Briefing

Beyond licensing: North Sea policy for a managed transition

November 2023

Summary

There will be a transition away from oil and gas to new clean industries in the North Sea and across the UK. That could happen faster than current projections predict, with 24 per cent less gas demand in 2030 than the Climate Change Committee's Balanced Net Zero pathway projects, meaning demand for oil and gas declining rapidly beyond 2030. If the UK plans for this future now, it could secure significant economic benefits.

What would this look like in policy terms? Immediate support for workers to reskill and move to new jobs in growing green industries, a tax regime aligned with the transition and regulation to manage the decline in fossil fuels and grow the industries of the future.

Less oil and gas will be needed

Demand for fossil fuels is likely to peak in this decade.[1] There are already signs that the decline in UK demand could be rapid. The current government target is to decarbonise the power system by 2035. Our analysis shows that if, instead, the UK decarbonises its power system by 2030, in line with Ember's clean power 2030 pathway and current Labour Party proposals, the UK would need 24 per cent less gas in 2030 than the Climate Change Committee's Balanced Net Zero pathway.[2,3] That would mean 13 million tonnes of oil equivalent (Mtoe) less gas drilled in the UK, or a reduction in gas imports of 32 per cent.[4] At current gas prices, that would save £12 billion on gas imports.[5]

Even if the UK only achieves decarbonisation of the power system by 2032, gas demand in 2030 would still be 19 per cent lower, requiring 10.5Mtoe less gas to be drilled or 25 per cent fewer imports.[6]

Reducing UK demand for oil and gas will improve energy security and lower energy bills. Producing more will not. Oil and gas produced in the UK is owned by the multinational companies that extract it and is sold on international markets, at international market prices. Short of nationalising energy production or banning exports, UK production will neither lower energy prices nor guarantee physical supply.

In this context, it is more important than ever that the UK plans now for the transition of the North Sea basin away from oil and gas and towards new industries, such as renewables, green hydrogen and carbon storage.

The shift from oil to wind is happening

The UK North Sea oil and gas industry is already in decline. Nearly eight thousand jobs have been lost over the past decade.[7] These losses have coincided with huge tax breaks for North Sea operators, which have been used to increase profits rather than retain jobs. Nor have these tax breaks worked for the Exchequer: tax breaks introduced in 2015-16 led to a reduction in tax revenues from £12 billion a year in the early 2000s, to a net loss in 2015-2017, followed by historic lows of £1 billion or less from 2017-2020. At the same time, company profits rebounded from £8 to £12 billion in the 2000s, to £6 to £9 billion from 2017-2020.[8] In 2022, Shell, BP and Centrica recorded combined profits of £57.3 billion.[9]

These profits have not been invested in the clean energy transition. For example, in 2022, Shell made £32 billion globally, the highest profits in its 115 year history. Sixty five per cent of that profit, £21 billion, was redistributed to shareholders, including through payouts and share buybacks. These payouts dwarf investments in renewable projects, at just £2.8 billion, and even oil and gas investments, at just under £10 billion.[10] These numbers tell a story of an industry investing in the status quo rather than in future energy systems.

However, other players are now active in the North Sea: those focused on renewables. If current oil and gas production continues without more exploration, in Scotland and England, there will be 25 jobs in clean energy created for every job lost in oil and gas. According to analysis commissioned by the Scottish government, by 2030 in Scotland, almost 50 per cent of those jobs will be in offshore wind, nearly 20 per cent in hydrogen production, 15 per cent in onshore wind, and one per cent in carbon transport and storage.[11]

The benefits extend beyond the coastal communities around the North Sea, with clean energy jobs in wind, solar, hydropower, nuclear and carbon capture and storage distributed across the UK.[12] Cheaper renewable electricity would also provide a boost to UK economic activity by lowering input costs for industries such as steel and battery manufacturing, attracting investment to the UK and supporting jobs across the country.[13]

With the current policy framework, oil and gas companies are maximising their profits rather than investing in the transition that will secure employment and future industrial benefit for the UK's coastal communities.

There is a climate problem

Fossil fuels are the major driver of climate change. According to the IEA, for a 50 per cent chance of staying below 1.5°C of warming, in line with the Paris Agreement, there should have been no more investments in oil and gas production globally after 2021.[14] Two years on from that deadline and the UK is still approving new oil and gas fields.[15]

In the UK, we need to see a decline in production of eight per cent per year to be on track for a below 1.5°C outcome.[16] North Sea oil and gas fields are declining with few resources left, regardless of the government's position on licensing. The UK needs a policy framework designed to handle this reality.

A new policy framework to secure the transition

The goal of the policy framework for the North Sea should be to manage the decline in oil and gas production, and the growth of new energy industries such as renewables, green hydrogen and carbon storage. This would be a significant shift from the current framework, which seeks to reduce declines in production through tax breaks for investing in new fields and a regulator mandated to maximise economic recovery of oil and gas from the North Sea basin.

The role of the state in managing this transition should not be to look after the economic interest of individual corporations or the oil and gas industry as a whole, but to support people currently employed in this declining industry and ensure they have the prospect of a good quality job in new, growing industries. The government has three levers it can use to deliver this: support for transitioning workers, taxes and regulation.

Support for workers

Support for workers needs to be concrete, so reskilling and retraining can happen at the pace needed, and no-one is left behind. The closing of coal mines over recent decades in the UK has been a clear example of how not to manage an energy transition. The process of ending oil and gas production should avoid the same mistakes, with communities and workers well supported to change to new industries. Planning this transition now, rather than waiting for oil and gas jobs to disappear, will ensure communities and the economy are protected from any potential negative impacts. A slow transition will not be a just transition.

Tentative steps have been taken, with the North Sea Transition Deal agreed between the government and the industry in 2021. However, the deal is weak on skills policy, leaving workers to pay for their own retraining. It does not set emissions targets that relate to national goals, and it does not tie the oil and gas industry to its commitments through conditional government support.[17] A new deal must be developed, involving workers and communities, and deliver concrete binding commitments from industry on retraining and supporting them, set ambitious emissions reductions targets and a timeline for the transition to new industries.

Taxes

The tax regime also needs to change. The current oil and gas tax regime was designed to counter a market driven exodus from the North Sea basin in 2014-15, biasing the market toward extra extraction with huge investment allowances for drilling new oil fields.[18] There are currently three different tax reliefs available for investing in new fields, allowing companies to claim back taxes that should have been paid under the ringfenced corporation tax, supplementary charge and energy profits levy. As a result, the Rosebank oil field recently approved by the UK government will result in a net loss of revenue to the Treasury, as more will be paid out in tax reliefs than will be made in tax revenues from the field.[19]

By contrast, the equivalent Energy Profits Levy for renewable generators contains no such investment allowances, and current government support schemes for renewable electricity generation provide no incentive to start new projects, as shown by the latest round of contracts for difference auctions, in which no new offshore wind projects were secured. Removing the investment allowances for new oil and gas production would rebalance the

system of incentives and send a clear signal to investors about the future of the North Sea basin.

Regulation

Regulation needs to manage, rather than fight, the decline of oil and gas extraction, and actively develop future offshore activities, such as projects that combine renewable electricity generation with hydrogen production or carbon storage in a way that protects and restores nature.

Prior to 2015, regulation of oil and gas extraction was managed by the Energy Development Unit within the then Department for Energy and Climate Change. Between 2010 and 2013, there were signs of a market driven decline in the ageing basin, with production declining by 37 per cent between 2010 and 2013, and exploration falling from 157 wells in 1990 to 15 in 2013.[20] To reverse this, the government commissioned Sir Ian Wood's 2014 Review of the UK Continental Shelf, to look at how production could be maximised. [21]

In response to this review, a new regulatory body for oil and gas production in the UK, called the Oil and Gas Authority, was created in 2015. The Oil and Gas Authority was set up with an explicit legal mandate to drive greater oil and gas production, alongside tax changes to favour oil and gas production rather than national income. [22]

Net zero was added to the mandate of the Oil and Gas Authority in 2021, and it was renamed the North Sea Transition Authority in 2022. However, its central legal mandate is still to maximise economic recovery of oil and gas from the basin. As activities in the basin transition from oil and gas towards offshore energy projects that combine renewables, hydrogen and carbon storage, regulation needs to change to help grow these new industries.

But adapting regulatory bodies set up for specific purposes to new roles is challenging. For example, Ofgem was set up to regulate markets for electricity and gas, with a central legal duty to protect consumers.[23] As the energy market changed with the rise of renewables, the government added a duty in the 2008 Energy Act to contribute to sustainable development.[24] Now, in 2023, a lack of anticipatory planning for the electricity grid is still holding back renewable generation and government has found it necessary to add a new legal net zero duty to Ofgem's remit.[25] In addition, the role of strategic planning for the energy system is being taken up by a new independent body, the Future System Operator.[26]

This illustrates the scale of the challenge with adapting the North Sea regulator for a future energy system. The new net zero mandate is unlikely to be sufficient to steward the basin through the decline in oil and gas production when the regulator was designed just eight years ago to do exactly the opposite. The policy solutions lie along a spectrum from incremental adjustment to radical reform.

We set out two ends of the spectrum to inspire discussion.

	Incremental change	Radical reform
What would happen?	Remove the legal mandate of the North Sea Transition Authority to maximise economic recovery of oil and gas and replace it with one focused on incentives for investment in the transition. Keep all existing responsibilities for decommissioning oil and gas and offshore carbon storage licensing. Consider adding new responsibilities for managing integrated offshore energy projects.	Limit the responsibilities of the North Sea Transition Authority to the decommissioning of oil and gas infrastructure and give responsibility for integrated offshore energy projects to others, either existing regulators like Ofgem, or a newly created body designed to manage the transition.
Pros	Quicker, less administrative burden. Continuity of the existing offshore regulator supports investor confidence for the oil and gas industry.	Creates new institutional set up designed to secure investment in new technologies like renewables, carbon storage and hydrogen, rather than oil and gas. Once set up, this builds the confidence of investors in new industries.
Cons	Changing the legal mandate of the regulator is likely to be insufficient to adapt an institution created and designed to maximise oil and gas production.	Slower, regulatory disruption and delay in setting up a new body with new responsibilities.

The question that remains unanswered by these two options is how to manage the trajectory of decline in oil and gas production, and who sets the pathway. Even if Rosebank is the last new oil field approved in the UK, how much is extracted from existing fields will have a significant impact on emissions and production. This could be partly managed through tax and incentives, but ensuring a pathway consistent with the UK's climate commitment under the Paris Agreement is likely to require more direct intervention.

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Endnotes

[1] International Energy Agency, 2023, *World Energy Outlook*
[2] Ember, 2022, *A path out of the gas crisis*
[3] UK Labour Party, 2023, *Make Britain a clean energy super power*
[4] This calculation uses Climate Change Committee Balanced Net Zero pathway gas demand as the baseline. It replaces power system gas demand from Ember's clean power 2030 pathway for the UK to demonstrate how much less gas demand could be needed in 2030. Conversion from TWh electricity demand to TWh gas demand is based on Thermal Efficiency factor from the Department for Business, Energy and Industrial Strategy (BEIS) 'Electricity generation cost' report 2020 of 53 per cent for a combined cycle gas turbine (CCGT) H-class. Conversion from TWh gas demand to million tonnes of oil equivalent (mtoe) gas demand is based on North Sea Transition Authority conversion factor of 11.63.
[5] Gas prices as of September 2023 of 82.58 £/MWh taken from Nordpool.com, www.nordpoolgroup.com/en/Market-data1/GB/Auction-prices/UK/monthly/?view=table
[6] This calculation uses a stylised S-curve for gas use between today and Ember's clean power 2030 target and shifts the end date by two years to 2032, to give an indication of the gas demand in 2030 if the 2030 power decarbonisation target is missed.
[7] Analysis of employment data for oil and gas extraction and oil and gas extraction support services from the Office for National Statistics Business Register and Employment Survey (BRES), between 2021 (the most recent year published data is available) and 2011, shows a reduction of 7,800 jobs.
[8] Bloomberg, 27 May 2022, 'UK set for record tax revenue from North Sea oil and gas'
[9] BBC, 29 September 2023, 'What is the windfall tax on oil and gas companies and how much do they pay?'
[10] *The Guardian*, 2 February 2023, 'Calls for bigger windfall tax after Shell makes 'obscene' $40bn profit'

[11] Ernst & Young LLP, February 2023, *Just transition review of the energy sector*
[12] Ecuity Consulting report for the Local Government Association, 2019, *Local green jobs – accelerating a sustainable economic recovery.*
[13] Green Alliance, 2022, *Building the future: a faster route to clean steel*; and Green Alliance, 2023, *Powering up the UK battery industry*
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[17] N S Ghaleigh, S Haszeldine, K Jenkins, et al, 2021, *The future is built on the past: just industrial and energy transitions in the UK and Scotland*, University of Edinburgh
[18] Green Alliance, 2022, *The last drop*
[19] Stop Cambo, www.stopcambo.org.uk/updates/uk-set-to-make-a-huge-loss-if-rosebank-is-approved
[20] Gov.uk, Wood review implementation, www.gov.uk/government/groups/wood-review-implementation-team
[21] Sir Ian Wood, 24 February 2014, *UKCS maximising recovery review: final report*
[22] BEIS, January 2020, *Oil and Gas Authority review 2019*
[23] Ofgem.gov.uk
[24] Ofgem, 17 December 2008, *Sustainable development report*
[25] Ofgem.gov.uk, 7 June 2023, 'Ofgem welcomes proposed legal mandate to prioritise the UK's 2050 net zero target'
[26] BEIS and Department for Energy Security and Net Zero (DESNZ), 1 September 2023, Energy security bill factsheet: future system operator, www.gov.uk/government/publications/energy-security-bill-factsheets/energy-security-bill-factsheet-future-system-operator