IET response to the Energy Security and Net Zero Committee on Managing the future of UK oil and gas

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Questions

1. **What should be the underlying principles of the UK's strategic policy for keeping the oil and gas sector competitive during the energy transition?**

It is vitally important for the future of the UK's energy security, resilience, and environment that the energy transition is delivered as effectively as possible. To do this government should come forward with a comprehensive long-term strategy for the UK's oil and gas sector during the energy transition. This strategy must deliver a clear understanding of the continuing role that oil and gas play in the national energy system to provide sector certainty and direction.

Despite the UK's ambitious decarbonisation pathway, in 2024 UK gas consumption was nearly 800TWh, of which over 450TWh was from imported gas via interconnectors[1] showing that oil and gas remains fundamental to both the security and affordability of the UK's energy supply and will do so for decades. Gas currently supplies the overwhelming majority of UK household heating and supplied nearly a third of the power generated in 2024. This embedded dependence means that even with declining long-term significance, oil and gas will remain integral to meeting consumer needs throughout the transition and following the closure of the last UK coal plant in 2024, is the only source of firm flexible generation, which is crucial to the operation of secure and resilient grid.

Furthermore, oil and gas production remains a substantial fiscal contributor. Following the surge in energy prices arising from Russia's invasion of Ukraine in 2022, the Government implemented several energy support policies at a cost of £51.1 billion £4.3 billion of which came from the Energy Profits Levy (EPL) on energy producers[2]. This revenue stream continues to be tapped by the Treasury, helping to shield consumers during periods of high energy prices. Any policy changes must consider the consequences of diminishing this fiscal capacity. The aim should be to ensure that UK supply is not prematurely curtailed in a way that increases dependence on higher-emission imports and erodes energy security and that responsible curtailment is as smooth, reliable and resilient as possible. Oil and Gas continues

[1] Digest of UK Energy Statistics (DUKES) 2025 - GOV.UK
[2] The cost of the Government's energy support policies - Office for Budget Responsibility

to offer significant potential value to the UK economy as well as providing a substantial source of energy security and support for the transition to a low carbon economy.

Any strategic framework must account for the environmental consequences of shifting from domestic production to imported fuels. The global average emissions from LNG supply is 19.5g $CO_2eq^{/MJ}$ [3]. Emissions from combustion only are 55gCO_2/MJ hence LNG supplies would result increase in GHG emissions from gas by circa 35% compared to indigenous production or interconnector supplies. Last year LNG imports were 111TWh compared to 342 TWh via interconnectors (Belgium, Netherlands and Norway)[4]. Hence the additional GHG emissions from LNG would have been circa 7.8Mt CO_{2eq} which is about 13% of all UK (territorial) gas GHG emissions. Given the significantly higher global warming potential of methane relative to CO_2, this disparity has material implications for the UK's genuine contribution to global emissions reduction and should be taken into consideration and included in the UK's territorial emissions rather than consumption emissions. A policy that reduces domestic production while increasing reliance on higher-emitting imports risks lowering territorial emissions without delivering real climate benefit. The principle of whole-system carbon responsibility should underpin all policy directions.

The intermittency of renewable generation (~10% for solar, ~25% for onshore wind and ~40–45% for offshore wind) means that secure, dispatchable energy sources remain essential for medium term system stability. Current storage capacity, including all UK pumped hydro, is 10,000 times[5] below what is forecast to be required in future. Oil and gas infrastructure provides unique system services: large-scale energy storage, high energy density, ease of transport, and critical feedstocks for industry. UK North Sea gas production in 2024 was approximately 383 TWh, down 80% from peak production. At this rate, estimated remaining resources would support around 20 years of supply based on "Reserves", "Contingent resources" and "Prospective resources" (See figure 1). This highlights the importance of a clear, coordinated national strategy for the managed use of this finite and strategically significant resource during the energy transition. Policies must reflect the holistic roles these fuels play, not only in power generation but across transport, manufacturing, chemicals and other hard-to-abate sectors.

Carbon capture and storage is essential in order to achieve the Net Zero. This is because there are GHG sectors within the economy that cannot at resent by fully decarbonised. Additionally, large scale storage to support power production during periods of low energy output from low carbon sources can only be provided from hydrogen fuelling combined cycle gas turbines. In the near-to-medium term, blue hydrogen offers a more cost-effective route to scaling hydrogen production[6], This will require natural gas to be used as a feedstock to hydrogen reforming technology with the CO2 captured and stored in depleted reservoirs in the North Sea. Hence natural gas is likely to be required beyond 2050. Over time, green hydrogen might become more competitive whilst also allowing the storage of curtailed renewables, which blue does not and therefore should be supported accordingly. Both routes require the continued participation and competitiveness of the oil and gas sector, alongside investment in CCS and next-generation hydrogen technologies.

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[3] Assessing emissions from LNG supply and abatement options – Analysis - IEA
[4] Digest of UK Energy Statistics (DUKES) 2025 - GOV.UK
[5] Large-scale electricity storage
[6] https://researchbriefings.files.parliament.uk/documents/POST-PN-0645/POST-PN-0645.pdf

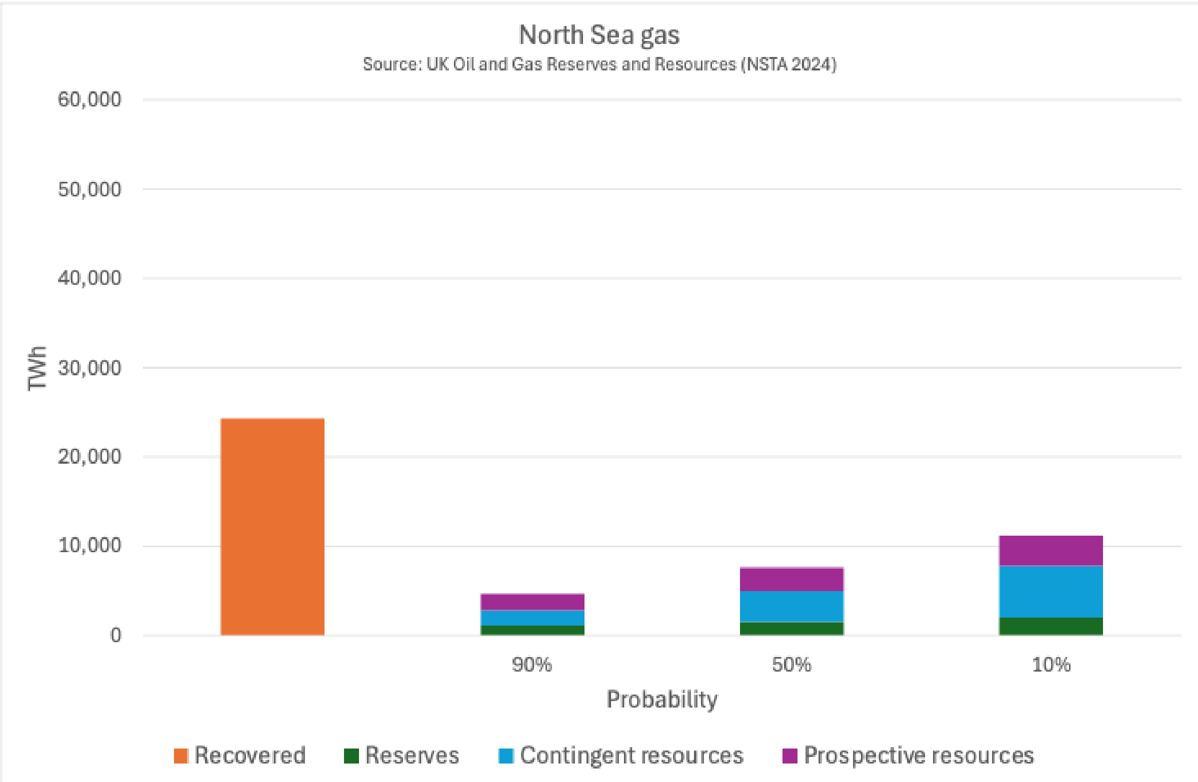
The energy transition will also require huge amounts of skills and jobs and is one area where the UK does possess a transferable asset from the oil and gas workforce. The sector has developed a large and sophisticated base of engineers, technicians and project managers with deep experience in complex offshore environments, skills that are highly relevant to emerging low-carbon industries.

However, three barriers must be addressed to realise this potential:

- **Salary disparities**: Oil and gas roles typically command higher pay due to the risks and profitability of the sector. Renewable roles generally offer lower remuneration, creating a disincentive for workers to transition.
- **Uncertain career pathways**: Without clear long-term signals, workers face uncertainty over opportunities in low-carbon sectors, making reskilling less attractive.
- **Location and concentration**: By definition, electrification will require plumbers and electricians spread evenly across the country, however, it is much easier to reskill, upskill and find apprenticeships in industry clusters whereby critical mass helps in the deployment.

The global transition away from fossil fuels introduces significant uncertainty into future oil and gas pricing and investment conditions. Strategic policy should minimise exposure to market “whims” by offering clear, long-term signals to industry, helping to anchor investment in sustainable production, infrastructure modernisation and emissions-reduction technologies.

Figure 1:



2. **How can the UK continue to make best use of its oil and gas infrastructure as an asset while delivering the transition?**

To determine how the UK can best utilise its oil and gas infrastructure during the energy transition a UK oil and gas strategy should outline the parameters of future production. As oil and gas will remain a key part of the UK's energy network, it will be essential for industry to have clear direction from government to internally prioritise and transition key infrastructure. Following on from the publication of this strategy, further clarification as to what is meant by "infrastructure" as an "asset" will be vital. The answer differs significantly depending on whether the term refers to physical infrastructure (platforms, wells, pipelines) or to human capital and skills. Both categories are important, but their value and future applicability diverge sharply.

The Government must begin by establishing an evidence based, long term outlook for future gas production. Categorising "Reserves", "Contingent resources" and "Prospective resources" constructed by projections of future gas demand. From this, a strategy to manage and support the transition can be determined which incorporates security of supply, price exposure and the impact on the economy. Only once there is clarity on the intended trajectory of domestic production can informed decisions be made on which physical assets should be maintained, upgraded or decommissioned. Without this clarity, there is a risk of both premature decommissioning and inefficient overextension of ageing infrastructure. The energy transition does not eliminate the need for gas by 2050, indeed net zero scenarios from both the IPCC and IEA demonstrate this. It is highly likely that oil and gas infrastructure will be needed to support domestic production for many years to come. In this regard, existing infrastructure remains inherently valuable, having been built specifically for extraction, processing and transmission.

the governments sector strategy should provide certainty as to the types of technologies that industries should focus on implementing and investing in. CCUS will be necessary if the UK continues to consume fossil fuels, additionally capturing industrial non-fossil sources of CO^2 such as cement. Whilst CCUS could be used for biomass or Direct Air Carbon Capture (DACC) further exploration of the economic considerations of these technologies is required. The IPCC & IEA suggest that the demand for CCS is split 50:50 between fossil & other sources (eg BECCS and cement). There is a common assumption that legacy oil and gas physical assets can be readily repurposed for low carbon applications such as carbon capture and storage (CCS) or as foundations for offshore renewables. In practice, the usefulness of existing infrastructure for such purposes is much more limited. For example, depleted oil and gas wells are often cited as potential CO_2 storage sites. However, repurposing these wells presents complex technical and regulatory challenges. Historic wells were not drilled with long-term CO_2 containment in mind, and concerns exist around the integrity of legacy plugging effective CCS requires complete sealing not only at the top but down to the base and around the wellbore. As a result, in some circumstances it can be more cost-effective, technically secure and operationally reliable to drill new, purpose-built wells rather than repurpose old infrastructure. One solution to this problem may come from storing CO^2 on behalf of other countries.

The UK's policy of CCS has been purely for decarbonisation of UK territorial emissions. Norway has launched The Longship CCS Project[7] that monetises and commercialises CCS. The estimated storage capacity in the North Seas is 100GT[8] of depleted fields hence this presents a potential opportunity for CCS to become more cost effective and economically viable for the UK if it can be monetised.

Repurposing platforms or subsea structures for offshore renewables is often impractical. The structural requirements for fixed-bottom or floating wind foundations differ substantially from those designed for oil and gas operations, limiting reuse to niche cases. For these reasons, while physical oil and gas infrastructure remains vital for continued hydrocarbon production, its utility as a repurposed asset for low-carbon technologies should not be overstated and the Government should take a cautious approach.

Government intervention is therefore essential. As highlighted in the answer to question 1, skills are a national infrastructure category and therefore must be supported by government ensuring targeted incentives, training support and industrial strategies create stable, high-quality roles in CCS, hydrogen, offshore wind and other sectors. This will help ensure that highly skilled workers are not lost or underutilised. As employment in the oil and gas sector declines, it is vital to increase the growth of jobs in low carbon industries. Failing this, opportunities for workers transitioning will close before new roles emerge, resulting in the loss of relevant skills. Job creation in renewable sectors should be aligned to offset job losses in the oil & gas sector, and explored within the remit of Skills England and it's equivalent in the devolved nations. This human capital is one of the UK's most valuable assets and can be redeployed far more effectively than much of the physical equipment.

3. **How can the UK ensure that critical services that currently rely on a reliable fuel supply chain (from hospitals generators, to freight logistics, to food supply) can transition to low carbon alternatives without any disruption.**

The energy transition needs to be done with care, with the comprehensive involvement of the affected supply chains and key stakeholders. It should be led by trials followed by a phased implementation. Contingency should be built into planning to enable any disruption to addressed effectively.

In practice, it is neither realistic nor technically feasible to assume that the UK can fully decarbonise essential services with no disruption whatsoever. We are unclear if this means no operational interruptions, no cost increases, no changes in risk profile, or no visible impact on system users? Each interpretation carries different implications, and clarity from government is essential in order to provide meaningful policy advice, the Government should take lessons from the successful implementation of the Montreal Protocol.

The transition to low carbon infrastructure will require changes to operational practices, supply chains, system design and significant costs. A fully decarbonised electricity system requires technologies and storage capacities that are currently uncosted or commercially immature.

[7] The Longship CCS project in Norway | Learn more about the project

[8] Gidden, M.J., Joshi, S., Armitage, J.J. *et al.* A prudent planetary limit for geologic carbon storage. *Nature* **645**, 124–132 (2025). https://doi.org/10.1038/s41586-025-09423-y

We encourage government to ensure that all policy proposals are costed, and future technologies are clearly defined. Costed, evidence-based planning is essential to avoid unintended consequences, particularly for critical services where reliability is non-negotiable.

Cost is central to ensuring continuity of critical services. Many Government strategies reference rapid deployment of low carbon solutions without explicitly accounting for associated costs or system wide implications. These omissions are themselves a source of potential disruption.

For critical infrastructure transition planning must include:

- Detailed cost assessments of alternative technologies
- Clear visibility of the investment required for backup capacity
- Risk-based analysis of supply chain vulnerabilities
- Realistic timelines for infrastructure and workforce development

Without these foundations, government cannot ensure continuity of service during the transition.

One practical way to minimise disruption is through the adoption of hybrid technology solutions that combine low carbon operation with reliable conventional systems. This allows emissions to be reduced significantly while retaining the resilience of existing fuel supply chains. For example, a heat pump could meet the majority of a building's thermal load, while a gas boiler is available to meet peak demand or provide backup during extreme conditions. This approach mitigates the need for over-sizing electrical infrastructure, reduces pressure on the electricity grid during peak periods and provides reliability comparable to current systems. For critical infrastructure such as hospital back up power, emergency logistics, refrigerated food supply chains hybrid solutions can ensure continuity while low carbon technologies mature and scale. We recommend that hybrid systems be explicitly incorporated into policy planning, with consideration given to permitting hybrid installations under transitional arrangements up to 2040. This allows time for innovation in low carbon fuels, long duration storage and electrified logistics to mature to a point where they can provide truly equivalent reliability.

How should the UK manage a declining domestic market in gas, including how the gas infrastructure can be partially, or completely, decommissioned without putting the burden on a shrinking number of consumers?

As set out in question 2, the usefulness of the UK's existing gas infrastructure for repurposing varies on a case-by-case basis. That is why it is essential that any decision in this area must be underpinned by the appropriate assessment which considers pathways to energy storage, as the development of multi TWhr hydrogen storage could have vast implications. A scenario where the UK has 100TWhr scale hydrogen storage might require a gas distribution backbone, while such abundance of hydrogen might open the potential for domestic use. To fully understand the consequences of this, appropriate assessment and Government engagement with key stakeholders must be carried out. This should be encompassed in the Government's strategy.

What should the Government be doing to ensure the supply chains for the oil and gas sector are sustained as North Sea outputs decline and they transition to supporting the renewables sector?

As indicated in question 2, to sustain supply chains as North Sea output declines, the Government must provide stable long term policy signals that encourage suppliers to invest in both remaining domestic oil and gas activity and emerging low carbon markets. Many capabilities within the current supply chain such as subsea engineering, drilling technologies and system integration are directly transferable to renewables, CCS and hydrogen. Ensuring these firms remain viable will therefore support the broader energy transition. However, the lower margins in renewables compared with oil and gas risk discouraging investment without targeted support. The Government should therefore focus on creating a competitive and predictable commercial environment for low carbon projects, ensuring timely project pipelines, reducing permitting delays and supporting innovation. This will help retain specialist expertise, maintain manufacturing capacity and allow the supply chain to evolve without contraction or loss of capability. By fostering a stable investment climate and recognising the continuity of technical skills across sectors, the UK can ensure its energy supply chain remains robust and capable of supporting both current needs and future low carbon industries. This should be encompassed in the Government’s strategy.