

Written evidence submitted by United Kingdom Onshore Oil and Gas (UKOOG) (EB09)

Environment Bill

Comment on Proposed New Clause 3

“Well consents for hydraulic fracturing: cessation of issue and termination”

Introduction

UKOOG is the representative body of the onshore oil and gas industry. We have noted that the amendment being proposed to the Environment Bill includes a clause which has the following effects:

1. Creates a permanent moratorium on hydraulic fracturing
2. Alters the definition of associated hydraulic fracturing, which appears in the Infrastructure Act 2015 to include the use of acid

In addition, the explanatory notes refer to potential oil and gas sites in the Rother Valley as being sites which involve hydraulic fracturing.

We address each of these points in turn:

- 1. The creation of a permanent moratorium on hydraulic fracturing would increase, not decrease, carbon emissions, and would remove the opportunity of significant community benefits and jobs**

The current moratorium on hydraulic fracturing was put in place following an interim report by the Oil and Gas Authority on one well in Lancashire. The written ministerial statement invoking the moratorium makes clear that the issues surrounding seismicity are local and require further scientific understanding before it can be lifted. **Any further decisions should be led by the science.**

The independent British Geological Survey (BGS) has estimated a mid-case scenario of over 1300 trillion cubic feet (tcf) of natural gas within the shale rock a mile underground in certain parts of Northern Englandⁱ. To put this into context the UK currently consumes 2.5 tcf per year. Therefore, extracting just 10% of the resource could meet Britain’s current natural gas demand for over 50 years.

The recent Committee on Climate Change (CCC) Net Zero report concluded that the UK would still need 600 TWh of natural gas per year in 2050 (51 million tonnes of oil equivalent), at least 70% of today’s annual natural gas consumptionⁱⁱ.

The CCC highlighted the requirement for the UK to move in part to hydrogen for heating, power and transport and that this can only realistically and economically be achieved by the steam reformation of methane (natural gas) backed by BEIS cost analysisⁱⁱⁱ.

The CCC has warned against offshoring further emissions overseas and therefore there is a growing need to find lower-emission sources of oil and gas from the UK.

The Oil and Gas Authority has forecast that in 2035 the UK will produce 186 TWh (16 million tonnes of oil equivalent) of gas^{iv}

Based on a 5% decline rate (used by the OGA in previous years), by 2050 the production of gas both onshore and offshore will be 85 TWh (7.3 million tonnes of oil equivalent).^{iv}

Therefore 86% of gas demand would have to be imported in 2050, reflecting the decline in North Sea resources.

Using the central BEIS fossil fuel price forecast, this import dependency would equate to £11.45 billion per year after 2050 and £330 billion cumulatively to 2050.

Data shows that from a pre-combustion emissions point of view, the indigenous production of gas could have a four-fold saving over imports^v:

GHG emissions per unit of thermal energy gCO ₂ e/kWh(th)	LNG	Long Distance Pipeline	UK Shale Gas
Central estimate	57	68.5	14

Reducing our gas imports by 50% using indigenous onshore gas would save cumulatively 223 million tonnes of CO₂e by 2050, and around 13 million tonnes per year thereafter.

The creation of a permanent moratorium would lead to a failure to develop and increase indigenous gas production, meaning a greater proportion of UK gas demand would be met by more carbon intensive overseas sources. This simply doesn't make sense when producing it ourselves would save cumulatively 223 million tonnes CO₂e by 2050, which is around a half of UK annual emissions.

Alongside the cut in imports, the industry has the potential to produce material direct local community benefits (up to £390 million), local jobs (up to 64,000), local business rates (up to £780 million) and supply chain opportunities (worth up to £33 billion).

2. The use of acid is not hydraulic fracturing

The definition of associate hydraulic fracturing is referenced in the Infrastructure Act 2015 and is based on a definition from an EU recommendation^{vi}.

The use of acid is not hydraulic fracturing – hydraulic fracturing involves applying significant hydraulic pressure to create artificial fractures within a rock. Acidising is solely the chemical dissolution of minerals, notably calcium carbonate, either within the wellbore or immediately adjacent rock.

Acidisation is an oilfield service practice that has been around for many decades and is used primarily to unclog wells to make them flow easier. Other borehole industries use this technique for similar purposes, such as the drinking water supply sector. It is used during the lifetime of water abstraction wells to dissolve scale and fine particles that may have built up over years of use. It is

essentially a process to remove limescale (Calcium Carbonate) build-up and debris, the same as which happens in kettles and heating systems. Acid is also used similarly in the geothermal industry.

The Environment Agency assesses each proposed type of acidisation activity on a site-specific basis prior to deciding whether the activity is acceptable or not^{vii}, and whether an environmental permit can be granted or whether an exclusion applies. This is completed under the Environmental Permitting Regulations. The Environment Agency's regulatory controls are in place to protect people and the environment. If the proposed activity poses an unacceptable risk to the environment it will not be permitted.

There is therefore no justification for including a moratorium on the use of acid, especially when it targets just one of the many industries that use the practice.

3. Rother Valley

The use of proposed wells in the context of this amendment is erroneous. Neither site in Rother Valley has proposed the use of hydraulic fracturing. This was confirmed recently by the Planning Inspector at one of the sites, who gave planning consent under appeal.

March 2020

References

ⁱ https://www.ogauthority.co.uk/media/1693/shalegas_uk.pdf

ⁱⁱ <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>

ⁱⁱⁱ Figure 2 of https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819648/ccus-business-models-consultation.pdf

^{iv}

https://www.ogauthority.co.uk/media/5391/oga_projections_of_uk_oil_and_gas_production_and_expenditure.pdf

^v Shale data available at <https://www.theccc.org.uk/publication/assessment-of-options-to-reduce-emissions-from-fossil-fuel-production-and-fugitive-emissions/> and LNG data available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/237330/MacKay_Stone_shale_study_report_09092013.pdf

^{vi} <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0070&from=EN>

^{vii} https://consult.environment-agency.gov.uk/onshore-oil-and-gas/onshore-oil-and-gas-regulation-information-page/supporting_documents/Acidisation%20FAQs%20January%202018.pdf