

CUMBRIA MINERALS AND WASTE LOCAL PLAN**EXAMINATION 30 NOVEMBER 2016**

WRITTEN STATEMENT: FRIENDS OF THE EARTH

Representation Only

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(written statement only).

Appendices to this Statement:

- 1) Proposed Amendments to Policy DC13

Summary**Matter 6 – Development Management Policies**

Whether the Development Management Policies strike the right balance between encouraging sustainable winning and working of minerals and protecting sensitive receptors.

1. Policy DC13 Criteria for Energy Minerals fails to consider the precautionary approach linked to current scientific uncertainty as to fracking's potential to impact on groundwater pollution and methane leakage. The policy does not ensure that these risks are properly considered.

Matter 6:

Whether the Development Management Policies strike the right balance between encouraging sustainable winning and working of minerals and protecting sensitive receptors.

2. The precautionary principle is a principle at the heart of environmental law to which the UK Government has been committed since signing of the Rio Declaration on Environment and Development in 1992. This states (at Principle 15) that, "*where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation*". Article 191(2) of the Treaty on the Functioning of the European Union declares that EU policy on the environment "*shall be based on the precautionary principle*".

3. The precautionary principle is now one element of the requirement in the NPPF to use sound science responsibly. The Interdepartmental Liaison Group on Risk Assessment (ILGRA), in its 2002 paper *The Precautionary Principle: Policy and Application*, made a number of important points including noting that the precautionary approach should be invoked when:

“– there is good reason to believe that harmful effects may occur to human, animal or plant health, or to the environment; and

– the level of scientific uncertainty about the consequences or likelihood of the risk is such that best available scientific advice cannot assess the risk with sufficient confidence to inform decision-making”¹.

4. Precautionary action requires assessment of the costs and benefits of action and transparency in decision making. The precautionary principle finds specific expression through international instruments to which the UK is a signatory including the Water Framework Directive and the Habitats Directive. The Water Framework Directive applies strict standards and controls in relation in particular to groundwater, which is the source of drinking water for various parts of the UK. Its approach to groundwater has been summarised as follows²

“The case of groundwater is somewhat different. The presumption in relation to groundwater should broadly be that it should not be polluted at all. For this reason, setting chemical quality standards may not be the best approach, as it gives the impression of an allowed level of pollution to which Member States can fill up. A very few such standards have been established at European level for particular issues (nitrates, pesticides and biocides), and these must always be adhered to. But for general protection, we have taken another approach. It is essentially a precautionary one. It comprises a prohibition on direct discharges to groundwater, and (to cover indirect discharges) a requirement to monitor groundwater bodies so as to detect changes in chemical composition, and to reverse any anthropogenically induced upward pollution trend. Taken together, these should ensure the protection of

¹ The Interdepartmental Liaison Group on Risk Assessment (ILGRA), in its 2002 paper *The Precautionary Principle: Policy and Application*

² EU Water Framework Directive - http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm

groundwater from all contamination, according to the principle of minimum anthropogenic impact."

5. Friends of the Earth is concerned by documented risks to air, soil, groundwater and surface water contamination and from greenhouse gas (GHG) emissions. Investigations into fracking produced by the United Nations Environment Programme (UNEP)³ has for instance suggested that fracking presents considerable environmental risks in these areas.
6. Specific to groundwater contamination⁴, the British Geological Survey⁵ has concluded that:

"Groundwater may be potentially contaminated by extraction of shale gas both from the constituents of shale gas itself, from the formulation and deep injection of water containing a cocktail of additives used for hydraulic fracturing and from flowback water which may have a high content of saline formation water" (page 19). The BGS report then states that "There are examples of surface water contamination from releases of fracturing water or flowback water. Such concerns are noteworthy and should warrant robust consideration going forward within the Examination process.
7. In addition, the BGS criticise the potential of current methods employed to measure groundwater pollution from conventional oil and gas production. Such tools *"may not be adequate as many have been designed to consider the risks from surface activities"*.⁶
8. There is also considerable evidence from the US where fracking has led to evidence of water supplies being put at risk. The American Environmental Protection Agency (EPA) 2015 report⁷, suggests a fourfold enrichment in radium found in flowback water from frack sites within the Marcellus Shale [i.e. Pennsylvania]⁸. In addition, the same report states that with regard to

³ Gas fracking: can we safely squeeze the rocks?" (November 2012)

http://na.unep.net/geas/getunepagewitharticleidscript.php?article_id=93

⁴ European Commission report (August 2012) lists groundwater contamination as one of the 'high risk' concerns for the environment and human health from fracking -

<http://ec.europa.eu/environment/integration/energy/pdf/fracking%20study.pdf>

⁵ Stuart, M.E. 2012 Potential groundwater impact from exploitation of shale gas in the UK. Nottingham, UK, British Geological Survey (page 19) <http://nora.nerc.ac.uk/16467/>

⁶ British Geological Survey (2015)

<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environmental-audit-committee/environmental-risks-of-fracking/written/17352.html>

⁷ Para 7.4.4 - Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources (External Review Draft)(EPA) <https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=244651>

⁸ Para 7.4.4 - Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources (External Review Draft)(EPA) <https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=244651>

total dissolved solids (TDS) (contained within flowback water), “...may have potential impacts on health or create burdens on downstream drinking water treatment plants if discharged at high concentrations to drinking water resources”⁹.

9. Evidence available from the US academic journal arena also highlights potential risks for surface and ground water linked to fracking:

“Analysis of published data (through January 2014) reveals evidence for stray gas contamination, surface water impacts in areas of intensive shale gas development, and the accumulation of radium isotopes in some disposal and spill sites”.¹⁰

10. Available evidence from the US appears to be forthright in terms of highlighting the potential for groundwater, surface water, and other environmental impacts. The evidence suggests that there is scope for the precautionary principle to be applied to fracking policies, and for the rewording of current policy to take such considerations into account. Relevant to the above, we would highlight that Section 55 of the Town and Country Planning Act (1990) includes “underland activities” (as in within the land) within its definition of development, a consideration which must be clearly set out within the plan and with respect to considering the spatial remit of policies linked to fracking.

11. Overall, more overt consideration of the precautionary approach would be consistent in terms of the objectives of the Water Framework Directive, as well as to other commitments (such as the Rio Declaration) to which the UK is bound when formulating policies for unconventional hydrocarbon developments that have not been proven to be without risk. For example well failure is much widespread than envisaged, with failure rates ranging between 5% and 50% for older wells, based on a review of available empirical research undertaken by FoE in 2014.¹¹

⁹ As footnote 10 – (Para 8.3.1.1.)

¹⁰ *Article Abstract* (Vengosh, A; Jackson, Rober at al) ‘A Critical Review of the Risks to Water Resources from Unconventional Shale Gas Development and Hydraulic Fracturing in the United States’ (- *Environmental Science and Technology*, 2014, 48 (15), pp 8334–8348) <http://pubs.acs.org/doi/abs/10.1021/es405118y>

¹¹ Drilling without Fail – 2014: <https://www.foe.co.uk/sites/default/files/downloads/drilling-without-fail-review-empirical-data-well-failure-oil-gas-wells-46473.pdf>

Policy DC13 as Drafted

12. Policy DC13 of the submission version of the Cumbria MWLP anticipates that proposals for the exploration, appraisal and production of shale gas will be permitted where it will not have any unacceptable environmental impact. No specific reference is made to possible impacts on groundwater, surface water or community health; some of the principal concerns surrounding fracking. In addition, consideration of possible effects of coal gasification are limited, especially for such an unproven technology. Our proposed changes are given at Appendix 1

The Revised Policy

13. FoE's proposed planning policy does not amount to a ban or moratorium on fracking or coal production: rather it requires a sound precautionary approach to decision-making. The amendments proposed by FoE enshrine EU and national government policy to use sound science responsibly. In adopting such an approach the public can have confidence that decisions are being taken responsibly and concerns about risks to the environment and to human health are effectively eliminated.

Appendix 1

Proposed Changes to Policy DC13 (Criteria for Energy Minerals)

Proposals for energy minerals developments that conform to the Strategic and other Policies of this Local Plan will be considered subject to the following criteria:

Exploration and Appraisal

Planning permission will be ~~granted~~ **considered** for proposals for exploration and appraisal of oil and gas resources provided that:

- a. the site and equipment is sited a location where it can be demonstrated that it will only have an acceptable environmental impact, including on communities' **health, safety and amenity**; and
- b. the proposal provides for appropriate baseline monitoring prior to commencement of development; ~~and~~
- c. the timely restoration and subsequent aftercare of the site, whether or not oil or gas is found;
- d. the risk of adverse environmental impacts has been assessed and mitigated; and**
- e. where greenhouse gas emissions associated directly and indirectly with the site are reduced.**

Commercial production

Planning permission will be ~~granted~~ **considered** for proposals for commercial production of oil and gas, provided that:

- a. a full appraisal programme for the oil or gas field has been completed;
- b. the proposed location is the most suitable, taking into account environmental, geological, and technical factors, **the avoidance of protected areas, groundwater protection zones, sensitive water bodies and air quality management areas; and the impact on communities' health, safety and amenity is acceptable**;
- c. the cumulative impacts of the development of the gas field and essential associated infrastructure have been assessed; ~~and~~

- d. provision is made for mitigation or compensation for ~~significantly~~ adverse impacts on the environment and communities; **and**
- e. the risk of adverse environmental impacts has been assessed and mitigated; and***
- f. the proposal is compatible with enabling the UK to meet its carbon budgets and the 2050 target (reduction in emissions in 2050 by at least 80% on 1990 levels).***

Combined planning applications for more than one phase will only be considered if all relevant information, including environmental information, to support the full extent of the application is provided.

Underground Coal Gasification

~~The criteria set out above in this policy, for exploration and appraisal and commercial production, will also apply to proposals for onshore surface works or ancillary development to support offshore Underground Coal Gasification (UCG).~~

~~Where a UCG proposal follows a planning permission for coal extraction only, a separate planning application will be required for development related to UCG.~~

Underground coal gasification is unproven technology and any proposal must demonstrate by appropriate evidence and assessment that reasonable doubt can be excluded as to adverse impacts of the proposed development alone or in combination with other developments.

Coal

Planning applications for coal extraction will only be considered where;

- the proposal is environmentally acceptable; or
- can be made so by planning conditions or obligations; or, if not
- provides national, local or community benefits which clearly outweigh the likely impacts to justify the grant of planning permission
- ***it has been demonstrated that any risk of adverse impacts has been eliminated; and***
- ***the proposal is compatible with the phase out of coal in power generation by 2025***

For underground coal mining, potential impacts to be considered and mitigated for will include subsidence and the disposal of colliery spoil. Provision of sustainable transport will be encouraged, as will Coal Mine Methane capture and utilisation.