

Written evidence submitted by UK Onshore Oil and Gas

UK Onshore Oil and Gas (UKOOG) is the trade association for the onshore oil and gas industry. We represent onshore operators, as well as a range of supply chain companies.

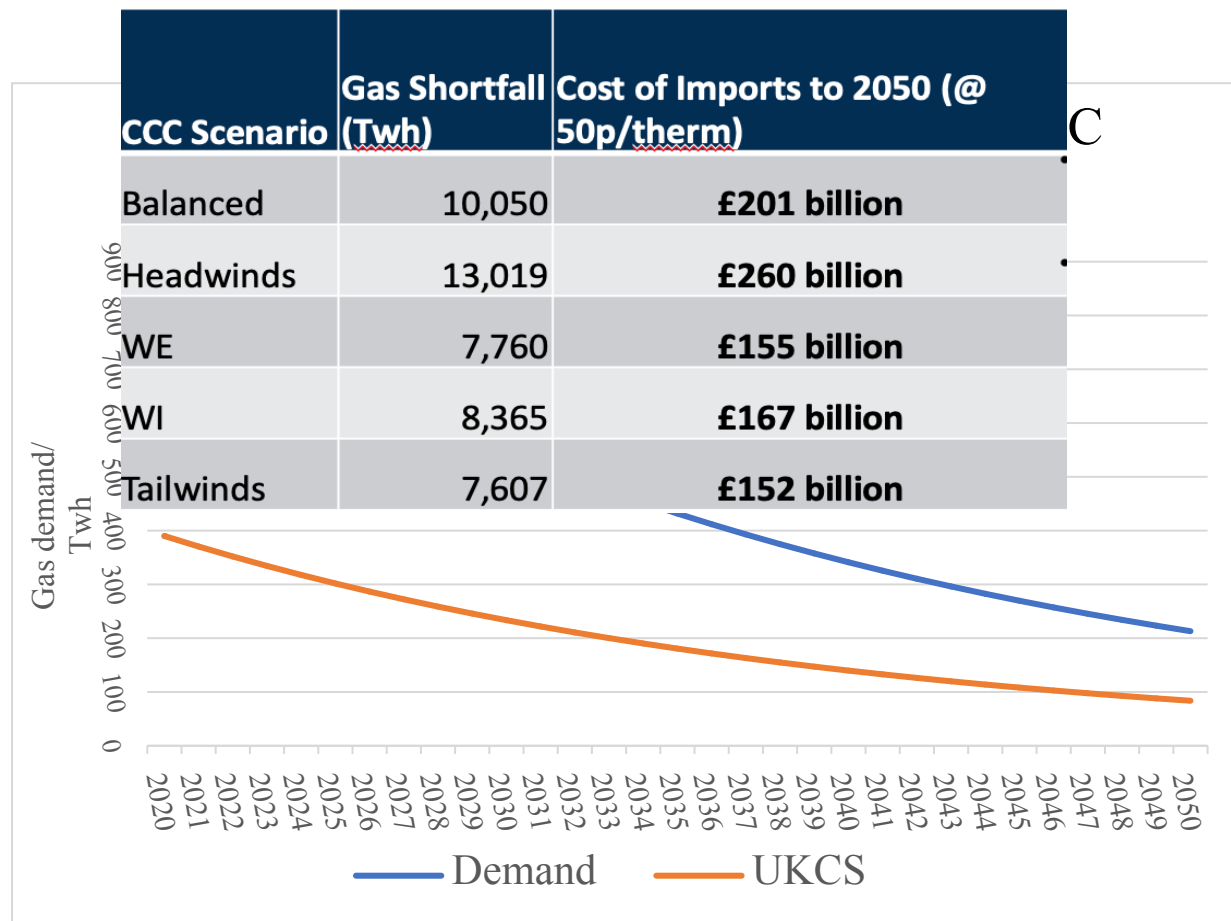
Our fundamental view is that the shortfall between forecast UKCS supply and recognised net zero compatible oil and gas demand justifies support for increased onshore oil and gas production. The case is further bolstered by the following facts;

- UK oil and gas production is less carbon intensive than many UK import sources
- Imported oil and gas production pays no corporation tax, offers little in terms of employment opportunities and worsens our balance of payments

In winter 2020, the Climate Change Committee (CCC) released the long-awaited 6th carbon budget analysis. This detailed analysis included 5 pathways through which the UK could achieve its goal of net zero emissions by 2050: headwinds, balanced, widespread innovation, widespread engagement, and tailwinds. Within the fuel supply section, the 6th carbon budget assessment stated that *'Decarbonisation of emissions from increased onshore petroleum production, such as shale gas, is considered in our Widespread Innovation Scenario'*, however the dataset used to inform the CCC scenarios was not made available until recently.

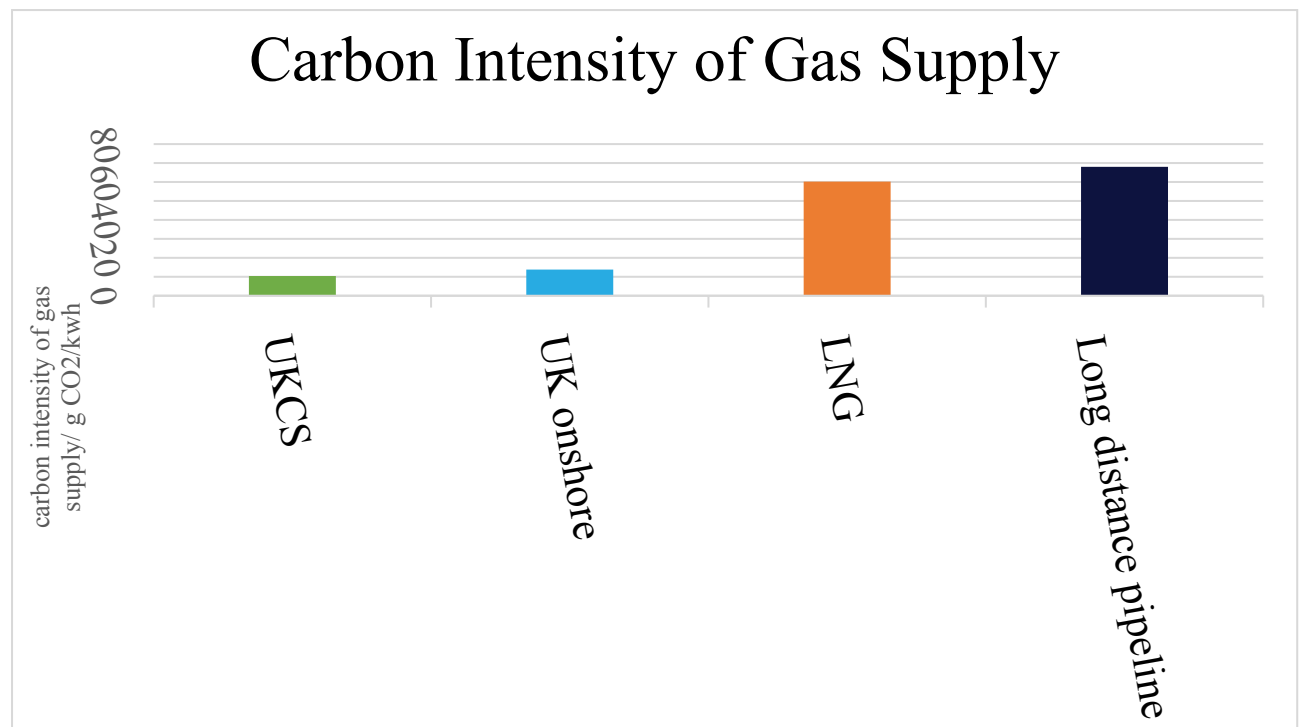
The dataset shows that in the Widespread Innovation scenario, 328 billion cubic metres of UK shale gas production is included within the modelling. For context, the widespread innovation scenario assumes that the shortfall between UK natural gas demand and UK supply from the North Sea is around 760 billion cubic metres, meaning the development of UK shale gas reduces UK imports by 50% cumulatively by 2050. Doing so offers economic benefits such as job creation and reductions in the UK's balance of payment deficit. The development of 328bcm of shale gas in the UK could prevent around £84 billion from being sent overseas to meet the UK's net zero energy requirements. UK shale production offers environmental benefits too, including a lower carbon footprint supply of natural gas for UK end users, be it to feed natural gas boilers and power stations today, or methane reformers over the coming decades. To give an example of the emissions saving from UK shale gas production, if this 328 bcm was to be supplied to the UK via LNG instead of UK shale gas – the UK would add an extra 158 million tonnes CO₂e to the UK's fuel supply footprint by 2050. UKOOG take the view that if shale gas is compatible with one scenario, it is compatible with them all because **every** 6th carbon budget scenario has a shortfall between UK natural gas supply and demand (ranging between 691bcm and 1183bcm).

This is shown below:

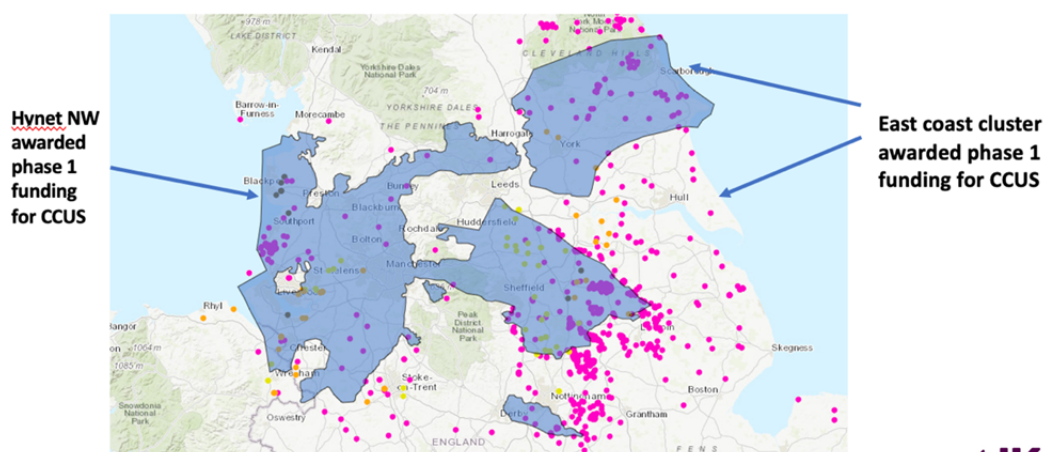


Based on UKOOG's central forecasts for typical well recovery (EUR), 328 bcm equates to 210 10-well pads across the UK by 2050 (2100 wells total), with a total well pad land use of approximately 420 hectares, or 0.0017% of the total UK land mass. For context, an onshore wind farm would require a land area 750 times the size (315,000 hectares) to produce an equivalent amount of energy.

The combustion of natural gas in the UK results in the same carbon emissions regardless of the source, meaning the emissions savings are sourced from the variation in the pre-combustion emissions footprint. This variation is shown below:

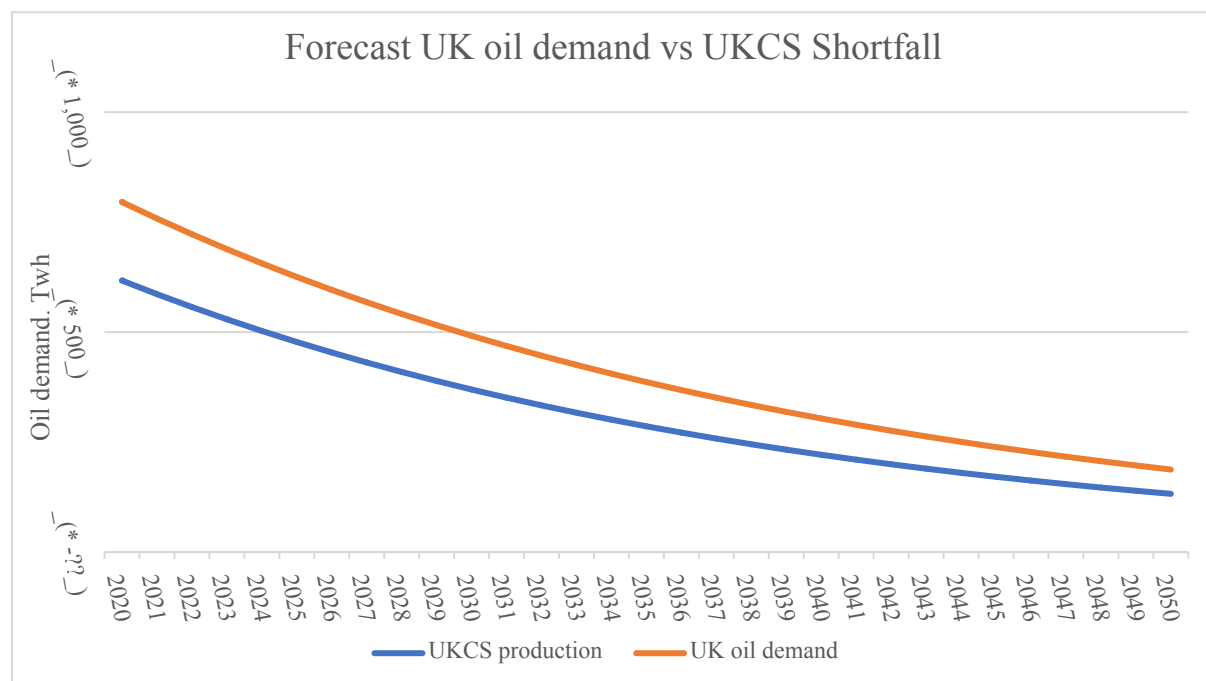


The data, taken from a report commissioned by the Climate Change Committee and from publicly available literature on LNG emissions, shows that the pre-combustion footprint of LNG is around 4 times that of UK shale gas. The CCC have also recognised that the biggest source of uncertainty in the lifecycle carbon emissions of blue hydrogen production is the source of the methane feedstock. Our view is that a considered perspective will conclude that the clusters which have been awarded phase 1 funding for CCUS should be fuelled by natural gas from within the local geography. A map showing the legacy wells drilled in the UK (purple dots) and the geographical spread of the Bowland shale is shown below.



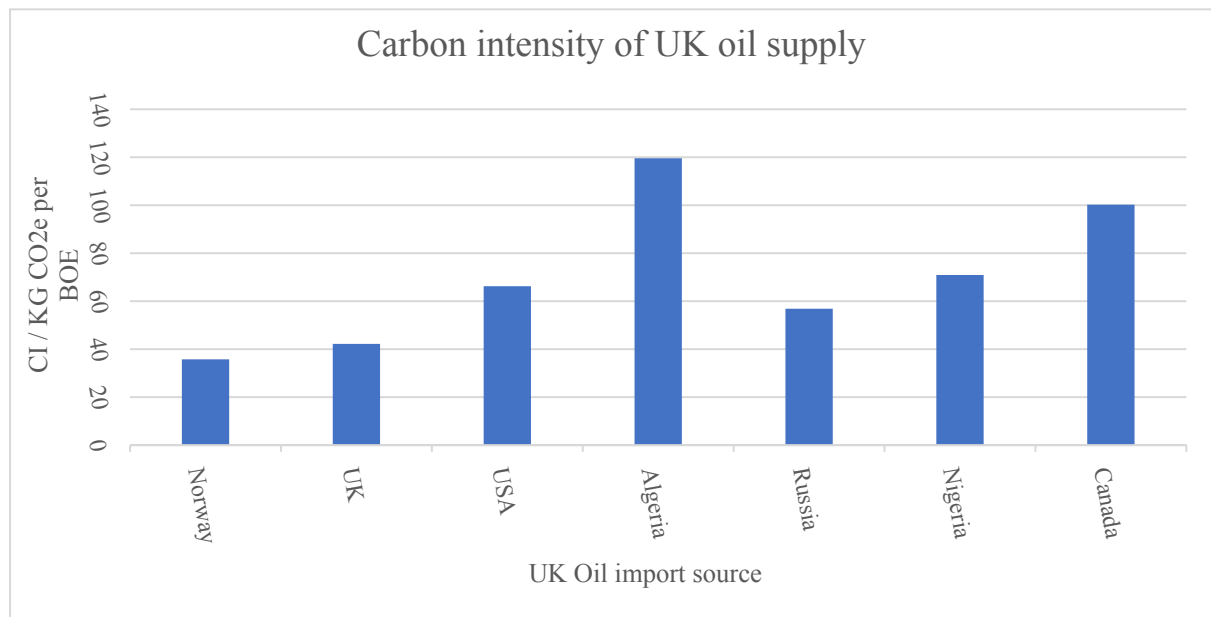
In January 2022, BEIS data showed that UK gas supply from LNG was greater than that supplied by Norway or the UKCS. UKOOG believe this is a clear prelude to the future gas supply of the UK shy of intervention to increase production. The business as usual approach poses clear economic, environmental and geopolitical risks to the UK. UKOOG fully supports Government proposals to increase offshore natural gas production, however the contingent reserves and potential resources are insufficient to negate the significant shortfall out to 2050. At a 10% recovery rate from the UK Bowland shale, the potential onshore reserves are between 7 and 17 times as large as offshore natural gas reserves.

The case is much the same for onshore oil production in the UK. Data taken from the Climate Change committee and the Oil and Gas authority is shown below:



Scenario	Shortfall/ Million BOE	Oil Value (£50/barrel)	Oil value (£70/barrel)
Balanced	1910.08476	£95,504,237,808.62	£133,705,932,932.07
Headwinds	2023.09299	£101,154,649,305.98	£141,616,509,028.37
WE	1285.46862	£64,273,430,782.46	£89,982,803,095.44
WI	1219.75187	£60,987,593,661.71	£85,382,631,126.40
Tailwinds	144.945338	£7,247,266,920.53	£10,146,173,688.74

Comparable to natural gas supply, UK oil production offers emissions savings against 5 of its top 6 suppliers. This is shown below:



May 2022