards groundwater contamination is well integrity and the quality of casing and cementing. Given that experience from the U.S. indicates that 6% of wells leaked⁷;

⁷ Methane Migration Data Pennsylvania DEP.

28. demands that each fracturing stage is monitored and details of max fracture length logged giving distance from aquifers;
29. requests commission to require industry to provide a corrective action procedure in the event of methane and or naturally-occurring radioactive material release to ground water or the release of other substances harming the quality of that ground water, where fractures migrate to groundwater or failures in the integrity of casing and cementing;
30. calls for compulsory cement bond logs and pressure testing of surface casing and cementing before the start of any operations;
31. stresses that effective prevention requires consistent monitoring of strict adherence to the established highest standards and practices in wellbore construction; underlines that both industry and competent authorities should ensure regular quality control for casing and cement integrity;
32. calls for mandatory Spill Prevention Control and Contingency (SPCC) plans to be prepared jointly by operators, regulators and emergency services;
33. calls for the establishment of minimum distances between drill pads and public or private springs or water wells;
34. points out that waste and waste water resulting from exploitation of unconventional hydrocarbon deposits pose a series of problems in terms of safe storage, recycling and disposal, and that this needs to be regulated; it is essential that this involve the affected local and regional authorities, who are often responsible for waste management;

F. Waste management

35. calls for waste water resulting from hydraulic fracturing to be recycled in such a way as to minimise the risk of spills and leaks; acknowledges the high volumes of waste water containing varying polluting substances resulting from hydraulic fracturing; believes that onsite close-loop water recycling during the prospecting/development of deposits using steel storage tanks offers a means of treating flowback water by minimising water volumes, potential for surface spills and costs/traffic/road damage for water treatment transportation; calls for discontinued use of lined pits due to higher risk for spills and leaks;
36. requests publication of quantity and content of fracturing fluid not recovered from an Unconventional Hydrocarbon Development, respectively – by being aware of the soil and rock composition –its probable effect on the soil water and fauna;
37. highlights that municipal and national waste treatment establishments, and those treating water and the waste resulting from that water treatment may not have the capacity or technical set up to manage the volume and specific composition of waste water; calls for the

establishment of waste water treatment standards and compulsory water management plans by operators in cooperation with the waste treatment authorities and the competent authorising authorities;

38. reminds that radioactive material, naturally found in geological formations, differs from shale to shale; stresses the need for radioactive content evaluation before production authorisation;

G. Chemicals

39. is concerned that currently there is no EU level obligation for declaring the chemical content of fracturing fluid; maintains there should be full transparency and mandatory disclosure by operators and that these factors should be taken into account in the environmental impact assessment; calls on the Commission to examine the most appropriate act for including such obligation on European level;
40. calls for greater effort in developing fracturing fluid additives with the lowest toxicity and environmental risk;

H. Land, air and other parameters

41. underlines that the geological characteristics of a region determine the design and method of extraction activities; encourages the active and timely involvement of national geological institutes as well as affected local and regional authorities; calls for a mandatory, pre-authorisation, geological analysis of the deep and shallow geology of a prospective shale play, including reports on any past or present mining activities in the region; further calls for collecting well logs;
42. notes that multi-horizontal-well drilling pads minimise land use and landscape disturbance;
43. advocates the use of green completion systems for reducing or recovering methane emissions during well completion;
44. reminds that onsite accidents are often a result of untrained personnel, negligence or incorrect behaviour with regards to safety instructions;
45. recommends the establishment of standardised emergency response plans and specialised emergency response teams;

I. Public participation and public health

46. calls for special monitoring of the health of citizens living near drilling sites; advocates the creation of regional population health registry;

47. recommends that the dissemination of activities related to unconventional hydrocarbons among the population to be dealt by such group of local and non-local specialists, who, by taking into account the local environmental and economic characteristics, can offer an objective perspective on all phases of the exploitation emphasizing its economic benefits as well as its social and environmental risks;
48. believes that public participation should be ensured via mandatory implementation of wide range of effective participatory planning tools and methods before exploration and public consultation before exploitation stages; calls for greater outreach and public education in UH activities to enable public understanding, acceptance and confidence in the regulation of these activities;

J. Well abandonment, orphaned, failed wells and feedback ponds

49. conscious of previous experience, local and regional authorities will require the lodging of financial bond 1.5 times the cost of properly plugging and sealing each bore hole, rendering it inert. This cost to include the total of materials plus expertise in undertaking the work and assessing the final process;
50. further requests that financial bonds are lodged with local authorities to ensure best practise during the drilling and fracturing stage. This bond to be significant to ensure rehabilitation in the event of a corporate entity no longer existing;
51. demands that industry also provide financially and otherwise to ensure best practice in remediation and rehabilitation of unconventional hydrocarbon extraction facilities;
52. requests that local authorities with the relevant competencies are provided with the resources necessary for prolonged air and groundwater monitoring in areas where Unconventional Hydrocarbon Development is or has taken place;

K. Administration and resource challenges for local authorities

53. notes that the multi-stage development of shale gas plays could present an administration challenge in ensuring correct procedures legislation are followed in planning, environmental monitoring , enforcement actions. The CoR requests that Member States ensure local and regional authorities have the resources to meet that challenge;

L. Social and economic impacts for local and regional authorities

54. notes that the facts regarding the pressure on local governments with low budget, the economic interests and the possibility of partial energy independency are playing down the analysis of social risks, hereby triggering irreversible processes;

55. conscious of experiences of local and regional authorities in boom bust extractive industry cycles, the CoR is aware that:
- a. a boom in one sector of the economy, such as coal mining or shale gas and oil extraction, leads to a strong, often sudden, growth in low-skill, high-paying jobs in that sector;
 - b. the availability of such jobs leads young workers away from advanced education or other high-skill training opportunities;
 - c. other industries avoid the region because of both the reduced job skills in the workforce and the higher wages in the area;
 - d. as the availability of the natural resource wanes due to extraction – or when its value decreases due to other economic forces – employment in the sector drops precipitously;
 - e. with no other viable options, the economic decline causes workers to migrate out of the area in search of other opportunities;
 - f. demand that Member States take account of these possible consequences and that local and regional authorities can plan ensuring sustainable communities when an unconventional hydrocarbon resource has been exhausted or is no longer viable.

Brussels, 9 October 2013

The President
of the Committee of the Regions

Ramón Luis Valcárcel Siso

The Secretary-General
of the Committee of the Regions

Gerhard Stahl

II. PROCEDURE

Title	Local and regional authorities perspective on shale/tight gas and oil (unconventional hydrocarbons)
Reference(s)	Own-initiative opinion
Legal basis	Article 307 TFEU
Procedural basis	Rule 42 of the CoR Rules of Procedure
Date of Commission letter	Not applicable
Date of the CoR Bureau decision	30 January 2013
Commission responsible	Commission for the Environment, Climate Change and Energy (ENVE)
Rapporteur	Cllr Brian Meaney (IE/EA), Clare County Council and Mid-West Regional Authority
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Previous Committee opinion	
Date of subsidiarity monitoring consultation	n/a