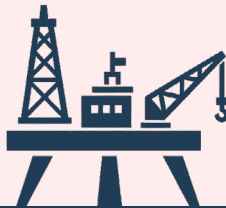


# JUST STOP OIL?

The economic and environmental consequences of ending domestic oil and gas production

**Kathryn Porter**  
**February 2026**



## Acknowledgements

The author would like to thank Westwood Global Energy Group for providing rig count data free of charge for inclusion in this report.

## About the author

**Kathryn Porter** is the founder of Watt-Logic, an independent energy consultancy established in 2016, initially as a blog which grew into a consulting business that now works with clients around the world on projects across the energy supply chain. Projects include assisting clients on negotiating commercial contracts and gas and electricity trading arrangements; assisting businesses in evaluating new investments in solar generation, behind-the-meter storage and energy-from-waste; advising on various regulatory matters such as the impact of changing market price formation, and acting as an expert witness in energy-related disputes.

Watt-Logic's founder, Kathryn Porter, has extensive experience of physical and financial electricity, gas and oil markets; as well as significant experience in financial services across risk management/hedging and debt and equity financing in both public and private markets.

Watt-Logic is entirely self-funding and receives no external capital from any sources. It is therefore independent of any other business, individual or special interest group. The views contained within this report are solely those of the author.

Unless otherwise attributed, charts and graphics have been created by the author.

## About the IEA

Founded in 1955, the Institute of Economic Affairs is Britain's oldest free market think tank. Its mission is to improve understanding of the fundamental institutions of a free society by analysing and expounding the role of markets in solving economic and social problems.

The IEA is a registered educational charity. It is entirely independent of any political party or group and is wholly funded by voluntary donations from individuals, foundations, trusts and companies who support its mission. It does no contract work and accepts no money from any government or government agency. The IEA retains full editorial control over all of its output.

The IEA holds no corporate position. The views in this publication are those of the authors alone, not those of the Institute, its managing trustees, Academic Advisory Council members or senior staff.

This publication has been blind peer-reviewed by academics or researchers who are experts in the field.

# Contents

Executive summary	6
Foreword	8
What are oil and gas? How are they made and what are they used for?	12
Can we ‘just stop oil’?	15
Territorial versus non-territorial emissions: are we exporting our emissions to other countries?	18
Can we just replace oil and gas with renewables?	22
Fossil-fuel use dominates primary energy consumption	28
If renewables are cheap, why are they not displacing fossil fuels faster?	30
The cost of energy	34
What are we doing with new licences and why?	47
What are oil and gas licences?	48
Developing a new oil or gas field is expensive, time-consuming and financially risky	52
The UK North Sea is considered to be mature but recent signs are promising	54
The populist windfall tax is harming UK interests in the North Sea	57

What is the windfall tax and why was it introduced?	64
Windfall tax is harming independent North Sea producers, not oil majors	66
A hostile political environment is scaring away investment	74
Rigs are leaving the region and may never return	93
Conclusion	97
References	99

## Executive summary

Protest groups such as Just Stop Oil have agitated for an end to oil and gas production in the UK, arguing that the ‘climate emergency’ makes this a necessity. Even those not clamouring for an end to domestic hydrocarbon production have supported windfall taxes, which may ultimately have the same effect.

But how realistic is it to ‘just stop oil’? Oil and gas are essential, not just as fuels but for everyday life. Most of the things that make modern life (and, in particular, modern medicine, agriculture and technology) possible rely on oil and gas. Oil is particularly useful since it is the raw ingredient for plastics and a whole range of chemicals, from paint to chemotherapy drugs. Oil and gas are also extensively used in agriculture, in everything from fertilisers and pesticides to polytunnels.

Although campaigners argue that a transition to renewable energy will mean oil and gas are no longer needed as a fuel, there are no credible forecasts that do not show some demand for oil and gas in the UK in 2050, even under net zero-compliant scenarios. It is far from straightforward to replace oil and gas in the energy sector, primarily because the main alternative – renewable generation – is for the most part reliant on weather, and this creates a range of challenges that are difficult and expensive to solve. It is deeply misleading to suggest that renewables are cheap. It is necessary to build and maintain equivalent amounts of backup generation or storage to be available when wind and sun are not.

Even in sunny countries it is very difficult to build a viable energy system based on renewables, as the Bihar experiment (described later in this report) demonstrated. More recently, Spain has experienced grid stability problems associated with too much solar generation and not enough conventional synchronous generation to provide voltage control. Replacing oil and gas in the rest of the economy will be even

harder since they are integral to modern life. Again, this has been tried, and shown to be easier said than done, as evidenced by Sri Lanka's disastrous attempt to move away from the use of methane in fertilisers. The Sri Lankan economy contracted sharply when synthetic fertilisers were briefly banned.

But the UK does not only still need oil and gas, it needs to recover as much as possible from domestic resources. Forcing a premature decline in North Sea production means we must increase imports, which have higher emissions than domestic production. It means the associated tax revenues are lost. It means that supply chain companies close or relocate faster than would otherwise be the case, costing jobs and further tax revenues. And it puts security of supply at risk because the integrated nature of the offshore pipeline infrastructure, which requires certain levels of throughput to be maintained, may be pushed into early closure, stranding viable producing fields, and creating peaks of decommissioning which may be beyond the ability of supply chains to cope with, as well as threatening gas shortages on cold winter days unless new import infrastructure is built.

This report will explore the uses of oil and gas, where they come from, and how much we are likely to need in the future. It will also look at the impact of the new annual North Sea licensing rounds, political pledges to stop issuing new drilling licences, and the impact of the windfall tax.

Meeting our oil and gas needs through imports will almost certainly be more environmentally harmful than domestic production, but the prospects for that production are limited by adverse political rhetoric and the highly damaging impact of the windfall tax. Unless we change course rapidly by repealing the windfall tax and committing to continue developing domestic oil and gas resources, we will be increasingly reliant on potentially dirty imports in the decades to come.

# Foreword

In the 1880s, the Austrian economist Eugen von Böhm-Bawerk argued that economic progress consisted, to a large extent, of a lengthening of what he called the ‘detours of production’ (*Produktionsumwege*).

What he meant by that was simply that, in a poor, underdeveloped society, most people will be directly involved in producing goods and services for final consumption. In a richer, more advanced society, there will be multiple stages of production, some of which will be far removed from final consumption. As this society becomes richer and more advanced, it will add more and more distant stages.

As von Böhm-Bawerk put it in *Kapital und Kapitalzins* (1884):

*‘All capital [...] consists of a mass of intermediate products whose common goal is to mature into means of enjoyment. [...] They are all, as it were, on a journey toward the goal of maturity for consumption. However, the paths they have to travel to get there differ. This is partly because the detours which different branches of production take differ significantly in length; mining or the building of a railway, for example, take much longer detours than woodcarving. [...]*

*With regard to the differing distances from maturity for consumption, the entire mass of capital can be broken down into different stages of [...] maturity, which can be [...] thought of as concentric [...] rings. [...]*

*In a nation whose production is still only weakly capitalist, [...] far-reaching detours of production, which only yield their benefits after many years, are only rarely and sparsely employed. In rich, well-developed economies, on the other hand, a considerable number of distinct annual rings will be discernible’ [Translation KN].*

The process which von Böhm-Bawerk described has made us immeasurably richer than previous generations were. But it also has

one downside, which is that in a modern economy, there are vast areas of economic life which we do not intuitively understand.

In a preindustrial village, everyone understands intuitively what the blacksmith, the brewer and the fisherman do, even if most people never engage in that kind of work themselves, and would not know how to do it. They can observe the work process, and they can see how that process produces useful consumer goods. As that economy industrialises, though, this relative simplicity comes to an end. We now get more complex production patterns, involving stages of production which the final consumer does not directly observe, using capital goods, input factors and intermediary outputs which the final consumer does not directly use. The final consumer does not use steam engines, power looms or spinning jennies, and they certainly do not use iron ore, industrial chemicals or hydrocarbons, let alone intangibles such as financial or legal instruments.

Most of the time, this is not a problem. The vast majority of us do not understand modern medicine, and even professional medics only truly understand their own subspecialities. But we nonetheless understand its benefits.

The lack of intuitive understanding becomes a problem, though, when it becomes politically fashionable to demonise particular goods, industries or production techniques.

In recent years, we have seen the emergence of a new set of environmentalist movements, which differ in some ways from the established ones. Historically, environmentalism used to have a major overlap with anti-consumerism. Mass consumerism was portrayed as not just bad for the environment, but also as vulgar, tacky, and morally corrupting. Environmentalist of this old-fashioned anti-consumerist disposition would have had no problem admitting that their preferred policies would make us poorer, in material terms.

The new environmentalist movements have ditched that 'hairshirt' rhetoric. Instead, they tell a story in which the economic activities they disapprove of are activities that only benefit the industries that

are engaged in them, not the wider public. If that were so, curtailing those activities would indeed be very easy, because it would only hurt a few shareholders and industry barons, while the rest of us would barely notice.

In telling that story, those activists benefit from the fact that the activities in question are typically a few steps removed from the final consumer. In the above-mentioned preindustrial village economy, it would be difficult for activists to set up initiatives called 'Just Stop Blacksmithing' or 'Just Stop Brewing', because people would realise that such a policy would not just, or even primarily, hurt a small group of producers. It would hurt a much larger group of consumers.

In the context of a modern economy, though, it is very easy to set up such an initiative, as long as it targets economic activities that happen at a more distant stage of a Böhm-Bawerkian *Produktionsumweg*. Anything to do with the use of energy input factors clearly fits that description. The average household obviously does not pump crude oil out of the ground; nor do they buy crude oil in order to refine it at home, or burn it in their garden. They may know, at an abstract level, that energy inputs are part of multi-stage production processes which they ultimately benefit from, but it does not *feel* that way, as it would in the case of economic activities that are closer to the consumer.

It is not that activist groups such as Just Stop Oil or Extinction Rebellion are universally popular: they clearly have their critics. But tellingly, most of the criticism concerns their tactics, not their goals. Indeed, the most common criticism seems to be that by choosing maximally disruptive protest strategies, these groups risk alienating large sections of the public, and thereby undermine their own goals. The idea that these goals themselves – and not just the tactics employed to achieve them – might be the problem does not even seem to occur to most critics.

This is a result of the abovementioned bias. Energy input factors obviously play a role in economic life, but they largely do their work behind the scenes. For an individual consumer, it is too easy to imagine that this has nothing to do with us. It is too easy to imagine that

environmentalist activists are really on our side, because they are only targeting ‘the industry’, not us.

The reader will not be surprised to learn that I was never tempted to join Just Stop Oil. Nonetheless, when they were at the peak of their activism, I was not entirely sure how to respond to them. It struck me as obvious that we cannot ‘just’ eliminate major sources of energy from economic life, and expect that this will have no discernible consequences for our living standards. But I had no clear idea of the specifics. What would it mean if the demands of groups like Just Stop Oil, Extinction Rebellion and the ‘Greta Thunberg movement’ were implemented? We would be poorer, sure – but how much? And in what way? How would that manifest itself? What is it that we currently do, and that we could no longer do, if we followed the advice of the new environmentalist movements?

This is the question I posed to energy expert Kathryn Porter: what would it actually mean to ‘just stop oil’ and other hydrocarbons? Not from the perspective of a shareowner of an oil company, or somebody who works for one, but for a typical household. How would our daily lives change under that scenario? What would be the economic, and what would be the environmental impacts?

Kathryn’s answer should destroy any illusions which some readers may still have about the demands of the new environmentalist movements.

KRISTIAN NIEMIETZ  
Editorial Director, Institute of Economic Affairs  
London, January 2026

# What are oil and gas? How are they made and what are they used for?

Along with coal, oil and gas are fossil fuels that are formed from decomposing plant and animal matter over millions of years. These compounds are found in the earth's crust and contain carbon and hydrogen. Coal is typically found in sedimentary rock deposits where rock and dead plant and animal matter are piled up in layers. Oil is originally found as a solid material between layers of sedimentary rock, such as shale, but liquifies under the high pressures and temperatures found deep in the earth's crust. Gas (methane) is usually found in pockets above oil deposits but can also be found in sedimentary rock layers that do not contain oil.

In energy markets, the term 'gas' is often used in relation to 'natural gas' or methane; however, both the terms 'gas' and 'natural gas' have wider meanings: many elements can be found naturally in a gaseous state, and they are not 'un-natural' or synthetic for the most part. For example, carbon dioxide, oxygen and nitrogen are all gases found in the atmosphere and are gaseous at room temperature. Water vapour is also a gas but is typically in liquid form at room temperature (ie water). In this report, the term 'gas' will be used to denote methane. The main use of gas is for energy (ie burning to generate heat), but it is also an important component in fertilisers and is used as a feedstock for the chemicals industry, such as anti-freeze, and hydrogen production.



The term 'oil' is also generic, referring to a range of liquid petrochemical materials. Typically, the oil that is extracted from the earth's crust is known as 'crude' oil, which is refined through processes such as distillation in order to extract different oils for different uses, such as gasoline (petrol) for cars, jet fuel for aeroplanes and thicker products such as bitumen and the tar used in roadbuilding. Oil has a very wide range of uses, not just as a fuel, although that is its main use, but also as an ingredient for a great many other materials. Oils with a light consistency, such as gasoline, jet fuel and diesel oil, are used mainly as fuels to power vehicles and machines. Oils that are medium-to-heavy in consistency are used primarily as fuels for large machines, and ships, as well as for generating electricity. Heavy oils are also used as raw materials for chemical products such as plastics and fibres.

Oil and gas are often referred to as 'fossil fuels', but they are also known as 'hydrocarbons'. Oil-derived products are also called 'petrochemicals'. These are important terms to keep in mind since the uses of oil and gas go beyond simply burning them for their energy content – in fact, this is arguably a waste of these highly versatile materials.

Oil and gas are integral to modern life (Figure 1). Without them there would be no fast, long-distance travel, particularly by air. But many of the things we associate with modern life would not exist either, such as electronic devices and modern medicine – almost everything encountered in a hospital, from the chairs and beds to diagnostic equipment, clothing worn by medics, syringes, IV tubing, and the medicines administered through them, are all derived from petrochemicals. It is difficult to imagine a world without these things, but we would have to if we were to 'just stop oil'. Transitioning to a world without hydrocarbons will take time, effort and money and can certainly not be achieved overnight.

# Can we ‘just stop oil’?

## What would happen if we stopped producing oil and gas?

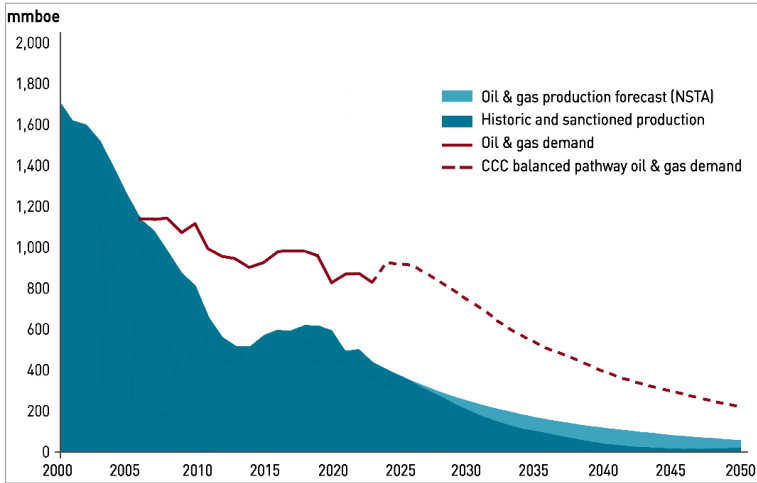
The widespread use of products derived from oil and gas explains in part why there are no credible forecasts suggesting demand for hydrocarbons will fall to zero by 2050, but most forecasts also indicate that oil and gas will still be needed as fuels in 2050 – the net zero target assumes that it will be possible to either capture their carbon dioxide emissions or offset them using alternative fuels such as biomass, which, when combined with carbon capture and storage (CCS), is considered to be carbon-negative, ie having negative carbon dioxide emissions. (Whether this is genuinely the case is a matter of debate, but many net zero projections rely on the assumption that it is. It is also clear that such schemes will increase the costs of generating electricity.)

The Climate Change Committee (CCC) still expects oil and gas to be in use in the UK in 2050 – almost 168 million barrels of oil equivalent (‘mboe’), roughly 40% of the UK’s current annual production<sup>1</sup>. The CCC is an independent statutory body established under the Climate Change Act 2008, the purpose of which is to advise the UK and devolved governments on emissions targets and to report to Parliament on progress made in reducing greenhouse gas emissions.

---

<sup>1</sup> Climate Change Committee, 2025: *Seventh Carbon Budget Full Dataset* (<https://www.theccc.org.uk/wp-content/uploads/2025/02/The-Seventh-Carbon-Budget-full-dataset.xlsx>)

Figure 2. UK oil and gas production and demand



Source: North Sea Transition Authority, Climate Change Committee, OEUK<sup>2</sup>

The CCC's Balanced Net Zero Pathway suggests the economy will become significantly more energy-efficient in the coming decades, with total energy demand falling by around 60% between 2025 and 2050. The energy sector would move almost entirely away from high-carbon fuel sources to low-carbon alternatives, with methane use falling by over 70%. However, oil and gas are still projected to meet 15% of energy demand in 2050 and they will provide the largest cumulative share of energy to 2049, accounting for half the total demand over the next 25 years. The CCC describes the Balanced Net Zero Pathway as 'an ambitious but deliverable pathway for the UK to reach Net Zero by 2050'.

The CCC estimates oil and gas use will halve by the mid-2030s but still meet more than half of UK energy needs. The Committee expects there to be an ongoing need for oil and gas even in 2050 in areas where alternatives are not viable, accounting for 15% of total energy demand. But while the CCC expects the UK to still consume almost 170 mmbae

2 Offshore Energies UK, 2024: *Economy and People Report* (<https://oeuk.org.uk/product/economy-people-report-2024/>)

of oil and gas in 2050, the North Sea Transition Authority (NSTA) forecasts<sup>3</sup> that UK domestic production will fall far short of this level, at just 44 mmbob, and that by 2050, three quarters of all the oil and gas consumed in the UK will be imported.

There are various benefits to domestic production over imports. Firstly, all domestic production needs to be conducted in accordance with UK environmental standards, which are strict – imported oil and gas are produced to different, sometimes less comprehensive standards. Secondly, oil and gas produced in the North Sea do not have far to travel to reach the UK market. Some oil must first be shipped to refineries outside the UK, but most of the gas produced on the UK North Sea is piped onto the mainland for injection into the national gas pipeline system. Oil and gas that are imported have typically travelled longer distances, often by ship, during which additional carbon dioxide is emitted. Domestic production therefore has significant environmental benefits over imported oil and gas. In addition to the environmental benefits of domestic production over imports, there are substantial economic benefits for the UK. Domestic production yields royalties, employment and corporation tax to the UK, which would otherwise accrue to the countries producing our imports.

---

3 North Sea Transition Authority, 2025: *NSTA March 2025 Production Projections Plus CCC and DESNZ Demand Projections* (<https://www.nstauthority.co.uk/media/3ewpmu0z/nsta-march-2025-production-projections-plus-ccc-and-desnz-demand-projections-v2.xlsx>)

# Territorial versus non-territorial emissions: are we exporting our emissions to other countries?

Territorial emissions are those emissions produced within the UK, plus its contribution to international aviation and shipping. These are the basis for the UK's carbon budgets and net zero target. However, these emissions do not include emissions related to goods that we import from other countries. In fact, one way to achieve net zero would be to close UK-based manufacturing entirely and import everything we need (carbon offshoring). Clearly, this would not be economically wise, nor would it be environmentally meaningful, unless the exporting countries have stricter emissions controls than the UK.

One of the reasons why goods imported from certain countries are cheaper is that their energy costs are lower, in part due to lower environmental standards. This is the case in China, for example. One of the reasons why carbon allowance schemes in the EU and UK have certain exemptions and adjustments for energy-intensive industries is to ensure they do not lose too much competitiveness in relation to countries with weaker environmental controls; however, their effectiveness has been limited, as evidenced by the closure of many UK manufacturing businesses, including the Grangemouth refinery<sup>4</sup>, the UK's last blast furnace at Port Talbot<sup>5</sup> and the last ammonia

---

4 Reuters, 2023: *Scotland's sole oil refinery faces closure* (<https://www.reuters.com/markets/commodities/petroineos-begin-work-shut-down-scotland-oil-refinery-2023-11-22/>)

5 The Guardian, 2024: *"Devastating": Port Talbot steelworks to shut blast furnaces and shed up to 2,800 jobs* (<https://www.theguardian.com/business/2024/jan/19/port-talbot-steelworks-blast-furnaces-to-close-costing-almost-3000-jobs-tata>)

---

producer (a key ingredient in fertilisers) at the CF Fertilisers plant in Birmingham<sup>6</sup>.

Some regions, such as the EU and UK, are planning to introduce carbon border adjustment mechanisms (CBAMs), which would seek to reduce the impact of carbon offshoring, but this is likely to be inflationary, increasing the cost of goods sold to British and European consumers (since it would force exporting countries to adopt higher environmental standards if they wish to sell their goods in countries applying a CBAM, and these would likely be expensive to implement). However, unless such mechanisms are introduced, the UK's true emissions will be increasingly distorted. According to the CCC, the emissions embedded in imported goods and services are around 50% higher than the UK's territorial emissions<sup>7</sup>.

This indicates that the UK is importing goods from countries with cheaper energy costs (in sectors with high energy intensity) and that this cheaper energy also has higher carbon intensity. In fact, there is evidence, as will be illustrated later in this report, that energy derived from fossil fuels combined with renewable energy results in higher energy costs. This will make goods that require large amounts of energy to produce significantly more expensive.

The CCC believes significant progress will be achieved since about half of the UK's imported emissions are from countries that have net zero targets similar to our own. This also assists in ensuring a level playing field for UK-based manufacturers. The UK's largest import market in 2024 was the United States, accounting for 13.1% of total UK imports, followed by Germany (9.4%), China (7.6%) and the Netherlands (6.6%)<sup>8</sup>.

---

6 CF Fertilisers, 2023: *CF Fertilisers UK Announces Proposal to Permanently Close Ammonia Plant at Billingham Complex* (<https://www.cfindustries.com/newsroom/2023/billingham-ammonia-plant>)

7 Climate Change Committee, 2020: *Sixth Carbon Budget – The UK's Path to Net Zero* (<https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf>)

8 UK Government, 2025: *Official Statistics Trade and investment core statistics book* (<https://www.gov.uk/government/statistics/trade-and-investment-core-statistics-book/trade-and-investment-core-statistics-book#imports>)

Many of the other top import countries are in Europe and share the EU goal of achieving net zero by 2050, but around 7% of UK imports come from Poland, Turkey and India. While Poland has a 2050 net zero target, there are significant doubts over whether it will meet this, given its ongoing dependence on coal and reluctance to develop other energy sources at the necessary scale.

Turkey is targeting net zero in 2053, however, its progress is described as 'critically insufficient' by Climate Action Tracker<sup>9</sup>, an organisation that tracks government climate action and measures it against the globally agreed Paris Agreement aim of 'holding warming well below 2°C and pursuing efforts to limit warming to 1.5°C'. CAT has five rating categories:

- 1.5°C Paris Agreement compatible – the country's climate policies and commitments are consistent with the Paris Agreement's 1.5°C temperature limit;
- Almost sufficient – the country's climate policies and commitments are not yet consistent with the Paris Agreement's 1.5°C temperature limit but could be with moderate improvements;
- Insufficient – the country's climate policies and commitments need substantial improvements to be consistent with the Paris Agreement's 1.5°C temperature limit;
- Highly insufficient – the country's climate policies and commitments are not consistent with the Paris Agreement's 1.5°C temperature limit. For many countries in this category, policies and commitments lead to rising, rather than falling, emissions; and
- Critically insufficient – the country's climate policies and commitments reflect minimal to no action and are not at all consistent with the Paris Agreement.

---

9 Climate Action Tracker, 2023: *Turkey* (<https://climateactiontracker.org/countries/turkey/net-zero-targets/>)

China plans to reach net zero by 2060, but CAT rates its progress as ‘highly insufficient’<sup>10</sup>. India does not plan to reach net zero until 2070, and even this date is in doubt, with CAT rating it as ‘critically insufficient’<sup>11</sup>. The UK, Germany and the US are all rated ‘insufficient’. In its Sixth Carbon Budget, the CCC estimated that if UK territorial emissions were reduced to net zero and UK trading partners reduced their emissions in line with the Paris Agreement, then UK consumption emissions would be around 90% below 1990 levels in 2050. This seems highly optimistic, and it increases the likelihood that the UK will continue to require oil and gas for many decades to come.

---

10 Climate Action Tracker, 2023: *China* (<https://climateactiontracker.org/countries/china/>)

11 Climate Action Tracker, 2023: *India* (<https://climateactiontracker.org/countries/india/>)

# Can we just replace oil and gas with renewables?

Activists tell us that we can simply switch to renewable energy, but that is easier said than done. Yes, we can power ships with wind – this was done for centuries. But it is not suitable for modern just-in-time supply chains. Even in the electricity sector, where the transition is arguably the easiest to achieve, it is not plain sailing, since renewable generation has low energy density and suffers from intermittency. This presents real challenges: you need a lot more materials to produce the same amount of energy when using renewables – more steel, more concrete, more aluminium, more copper, more rare earth magnets and so on<sup>12</sup>. These are challenging to source, and there are doubts that supply chains will be able to keep up – more mines will be needed, but it takes on average a decade and US\$ 1 billion–10 billion to open a large new copper mine, for example<sup>13</sup>. In fact, the capital cost of opening new copper mines has increased by a factor of ten since 2000.

Intermittency from inconsistent wind and sun means that for every unit of wind or solar power built, a unit of other generation or storage must also be built (or retained) to meet energy demand when there is no wind or sun (and the sun is absent at night, which coincides with peak energy demand in winter). This increases costs – electricity grids with high levels of wind power see higher end-user electricity prices than those that do not<sup>14</sup>.

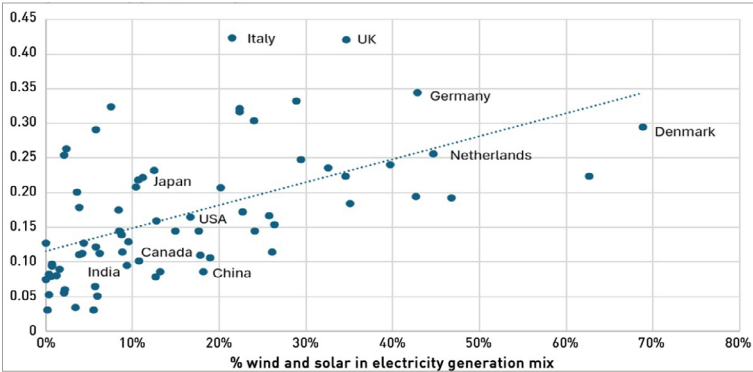
---

12 International Energy Agency, 2023: *Electricity Grids and Secure Energy Transitions* (<https://iea.blob.core.windows.net/assets/70f2de45-6d84-4e07-bfd0-93833e205c81/ElectricityGridsandSecureEnergyTransitions.pdf>)

13 Ahead of the Herd, 2022: *Copper mines becoming more capital-intensive and costly to run* (<https://aheadoftheherd.com/copper-mines-becoming-more-capital-intensive-and-costly-to-run/>)

14 Forbes, 2018: *Yes, Solar And Wind Really Do Increase Electricity Prices – And For Inherently Physical Reasons* (<https://www.forbes.com/sites/michaelshellenberger/2018/04/25/yes-solar-and-wind-really-do-increase-electricity-prices-and-for-inherently-physical-reasons/>)

Figure 3. Electricity cost versus percentage of wind and solar

**Average electricity price, industry and households (US\$ /kWh 2023 - 2025)**

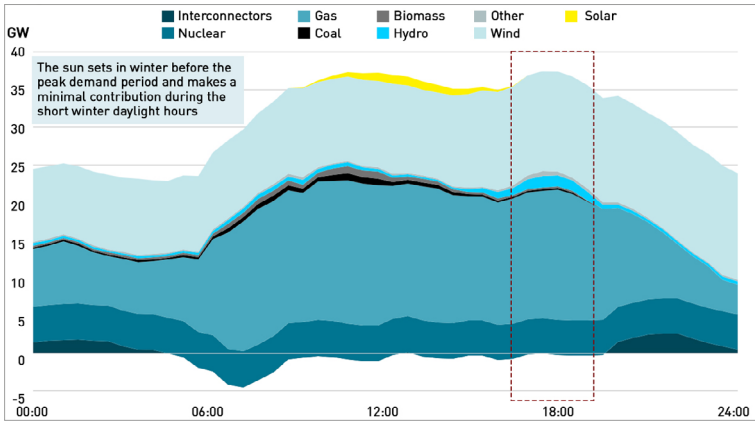
Source: *Global Petrol Prices*<sup>15</sup>, *Our World in Data*<sup>16</sup>

A good illustration of the contribution of wind and solar to the GB power grid can be found in Figures 4 and 5, which show the generation mix on two days in Winter 2023, one month apart. On the first day (15 December) wind levels were as low as 5.3 GW (this is not particularly low – below 1 GW is not uncommon), while on 14 January, wind output was higher, at times reaching almost 14.5 GW. Both figures illustrate the absence of solar generation during the evening peak, and how little it contributes even in the middle of the day.

<sup>15</sup> Global Petrol Prices, 2025: *Electricity prices* ([https://www.globalpetrolprices.com/electricity\\_prices/](https://www.globalpetrolprices.com/electricity_prices/))

<sup>16</sup> Our World in Data, 2025: *Renewable Energy* (<https://ourworldindata.org/renewable-energy>)

Figure 4. GB generation mix, 15 December 2023



Source: Watt-Logic (created for this report), using BMRS data

Supply and demand must be balanced in real time – if they are not, voltage and current in the grid will vary to a degree that equipment cannot tolerate, so fail-safe devices will operate to disconnect that equipment, potentially leading to blackouts. The Iberian peninsula experienced a full blackout in April 2025, linked with a malfunctioning solar inverter and a widespread failure of wind and solar generation to meet fault-ride-through obligations, meaning they tripped inappropriately and triggered a full grid collapse<sup>17</sup>.

In October 2025, the Spanish electricity grid operator requested emergency powers to assist in voltage control, fearing further blackouts. This was a result of allowing too many conventional (synchronous) generators to close in the south of the country meaning there are not enough power stations to support the voltage, making

<sup>17</sup> Watt-Logic, 2025: *Voltage, inertia and the Iberian blackout part 2: faulty PV inverter crashed the grid* (<https://watt-logic.com/2025/07/16/voltage-inertia-and-the-iberian-blackout-part-2-a-faulty-solar-inverter-crashed-the-spanish-grid12088/>)

the grid weak and more susceptible to failure<sup>18</sup>. To date the only technologies that can economically address these problems are synchronous machines (either generators or synchronous condensers, which have the same equipment as generators but provide grid support rather than electricity generation).

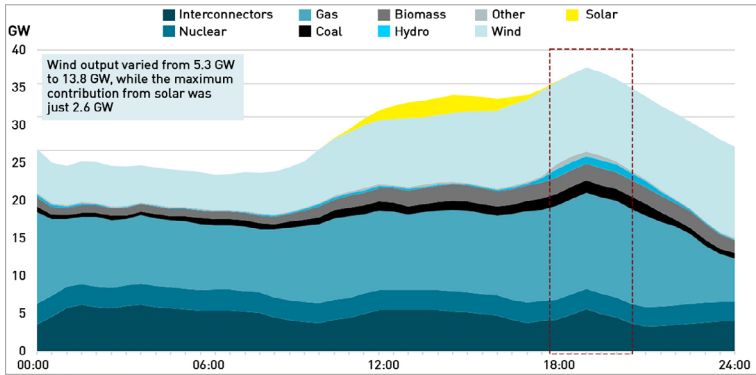
When supply depends on the weather, it becomes highly variable – clouds and gusts of wind change renewable generation from moment to moment – and the costs of making sure supply and demand always balance become higher. These electricity grid balancing costs in Great Britain have increased by billions as a result of the deployment of renewables. Electricity grids with high levels of intermittent generation are less stable and more expensive to manage.

Even in sunny places in the developing world, which one might think could easily rely on solar power, things are not that easy. A case study is the Indian province of Bihar, where Greenpeace invested over US\$ 400,000 in 2014 to set up 70 kW of photovoltaic cells on the rooftops of public buildings throughout the village of Dharnai, a community of about 3,200 people. The scheme also included 224 batteries. The village had been without electricity for three decades, so this project was welcomed with some excitement. However, problems emerged almost immediately, and when dignitaries arrived to inaugurate the grid, villagers protested that they wanted ‘real electricity, not fake electricity’. By this they meant power from the central grid, generated mostly using coal. From the outset, the system could not cope with demand, and villagers faced rationing.

---

18 Watt-Logic, 2025: *Location, location, location: managing voltage in weak grids* (<https://watt-logic.com/2025/10/24/location-location-location-managing-voltage-in-weak-grids/>)

Figure 5. GB generation mix, 14 January 2024



Source: Watt-Logic (created for this report) using BMRS data

In fact, for Dharnai, the project was an indirect success – it highlighted the plight of the village to people with the power to effect change, and the following year a new transformer was installed, re-connecting the village to the regional electricity grid. Participation in the solar scheme fell from 380 households at the start to just 120 a year later. Electricity from the grid was also cheaper than that from the solar scheme.

Three years after the inauguration, the mini-grid started collapsing, with the batteries failing due to a lack of maintenance. Now the main project site is being used as a cattle shed<sup>19</sup>. All that remains of the scheme are a few solar pumps installed on farmland in the village, which are operated and maintained by the farmer, who benefits from free electricity to irrigate his fields during the day, which is the only time he wants to operate the pumps.

Of course, other uses of hydrocarbons cannot be replaced with renewable generation, and it is hard to find substitutes without unacceptable sacrifices to living standards. In April 2021, Sri Lanka

<sup>19</sup> Mongabay, 2021: *Solar power station at Bihar's "first solar village" is now a makeshift cattle shed* (<https://india.mongabay.com/2021/12/solar-power-station-at-bihars-first-solar-village-is-now-a-makeshift-cattle-shed/>)

was hailed as leading the world when it implemented a ban on synthetic fertilisers. But within months, agricultural yields had collapsed<sup>20</sup>, and the country went from a net exporter to a net importer of rice. Economic collapse and an International Monetary Fund (IMF) bailout followed. The ban was quietly dropped in November 2021. We have a very long way to go before we can replace hydrocarbons in the energy sector, and even further to go before we can replace them in other parts of the economy, since almost half of the world's population relies on synthetic, hydrocarbon-based fertilisers to feed itself.

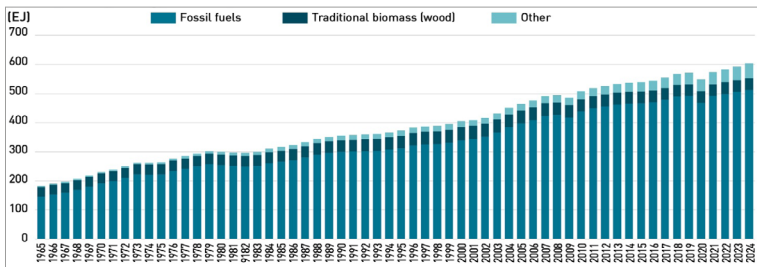
---

20 Financial Times, 2022: *Sri Lanka farmers count the cost of government fertiliser ban* (<https://www.ft.com/content/27a4fa03-74d7-409a-89e6-0f0391786c3e>)

# Fossil-fuel use dominates primary energy consumption

There is a tendency to use the words ‘energy’ and ‘electricity’ interchangeably, but in fact, the majority of energy use comes from machines that are powered by burning fossil fuels. While the proportion of global energy consumed derived from fossil fuels is falling, fossil fuels still account for more than 80% of the energy consumed across the world in 2022 (the most recent year for which data is available) (Figure 6).

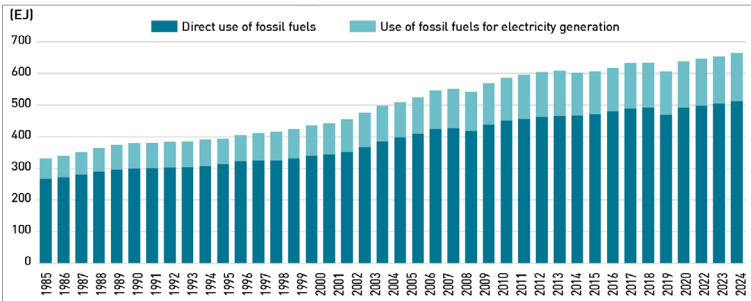
Figure 6. Global primary energy consumption



Source: Watt-Logic using data from Our World in Data, 2025

In addition, more fossil fuels are burned directly than are used for electricity generation (Figure 7).

Figure 7: Global fossil-fuel use: direct burning vs electricity generation



Source: Watt-Logic using data from Energy Institute Statistical Review of World Energy, 2025

The reason for this dominance of fossil fuels is that they are often cheaper and more convenient to use. Renewables such as wind and solar must be either used immediately or stored; however, there are few ways of storing electricity in large volumes. Pumped storage, where water is pumped up to a reservoir at height, is the most effective means of storing electricity currently available and can store much more energy than chemical batteries are capable of.

However, the availability of pumped storage depends on suitable geology with the ability to create reservoirs and dams at height and safely release water to generate electricity. Building a new pumped storage facility is expensive and often requires flooding land which could have other uses. It is challenging to find suitable locations – there are few places in the UK where new pumped storage facilities could be built, despite Wales being home to the largest pumped storage hydroelectric facility in Europe.

Often, it is necessary for energy to be consistently and constantly available in locations not served by electricity infrastructure. The cost of reliability and availability must therefore be taken into account when comparing the cost of fossil fuels with the cost of renewables.

# If renewables are cheap, why are they not displacing fossil fuels faster?

The claim that renewables are cheap, and cheaper than fossil fuels, is commonly heard. In the midst of the 2022 gas price crisis, politicians talked endlessly about the need to move away from ‘expensive’ oil and gas to ‘cheap’ renewables. The Director-General of the International Renewable Energy Agency (IRENA) describes renewables as ‘the world’s cheapest source of energy’<sup>21</sup>. Governments in Europe were keen to break the link between gas and electricity prices (since gas power stations are often the last ones required to fire up to meet demand, they tend to set the electricity price). In fact, this effort has been quietly abandoned in the UK.

But despite renewables being allegedly cheaper, they often require significant subsidies – in fact, UK subsidies for wind generation are now increasing. If something is cheap, why would it need a subsidy, especially after a quarter of a century?

Renewables subsidies were first introduced in the UK in 1990 because large-scale wind and solar technologies were considered immature, and therefore costs were high because supply chains were not developed. Subsidies would support the creation of supply chains, stimulate the benefits of the ‘learning curve’ (the phenomenon where costs in maturing industries fall as the industry ‘learns’ to operate more efficiently) and ultimately lead to lower costs, meaning they would no longer be required. The UK has now been subsidising renewable generation, and in particular wind, for more than a quarter

---

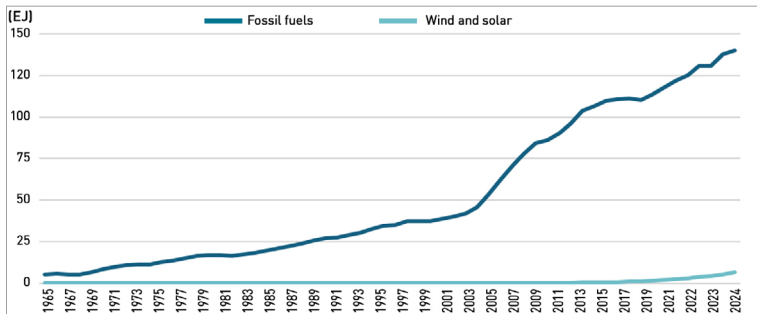
21 World Economic Forum, 2021: *Renewables were the world’s cheapest source of energy in 2020, new report shows* (<https://www.weforum.org/agenda/2021/07/renewables-cheapest-energy-source/>)

of a century, but rather than tapering off, subsidy levels are now rising, with the prices in the next auction round set to be higher than in the previous, largely unsuccessful, round.

The accepted reason for these recent increases is supply chain inflation: in the wake of the COVID pandemic and the Ukraine war, it now costs more to produce a wide range of goods. However, many other goods also cost more, yet do not require subsidies, and after a quarter of a century, any industry should be mature enough to stand on its own feet. Surely, if renewables are both cheap and a mature industry, there would be no need for subsidies. Indeed, when fossil-fuel prices have been as high as they were in 2022, the world should be clamouring to install renewables and stop using fossil fuels – fossil-fuel consumption would fall. This would be the exact opposite of a scenario where subsidies were warranted.

And yet the subsidies are rising. The reason is that, in the majority of cases, renewables are not cheaper. This is evidenced by the fact that despite the very significant hostility towards using fossil fuels – hostility that in part manifests in policies such as carbon and windfall taxes, which make their use more expensive – demand for fossil fuels continues to grow. This growth is most evident in places that prioritise cheap energy, such as China. While China’s deployment of renewables is growing, so too is its use of fossil fuels.

Figure 8. Chinese energy use



Source: Watt-Logic using data from Energy Institute Statistical Review of World Energy, 2025

We can see in Figure 8 that China's use of fossil fuels has grown much faster than its use of wind and solar, and while fossil fuels make up a declining portion of China's overall energy use, their growth in absolute terms, driven by a huge increase in primary energy consumption, dwarfs the growth in renewables. Surely, if wind and solar are so cheap, the opposite would be true, particularly in the last decade. China has been building new coal power stations specifically to ensure the security of supply. And this provides a hint at why, in general, renewables are not actually cheap.

It is important to note that sometimes wind and solar are cheap – solar in particular. But this depends on two things: time and location. For example, a solar panel on a domestic rooftop will provide that household with the cheapest available energy. But it will provide nothing at all during the periods when energy is most needed and most expensive – winter evenings.

Given the need to maintain supply and demand in close balance at all times, it is easy to understand how weather-based generation can make this more difficult. Gusts of wind and clouds can create significant moment-to-moment variations in output. The annual costs of balancing the British power grid have increased by several billion pounds in recent years, illustrating the growing difficulty of this challenge. It is also easy to understand that sometimes there is no wind for extended periods, and there is never solar power at night, meaning that alternative sources of generation or storage need to be built in order to be available at these times. Inevitably, this also involves cost. In other words, solving the time problem for renewables can be expensive; moment-to-moment variation and longer-term differences both cost money to manage.

In the UK, renewable generation also tends to be located in places where there is little existing grid infrastructure, such as offshore or in the north of Scotland. This means that additional high-voltage transmission lines are needed to bring the electricity they generate to the places where it is used. These are very expensive infrastructure projects that can take years to deliver, not least because of public

resistance to the presence of pylons in the countryside or near their homes.

Consequently, there is a backlog of such projects, meaning that it is often necessary to require renewable generators to curtail their output in favour of fossil-fuel generation close to end-user locations. Both the construction of new grid infrastructure and the curtailment of renewable generation incur costs.

# The cost of energy

Many of the claims that renewables are cheap arise as a result of so-called levelised cost of energy (LCOE) comparisons produced by investment bank Lazard. Lazard<sup>22</sup> explicitly states that its analysis ‘does not take into account potential social and environmental externalities or reliability-related considerations’. This means that the very analysis used to support claims that renewables are cheap ignores the key costs of reliability and availability, which can be very significant.

The narrative that renewables are cheap is attractive and has a superficial logic in that wind and sun are ‘free’ – they do not incur fuel costs, which are the main drivers of the price at which power stations that generate electricity using conventional means (eg burning fossil fuels or nuclear power) sell the electricity they produce. A decision to run a conventional power station at any time depends on the cost of the fuel, other operating costs such as the cost of the staff employed to operate the plant (together the ‘short-run marginal costs’ or ‘SRMC’) and the price that can be achieved selling the electricity. Of course, all power stations want to recover their fixed and capital costs, but once the plant is built, decisions to run are based on whether the electricity price exceeds the SRMC since the fixed and capital costs are incurred anyway, irrespective of whether the plant is running. For renewables the SRMC is very low, close to zero, which creates an expectation that they would be able to sell their electricity at very low prices.

However, this is misleading because all electricity generators must be able to sell their electricity at higher prices. To cover fixed costs (costs that do not vary based on whether the plant is running, such as insurance), generators must sell their electricity at a price that exceeds the ‘long-run marginal cost’, and to cover capital costs (the costs

---

22 Lazard, 2023: *Levelised Cost of Energy+* (<https://www.lazard.com/research-insights/levelized-cost-of-energyplus/>)

associated with building the plant in the first place), the price needs to be higher again. Some people seem to imagine that if all electricity was generated from renewable sources, it would be essentially free, but clearly in that case, neither the fixed costs nor the capital costs would be recovered, the power stations would consistently run at a loss, and investors would be unwilling to provide the money to build them. It is therefore unrealistic to assume that wind and sun being free would translate into 'free' electricity.

The cost at which a power station sells its electricity is also only one part of the overall cost picture for electricity. It is not enough to generate the electricity; it also has to be delivered to the end users, who generally want to receive it whenever they choose, not just when it is windy and/or sunny. The LCOE focuses on the first part of the cost equation – the cost of generation (including fixed and capital costs) – but it ignores the second part, which is to deliver electricity to end users when they require it. LCOE focuses on what are known as the 'wholesale' costs of electricity, ie the price charged by generators to deliver electricity to the grid. But what really matters is the 'retail' price, ie the price paid by consumers to receive electricity at their homes and businesses whenever they want it.

Retail energy prices include many costs in addition to the wholesale cost of energy, almost all of which are applied to electricity bills (Figure 9). In the UK, social and environmental policy costs, network costs and supplier operating costs add significant additional amounts to end-user bills. Social and environmental policy costs include environmental taxes, which now amount to £19.4 billion per year<sup>23</sup> and include the Climate Change Levy (£1.8 billion), the Renewables Obligation renewables subsidy (£7.8 billion), the Contracts for Difference (CfD) scheme (£2.3 billion) and the UK Emissions Trading Scheme (£1.8 billion). Then there is the cost of the Capacity Market, which ensures primarily fossil-fuel generation is paid to remain available to generate at times when wind and solar output are low (£1.3

---

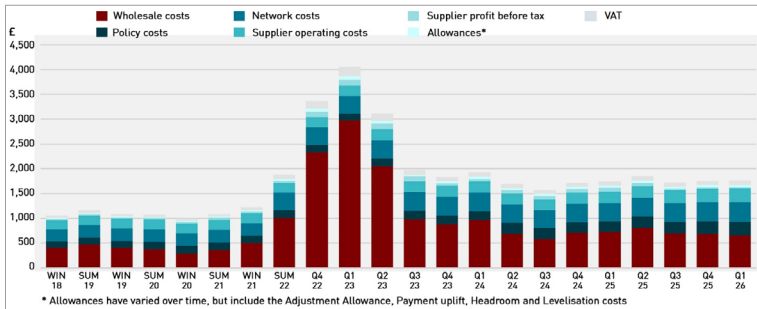
23 Office for Budget Responsibility, 2025: *Economic and fiscal outlook* (<https://obr.uk/download/march-2025-economic-and-fiscal-outlook-detailed-forecast-tables-receipts/?tmstv=1757353579>)

billion). There is also the Feed-in-Tariff (£1.9 billion)<sup>24</sup>, the Renewable Heat Incentive (£1.2 billion) and around another £1.3 billion in other smaller schemes. The Office for Budget Responsibility (OBR) is now forecasting that environmental policy costs, including environmental taxes, will reach £26.0 billion by 2030/31.

Network costs include the cost of building new infrastructure as well as balancing supply and demand in real time, costs that have increased by billions of pounds per year as a result of the need to connect large numbers of wind turbines and solar farms and mitigate the effects of moment-to-moment variations in wind and solar output.

Figure 9. Breakdown of an annual energy bill

**(default tariff price cap for a dual-fuel, direct-debit customer with typical consumption)**



Source: Ofgem<sup>25</sup>

After the large increase in gas prices following the COVID recovery and the Russian invasion of Ukraine, there was much discussion about breaking the link between gas and electricity prices, since higher gas prices were causing the wholesale component of retail electricity

24 Ofgem, 2025: *Feed-in Tariff Levelisation Schedule Year 15* (<https://www.ofgem.gov.uk/guidance/feed-tariff-levelisation-schedule-year-15>)

25 Ofgem, 2025: *Energy price cap (default tariff) levels* (<https://www.ofgem.gov.uk/energy-regulation/domestic-and-non-domestic/energy-pricing-rules/energy-price-cap/energy-price-cap-default-tariff-levels>)

---

bills to increase significantly. But wholesale prices are not the only component of bills that have increased (although they have fallen significantly from their 2022 highs). Network costs have increased by 55% since 2018, and policy costs are up by 69%, despite the CfD rebate in 2022. Over the longer term, it is clear that the long-term increase in retail electricity prices has not been driven by wholesale price increases.

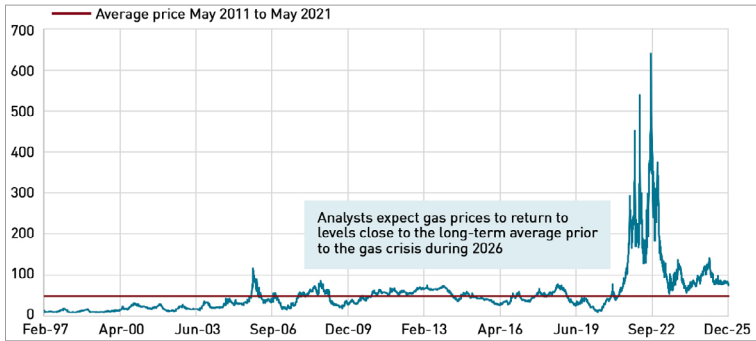
Ordinarily, these lower gas prices would translate into significantly lower wholesale electricity prices for Great Britain, given that the marginal generator on the system is still almost always a gas-fired generator. Yet the UK will be unable to fully benefit from this relief because policy continues to force an aggressive build-out of subsidised renewables while simultaneously squeezing the economics of the thermal fleet, and inflating the cost of carbon dioxide emissions which feed into the wholesale power price. Empirical analysis of the British wholesale electricity market shows that carbon prices (eg EU/UK ETS allowances) are essentially fully passed through into electricity prices<sup>26</sup>. This means that movements in carbon cost are reflected in the wholesale price, supporting industry estimates that carbon pricing can contribute a substantial share — on the order of ~20–30% of the electricity price depending on prevailing EUA/UKA prices and fuel costs.

As more wind and solar enter the system without corresponding investment in firm generation, dispatchable gas units are running fewer hours and recovering a smaller share of their fixed costs, even though they remain essential for keeping the lights on during periods of low wind. This raises the effective cost of renewables, because it becomes more expensive to secure the gas power stations needed to provide backup – they run for fewer hours in the normal market, so are less able to cover their fixed costs, meaning the cost they must be paid to remain in the open via the Capacity Market increases.

---

26 University of Cambridge Energy Policy Research Group, 2019: *Cost Pass-through in the British Wholesale Electricity Market: Implications of Brexit and the ETS reform* (<https://www.jstor.org/stable/resrep30333?seq=1>)

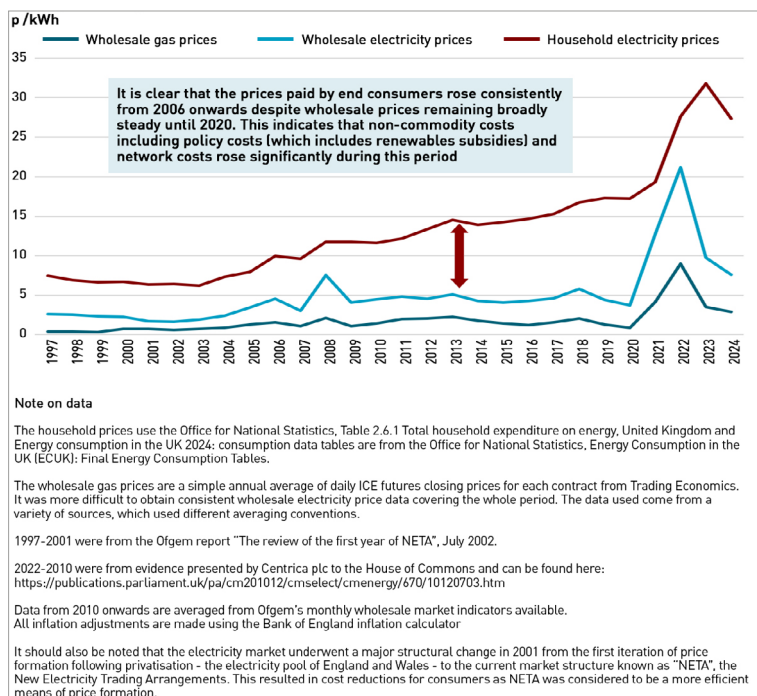
Figure 10. UK natural gas prices (p / th)



Source: Trading Economics data

Figure 11 illustrates this point. In the late 1990s and early 2000s, household electricity prices changed in line with wholesale prices, meaning that reductions and later increases in wholesale electricity prices were reflected in the price paid by households. However, from around 2008, this relationship broke down, with wholesale gas and electricity prices being largely flat on an annualised basis while households faced bills that increased steadily (or experienced much smaller reductions than were seen in the wholesale markets). This reflected increases in the non-commodity component of bills, and in particular, the strain imposed by first subsidising and then incorporating renewables into the electricity grid. The delay in wholesale price increases feeding through to households in 2021 was a result of the lagging effect of the price cap, which, at the time, was only adjusted in April and October.

Figure 11. Household electricity prices compared with wholesale energy prices  
(in pence per kWh, money of the day)



Source: Office for National Statistics<sup>27</sup>, DESNZ<sup>28</sup>, Trading Economics<sup>29,30</sup>, Ofgem<sup>31</sup>, Centrica<sup>32</sup>, Bank of England<sup>33</sup>, Watt-Logic analysis

27 Office for National Statistics, 2025: *Annual domestic energy bills* (<https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics>)

28 Department for Energy Security and Net Zero, 2025: *Energy consumption in the UK 2025* (<https://www.gov.uk/government/statistics/energy-consumption-in-the-uk-2025>)

29 Trading Economics, 2025: *United Kingdom Natura; Gas Price* (<https://tradingeconomics.com/commodity/uk-natural-gas>)

30 Trading Economics, 2025: *United Kingdom Electricity Price* (<https://tradingeconomics.com/united-kingdom/electricity-price>)

31 Ofgem, 2002: *The first year of NETA* (<https://share.google/shD75zggF9cgUpK29>)

32 UK Parliament, 2011: *Memorandum submitted by Centrica* (<https://publications.parliament.uk/pa/cm201012/cmselect/cmenergy/670/10120703.htm>)

33 Bank of England, 2025: *Inflation calculator* (<https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator>)

Recent evidence suggests that renewable electricity is getting more expensive<sup>34</sup>. The round of the CfD subsidy for renewables that completed in 2024, Allocation Round 6 (AR6), saw onshore wind and solar price just a little below the gas-based wholesale price of electricity (in £2024), while offshore wind was 13% higher. Despite this premium, Ørsted cancelled<sup>35</sup> Hornsea 4, the flagship project of the auction, on the basis that it was uneconomic. Once the costs of backup, grid connection and reinforcement, and real time balancing are factored in, gas was cheaper than any of the renewable generation technologies awarded contracts in the auction. AR7 results were confirmed in January 2026 and were even higher with offshore wind pricing at £94 /MWh for 20-year contracts compared with 15 years previously, a significant uplift. This compares with an average wholesale price of electricity in 2025 of £80 /MWh.<sup>36</sup>

Figure 12. Contracts for Difference strike prices (£2024)

£2024	Auction Year	Offshore Wind	Onshore Wind	Solar PV
AR1	2015	163.10	114.27	91.69
AR2	2017	86.59	n/a	n/a
AR3	2019	56.68	n/a	n/a
AR4	2022	52.05	59.18	64.09
AR5	2023	n/a	72.87	65.49
AR6	2024	82.04	70.93	69.77

Source: UK Government, *CfD auction results*<sup>37,38,39,40,41,42</sup>

34 Watt-Logic, 2025: *ASPs for AR7 prove renewables are not cheap* (<https://watt-logic.com/2025/07/27/asps-for-ar7-prove-renewables-are-not-cheap/>)

35 Ørsted, 2025: *Ørsted to discontinue the Hornsea 4 offshore wind project in its current form* (<https://orsted.com/en/company-announcement-list/2025/05/orsted-to-discontinue-the-hornsea-4-offshore-wind-143901911>)

36 Department for Energy Security and Net Zero, 2025: *Contracts for Difference (CfD) Allocation Round 7: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-7-results>)

Only briefly in 2022 was it more expensive to generate electricity using gas, and there were net payments from renewable developers to consumers under the CfD scheme. However, more than two decades of cheap gas before this meant that even after the costs of the gas crisis stimulated by COVID and the Ukraine war, British consumers spent almost £220 billion more in today's money by transitioning to renewables than if they had continued to use fossil fuels for electricity generation<sup>43</sup>. It is now expected that 2026 will see a return to the low and stable gas prices of the years before the gas crisis as new LNG projects see the global gas market return to length<sup>44</sup>.

During the whole of 2022, there were no offshore wind investments in the EU other than a handful of small floating projects<sup>45</sup>. Several projects had been expected to reach financial close in 2024, but final investment decisions (FIDs) were delayed due to inflation, market

---

37 Department for Energy Security and Net Zero, 2014: *Contracts for Difference (CfD): first allocation round* (<https://www.gov.uk/government/collections/contracts-for-difference-cfd-first-allocation-round>)

38 Department for Energy Security and Net Zero, 2017: *Contracts for Difference (CFD) Second Allocation Round Results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-second-allocation-round-results>)

39 Department for Energy Security and Net Zero, 2019: *Contracts for Difference (CfD) Allocation Round 3: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-3-results>)

40 Department for Energy Security and Net Zero, 2022: *Contracts for Difference (CfD) Allocation Round 4: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-4-results>)

41 Department for Energy Security and Net Zero, 2023: *Contracts for Difference (CfD) Allocation Round 5: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-5-results>)

42 Department for Energy Security and Net Zero, 2024: *Contracts for Difference (CfD) Allocation Round 6: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-6-results>)

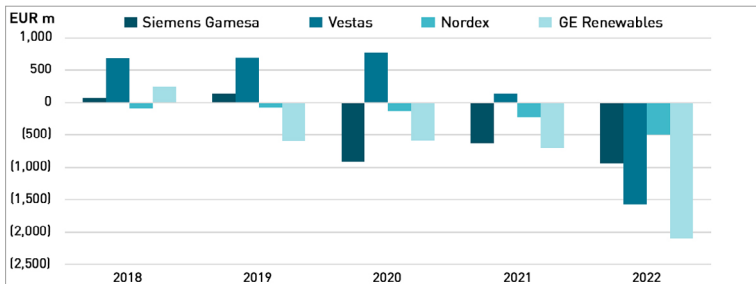
43 Watt-Logic, 2025: *New report: The true affordability of net zero* (<https://watt-logic.com/2025/05/19/new-report-the-true-affordability-of-net-zero/>)

44 EnergyMarketPrice, 2025: *A surplus of LNG supply in 2026 will put pressure on global gas prices* (<https://www.energymarketprice.com/home/en/news/1176394>)

45 WindEurope. OffshoreWind.biz, 2023: *Zero Investments in Offshore Wind Farms in Europe in 2022* (<https://www.offshorewind.biz/2023/02/01/zero-investments-in-offshore-wind-farms-in-europe-in-2022-windeurope/>)

interventions and uncertainty about future revenues. Overall, the EU saw only 9 GW worth of new turbine orders in 2022, a 47% drop from 2021. In fact, wind turbine manufacturers have been losing billions of dollars in recent years despite the widespread availability of subsidies, and contrary to the narrative that these problems are a result of COVID and the Ukraine war, Figure 13 suggests that this trend already started earlier.

Figure 13. Net profits of major wind turbine manufacturers



Source: Watt-Logic<sup>46</sup>

Despite years of political rhetoric portraying offshore wind as a mature, low-cost technology, the financial results of leading developers tell a different story. Ørsted, long regarded as the global champion of offshore wind, has reported repeated multi-billion-kroner losses, written down US projects, cancelled major UK schemes, and been forced into a DKK 60 billion rights issue to stabilise its balance sheet<sup>47</sup>. The company has acknowledged that the business environment for renewable development has deteriorated, citing rising turbine and installation costs, higher interest rates, regulatory uncertainty, and execution risks that were not priced into earlier political ambitions<sup>48</sup>.

46 Watt-Logic, 2023: *Time to accept that wind farm costs are not falling* (<https://watt-logic.com/2023/06/14/wind-farm-costs/>)

47 Brussels Signal, 2025: *Danish wind-farm major Ørsted hammered by brutal financial storm* (<https://brusselsignal.eu/2025/08/danish-wind-farm-major-orsted-hammered-by-brutal-financial-storm/>)

48 RTE, 2025: *Offshore wind developer Ørsted's Q1 beats forecasts* (<https://www.rte.ie/news/business/2025/0507/1511461-offshore-wind-developer-orsteds-q1-beats-forecasts/>)

Even projects with existing power-purchase arrangements or CfDs are proving uneconomic to build under current cost conditions, calling into question the long-held assumption that scale alone would drive wind's costs continuously downward.

The pressures facing Ørsted are not anomalies but symptoms of structural fragilities across the sector. Analysts estimate that offshore wind project costs have risen by 30–50% in just two years, driven by commodity inflation, supply chain bottlenecks, installation-vessel shortages, and higher financing costs<sup>49</sup>. Some oil and gas majors are scaling back offshore wind investments, while infrastructure funds and specialised developers are entering the market. Incumbent developers are re-focusing portfolios to remain competitive in an increasingly challenging market. Several major auctions in Europe and the US have failed to attract bidders, because strike prices no longer cover real project economics<sup>50</sup>.

Developers are withdrawing from contracted projects, not bidding for new ones, or demanding substantially higher support levels, a sign that profitability has evaporated even before accounting for curtailment risk, weak demand growth, grid delays, or underperformance of wind resource<sup>51</sup>. This underscores the reality that, far from being a low-cost replacement for hydrocarbons, large-scale wind development increasingly depends on ever-greater levels of financial support, regulatory protection, and system-level subsidies to remain investable.

It is also noticeable that countries with high renewables penetration, particularly those in northern latitudes, also have high electricity costs, while countries with access to cheap fossil fuels have very low energy costs. Countries including Denmark, Germany and the

---

49 BCG, 2025: *Offshore Wind Industry Update* (<https://www.bcg.com/publications/2025/offshore-wind-industry-update>)

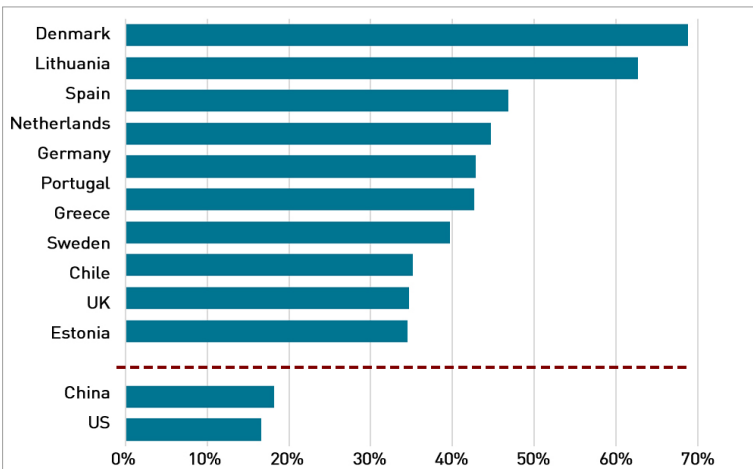
50 Euro News, 2025: *Ørsted sees shares plunge as US halts work on offshore wind farm* (<https://www.euronews.com/business/2025/08/25/orsted-sees-shares-plunge-as-us-halts-work-on-offshore-wind-farm>)

51 OilPrice.com 2023: *Wind Power Has A Profitability Problem* (<https://oilprice.com/Alternative-Energy/Wind-Power/Wind-Power-Has-A-Profitability-Problem.html>)

UK have seen their electricity costs increase significantly despite an aggressive roll-out of renewables, in particular wind power (Figure 14). If the cost of wind power increases as suggested by the trends in the subsidy auctions, then end-user bills can be expected to rise further in countries with a significant deployment of wind power.

Figure 14. Wind and solar as a percentage of electricity generation, 2024

**(Top 10 worldwide plus China (#25) and the US (#28))**



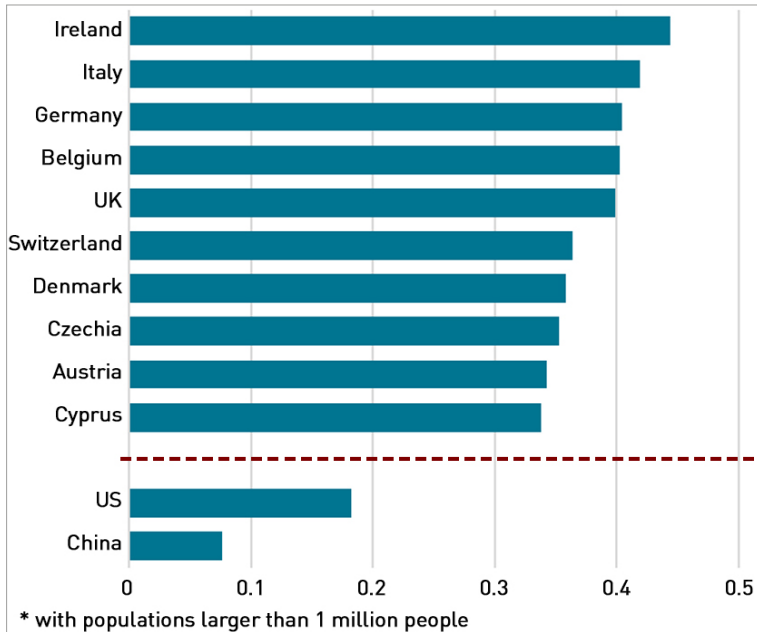
Source: Energy Institute data<sup>52</sup>, Watt-Logic analysis

It is difficult to justify an argument that the deployment of renewables at northern latitudes results in lower electricity prices, and even sunnier places that rely more on solar power, such as Italy (second highest electricity prices out of 129 countries in 2025) and Australia (18<sup>th</sup> highest electricity prices), have seen their electricity costs rise significantly (Figure 15).

52 Energy Institute, 2025: *Statistical Review of World Energy* (<https://www.energyinst.org/statistical-review/home>)

Figure 15. Price of electricity in 2025

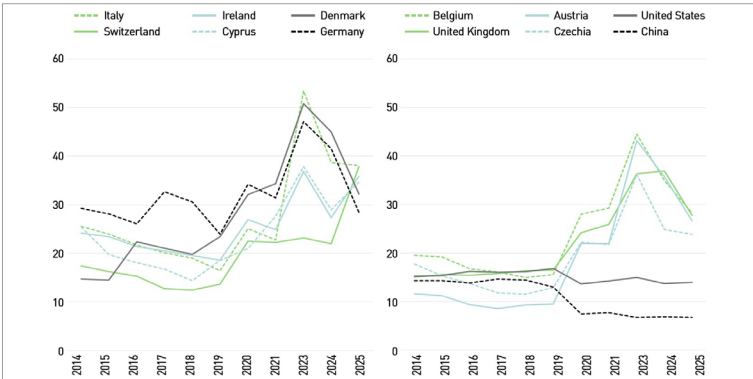
(Top 10 worldwide plus the US (#48) and China (#94) in US\$ /kWh)

Source: World Population Review<sup>53</sup>

Ireland, Denmark, Germany and the UK have all developed energy transition policies that require large additions of wind energy to their electricity generation mixes. These countries also have some of the most expensive end-user electricity prices in the world (Figure 16), and have seen significant price increases over the past decade even when the effects of the Ukraine war are excluded, compared with countries such as the US and China, which have much lower amounts of intermittent generation in their energy mixes.

53 World Population Review, 2025: *Cost of Electricity by Country 2025* (<https://worldpopulationreview.com/country-rankings/cost-of-electricity-by-country>)

Figure 16. Price of electricity, top 10 out of 127 countries plus the US (#47) and China (#93) (US\$/kWh in 2014 money)



2022 excluded due to the distorting effect of the Ukraine war on energy prices

Source: Watt-Logic using data from the World Bank<sup>54</sup> and World Population Review

It is clear that the economic case for renewables is significantly less straightforward than the public is led to believe. But this is not the only challenge to their deployment – there are also practical challenges to replacing fossil fuels with renewables, particularly around the ability of supply chains to deliver on the ambitions of so many countries all wanting to deploy wind and solar at pace. Huge amounts of metal will need to be dug out of the ground, separated from its ores and processed into the forms required for the manufacture of generation and grid infrastructure. The supply chains for achieving this do not currently exist at the required scale.

54 World Bank, 2019: *Electric Prices by Country* (<https://databank.worldbank.org/embed/Electric-Prices-by-Country/id/7b12e700>)

---

## What are we doing with new licences and why?

In November 2023 the UK government announced that it was moving to annual licensing rounds for North Sea licences, which, it believes, will increase investor confidence in the sector and support the UK's energy independence<sup>55</sup>. The new regime is subject to two key criteria being met: that the UK is projected to remain a net importer of both oil and gas; and that the carbon dioxide emissions associated with the production of UK gas are lower than the average production emissions from imported liquefied natural gas. Currently, gas produced in the UK accounts for about a quarter of the production emissions of imported liquefied natural gas (gas that is transported by ship rather than by pipeline)<sup>56</sup>.

Some Labour politicians take a different view, indicating their intention to stop issuing new oil and gas exploration licences in the North Sea<sup>57</sup>, a stance that has attracted opposition from different parts of Labour's traditional constituency. Environmentalists and groups on the left of the party are calling for Labour to go further and cancel all North Sea drilling activity<sup>58</sup>, while trade unions, concerned about the impact on jobs, would prefer to see a softening of the plans<sup>59</sup>.

---

55 Department for Energy Security and Net Zero: *New annual oil and gas licensing rounds to boost UK economy, energy independence and transition to net zero* (<https://www.gov.uk/government/news/new-annual-oil-and-gas-licensing-rounds-to-boost-uk-economy-energy-independence-and-transition-to-net-zero>)

56 North Sea Transition Authority, 2023: *Natural gas carbon footprint analysis* (<https://www.nstauthority.co.uk/the-move-to-net-zero/net-zero-benchmarking-and-analysis/natural-gas-carbon-footprint-analysis/>)

57 BBC News, 2023: *Keir Starmer pledges to end North Sea exploration and let areas profit from clean power* (<https://www.bbc.co.uk/news/uk-scotland-scotland-politics-65945214>)

58 iNews, 2023: *Keir Starmer under pressure from Labour left to U-turn on new oil and gas licences* (<https://inews.co.uk/news/politics/keir-starmer-labour-left-oil-gas-north-sea-just-stop-oil-2531243>)

59 Financial Times, 2023: *GMB attacks Labour plans to end new North Sea oil and gas licences* (<https://www.ft.com/content/b5b1ff08-b51f-4cdf-a705-d1e9fbbef436>)

# What are oil and gas licences?

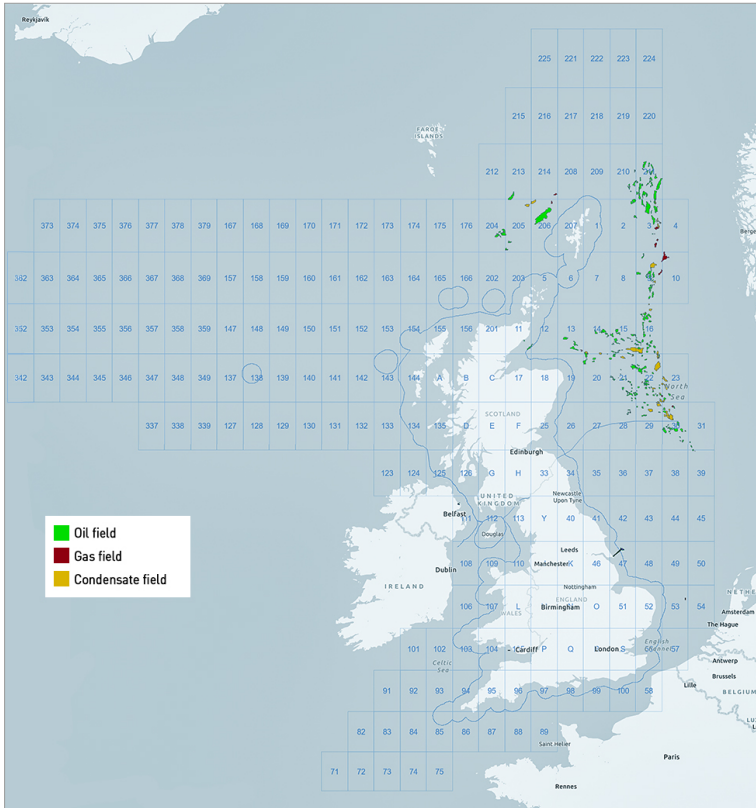
In the UK, all rights to petroleum are vested in the Crown; however, licences are issued by the North Sea Transition Authority (NSTA), which was empowered under the Petroleum Act 1998 to grant licences to ‘search for and bore for and get petroleum’ to such persons as they see fit<sup>60</sup>. The NSTA’s licensing system covers oil and gas within Great Britain, its territorial sea and on the UK Continental Shelf (Figure 17). The NSTA regulates the oil and gas, offshore hydrogen and carbon storage industries, and has three main priorities:

- i. regulating energy production, helping to drive the to help drive North Sea energy transition;
- ii. realising the potential of the UK Continental Shelf as an energy and carbon abatement resource; and
- iii. overseeing the halving of upstream emissions by 2030.

---

60 North Sea Transition Authority, 2024: *OGA Plan sharpens focus on emissions reduction* (<https://www.nstauthority.co.uk/news-publications/oga-plan-sharpens-focus-on-emissions-reduction/>)

Figure 17. UK oil and gas lease arrangements



Source: North Sea Transition Authority<sup>61</sup>

61 North Sea Transition Authority, 2025: *Quadrants* (<https://experience.arcgis.com/experience/0f32136c674745a397022bc6ad510d96>)

Licences fall into several categories: onshore and offshore licences; exploration licences, which only allow seismic acquisition; and shallow drilling and production licences (which cover both exploration and production). To secure a licence, companies must meet a set of strict criteria, including:

- **Technical capability:** the ability to meet the requirements for operations within the framework of the licence, including having suitable technical and managerial ability in terms of experience and staff;
- **Corporate governance:** the corporate governance arrangements of all licensees must be commensurate with their portfolio in terms of the hydrocarbon lifecycle, the nature of operations and whether the underlying assets are operated or non-operated. Governance arrangements should reflect best practice;
- **Fitness of licensees and persons exercising control:** existing and prospective licensees, directors and individuals involved in the management of licensees, as well as those who control licensees, must be deemed to be 'fit';
- **Financial viability and financial capacity:** licensees must meet certain financial criteria to demonstrate that they have the financial capability to exploit the exclusive rights granted by the licence;
- **Tax considerations:** the majority of transactions take a form that is familiar to both the NSTA and HMRC and are not expected to raise any new tax issues, so tax is not generally a factor in the NSTA's decisions. However, certain types of commercial arrangements present an inherent tax risk; and
- **Residence criteria:** prospective licensees must satisfy the NSTA that they have a place of business (staffed presence) in the UK.

In March 2024, the NSTA published a new Emissions Reduction Plan including action on flaring and venting and the electrification of oil and gas installations. The sector has already made progress in cutting production emissions by almost a quarter since 2018. Flaring almost halved between 2018 and 2022. However, oil and gas production

emissions still account for around 3% of the UK's total greenhouse gas emissions, with power generation being responsible for 79% of production emissions in 2022. This indicates that electrification or clean power generation can play a significant role in reducing these emissions – electrification alone could, under the best-case scenario, deliver emissions savings of 1 million to 2 million tonnes in 2030 and up to 22 million tonnes by 2050. The NSTA intends to make electrification a key consideration in the approval of Field Development Plans.

Other forms of low-carbon power will also be considered if operators can provide evidence of near-equivalent emissions reduction. In cases where it is not reasonable that an existing asset be electrified, other low-carbon power emissions reduction strategies must be undertaken.

The Plan highlights three other emission reduction pathways: investment and efficiency, a focus on inventory (with increased scrutiny of assets with high emissions intensity) and action on flaring and venting.

In relation to inventory, there will be increased scrutiny of assets with high emission intensity and their cessation of production dates. There could be trade-offs between installations, with the closure of some low-producing, high-polluting installations earlier to allow higher-producing and cleaner new assets to come online while still reducing overall UK Continental Shelf (UKCS) level emissions.

The Plan builds on existing commitments made by the industry, including in the North Sea Transition Deal, with operators having agreed to deliver a 50% reduction in emissions relative to 2018 levels by 2030 and invest £2 billion to £3 billion in electrification. In addition, industry has itself committed to a 90% reduction by 2040 and to reaching a net zero basin by 2050.

# Developing a new oil or gas field is expensive, time-consuming and financially risky

The main steps in the life of an oil or gas field are:

- **Exploration/discovery:** oil and gas are trapped between rock formations underground. In order to locate an accumulation of hydrocarbons, geologists analyse images of the earth's subsurface produced by seismic echography, using them to build a model of the geological layering of the subsurface and identify potential reservoirs called 'prospects'. Exploration wells need to be drilled to check if the identified prospect does indeed contain hydrocarbons. These wells are typically several kilometres deep, and up to 80% of them can be 'dry', ie not contain any viable hydrocarbons. This risk is fully borne by the exploration company. The exploration phase may take anywhere between one and five years.
- **Appraisal/evaluation:** once a discovery has been confirmed, 3D numerical reservoir simulation models are built to estimate the initial volume of oil and gas in the reservoir and to simulate the reservoir fluid flow behaviour so the field development plan can be optimised (number, type and location of wells, level of field production, etc.). Appraisal wells are drilled to improve the field description through further data acquisition. This phase typically takes between four and ten years.
- **Development:** a field development plan establishes the number of wells to be drilled to reach production objectives, the recovery techniques to be used to extract the fluids within the reservoir, the type and cost of installations, such as platforms, depending on the marine environment (tides, storms, waves, winds, corrosion,

etc.), the separation systems for gas and fluids, and the treatment systems needed to preserve the environment. This phase also takes between four and ten years.

- **Production:** once the field development plan has been approved and implemented, the field will move into the production phase, which may last between 15 and 30 years, and up to 50 years for the largest fields. The lifetime of a reservoir is composed of different successive phases: a period of production increase (ramping up), a stabilisation phase or ‘plateau’, an injection phase (water, gas or chemical products) to assist hydrocarbon recovery to maintain a satisfactory volume of produced resources, and the depletion phase when production progressively declines.
- **Decommissioning/abandonment:** when the hydrocarbon production rate becomes uneconomic, the reservoir is abandoned. Prior to abandoning the field, the licensee must dismantle facilities such as platforms, make the well safe, preserve the field’s residual reserves and return the site to its original condition. This phase may take decades, depending on whether ongoing environmental monitoring is needed.

The exploration and appraisal (E&A) phases can take years to complete. According to the CCC (2022), the average time from securing a licence to producing hydrocarbons is 28 years. Although there is evidence that in recent years projects can move through these stages faster, there is still no guarantee that recoverable reserves will be identified at the end of this process, and when they are, bringing the field to production is expensive – for example, the new Rosebank oil and gas field will require an investment of £8.5 billion in order to begin production<sup>62</sup>.

---

62 Equinor, 2023: *Frequently asked questions about Rosebank* (<https://www.equinor.com/energy/rosebank#faqs>)

# The UK North Sea is considered to be mature but recent signs are promising

In its 2023 Wells Insight Report, the NSTA<sup>63</sup> said that a disappointing total of 48 development wells were drilled, and 12 E&A wells completed in 2022, against a baseline ambition of 60 development wells per year to help slow the ongoing decline in production and assist in securing a greater proportion of domestically produced hydrocarbons. 334 million boe of potential hydrocarbons have been discovered in the past three years, but in order for domestic production to grow, appraisal and development of these potential resources must be undertaken quickly. To put these discoveries into context, 334 mmboe is equivalent to 49 million toe. The UK produced 74 mmtoe of oil and gas in 2022<sup>64</sup>.

In the 2024 report, NSTA reported<sup>65</sup> that in 2023, the number of E&A wellbores drilled was 11 exploration and 5 appraisal, attributed to the low amount of capital available for E&A activity. E&A led to the discovery of 173 mmboe of potential resources during 2021–23. Forty-one development wellbores were completed in 2023, compared with 40 in 2022. Total development well spend was £1.42 billion.

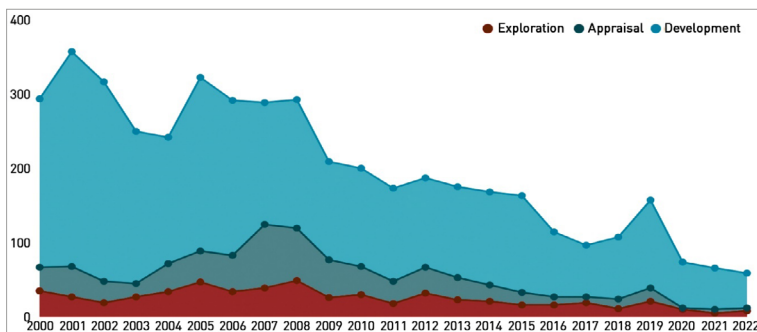
---

63 North Sea Transition Authority, 2023: *Wells report reveals significant growth opportunities which must be grasped* (<https://www.nstauthority.co.uk/news-publications/wells-report-reveals-significant-growth-opportunities-which-must-be-grasped/>)

64 North Sea Transition Authority, 2023: *Medium-term projections* (<https://www.nstauthority.co.uk/media/ufbbsoya/nsta-medium-term-projections-sep-2023.xlsx>)

65 North Sea Transition Authority, 2024: *UKCS Well Trends* (<https://app.powerbi.com/view?r=eyJrIjoiMGVhODk0MjctNDcyYi00NzE3LWE3N2QfYzY4Zjc2NjgyYTdjIiwidCI6ImU-2ODFjNTlLTg2OGUtNDg4Ny04MGZhLWNlMzZmMwYyMwIiwiaWZlIj9>)

Figure 18. Wells spudded by wellbore intent



Source: North Sea Transition Authority

The NSTA has reported a continuing decline in well activity (Figure 18). In 2022 48 development wells were spudded (drilling started), down from 62 in 2021 and 73 in 2020. Similarly, well interventions<sup>66</sup> dropped from 566 in 2020 to 522 in 2021 and to 511 in 2022. E&A wells remained steady, with 12 in 2022, up two from the previous year. Total well stock has reduced steadily as fields reach the end of their lives and cease production, and this reduction is likely to continue with more fields reaching cessation of production by 2030.

The NSTA believes access to capital may be limiting drilling activity, with smaller operators finding it harder to raise the necessary funds. New wells cost on average £8,000 per metre to drill, with drilling depths ranging from 12 to almost 9,000 metres. The UK North Sea saw just eight exploration and four appraisal wells drilled in 2022, compared with 32 exploration wells drilled on the Norwegian Continental Shelf in 2022, of which 28 were wildcats, which resulted in 11 discoveries<sup>67</sup>.

66 Well interventions fall into two general categories: light or heavy. During light interventions, tools or sensors are lowered into a live well while pressure is contained at the surface. In heavy interventions, production may be stopped before making major equipment changes.

67 Norwegian Offshore Directorate, 2023: *Investments for the future on the Shelf* (<https://www.sodir.no/en/whats-new/news/general-news/2023/investments-for-the-future-on-the-shelf/>)

‘Wildcat’ drilling refers to the practice of experimental drilling in areas not known to produce oil.

In August 2025, Norway made one of its biggest North Sea oil discoveries in a decade<sup>68</sup>, undermining claims that the basin is so far into decline new E&A activity is pointless. Operator Aker BP uncovered a field that could yield the equivalent of 134 million barrels of oil in an area thought to have already been fully explored. The find was made in the Yggdrasil field, an area of the Norwegian Continental Shelf that is close to and geologically similar to that of the UKCS. In December 2025, Equinor made two new discoveries of gas and condensate in the Sleipner area of the North Sea. These were the company’s largest discoveries in 2025 and can be developed for the European market through existing infrastructure. The two wells, Lofn and Langemann, are located between the Gudrun and Eirin fields. Preliminary estimates indicate the reservoirs may contain between 5 million and 18 million standard cubic meters of recoverable oil equivalents, corresponding to 30 million to 110 million barrels<sup>69</sup>.

---

68 Telegraph, 2025: *Norway makes one of biggest North Sea discoveries in a decade* (<https://www.telegraph.co.uk/business/2025/08/22/norway-makes-one-of-biggest-north-sea-discoveries-in-decade/>)

69 Equinor, 2025: *Equinor makes new discoveries in the North Sea* (<https://www.equinor.com/news/20251205-new-discoveries-in-the-north-sea>)

# The populist windfall tax is harming UK interests in the North Sea

Unfortunately, the UK is unable to participate in this activity due to the hostile fiscal regime. Recent analyses show that the UK Continental Shelf is entering a period of forced decline driven not by geological maturity, but by the instability and weight of the fiscal regime. OEUK warns that the Energy Profits Levy (EPL) and wider 78% headline tax rate are eroding investor confidence and accelerating the decline of offshore energy production, with billions of pounds of potential investment now at risk<sup>70</sup>.

It pointed out that in 2024 the UK's total energy production was at a historic low, with over 40% of the UK's energy needs met through imports. Its 2025 modelling indicates that continued fiscal instability will reduce drilling activity, shrink the domestic supply chain, and bring forward basin-wide decommissioning, deepening the UK's reliance on imported energy.

Action is required now to remove the EPL and replace it with the proposed permanent mechanism to respond to future price shocks. Without a more immediate response, it is anticipated that the sector will experience an accelerated decline, losing critical supply chain capability, and infrastructure future production opportunities from the UKCS.

- Impact Of UKCS Fiscal Policy On UK Economic Growth 2025, OEUK

---

70 Offshore Energies UK, 2025: *Impact Of UKCS Fiscal Policy On UK Economic Growth 2025* ([https://oeuk.org.uk/wp-content/uploads/woocommerce\\_uploads/2025/09/Impact-of-Fiscal-Policy-UKCS-OEUK-September-2025-u4zg8r.pdf](https://oeuk.org.uk/wp-content/uploads/woocommerce_uploads/2025/09/Impact-of-Fiscal-Policy-UKCS-OEUK-September-2025-u4zg8r.pdf))

Independent sector analysts reach similar conclusions. Wood Mackenzie says that North Sea exploration has plummeted to unprecedented lows, and that ‘due to recent fiscal turmoil, 2025 is set to become the first year since 1960 without a single exploration well’<sup>71</sup>. It also points out that imported oil and gas is associated with higher emissions than that produced in the North Sea, meaning that climate targets are undermined by the accelerated decline of the basin. It estimates that as much as £10 billion in pre-tax value could be unlocked from existing UKCS assets under a stable and investment-friendly system — but that ‘the longer the government waits, the fewer growth opportunities there will be, due to decommissioning and the maturity of the UKCS’<sup>72</sup>.

The UK now stands out globally as one of the least competitive upstream fiscal regimes<sup>73</sup>. According to R Blair Thomas, chief executive of institutional energy investor EIG, government policies have made UK North Sea oil and gas ‘largely uninvestable’ but removal of the EPL could prompt investors to reassess the region<sup>74</sup>. Investment bank Stifel says that ‘the UK North Sea industry is being destroyed by taxes that are too high, taxes which threaten energy security, jobs, investment and economic growth. The impact of lower investment and production is already being felt through job losses, lower tax receipts,

---

71 Wood Mackenzie, 2025: *Wood Mackenzie analysis reveals that North Sea production can remain within IPCC net zero emissions targets even if commercial reserves were increased by 50%* (<https://www.woodmac.com/press-releases/wood-mackenzie-analysis-reveals-that-north-sea-production-can-remain-within-net-zero-targets-even-if-commercial-reserves-were-increased-by-50/>)

72 Wood Mackenzie, 2024: *An additional £10 billion of North Sea value could be extracted from existing assets if the right fiscal and regulatory regime is established* (<https://www.woodmac.com/press-releases/2024-press-releases/an-additional-10-billion-of-north-sea-value-could-be-extracted-from-existing-assets-if-the-right-fiscal-and-regulatory-regime-is-established/>)

73 OGV Energy, 2025: *Energy Profits Levy: UK's 78% Tax Rate Impact Analysis* (<https://ogv.energy/news-item/energy-profits-levy-uks-78-tax-rate-impact-analysis/>)

74 Upstream, 2025: *UK North Sea ‘largely uninvestable’, says EIG* (<https://www.upstreamonline.com/politics/uk-north-sea-largely-uninvestable-says-eig/2-1-1885668#:~:text=Under%20the%20current%20fiscal%20regime,%20most%20of,for%20capital%20allocation%20in%20our%20portfolio,%E2%80%9D%20EIG>)

and more energy imports<sup>75</sup>. It says the OBR's forecasts for UKCS tax receipts are £10 billion too high because the EPL is accelerating production declines.

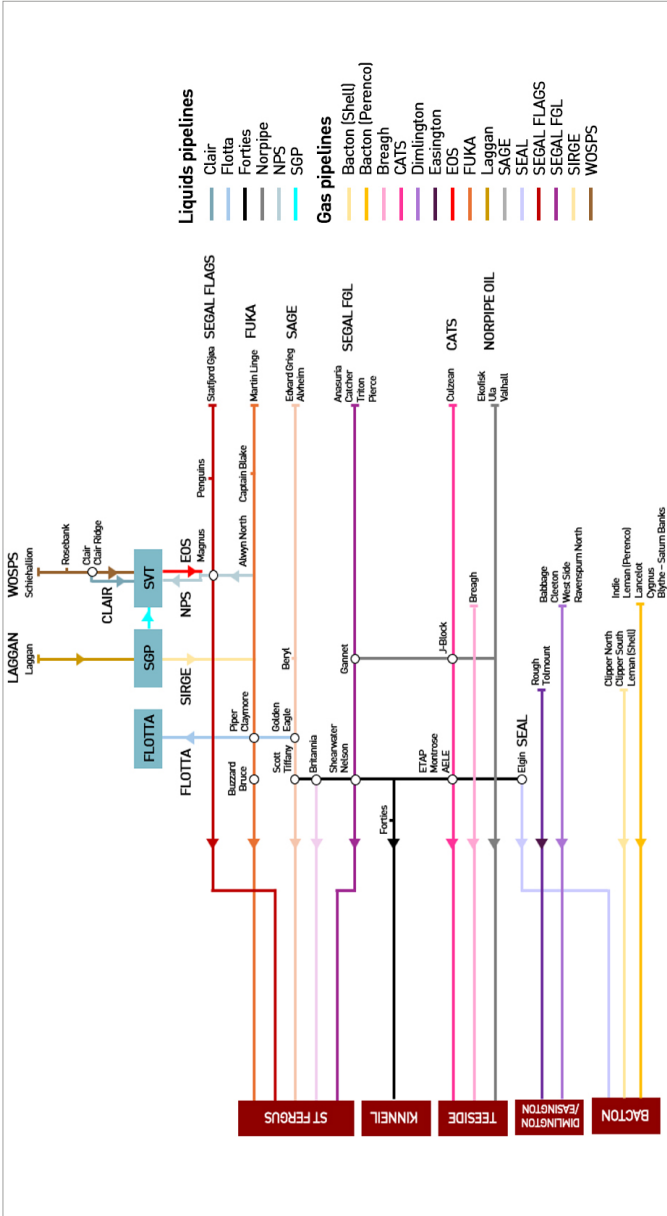
The UK's accelerated decline in UKCS production not only threatens energy security in terms of access to molecules, but it also threatens the viability of critical offshore pipeline infrastructure. The offshore gathering and transmission system has fixed costs and physical interdependencies – as throughput falls, it becomes progressively harder to maintain and justify these assets. Pipelines such as the Central Area Transmission System (CATS), the Scottish Area Gas Evacuation (SAGE) system and the Far North Liquids and Associated Gas System (FLAGS) were designed for high throughput, depend on tariffs from producers – much higher than they are currently seeing – and may struggle to remain economic at lower levels. As volumes decline, unit tariffs rise to recover fixed costs. At some point, remaining producers face uncompetitive transportation tariffs which accelerate field decommissioning, leading to a 'death spiral' where loss of one anchor field undermines the economics of the whole system.

Offshore gas lines require a minimum flow to maintain stable pressure and gas velocity, and to prevent liquids (water, condensate) from pooling. If flows drop too low, hydrates can form; liquids can accumulate, increasing corrosion risk; and compression and dehydration systems become inefficient. Below a certain threshold, the system cannot safely operate without costly reconfiguration. So, a sudden production fall can force early shutdowns of gathering systems, even if some reserves remain in place.

---

75 This is Money, 2025: *Windfall tax 'destroying' North Sea oil and threatening growth, analysts warn* (<https://www.thisismoney.co.uk/money/markets/article-14731299/Windfall-tax-destroying-North-Sea-oil-threatening-growth-analysts-warn.html>)

Figure 19. Infrastructure schematic (not geographically accurate, excludes hubs closing before 2028)



Source: Westwood Global Energy Group

According to Westwood Global Energy Group<sup>76</sup>, the Reserves/Production (R/P) ratio, a measure of how long an asset could continue to produce at current rates, given remaining reserves and 2025 production estimates, for four pipeline systems is <6, two of these are critical for the UK with a high number of field entrants.

**Flotta Pipeline System:** relies on production throughput from three hubs (seven producing fields). Although infill drilling and workover activity is ongoing at the hubs, the R/P ratio is 5.5. The progression of the Marigold discovery as a tieback to the Piper hub would change the current outlook. Roughly 40% of the resource upside within 50 km is unlicensed.

**Forties Pipeline System:** a critical liquids pipeline system for the UK, with 71 field entrants via 17 hubs, accounting for around 23% of UK liquids throughput in 2025. Seven hubs could cease before 2030, including the namesake Forties. There is one tieback under development and infill drilling at some hubs, but due to the relatively high current throughput rates versus the reserves replacement the R/P ratio is 5.5. Three hubs are expected to contribute 45% of 2025 throughput. Delivery of upside opportunities, such as an infill well at Elgin, additional drilling at ETAP and progression of new developments such as Birgitta, Fotla and Leverett would improve the outlook for this system. Over half of the resource upside within 50 km is unlicensed.

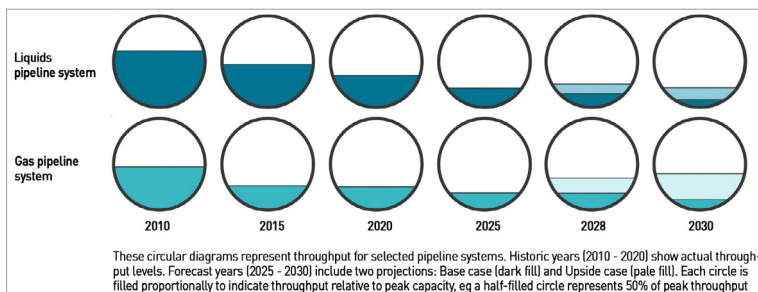
**CATS Pipeline System:** a critical gas pipeline system for the UK, with around 42 field entrants via 9 hubs, contributing roughly 25% of UK gas throughput in 2025, but due to the relatively high current throughput rates compared with the reserves replacement, the R/P ratio is 5.0. Two hub entrants account for 68% of 2025 forecast throughput. Strong performance from a development well being drilled at Culzean (largest entrant), the progression of ongoing drilling opportunities at J-Block and ETAP, and development of tieback opportunities at Birgitta will be important to the outlook. There is high upside potential within proximity of the hub entrants.

---

76 Westwood Global Energy Group, 2025: *Licensing & infrastructure upside* (<https://oeuk.org.uk/product/licensing-and-infrastructure-report-2025/>)

**Ninian Pipeline System:** the most northerly pipeline system in the UK feeds liquids production from 3 hubs via 12 fields. The Ninian hub has commenced decommissioning activities, with only one of the three original platforms still operating. The pipeline, however, feeds into the Sullom Voe terminal which also receives oil from Clair and Clair Ridge and therefore supports economics. Over 80% of the resource upside within 50 km of the Ninian Pipeline System is unlicensed.

Figure 20. North Sea gas pipeline infrastructure outlook



Source: Westwood Global Energy Group

Liquids and gas export routes are intrinsically linked – changes to one export route can impact many other export routes. This interdependency means that if one system becomes uneconomic, it could lead to a cascading effect, forcing the closure of other systems, stranding potentially viable fields and leaving some areas of the North Sea inaccessible for future development. Once a trunk is gone, re-establishing offshore transport to shore would require new infrastructure which would be uneconomic for tail-end volumes.

In an orderly decline, UKCS production falls predictably, pipelines are rationalised, and alternative import capacity is scaled up. In fact, most production forecasts indicate a smooth decline profile over the coming years. This is unlikely in practice because forced decommissioning of offshore pipeline infrastructure would lead to a cliff-edge loss of capacity, potentially beyond what supply chains can accommodate. It is possible that issues with offshore gas pipeline viability could emerge

---

as early as the winter of 2026/27, and will increase the threat to the UK's energy security, particularly for critical gas supplies.

At current decline rates, UKCS inflows to the gas transmission system could fall from around 30 bcm in 2024 to 20 bcm by 2030, with much of the loss concentrated in the north and east coast terminals. This progressively reduces the steady baseload inflow that underpins pressure and linepack flexibility in winter. This will lead to rising import dependence, as Britain will rely more on LNG (up to half of peak-day supply) and Norwegian imports (Langeled, Vesterled). From 2028, risks of structural reduction in Norwegian deliveries will also begin to manifest. Before then, Norwegian offshore pipeline operator Gassco projects stable or slightly higher export capability, although maintenance outages will present some short-term risk.

As UKCS production falls, even if overall gas availability remains adequate on paper, North Sea gas flows will reduce baseload pressure support, increase reliance on LNG logistics, and heighten the risk of generator curtailment on extreme-demand days, beginning as early as winter 2026/27, and increasing year-on-year into the 2030s unless policy change reverses the accelerating decline in UKCS production.

We think Neso forecasts are too optimistic. We forecast gas production to decline by 70pc by 2030 due to the impact of the windfall tax. That suggests the UK will run out of LNG import capacity as early as 2031, as the current import terminals reach the maximum rate they can deliver gas into the UK grid during winter. The best way to ensure security of gas supply is to maximise domestic gas production.

- Chris Wheaton, analyst at Stifel

In November 2025, NESO warned<sup>77</sup> that by 2030, there could be insufficient gas entering the UK to meet demand on cold days; however, these forecasts are seen by industry insiders as optimistic and there is an expectation the risk will manifest earlier.

---

<sup>77</sup> National Energy System Operator, 2025: *Mitigations to protect future security of gas supply identified* (<https://www.neso.energy/news/mitigations-protect-future-security-gas-supply-identified>)

# What is the windfall tax and why was it introduced?

In May 2022, the UK government introduced a windfall tax on the profits of oil and gas companies operating on the UKCS in response to press stories about ‘excess’ energy company profits.

The Energy (Oil and Gas) Profits Levy Act 2022 received Royal Assent on 14 July 2022<sup>78</sup>. The Energy Profits Levy (EPL) applies in addition to the Ring Fence Corporation Tax (RFCT) of 30% and the Supplementary Charge to Corporation Tax (SCT) at a further 10% paid by oil and gas companies instead of regular corporation tax; however, certain losses and costs, such as decommissioning costs, are tax-deductible. The original EPL had the following features:

- An initial rate of 25%, which takes the headline rate of taxation for oil and gas companies to 65%. The rate would be tapered down if prices reverted to historic levels;
- Applied to profits arising on or after 26 May 2022;
- Included a deduction of up to 80% for qualifying expenditure, including capital and leasing expenditure and operating expenditure that improves oil or gas recovery or increases tariff receipts and is not routine repair and maintenance;
- No deductions for financing and decommissioning costs;
- Losses generated under this levy could be surrendered to group companies for utilisation against their levy profits; however, RFCT and SCT losses cannot be used to reduce levy profits; and
- No adjustments for commodity hedges, which follow the same treatment as for RFCT.

---

78 UK Government, 2022: *Energy (Oil and Gas) Profits Levy Act 2022* (<https://www.legislation.gov.uk/ukpga/2022/40/contents/enacted>)

The levy was expected to raise £5 billion in its first year (in fact, £4.3 billion was raised from the levy in the 2022/23 financial year, £3.3 billion in 2023/24 and £2.6 billion in 2024/25)<sup>79</sup>. The investment allowance meant that companies could reduce their exposure by making investments that increase UK oil and gas production. It was due to expire by December 2025; however, in the November 2022 Autumn Statement, the EPL rate was increased from 25% to 35% from January 2023 and extended to 31 March 2028<sup>80</sup>. In the Spring Budget 2024<sup>81</sup>, the investment allowance was reduced to 29%, with the 80% allowance being maintained for expenditures relating to the decarbonisation of oil and gas production only. In the 2024 Spring Budget the EPL sunset clause was extended to 31 March 2029. In July 2024 the government announced that the rate would increase to 38% from 1 November 2024, bringing the headline rate of tax on upstream oil and gas activities to 78%, with the sunset clause being extended to 31 March 2030<sup>82</sup>.

---

79 Office for National Statistics, 2025: *Public sector current receipts: Appendix D* (<https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicsectorfinance/datasets/appendixdpublicsectorcurrentreceipts>)

80 HM Treasury, 2022; *Autumn Statement 2022* ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1118417/CCS1022065440-001\\_SECURE\\_HMT\\_Autumn\\_Statement\\_November\\_2022\\_Web\\_accessible\\_\\_1\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1118417/CCS1022065440-001_SECURE_HMT_Autumn_Statement_November_2022_Web_accessible__1_.pdf))

81 HM Treasury, 2024: *Spring Budget 2024* (<https://www.gov.uk/government/publications/spring-budget-2024>)

82 HM Treasury, 2024: *Changes to the Energy (Oil and Gas) Profits Levy* (<https://www.gov.uk/government/publications/july-statement-2024-changes-to-the-energy-oil-and-gas-profits-levy/changes-to-the-energy-oil-and-gas-profits-levy>)

# Windfall tax is harming independent North Sea producers, not oil majors

The windfall tax was introduced after public outrage at perceived excess energy company profits, in particular those of the big oil companies such as Shell and BP. These were typified by the comments of the then Shadow Secretary of State of Climate Change and Net Zero, Ed Miliband, when he associated<sup>83</sup> oil and gas company profits with high energy bills – which are unrelated since homes and businesses buy gas and electricity from licensed suppliers, almost none of whom produce gas or oil themselves. In fact, gas and electricity suppliers have made little by way of profit in recent years and more often have sustained losses.

The clamour for a windfall tax to remove these ‘excess’ profits from energy companies led to the introduction of the EPL, but it has had almost no impact on the target companies such as BP and Shell, since they only earn a very small percentage of their income in the UK and therefore are largely exempt from the levy. Instead, it is the independent oil and gas producers operating in the North Sea which have suffered, despite not earning large profits or being household names. It is also not obvious how production taxes would reduce overall bills, as producers could seek to recover the lost profits by increasing prices for consumers. While the government may choose to use such a tax to make energy bills cheaper through a direct subsidy, which it did between October 2022 and March 2024 with the Energy

---

83 The Independent, 2022: “No brainer”: Calls for windfall tax mount as Shell announces bumper profits (<https://www.independent.co.uk/climate-change/news/shell-profits-windfall-tax-oil-b2072050.html>)

Price Guarantee<sup>84</sup>, consumers are likely to be exposed to higher direct costs for petrol and domestic gas as producers seek to pass on the additional taxes over time and indirectly with higher prices for energy making other goods more expensive.

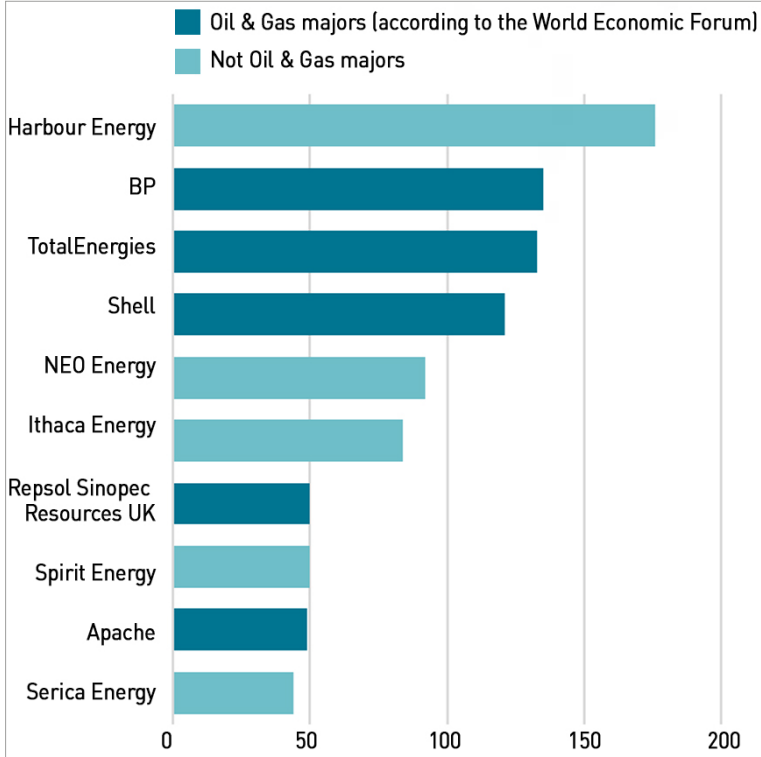
While having a minimal impact on the oil majors, the windfall tax has been harmful for the UK independents, whose shares have fallen significantly since the introduction of the levy (Figure 22). Leading independent Harbour Energy paid four times more tax<sup>85</sup> to the UK government in 2022 than did global giant Shell, despite having revenues that were more than sixty times smaller (Shell earned US\$ 318 billion in revenues in 2022, while Harbour Energy earned US\$ 5 billion).

---

84 House of Commons Library, 2024: *Domestic energy prices* (<https://commonslibrary.parliament.uk/research-briefings/cbp-9491/>)

85 Financial Times, 2023: *UK oil and gas group Harbour Energy says windfall tax 'has all but wiped out' profit* (<https://www.ft.com/content/7747b2b8-edc1-4ac2-9d84-8f0b7f599e03>)

Figure 21. Top British oil and gas producers in 2023 ('000s boe per day)



Source: Wood Mackenzie<sup>86</sup>

The firm, which provides roughly 15% of Britain's oil and gas, saw 2022 profits all but wiped out by the windfall tax, falling to US\$ 8 million, down from US\$ 101 million the previous year, despite higher oil and gas prices and raising production by almost a fifth<sup>87</sup>. In 2021, Harbour Energy made a post-tax profit of US\$ 101 million on pre-tax income

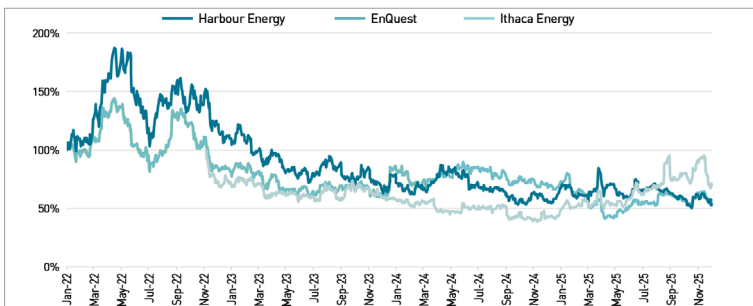
86 Reuters, 2023: *North Sea oil producers seek price floor to limit UK windfall tax* (<https://www.reuters.com/business/energy/north-sea-oil-producers-seek-price-floor-limit-uk-windfall-tax-2022-12-06/>)

87 Harbour Energy, 2023: *Harbour Energy 2022 full-year results* (<https://www.harbourenergy.com/news-and-media/latest-news/2023/harbour-energy-2022-full-year-results/>)

of US\$ 315 million, but in 2022 it only made US\$ 8 million in post-tax profits despite pre-tax income being US\$ 2,462 million – it was no surprise that the company announced plans to grow its business internationally and re-focus away from the UK.

In April 2023, Harbour Energy announced the loss<sup>88</sup> of 350 of its 1,200 UK onshore staff as a result of the windfall tax and its decision to shift to non-UK operations. It warned of further job losses in UK-based corporate and international roles and offshore staff, and said the scale of its tax bill has forced it to abandon new oil and gas projects in the UK and shift investment into overseas projects, primarily in Indonesia and Mexico. It has subsequently announced further job losses, with the latest round taking redundancies to over 700 since 2023<sup>89</sup>. The UK oil and gas workforce overall declined by around 5,000 jobs, from around 120,000 in 2023 to around 115,000 in 2024, and is forecast by the Robert Gordon University<sup>90</sup> to fall to between 57,000 and 71,000 by the early 2030s, at a potential rate of 1,000 jobs lost per month.

Figure 22. UK oil and gas independents, share price performance



Source: Watt-Logic using Bloomberg data

88 BBC News, 2023: *Harbour Energy to shed 350 UK onshore jobs, blaming windfall tax* (<https://www.bbc.co.uk/news/uk-scotland-scotland-business-65178626>)

89 BBC News, 2025: *Oil and gas firm plans to cut 100 offshore jobs* (<https://www.bbc.co.uk/news/articles/c1dz4d64qqpo>)

90 Robert Gordon University, 2025: *Striking The Balance - Building a sustainable UK offshore energy workforce* (<https://www.rgu.ac.uk/news/news-2025/8232-uk-offshore-energy-industry-faces-grangemouth-scale-redundancies-every-fortnight-without-intervention-warns-new-rgu-report>)

Harbour Energy is not alone in moving its attention away from the UK North Sea. In June 2023, Apache announced<sup>91</sup> that it would stop all drilling in the North Sea, blaming the ‘challenging UK macro environment with its increasingly costly and burdensome tax and regulatory regime’.

In 2022, Ithaca Energy reported full-year pre-tax profits of US\$ 2,241 million, up from US\$ 763 million the year before; however, profit after tax was just US\$ 1,032 million, compared with US\$ 426 million after its taxes quadrupled<sup>92</sup>. Profits after tax fell from 56% of pre-tax profits in 2021 to 46% in 2022. In 2023, Ithaca’s profits collapsed<sup>93</sup>. Pre-tax profits were US\$ 302 million, down 87%. Profit after tax was 216 million. Its outlook for 2024 said there would be ‘a reduction in investment in near-term projects as a direct result of the Energy Profits Levy including deferred or cancelled projects at the Greater Stella Area, Montrose Arbroath Area, Elgin Franklin Area and Alba’. The company incurred EPL charges of US\$ 333 million in the year compared with US\$ 131 million in 2022. In 2024, Ithaca reported<sup>94</sup> profits after tax of US\$ 153 million, saying ‘profit for the year was lower than 2023 principally due to a higher tax charge in 2024 due to the enactment of the increase in EPL from 35% to 38%’. It said its tax charge for 2024, primarily due to the EPL, was around US\$ 210 million, payable in October 2025.

The Energy Profits Levy continues to have a direct impact on investment in the UK North Sea, with projects across our operated and non-operated deferred or cancelled. The extension of the Energy Profits Levy by a further year to a sunset date of March 2029, highlights the continued fiscal uncertainty our sector faces.

- 2023 Full Year Results press release, Ithaca Energy

---

91 Financial Times, 2023: *Apache announces end to North Sea drilling hours after UK scales back windfall tax* (<https://www.ft.com/content/7a8e73e2-de4c-4f11-985b-80a6c56d8ee5>)

92 Ithaca Energy, 2023: *Full Year 2022 Financial Results (Press Release)* (<https://investors.ithacaenergy.com/sites/ithaca-ir/files/ithaca-energy-full-year-2022-results.pdf>)

93 Ithaca Energy, 2024: *Full Year 2023 Financial Results (Press Release)* (<https://investors.ithacaenergy.com/sites/ithaca-ir/files/2024-03/2023-year-end-financial-results.pdf>)

94 Ithaca Energy, 2025: *Full Year 2024 Financial Results (Press Release)* (<https://investors.ithacaenergy.com/sites/ithaca-ir/files/2025-03/2024-year-end-financial-results.pdf>)

---

EnQuest reported a full-year post-tax loss of US\$ 31 million for 2023<sup>95</sup>, compared with a loss of US\$ 14 million in 2022 and a profit of US\$ 377 million in 2021<sup>96</sup>. The group's effective tax rate for 2023 was a charge of 113.3% (2022: a charge of 120.3%), which primarily reflects the non-deductibility of various cost items under the EPL. After its interim results in May 2023, the company said<sup>97</sup> that the windfall tax made it far harder to fund the company's investment plans, including those involving hydrogen production and CCS, saying the levy was 'taking cash out of the system and limits our ability to invest in such projects'. In 2024, the company reported<sup>98</sup> post-tax profits of US\$ 94 million, benefitting from a 'significant tax asset' resulting from prior year losses, which created 'a relative advantage versus full tax-paying peers'. EnQuest is using this tax benefit to grow its UK business.

The windfall tax disincentivises much-needed investment in domestic production, which is bad for the UK's energy security and also ultimately for the Treasury, as declining production will inevitably result in lower tax income from what is, even without the EPL, a highly taxed activity. According to OEUK in its 2023 Economic Report<sup>99</sup>, the UK's oil and gas industry has paid over £400 billion in direct production taxes over the last 50 years in real terms, including over £160 billion since 2000. In March 2023, the OBR<sup>100</sup> estimated that another £26 billion in offshore oil and gas taxes would be received between 2023

---

95 EnQuest plc, 2024: *Results for the year ended 31 December 2023 and 2024 outlook* ([https://www.enquest.com/fileadmin/content/press\\_release\\_pdfs/2024/Results\\_for\\_the\\_year\\_ended\\_31\\_December\\_2023\\_and\\_2024\\_outlook.pdf](https://www.enquest.com/fileadmin/content/press_release_pdfs/2024/Results_for_the_year_ended_31_December_2023_and_2024_outlook.pdf))

96 EnQuest plc, 2022: *Results for the year ended 31 December 2021 and 2022 outlook* ([https://www.enquest.com/fileadmin/content/press\\_release\\_pdfs/2022/2021\\_Full\\_Year\\_Results\\_and\\_2022\\_Outlook.pdf](https://www.enquest.com/fileadmin/content/press_release_pdfs/2022/2021_Full_Year_Results_and_2022_Outlook.pdf))

97 Telegraph, 2023: *Windfall tax pushes North Sea oil giant into the red* (<https://www.telegraph.co.uk/business/2023/09/05/windfall-tax-pushes-north-sea-oil-firm-into-red/>)

98 EnQuest plc, 2025: *Annual Report and Accounts (Strategic Report)* ([https://www.enquest.com/fileadmin/content/Annual\\_Reports/Annual\\_Report\\_files\\_2024/EnQuest\\_ARA24\\_Strategic\\_Report.pdf](https://www.enquest.com/fileadmin/content/Annual_Reports/Annual_Report_files_2024/EnQuest_ARA24_Strategic_Report.pdf))

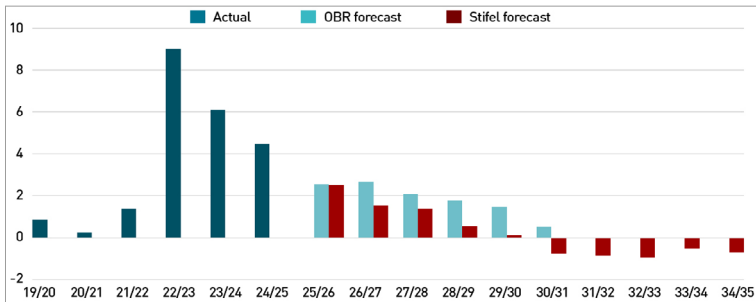
99 *Offshore Energies UK, 2023: Economic Report 2023* (<https://oeuk.org.uk/product/economic-report-2023/>)

100 Office for Budget Responsibility, 2023: *Economic and fiscal outlook – March 2023* (<https://obr.uk/efo/economic-and-fiscal-outlook-march-2023/>)

and 2028. By November 2025<sup>101</sup>, this figure (including monies already received) had fallen to £12 billion. Part of this reduction is due to lower expected oil and gas prices (although it can be argued that the previous price forecasts were unrealistic), but falling production is also a factor. Disincentivising investment through high taxation risks even this lower amount being missed.

The impact of the windfall tax on tax receipts is having another impact on the UK's finances which is going largely unreported: it is bringing forward the date at which the UK goes into net decommissioning. Under the oil and gas tax regime, producers pay additional tax during the producing life of a field, in respect of decommissioning liabilities. This additional tax is later returned to the companies in the form of a rebate once the field stops producing and decommissioning begins, at which point the field no longer generates taxable profits. This scheme ensures the companies have funds available for the decommissioning work, and it is a rebate rather than a subsidy – the Treasury cannot remove or reduce these rebates without risking the companies defaulting on their decommissioning obligations and leaving them for the government to cover.

Figure 23. Net UK oil and gas tax receipts



Source: Office for Budget Responsibility, Stifel

101 Office for Budget Responsibility, 2025: *Economic and fiscal outlook – November 2025* (<https://obr.uk/efo/economic-and-fiscal-outlook-november-2025/>)

Prior to the introduction of the EPL, the UK was not expected to enter a net decommissioning position until the late 2030s – early 2040s; however, now this is expected to come forward to the start of the 2030s, effectively in the middle of the next Parliament. At this point, rather than receiving net receipts from oil and gas production, the Treasury will be making net payments as a result of decommissioning rebates, having to fund £1 billion to £2 billion per year, as shown in Figure 23 – data from the OBR ‘Fiscal supplementary tables: receipts and other’, over several years, and the November 2025 note ‘Dear Chancellor: want to raise £25bn more tax by 2035E? Reform the “Windfall” tax now’, provided to the author of this report by its author Chris Wheaton at Stifel.

The windfall tax has failed to target those companies whose high profits attracted so much public disquiet, and it is also arguably unfair: oil and gas companies do not receive subsidies or rebates in years when prices are low and are not compensated when they drill dry wells. It also perpetuates the oft-repeated cycles of boom and bust in the sector, where high oil prices lead to increased rates of taxation, which are subsequently reduced when oil prices inevitably fall, as they naturally do in cyclical commodities markets. This trend has been repeated several times since the UK began extracting oil and gas from the North Sea in the 1970s<sup>102</sup>.

---

102 Office for Budget Responsibility, 2023: *The evolution of North Sea oil and gas receipts* (<https://obr.uk/box/the-evolution-of-north-sea-oil-and-gas-receipts/>)

# A hostile political environment is scaring away investment

Politicians including current Energy Minister Michael Shanks MP have argued<sup>103</sup> that as the UKCS is a mature basin in decline, the UK should wind down production from the basin. These arguments are misguided. Every extractive industry is finite – all mines and fields eventually deplete, but this has never been a reason to stop exploiting remaining resources efficiently and responsibly.

The relevant question is not whether the basin is smaller than it once was, but whether commercially recoverable reserves still exist and deliver strategic, economic and security value. The UKCS continues to host sizeable discovered but undeveloped resources, world-class subsurface and engineering expertise, and infrastructure that can be leveraged for decades with the right policy environment. Indeed, technology developments are continually expanding the definition of economically viable reserves and resources in the basin. For example:

- Forties (Central North Sea): originally discovered in 1970 and expected to have a 25-year life, Forties was assumed to be near the end of its commercial viability by the early 2000s. Since Apache acquired it in 2003, 4D seismic, new drilling techniques and improved reservoir management have added hundreds of millions of barrels of additional recoverable resource. More than 50 years on, Forties continues to produce.
- Brent (Northern North Sea), particularly Brent Charlie: the Brent field was widely expected to be largely off production by the late 1990s. Yet Brent Charlie continued producing into the 2020s, long

---

103 LabourList, 2025: *Caving to pressure for new oil and gas licences won't win SNP or Reform voters* (<https://labourlist.org/2025/04/climate-change-net-zero-oil-gas-labour-miliband-conservatives-reform/>)

after Brent Alpha, Bravo and Delta were shut down. This was only possible because of platform upgrades, new well strategies and modern reservoir monitoring.

- Magnus (Northern North Sea): Magnus was thought likely to cease production around 2015. Instead, after EnQuest took over operatorship, it has produced well into the 2020s, supported by enhanced oil recovery (EOR), new wells and improved waterflood management.
- Nelson (Central North Sea): Nelson was expected to enter terminal decline years ago, but advanced well interventions and digital reservoir optimisation have kept it producing far beyond the timelines assumed at FID.
- Ninian (Northern North Sea): production has lasted decades longer than originally forecast, thanks to EOR techniques, workovers and improved seismic imaging, allowing operators to target previously uneconomic pockets of oil.
- Claymore (Northern North Sea): Claymore came onstream in 1977 and was never expected to still be producing in the 2020s. Platform life-extension programmes and subsea tie-backs have made it viable far beyond early expectations.

Despite this, the UK's political and regulatory environment for oil and gas has shifted decisively towards a managed decline of the sector. While existing production will continue for years, the government's policy trajectory is clear: large-scale exploration is effectively ending, with new licences restricted to limited cases such as tie-backs to existing infrastructure rather than full-scale greenfield developments. This represents a fundamental change in the investment landscape. Companies can no longer assume a predictable flow of future acreage or major new projects, and the resulting policy uncertainty, including frequent fiscal changes, has materially reduced investor confidence.

At the same time, the UK has moved towards one of the strictest emissions-assessment regimes for upstream projects in the world,

particularly in relation to Scope 3 emissions<sup>104</sup>. Following recent court rulings, regulators must now consider the downstream emissions from the eventual combustion of produced oil and gas when evaluating new development consents. Although Scope 3 disclosure is still technically voluntary, the legal requirement to assess downstream emissions in planning decisions has created a de facto obligation far more stringent than in most competing jurisdictions. Other major producers typically require reporting only of operational emissions, but the UK now embeds the full value-chain climate impact into the regulatory approval process itself.

These two forces – tightened licensing rules and tougher emissions scrutiny – combine to make the UK uniquely challenging for upstream investment. Projects that would be straightforward in Norway, the US Gulf of Mexico or the Middle East now face far higher regulatory risks and longer approval timelines in the UK. As a result, operators and supply chain firms increasingly view the North Sea as a basin with limited growth prospects and heightened compliance burdens.

The political ambition for a rapid transition, coupled with policies that prioritise emissions accounting over domestic production, is accelerating the redirection of capital, skills and industrial capacity to other regions where regulatory frameworks are more stable and development pathways clearer. Senior executives in the sector tell conference audiences that they see the UK as having some of the highest regulatory risk in the world, and higher than in traditionally unstable regimes in the developing world.

The current hostile fiscal and regulatory regime has led to a loss of investor confidence in the UK. A year ago, Ineos Energy chief warned<sup>105</sup> that ‘punitive’ UK taxes make North Sea uninvestable. The company is the oil and gas arm of chemicals group Ineos, and has bought US\$ 3

---

104 Wood Mackenzie, 2025: *Scope 3 emissions: the growing regulatory and legal risks facing the UK North Sea* (<https://www.woodmac.com/reports/upstream-oil-and-gas-scope-3-emissions-the-growing-regulatory-and-legal-risks-facing-the-uk-north-sea-150368957/>)

105 Financial Times, 2024: *Ineos Energy chief warns ‘punitive’ UK taxes make North Sea uninvestable* (<https://www.ft.com/content/8000aaf1-6571-4b71-ba66-820dc4472472>)

billion of US assets rather than investing in the North Sea. It has said it will continue to look for deals abroad rather than in its home market, despite an initial strategy to focus on the UK. This decision it says was driven by the unfavourable fiscal regime.

The onerous financial impact of the Energy Profits Levy, combined with the substantial investment that will be necessary to comply with regulatory requirements, makes production of hydrocarbons beyond 2029 uneconomic. Looking forward, our focus will be on maintaining asset safety and integrity as we prepare for the responsible decommissioning of our assets.

- Apache

Apache announced<sup>106</sup> in November 2024 that it will end all its operations in the North Sea by the end of 2029, blaming the EPL. It said the increase in the levy rate and its extension to 2030, announced in the November 2024 Autumn Statement, had made its UK production 'uneconomic'. Apache had taken control of the Forties field in 2003 but suspended all new drilling activity in 2023. Apache also has operated interests in the Beryl, Ness, Nevis, Nevis South, Skene, and Buckland fields and non-operated interest in the Maclure and Nelson fields.

In June 2025 Chevron announced<sup>107</sup> it would close its Aberdeen office between December 2025 and December 2026. This is after announcing plans in 2024 to sell its remaining UK North Sea oil and gas assets and exit the basin after more than 55 years in an effort to focus on more profitable assets. Chevron will maintain its presence in the UK through its London office.

As operators scale back their activities there is a knock-on effect on the supply chain. According to Rystad Energy, cited in OEUK's Supply

---

106 Insider UK, 2024: *Apache blames windfall tax as it pulls out of North Sea* (<https://www.insider.co.uk/news/apache-blames-windfall-tax-pulls-34064682>)

107 Reuters, 2025: *Chevron to close Scotland office under restructuring* (<https://www.reuters.com/business/energy/chevron-close-scotland-office-under-restructuring-2025-06-30/>)

Chain Report 2025<sup>108</sup>, UK oil and gas services spending is projected to decline by 20% from 2025 to 2030. The lack of new oil and gas developments and uncertainty regarding the confirmed pipeline of projects across the energy sector mean the supply chain could easily choose to invest overseas instead of the UK.

The report cites high tax rates as hindering investment and competitiveness, while project uncertainty, often arising from the tax situation, delays investment in supply chain capability and resources. Supply chain companies are now more inclined to look for ways to grow their business outside the UK, to offset the uncertainty and lack of business opportunities at home. Eighty-nine per cent of the supply chain businesses surveyed said they plan to increase the amount of non-UK business they do in the next 12–24 months.

Our research shows that companies increasingly view greater prospects internationally than domestically, with shorter timelines, supportive government policy and greater volume. A sea-based supply chain is, by nature, highly mobile and, unless things improve in the UK, then it seems inevitable that companies will consider not just exporting to other regions but relocating there.

- Neil Gordon, CEO, Global Underwater Hub

Global Underwater Hub (GUH), the trade and development body representing the UK's subsea sector, has identified a growing risk of the UK's offshore energy supply chain relocating overseas because of project delays, as the current government policy is seen as having a negative impact on the supply chain<sup>109</sup>. These findings were echoed in the 42<sup>nd</sup> Energy Transition report from the Aberdeen & Grampian

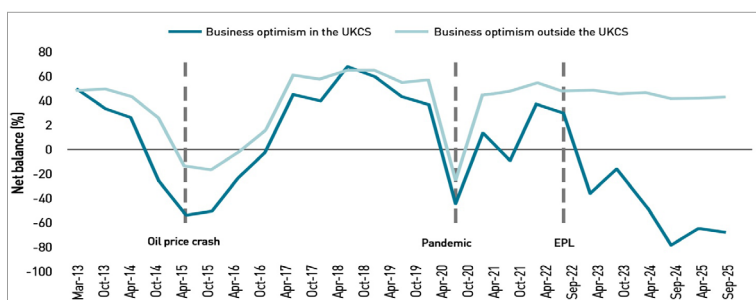
---

108 Offshore Energies UK, 2025: *Supply Chain Report 2025* ([https://oeuk.org.uk/wp-content/uploads/woocomerce\\_uploads/2025/03/Supply-Chain-Report-2025-a5fecj.pdf](https://oeuk.org.uk/wp-content/uploads/woocomerce_uploads/2025/03/Supply-Chain-Report-2025-a5fecj.pdf))

109 Offshore Energy, 2025: *UK underwater market hits £9.4 billion: Project delays place offshore energy supply chain at risk* (<https://www.offshore-energy.biz/uk-underwater-market-hits-9-4-billion-project-delays-place-offshore-energy-supply-chain-at-risk/>)

Chamber of Commerce<sup>110</sup>, which surveyed 113 organisations including operators and supply chain companies, collectively employing over 21,000 people in the UK in September–October 2025. In the foreword, Nicola MacLeod, General Counsel & Head of Corporate Affairs at D2Zero, said that possibly the most striking message from industry is the ‘crisis of confidence in the UK Continental Shelf’ with revenue expectations at historic lows, and investment ‘that once flowed naturally into the basin is increasingly diverted to jurisdictions where policy is predictable and the fiscal regime is stable’.

Figure 24. Q: Compared to 12 months ago, how confident are you about the business situation in the oil & gas sector in the UKCS and outside of the UKCS over the next year and 5 year



Source: Aberdeen & Grampian Chamber of Commerce

According to the survey, government policy and taxation remain the most important factors influencing UKCS activity in the coming year, ahead of demand and commodity prices. Concerns around access to finance are low, which suggests capital is available should the right opportunities arise. Political or regulatory factors are a lower concern for activity outside the UK, illustrating ‘the greater predictability and stability businesses associate with international markets’, while confidence in the UKCS remains historically low with EPL being the key trigger. In contrast, confidence in international markets remains significantly net positive (Figure 24).

110 Aberdeen & Grampian Chamber of Commerce, 2025: *42nd Energy Transition Report* (<https://agcc.fra1.cdn.digitaloceanspaces.com/files/ET42-ONLINE.pdf>)

A third of respondents anticipate a reduction in their workforce in north-east Scotland over the next five years with fewer expecting growth in regional roles. Around half of companies expect to increase international headcount. Large numbers of competent personnel with 20–30 years' experience are leaving the industry or moving overseas. Over 40% of respondents said they are losing more staff than usual to international roles and to other industries or sectors. Thirty-eight per cent identified a higher than usual level of staff retiring. A majority of respondents expect that 'green' energy job growth will take ten years or more to fully replace lost oil and gas roles, with almost half believing it will never happen.

The survey found widespread pessimism about the outlook for the UKCS oil and gas sector, driven primarily by frustration with government policy, political uncertainty and the fiscal regime. Many businesses described a sharp decline in investment confidence and reported diverting resources to overseas markets such as Norway, the UAE and the US, where fiscal and regulatory conditions are viewed as more stable and supportive. Respondents also expressed concern that the UK's approach to the energy transition is unbalanced, undermining domestic production while increasing reliance on imports. Although a small minority identified opportunities in decommissioning and were cautiously optimistic that future policy changes could restore stability, the overall sentiment reflected 'deep disillusionment with the current environment for investment and operations in the UKCS'. One respondent, typical of the sentiment, said 'There is zero spend in UKCS on drilling now – all opportunities for us are now US, Brazil and Norway.'

Supply chain businesses are scaling back UK operations and in some cases relocating personnel and assets to jurisdictions where project pipelines are more predictable and policy frameworks more stable. Some have closed altogether. Although policymakers hope that companies will pivot to supporting offshore renewable energy, CCS, and hydrogen projects, the timing mis-match where oil and gas production is falling faster than these projects emerge means that UK-based supply chain jobs may be lost rather than transition to these new opportunities. These are not abstract risks but real-world commercial

---

signals that the UK is becoming a progressively less attractive place for oil and gas companies to do business. Notable developments in the past couple of years include:

- Petrofac, an Aberdeen-based oilfield services business, entering administration in October 2025<sup>111</sup> after the loss of a major offshore contract, putting around 2,000 Scottish jobs at risk and throwing a key North Sea services provider into insolvency;
- Hunting Energy Services, which manufactures critical oilfield equipment, moving all its manufacturing activities from Aberdeen to a new facility in Dubai<sup>112</sup>;
- Vallourec Oil & Gas, which makes UK pipelines and tubulars, closing its Aberdeen machine and pipe shop at Bridge of Don in late 2024, citing 'challenging North Sea market conditions' and reduced UK oil and gas activity, with over 20 jobs lost and work consolidated at other sites<sup>113</sup>;
- Beam, a subsea robotics and survey technology company, collapsing into administration in May 2025<sup>114</sup>, ceasing operations and making around 200 staff redundant across Aberdeen, Edinburgh and Bristol; and
- Enteq Technologies, an Aberdeen-based engineering and drilling-services firm, entering administration in April 2025<sup>115</sup> after failing to secure funding or a buyer, with its rotary-steerable drilling technology and UK operations handed over to administrators.

---

111 Financial Times, 2025: *Thousands of North Sea jobs at risk as Petrofac files for administration* (<https://www.ft.com/content/0e473e46-6043-4928-9ea9-975c7560c93b>)

112 Insider Media, 2025: *Hunting shifts Aberdeen manufacturing to Dubai in major restructure* (<https://www.insidermedia.com/news/scotland/hunting-shifts-aberdeen-manufacturing-to-dubai-in-major-restructure>)

113 Scottish Sun, 2025: *Jobs Blow: Several jobs axed as manufacturing firm CLOSES major Scots location* (<https://www.thescottishsun.co.uk/money/13766317/jobs-axed-vallourec-bridge-of-don-aberdeen-north-sea/>)

114 Daily Business, 2025: *Subsea firm Beam collapses with 200 job losses* (<https://dailybusinessgroup.co.uk/2025/05/subsea-firm-beam-collapses-with-200-job-losses/>)

115 Scottish Business News, 2025: *Aberdeen energy technology firm falls into administration* (<https://scottishbusinessnews.net/aberdeen-energy-technology-firm-falls-into-administration/>)

This hollowing-out of capability has significant long-term consequences for the UK. Once specialist offshore engineering firms close or relocate, the expertise, equipment and skilled workforce they represent do not automatically return when policy stabilises or prices rise. The result is a structural weakening of the domestic energy ecosystem leading to higher operating and development costs, reduced resilience, greater dependence on imported services, and a diminished ability to execute complex offshore projects, whether in oil and gas, CCS, or offshore wind. If the supply chain continues to contract, the country risks losing not only thousands of high-skill jobs but also the strategic capability needed to manage its offshore energy future.

The hostile political and fiscal environment in the UK has driven a collapse in exploration drilling, with 2025 on track to be the first year since 1964 with no new exploratory oil and gas wells being spudded. Exploratory drilling is still allowed in areas licensed before the ban, but industry say the threat of a future raid by government means few are willing to risk investing in new developments. This will only increase the UK's reliance on energy imports, which has continued to grow in recent years, expanding to 42% in 2024. OEUK expects the UK's energy import gap to remain around 40% for the next four years, only starting to decline in 2030, provided that there is a successful expansion of the UK's renewable power generation capacity.

According to the latest Annual Economic Report<sup>116</sup> by Offshore Energies UK, while North Sea oil and gas production and projected future production projections from the NSTA and government have continued to decline over recent years, the geology has not – the subsurface still holds untapped potential. Production estimates by Westwood Global Energy Group commissioned by OEUK indicate that, under the current fiscal and regulatory regime, the UKCS could produce up to 4.3 billion boe. However, in an enabling environment, including significant changes to tax, licensing and regulatory approvals as well as favourable commodity prices, the UK could produce almost double this amount – up to 7.5 billion boe. Current

---

116 Offshore Energies UK, 2025: *Economic Report 2025* (<https://oeuk.org.uk/product/economic-report-2025/>)

---

projections indicate the UKCS is on track to supply only a quarter of the UK's oil and gas demand out to 2050, despite having the potential to produce half of the demand.

In 2019, the NSTA projected that 6.5 billion boe could be recovered from the UK North Sea between 2025 and 2050. At the time, its strategic theme was maximising economic recovery from the basin, with a challenge for the sector to achieve 1.3 million boe/d in 2030. Since then, that projection has been revised down to 0.6 million boe/d in 2030, and 3.8 billion boe total recovery between 2025 and 2050.

- Economic Report, 2025 – Offshore Energies UK

A striking illustration of the impact of UK policy on future supply comes from comparing industry expectations with the regulator's official forecasts. The UK has produced over 45 billion boe since 1975. According to OEUK, in 2020, UK operators projected that they could recover 5.5 billion boe of oil and gas this decade, but five years on, these expectations have lost over a billion barrels of production, with expectations now being that fewer than 4.5 billion boe will be recovered from the UKCS this decade, reflecting a changing business environment, fiscal uncertainty and project delays. This forecast is driven by expected production from existing fields and already-sanctioned developments.

Despite the UKCS being a mature basin that has produced oil and gas for over 50 years, OEUK says there are still significant opportunities remaining, with 6 billion to 12 billion potential barrels of oil and gas equivalent within UK waters. Yet the NSTA's most recent production forecasts<sup>117</sup> suggest only 4.1 billion boe will be recovered from the UKCS from 2025 to 2050.

The sharp reduction in the NSTA's long-term production forecasts reflects a shift from modelling resource potential to modelling a policy-

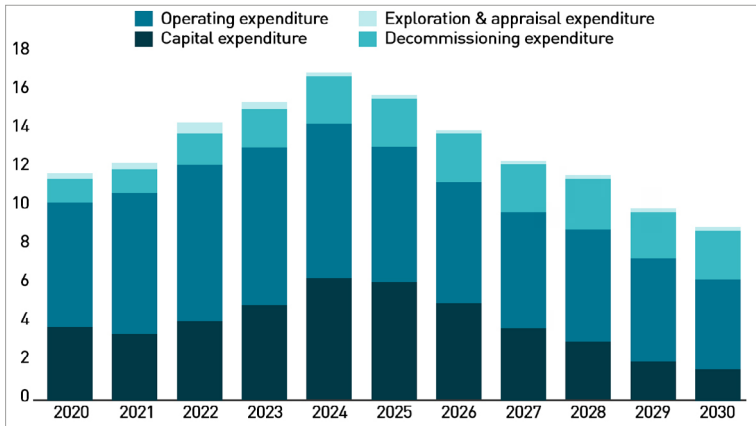
---

117 North Sea Transition Authority, 2025: *Production and expenditure projections* (<https://www.nstauthority.co.uk/data-and-insights/insights-and-analysis/production-and-expenditure-projections/>)

constrained future. The regulator now assumes very few new field approvals, limited infill drilling and early cessation of many late-life assets with assumptions driven more by policy, fiscal instability and net zero alignment than by geology. The NSTA is increasingly aligning its modelling with the UK's political climate commitments, rather than industry economics. It is under pressure to show how production will fall in line with carbon budgets, the Climate Change Committee's pathways, and the government's 'managed decline' narrative. This explains the striking divergence with industry expectations – the gap reflects regulatory assumptions, not resource exhaustion.

OEUK believes that over the next five years around £115 billion could be invested on the UKCS including oil and gas development, renewable energy and low-carbon solutions. Of this, £50 billion could be spent on oil and gas, £55 billion on offshore wind and £6 billion to £8 billion on CCS, with the remainder on hydrogen. The UK will only succeed in attracting capital and skilled workers if it is seen as 'a good place to invest and do business'. Otherwise the UK will become increasingly reliant on energy and supply chain imports. Yet OEUK says that UKCS companies are seeing historic low rates of return which have been impacted by falling commodity prices, low production output and high taxes. ONS net rate-of-return figures for UKCS companies averaged -1% for the 12 months to June 2024.

Figure 25. UK oil &amp; gas actual and projected expenditure (£ billion)



Source: *Offshore Energies UK, Business Outlook Report 2025*

OEUK believes that the fixed-bottom offshore wind sector growth rate will level out with projected expenditure to remain high, exceeding £9 billion every year from now to the end of the next decade. It expects to see large growth towards the end of the decade and into the next, from the build-out and adoption of floating wind technology. It also believes that ‘significantly larger turbines’ can be deployed, despite vendors now resisting pressure to build larger turbines due to design complexity and materials challenges that have led to significant warranty issues in recent years<sup>118</sup>.

OEUK has consciously repositioned itself as a broad ‘offshore energies’ lobby, talking up the potential for offshore wind, CCS and hydrogen alongside oil and gas. It increasingly speaks about capital investment and jobs across all of these sectors. This positioning is politically expedient as it aligns OEUK with the prevailing net zero language in Whitehall, broadens its membership beyond hydrocarbons, and presents the industry as an enthusiastic partner in delivering the

118 Financial Times, 2024: *Shockwave hits wind industry as turbine blades fail* (<https://ft.pressreader.com/v99c/20240520/281659670151026>)

government's green industrial strategy. The problem is that this strategy does not reflect what is actually happening on the ground.

In 2025 alone, a series of flagship UK hydrogen projects were cancelled or shelved: BP cancelled its HyGreen Teesside green hydrogen scheme as part of a strategy shift<sup>119</sup>, and later withdrew its 1.2 GW H2Teesside blue hydrogen project<sup>120</sup>, with the Teesworks site now being repurposed for an AI data centre. Air Products cancelled its proposed £2 billion Immingham green hydrogen terminal, citing insufficient UK policy and financial support<sup>121</sup>. These are not marginal pilots but the sorts of anchor projects OEUK has held up as evidence of a thriving 'integrated offshore energies' future.

Westwood Insight estimates that over a fifth of European hydrogen projects have been stalled or scrapped<sup>122</sup>. It has identified 23 projects in the European pipeline that have been classed as cancelled or stalled across 11 major European countries that make up the bulk of the hydrogen opportunity. The total capacity impacted by these projects is 29.2 GW, equivalent to 20.3% of the pipeline. Recent reporting indicates that almost 60 major low-carbon hydrogen schemes worldwide have been cancelled or put on hold this year as costs rise and demand fails to materialise at the promised scale<sup>123</sup>. The projects that have been paused or cancelled had a combined annual output of 4.9 million tonnes, equivalent to more than four times the world's installed clean hydrogen capacity.

---

119 Fuel Cell Works, 2025: *BP Cancels First UK Green Hydrogen Project Amid Strategic Shift* (<https://fuelcellworks.com/2025/03/05/hydrogen/bp-cancels-first-uk-green-hydrogen-project-amid-strategic-shift>)

120 BBC News, 2025: *BP pulls out of building Teesside hydrogen plant* (<https://www.bbc.co.uk/news/articles/c865jwpw9p4o>)

121 ChemAnalyst, 2025: *Air Products scraps £2bn UK hydrogen project citing insufficient government backing* (<https://www.chemanalyst.com/NewsAndDeals/NewsDetails/air-products-scraps-2bn-uk-hydrogen-project-citing-insufficient-government-backing-37458>)

122 Westwood Global Energy Group, 2024: *Westwood Insight – Over a fifth of all European Hydrogen projects stalled or cancelled* (<https://www.westwoodenergy.com/news/westwood-insight-over-a-fifth-of-all-european-hydrogen-projects-stalled-or-cancelled>)

123 Financial Times, 2025: *Hydrogen dreams meet reality as oil and gas groups abandon projects* (<https://www.ft.com/content/b0981f8a-d115-4779-bbed-75a87316a892>)

The outlook for CCS is similarly fragile: Storegga is selling its 30% stake in the Acorn CCS project after a strategic review<sup>124</sup>, prompting public concern that one of Scotland's flagship decarbonisation schemes is struggling to reach the capital-intensive delivery phase. CCS projects around the world have so far captured and stored less than 0.1% of annual CO<sub>2</sub> emissions despite US\$ 40 billion of investment globally.

In November 2024, climate lobby group Oil Change International submitted evidence<sup>125</sup> to Parliament which notes that historically around 80% of CCS projects launched over the past three decades have been put on hold or abandoned, despite tens of billions of dollars of global spending. It said 'CCUS has extremely high costs, with few benefits. US\$ 83 billion has been invested in CCUS worldwide since 1990 alone, with US\$30 billion in state subsidies used to date. With all of this investment, even if all current projects were functioning as planned, they would only capture 0.14% of global emissions. In reality, the actual capture rate is far below that.' It went on to argue that CCS is a waste of time that diverts resources from 'real climate solutions to fossil fuels'.

Against this backdrop, OEUK's decision to devote so much political capital to talking up offshore wind, CCS and hydrogen looks like the wrong game for a body founded to represent oil and gas producers and their supply chain. By insisting that the workforce and investment can simply migrate into these new segments, OEUK implicitly accepts the political premise that a rapid managed decline of oil and gas is both inevitable and benign. Yet in practice, the cancellations and delays in UK CCS and hydrogen schemes, combined with repeated failures to hit offshore wind auction targets, mean there is no credible like-for-like replacement for the scale of jobs, taxes and energy security currently provided by hydrocarbons. Instead of capital crossing seamlessly from North Sea oil and gas into domestically located low-carbon

---

124 Financial Times, 2025: *Lead developer of major Scottish carbon capture project to sell stake* (<https://www.ft.com/content/9192bbce-d364-454d-9488-849b46a5dadb>)

125 Oil Change International, 2024: *Written evidence submitted by Oil Change International* (<https://committees.parliament.uk/writtenevidence/131580/html/>)

projects, capital and jobs are migrating to oil and gas developments in other jurisdictions.

I have clients who feel more secure in the tax regime of sub-Saharan Africa than they do in the UK, which is frankly astonishing.

- Nick Davis, energy partner at Haynes Boone

By presenting CCS and hydrogen as near-term, large-scale substitutes for upstream activity, OEUK offers politicians a comforting story that aggressive restrictions on UKCS investment will not carry serious economic or security costs, because ‘new energies’ will step in. The reality is that these technologies remain heavily subsidy-dependent, policy-fragile and, in many cases, non-viable at the scales advertised. The reality is that the UK should focus on existing technologies with a high likelihood of delivery if it is to support its energy security and minimise energy imports. And although wind is now a mature technology, its costs have risen significantly in the past few years, making it more expensive than alternative energy sources, particularly gas-fired power generation whose higher energy density and lack of intermittency presents superior value for consumers<sup>126</sup>.

Unfortunately, a combination of an adverse fiscal and regulatory UK landscape and hostile rhetoric from politicians is undermining the UKCS investment case. This is being reflected in the real investment choices of both UKCS operators and supply chain businesses. UKCS operators are increasingly cutting activity at home and directing capital to other basins where the fiscal and regulatory outlook is more attractive.

Harbour Energy is the clearest case: the UK’s largest producer (prior to the recently announced merger of TotalEnergies and Neo Next Energy’s UKCS businesses – see below) has said the windfall tax ‘bites hard’ and after backing out of the licensing round launched in

---

126 Watt-Logic, 2025: *ASPs for AR7 prove renewables are not cheap* (<https://watt-logic.com/2025/07/27/asps-for-ar7-prove-renewables-are-not-cheap/>)

---

October 2022<sup>127</sup>, it is now prioritising growth in Norway, Mexico and Argentina while scaling back UK investment. It announced several waves of redundancies in Aberdeen and further 100 offshore job cuts in late 2025<sup>128</sup>, citing ongoing pressure from lower commodity prices and an ‘uncompetitive tax regime’. It says the ‘UK now has to compete for capital in a global portfolio’.

NEO Energy has likewise slowed investment in all UK development projects<sup>129</sup>, including the flagship Buchan Horst, explicitly blaming fiscal and regulatory uncertainty and warning that first oil will slip beyond 2027. Other international players are exiting altogether: Japex is selling its UK business (including its Seagull stake) to Ithaca in order to leave the basin<sup>130</sup>, while Chevron has also announced plans to sell its remaining UKCS assets as part of a wider retreat.

At the same time, UKCS mergers and acquisitions activity has taken on a tax-optimisation flavour, as companies with significant tax losses have merged with rivals with profitable assets. A recent analysis<sup>131</sup> notes that in just six months three major North Sea deals – Ithaca’s combination with Eni’s UK assets, Equinor’s merger of its UK portfolio with Shell, and Neo’s tie-up with Repsol’s business to form Neo Next – all involved buyers with large accumulated tax losses acquiring portfolios with profitable production. Ithaca carried about US\$ 4.5 billion of tax losses, Equinor roughly US\$ 7.6 billion, and NEO US\$ 3.7 billion, allowing the merged entities to offset those losses against

---

127 Reuters, 2022: *Harbour reviews spending, shuns UK licensing round after energy windfall tax* (<https://www.reuters.com/business/energy/harbour-reviews-spending-shuns-uk-licensing-round-after-windfall-tax-2022-12-15/>)

128 Independent, 2025: *Oil giant blames windfall tax as it scraps 100 jobs* (<https://www.independent.co.uk/news/business/harbour-energy-job-cuts-north-sea-b2876267.html>)

129 Scottish Financial News, 2024: *North Sea oil firm to slow down investment plans in light of fiscal and regulatory uncertainty* (<https://www.scottishfinancialnews.com/articles/north-sea-oil-firm-to-slow-down-investment-plans-across-its-portfolio-in-light-of-fiscal-and-regulatory-uncertainty>)

130 Reuters, 2025: *UK’s Ithaca Energy to acquire Japex’s North Sea business for \$193 million* (<https://www.reuters.com/markets/deals/uks-ithaca-energy-acquire-japexs-north-sea-business-193-million-2025-03-25/>)

131 Financial Times, 2025: *North Sea oil deals allow companies to offset billions in tax liabilities* (<https://www.ft.com/content/48d7ca6f-aed7-4245-8b28-249c0d68d032>)

future profits. Subject to certain restrictions, tax rules allow tax losses to be carried forward and set off against future taxable profits, thereby lowering the tax bill and reducing the 78% headline tax rate typically faced by oil and gas producers in the UK North Sea.

EnQuest is an explicit example of this ‘tax-shielded consolidator’ model. In its 2024 annual report it highlights its ‘significant tax asset creating a relative advantage versus full tax-paying peers’. It has around US\$ 1.9 billion of recognised tax losses and a further US\$ 1.2 billion of losses associated with its acquisition of the Bentley field. Ithaca’s acquisition of Japex’s UK subsidiary follows the same pattern – alongside production and reserves, Ithaca is acquiring about US\$ 215 million of tax losses and roughly US\$ 105 million of EPL losses, explicitly enhancing its ability to shield future cashflows from tax.

In December 2025, TotalEnergies announced plans to merge its assets with Neo Next in the second merger including Neo inside a year<sup>132</sup>. The French energy major said it would fold its North Sea oil and gas fields, which produce roughly a quarter of the UK’s gas, into Neo Next Energy to create the region’s largest independent producer by volume. The company will be renamed Neo Next+. Total will have a 47.5% stake in the combined company with Repsol taking just under 24% and HitecVision owning the rest. After adding Total’s 120,000 barrels a day of mainly gas, Neo Next+ will produce roughly 250,000 barrels of oil and gas a day in 2026.

The fiscal implication is straightforward and unhelpful for HM Treasury. The windfall-tax architecture assumes that future barrels will be taxed at up to 78% of profit, but in practice, increasing volumes will be produced by entities that can offset those profits against historic losses whether their own or acquired through mergers and business combinations.

Analysts were already warning that the combination of high tax rates and shrinking investment is undermining the tax base with rapidly

---

132 Financial Times, 2025: *TotalEnergies merger creates largest UK North Sea producer* (<https://www.ft.com/content/5f33855f-acc6-4d41-99cd-db889f1d2046>)

falling production and falling oil and gas prices reducing the amount of taxable profits generated in the basin. Official forecasts support this: the OBR now projects North Sea tax receipts to fall from about £4.5 billion in 2024/25 to £1.5 billion by 2029/30 as production and taxable profits decline. Stifel is more pessimistic expecting net tax receipts of just £0.5 billion in 2029/30. In effect, UK oil and gas policy is driving two leakages at once: capital is diverted to other countries and the capital that remains is increasingly wrapped in structures designed to minimise future tax.

This is happening just when there is renewed appetite for oil and gas assets among banks and fund managers. Over the past year, the investment landscape has shifted markedly. 2021–23 saw banks and asset managers retreat from fossil-fuel exposure under Environmental, Social, and Governance (ESG) pressure; for example, BNP Paribas<sup>133</sup> and HSBC<sup>134</sup> exited the market, saying they would no longer finance freshly approved oil and gas projects.

However, 2024–25 brought a clear recalibration as the world's largest banks increased fossil-fuel financing by US\$ 162.5 billion in 2024 compared with 2023<sup>135</sup>. At the same time, large asset managers such as BlackRock have explicitly moved to a more technology-neutral stance, emphasising the need to invest across all energy sources and committing billions of dollars to public energy companies, including traditional oil and gas<sup>136</sup>. This marks a break from the earlier ESG-driven narrative that fossil-fuel investment was becoming unfinanceable.

---

133 CityAM, 2023: *BNP Paribas stops financing new oil and gas fields in green clampdown* (<https://www.cityam.com/bnp-paribas-stops-financing-new-oil-and-gas-fields-in-green-clampdown/>)

134 BBC News, 2022: *HSBC to end funding for new oil and gas fields* (<https://www.bbc.co.uk/news/science-environment-63975173>)

135 ESG Dive, 2025: *Banks reverse course, increase fossil fuel investments in 2024: report* (<https://www.esgdive.com/news/global-banks-increase-fossil-fuel-investments-jpmorgan-citi-wells-bofa-2025-banking-on-climate-chaos/751084/>)

136 Forbes, 2024: *How BlackRock Abandoned Social And Environmental Engagement* (<https://www.forbes.com/sites/michaelposner/2024/09/04/how-blackrock-abandoned-social-and-environmental-engagement/>)

In October 2025, the UN-backed Net-Zero Banking Alliance founded by former Governor of the Bank of England and now Prime Minister of Canada Mark Carney ceased operations<sup>137</sup>. Carney helped establish the group in his role as UN Special Envoy for Climate Action and Finance in the lead-up to the UN climate conference in Glasgow in 2021. The alliance had over 140 banks globally at its peak, all committed to aligning their lending, investment and capital markets activities with cutting greenhouse gas emissions to net zero by 2050. However, sustained political pressure from US Republicans led major American banks including JP Morgan, Goldman Sachs and Bank of America to leave the alliance following the election of Donald Trump in November 2024. Canadian banks including RBC, TD, Scotiabank, BMO, CIBC and National Bank all left the group in January, saying they would continue climate efforts outside the group. More banks left as the year went on, including Barclays and HSBC.

This trend is echoed among the operators and supply chain businesses active on the UKCS. Despite the focus of the UK Government, the Aberdeen & Grampian Chamber of Commerce 42nd Energy Transition survey found net zero and ESG commitments remain low priorities for respondents, well behind maintaining profitability and financial stability as well as diversification into new markets and improving operational efficiency. In terms of ESG strategies, there is a steady reduction in commitment over recent surveys. Over a third of respondents continued to report no requirement from customers to demonstrate net zero or ESG credentials when bidding for work.

---

137 The Times, 2025: *Global banking climate group collapses after US policy shift* ([https://www.thetimes.com/business/companies-markets/article/global-banking-climate-group-collapses-after-us-policy-shift-q6szfdjkh?gaa\\_at=eafs](https://www.thetimes.com/business/companies-markets/article/global-banking-climate-group-collapses-after-us-policy-shift-q6szfdjkh?gaa_at=eafs))

---

## Rigs are leaving the region and may never return

In the same way that capital and people are moving out of the UK North Sea, so is equipment. This is already being seen, particularly in the drilling sector, as rigs are actively being marketed out of the UK to other regions. The rig count is a strong indicator of activity and confidence. Offshore rigs, particularly mobile units such as jack-ups and semi-submersibles, can be transported all over the world – a falling rig count demonstrates a declining commitment to a region. Fewer rigs mean lower production capacity, greater reliance on imports and potential delays in decommissioning. It also impacts rig suitability, often forcing reliance on less suitable equipment. Costs then rise owing to higher demand for non-discretionary activities such as decommissioning, and the potential need to source rigs from overseas. As the OEUK 2023 Annual Economic Report puts it:

The North Sea is the only basin where the outlook is for a surplus of high specification drilling rigs, meaning other regions are more competitive for business – with longer work durations and higher rates on offer. Once these units leave the UK it is increasingly unlikely that they will return.

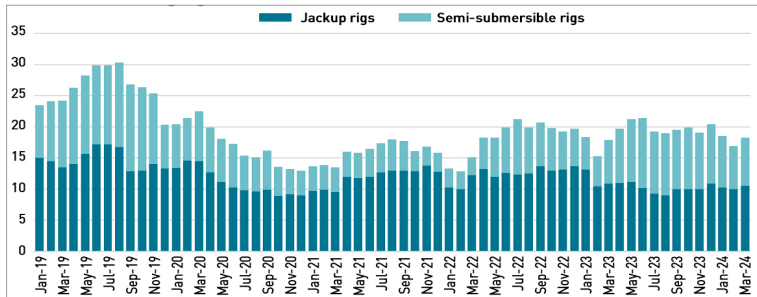
- 2023 Annual Economic Report, Offshore Energy UK

Since the windfall tax was introduced in May 2022, there has been a 15% reduction in the number of jack-up rigs (rigs that sit on the sea bed) in the UK North Sea, while the number of semi-submersible (floating) rigs, while smaller in number, has remained broadly constant (Figure 26). Even before the windfall tax came in, rig numbers had fallen due to lukewarm support for UK North Sea activity. According to Westwood Global Energy Group, between January 2018 and October 2021, a total of 18 jack-up rigs left the fleet and were either sold for non-drilling purposes, converted to Mobile Offshore Production Units (MOPUs), or

scrapped<sup>138</sup>. Other units have either been left idle (Noble Highlander), relocated elsewhere (Borr Drilling Ran) or placed in preservation (Valaris Viking).

In March 2023, the International Association of Drilling Contractors' (IADC) North Sea Chapter wrote to all 650 UK MPs and 129 MSPs, warning that further harsh-environment rigs could be 'lost for good' to the UK due to the windfall tax changes<sup>139</sup>. Darren Sutherland, Chairman of the IADC North Sea Chapter, said there is a 'real danger that the UK will be left without the resources and talent to make the energy transition a reality safely, swiftly and securely', as operators were reported to be considering moving drilling rigs and equipment elsewhere.

Figure 26. Jack-up and semi-submersible rig demand in the UK North Sea



Source: Westwood RigLogix

In stark contrast to the UK, drilling and development activity on the Norwegian Continental Shelf (NCS) continues to strengthen, supported by a fiscal regime deliberately designed to promote long-term investment. The Norwegian Offshore Directorate reported that

138 Westwood Global Energy Group, 2024: *North Sea jackup utilisation hits 94% despite falling demand* (<https://www.westwoodenergy.com/news/westwood-insight/westwood-insight-north-sea-jackup-utilisation-hits-94-despite-falling-demand>)

139 Offshore Energy, 2023: *Instead of killing 'the golden goose,' UK politicians urged to work with oil & gas industry for balanced transition* (<https://www.offshore-energy.biz/instead-of-killing-the-golden-geese-uk-politicians-urged-to-work-with-oil-gas-industry-for-balanced-transition/>)

---

2023<sup>140</sup> and 2024<sup>141</sup> were both highly active years, with 94 producing fields, almost 30 development projects under way, and a robust exploration programme. In 2025, the Norwegian Offshore Directorate was expecting investments on the NCS totalling NOK 264 billion (US\$ 26 billion). This is an increase of 2.5% from the previous year. Twenty-two development projects or field developments with approved development plans were under way on the NCS at year-end. Nine of the projects are in the North Sea, 11 in the Norwegian Sea and two in the Barents Sea. The Directorate hopes that these projects will help keep investment levels high and slow the underlying decline in production over the next decade. Additional development projects should also help extend field lives, leading to improved recovery.

Activity levels remain elevated because of Norway's temporary petroleum tax package introduced in 2020, which allowed companies to expense investment at favourable rates and uplift deductions, a targeted counter-cyclical measure that successfully triggered a wave of project sanctions. Of the 35 projects covered by the temporary tax rules, 24 were approved in 2022 alone, the highest number of FIDS that Norway has ever recorded in a single year. These schemes collectively represent more than 2.4 billion boe of new resources and will underpin Norwegian output well into the 2030s<sup>142</sup>.

Rystad Energy estimates that the projects sanctioned under this tax stimulus will deliver a material boost to European energy security: by 2028, incremental Norwegian gas supply is expected to reach ~25 bcm per year, equivalent to around 6% of combined UK–EU demand. This stems from an unprecedented investment wave of roughly US\$ 40 billion to US\$ 45 billion in new greenfield developments, enabled directly by fiscal stability and predictable licensing. While

---

140 Norwegian Offshore Directorate, 2024: *The Shelf in 2023: Robust activity and major investments* (<https://www.sodir.no/en/whats-new/news/general-news/2024/the-shelf-in-2023-robust-activity-and-major-investments/>)

141 Norwegian Offshore Directorate, 2025: *The Shelf in 2024* (<https://www.sodir.no/en/whats-new/publications/reports/the-shelf/the-shelf-in-2024/>)

142 Rystad Energy, 2023: *Double relief: Norwegian tax break will see gas and oil supply to Europe increase* (<https://www.rystadenergy.com/news/double-relief-norwegian-tax-break-will-see-gas-and-oil-supply-to-europe-increase>)

the UKCS struggles with falling rig counts, delayed projects and regulatory uncertainty, Norway is demonstrating that clear long-term policy and a supportive tax framework can still mobilise substantial capital into offshore oil and gas — with tangible production and security-of-supply benefits.

# Conclusion

Oil and gas are essential to modern life, not just for use as fuels but also as key ingredients in plastics, fertilisers, medicines and many other things we take for granted in everyday life. Phasing out their use will be difficult if we are to maintain current living standards, as the experiments in Bihar and Sri Lanka have shown. There are no credible forecasts that suggest oil and gas use in Britain will decline to zero even in net zero-compliant scenarios, and there are some good reasons for being sceptical that net zero targets will be achieved, making the chances that oil and gas use remain significant for decades to come even higher.

Ending North Sea oil and gas production prematurely has several adverse consequences. It does impact energy security, not just because of increased imports, but because the closure of offshore pipeline infrastructure may mean there is not enough gas entering the UK on cold winter days to meet both heating and power generation demand. Failure to manage this risk, either through ensuring this premature decline is reversed or by constructing new gas import terminals, will likely result in rationing of gas for both heating and power generation. This would clearly have an adverse economic impact as well as being harmful for individuals.

It is also clear that accelerated decline of North Sea production will reduce the taxes received by the Treasury. This will be true of both direct taxes on North Sea production, and indirect taxes in the form of the corporation taxes paid by supply chain companies that close or relocate out of the UK, and income and other taxes paid by the staff made redundant as a result. This will mean other taxes must rise or public spending fall.

Clearly, the conclusion must be that we cannot 'just stop oil' and that ending domestic oil and gas production will simply increase the amount of carbon offshoring undertaken by the UK. Global carbon

dioxide emissions would almost certainly be higher as a result. The alternative would be a more benign policy framework for domestic production in the form of licensing commitments, as well as the removal of policies that deter investment in the sector and could result in 'just stopping oil' through the back door, in particular the windfall tax. The better question is how we can ensure that our ongoing use of hydrocarbons is as sustainable and environmentally responsible as possible. For example, incentives should instead be directed towards reducing waste, managing consumption responsibly and ensuring that every step of the value chain, from extraction through to disposal, is carried out with minimal environmental impact.

It would be helpful if there was less finger-pointing in the debate. Oil and gas producers are not the enemy – they produce goods that are used by all of us every day and which are key to our modern society. Of course, to protect the environment, they should be required to carry out their operations in the cleanest way, but they do not produce oil and gas for their own entertainment – they do it because there is high demand for their products. We cannot clamp down on production without also clamping down on consumption, and so far, consumers are showing little appetite for giving up the use of oil and gas, even as a fuel. One of the most impactful choices an individual could make to reduce fossil-fuel consumption would be to avoid taking aeroplane flights, but there is little evidence that people are willing to sacrifice their annual foreign holidays.

It is easy to say we should 'just stop oil' but this is just not realistic and is ultimately not a useful contribution to the debate about sustainability.

---

## References

Climate Change Committee, 2025: *Seventh Carbon Budget Full Dataset* (<https://www.theccc.org.uk/wp-content/uploads/2025/02/The-Seventh-Carbon-Budget-full-dataset.xlsx>)

Offshore Energies UK, 2024: *Economy and People Report* (<https://oeuk.org.uk/product/economy-people-report-2024/>)

North Sea Transition Authority, 2025: *NSTA March 2025 Production Projections Plus CCC and DESNZ Demand Projections* (<https://www.nstauthority.co.uk/media/3ewpму0z/nsta-march-2025-production-projections-plus-ccc-and-desnz-demand-projections-v2.xlsx>)

Reuters, 2023: *Scotland's sole oil refinery faces closure* (<https://www.reuters.com/markets/commodities/petroineos-begin-work-shut-down-scotland-oil-refinery-2023-11-22/>)

The Guardian, 2024: *"Devastating": Port Talbot steelworks to shut blast furnaces and shed up to 2,800 jobs* (<https://www.theguardian.com/business/2024/jan/19/port-talbot-steelworks-blast-furnaces-to-close-costing-almost-3000-jobs-tata>)

CF Fertilisers, 2023: *CF Fertilisers UK Announces Proposal to Permanently Close Ammonia Plant at Billingham Complex* (<https://www.cfindustries.com/newsroom/2023/billingham-ammonia-plant>)

Climate Change Committee, 2020: *Sixth Carbon Budget – The UK's Path to Net Zero* (<https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf>)

UK Government, 2025: *Official Statistics Trade and investment core statistics book* (<https://www.gov.uk/government/statistics/trade-and-investment-core-statistics-book/trade-and-investment-core-statistics-book#imports>)

Climate Action Tracker, 2023: *Turkey* (<https://climateactiontracker.org/countries/turkey/net-zero-targets/>)

Climate Action Tracker, 2023: *China* (<https://climateactiontracker.org/countries/china/>)

Climate Action Tracker, 2023: *India* (<https://climateactiontracker.org/countries/india/>)

International Energy Agency, 2023: *Electricity Grids and Secure Energy Transitions* (<https://iea.blob.core.windows.net/assets/70f2de45-6d84-4e07-bfd0-93833e205c81/ElectricityGridsandSecureEnergyTransitions.pdf>)

Ahead of the Herd, 2022: *Copper mines becoming more capital-intensive and costly to run* (<https://aheadoftheherd.com/copper-mines-becoming-more-capital-intensive-and-costly-to-run/>)

Forbes, 2018: *Yes, Solar And Wind Really Do Increase Electricity Prices – And For Inherently Physical Reasons* (<https://www.forbes.com/sites/michaels hellenberger/2018/04/25/yes-solar-and-wind-really-do-increase-electricity-prices-and-for-inherently-physical-reasons/>).

Global Petrol Prices, 2025: *Electricity prices* ([https://www.globalpetrolprices.com/electricity\\_prices/](https://www.globalpetrolprices.com/electricity_prices/))

Our World in Data, 2025: *Renewable Energy* (<https://ourworldindata.org/renewable-energy>)

Watt-Logic, 2025: *Voltage, inertia and the Iberian blackout part 2: faulty PV inverter crashed the grid* (<https://watt-logic.com/2025/07/16/voltage-inertia-and-the-iberian-blackout-part-2-a-faulty-solar-inverter-crashed-the-spanish-grid12088/>)

Watt-Logic, 2025: *Location, location, location: managing voltage in weak grids* (<https://watt-logic.com/2025/10/24/location-location-location-managing-voltage-in-weak-grids/>)

---

Mongabay, 2021: *Solar power station at Bihar's "first solar village" is now a makeshift cattle shed* (<https://india.mongabay.com/2021/12/solar-power-station-at-bihars-first-solar-village-is-now-a-makeshift-cattle-shed/>)

Financial Times, 2022: *Sri Lanka farmers count the cost of government fertiliser ban* (<https://www.ft.com/content/27a4fa03-74d7-409a-89e6-0f0391786c3e>)

World Economic Forum, 2021: *Renewables were the world's cheapest source of energy in 2020, new report shows* (<https://www.weforum.org/agenda/2021/07/renewables-cheapest-energy-source/>)

Lazard, 2023: *Levelised Cost of Energy+* (<https://www.lazard.com/research-insights/levelized-cost-of-energyplus/>)

Office for Budget Responsibility, 2025: *Economic and fiscal outlook* (<https://obr.uk/download/march-2025-economic-and-fiscal-outlook-detailed-forecast-tables-receipts/?tmstv=1757353579>)

Ofgem, 2025: *Feed-in Tariff Levelisation Schedule Year 15* (<https://www.ofgem.gov.uk/guidance/feed-tariff-levelisation-schedule-year-15>)

Ofgem, 2025: *Energy price cap (default tariff) levels* (<https://www.ofgem.gov.uk/energy-regulation/domestic-and-non-domestic/energy-pricing-rules/energy-price-cap/energy-price-cap-default-tariff-levels>)

University of Cambridge Energy Policy Research Group, 2019: *Cost Pass-through in the British Wholesale Electricity Market: Implications of Brexit and the ETS reform* (<https://www.jstor.org/stable/resrep30333?seq=1>)

Office for National Statistics, 2025: *Annual domestic energy bills* (<https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics>)

Department for Energy Security and Net Zero, 2025: *Energy consumption in the UK 2025* (<https://www.gov.uk/government/statistics/energy-consumption-in-the-uk-2025>)

Trading Economics, 2025: *United Kingdom Natural Gas Price* (<https://tradingeconomics.com/commodity/uk-natural-gas>)

Trading Economics, 2025: *United Kingdom Electricity Price* (<https://tradingeconomics.com/united-kingdom/electricity-price>)

Ofgem, 2002: *The first year of NETA* (<https://share.google/shD75zgg-F9cgUpK29>)

UK Parliament, 2011: *Memorandum submitted by Centrica* (<https://publications.parliament.uk/pa/cm201012/cmselect/cmenergy/670/10120703.htm>)

Bank of England, 2025: *Inflation calculator* (<https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator>)

Watt-Logic, 2025: *ASPs for AR7 prove renewables are not cheap* (<https://watt-logic.com/2025/07/27/asps-for-ar7-prove-renewables-are-not-cheap/>)

Ørsted, 2025: *Ørsted to discontinue the Hornsea 4 offshore wind project in its current form* (<https://orsted.com/en/company-announcement-list/2025/05/orsted-to-discontinue-the-hornsea-4-offshore-wind--143901911>)

Department for Energy Security and Net Zero, 2014: *Contracts for Difference (CfD): first allocation round* (<https://www.gov.uk/government/collections/contracts-for-difference-cfd-first-allocation-round>)

Department for Energy Security and Net Zero, 2017: *Contracts for Difference (CFD) Second Allocation Round Results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-second-allocation-round-results>)

Department for Energy Security and Net Zero, 2019: *Contracts for Difference (CfD) Allocation Round 3: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-3-results>)

Department for Energy Security and Net Zero, 2022: *Contracts for Difference (CfD) Allocation Round 4: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-4-results>)

Department for Energy Security and Net Zero, 2023: *Contracts for Difference (CfD) Allocation Round 5: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-5-results>)

Department for Energy Security and Net Zero, 2024: *Contracts for Difference (CfD) Allocation Round 6: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-6-results>)

Department for Energy Security and Net Zero, 2025: *Contracts for Difference (CfD) Allocation Round 7: results* (<https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-7-results>)

Watt-Logic, 2025: *New report: The true affordability of net zero* (<https://watt-logic.com/2025/05/19/new-report-the-true-affordability-of-net-zero/>)

EnergyMarketPrice, 2025: *A surplus of LNG supply in 2026 will put pressure on global gas prices* (<https://www.energymarketprice.com/home/en/news/1176394>)

WindEurope. OffshoreWind.biz, 2023: *Zero Investments in Offshore Wind Farms in Europe in 2022* (<https://www.offshorewind.biz/2023/02/01/zero-investments-in-offshore-wind-farms-in-europe-in-2022-windeurope/>)

Watt-Logic, 2023: *Time to accept that wind farm costs are not falling* (<https://watt-logic.com/2023/06/14/wind-farm-costs/>)

Brussels Signal, 2025: *Danish wind-farm major Ørsted hammered by brutal financial storm* (<https://brusselssignal.eu/2025/08/danish-wind-farm-major-orsted-hammered-by-brutal-financial-storm/>)

RTE, 2025: *Offshore wind developer Ørsted's Q1 beats forecasts* (<https://www.rte.ie/news/business/2025/0507/1511461-offshore-wind-developer-orsteds-q1-beats-forecasts/>)

BCG, 2025: *Offshore Wind Industry Update* (<https://www.bcg.com/publications/2025/offshore-wind-industry-update>)

Euro News, 2025: *Ørsted sees shares plunge as US halts work on offshore wind farm* (<https://www.euronews.com/business/2025/08/25/orsted-sees-shares-plunge-as-us-halts-work-on-offshore-wind-farm>)

OilPrice.com 2023: *Wind Power Has A Profitability Problem* (<https://oilprice.com/Alternative-Energy/Wind-Power/Wind-Power-Has-A-Profitability-Problem.html>)

Energy Institute, 2025: *Statistical Review of World Energy* (<https://www.energyinst.org/statistical-review/home>)

World Population Review, 2025: *Cost of Electricity by Country 2025* (<https://worldpopulationreview.com/country-rankings/cost-of-electricity-by-country>)

World Bank, 2019: *Electric Prices by Country* (<https://databank.worldbank.org/embed/Electric-Prices-by-Country/id/7b12e700>)

Department for Energy Security and Net Zero: *New annual oil and gas licensing rounds to boost UK economy, energy independence and transition to net zero* (<https://www.gov.uk/government/news/new-annual-oil-and-gas-licensing-rounds-to-boost-uk-economy-energy-independence-and-transition-to-net-zero>)

North Sea Transition Authority, 2023: *Natural gas carbon footprint analysis* (<https://www.nstauthority.co.uk/the-move-to-net-zero/net-zero-benchmarking-and-analysis/natural-gas-carbon-footprint-analysis/>)

BBC News, 2023: *Keir Starmer pledges to end North Sea exploration and let areas profit from clean power* (<https://www.bbc.co.uk/news/uk-scotland-scotland-politics-65945214>)

iNews, 2023: *Keir Starmer under pressure from Labour left to U-turn on new oil and gas licences* (<https://inews.co.uk/news/politics/keir-starmer-labour-left-oil-gas-north-sea-just-stop-oil-2531243>)

Financial Times, 2023: *GMB attacks Labour plans to end new North Sea oil and gas licences* (<https://www.ft.com/content/b5b1ff08-b51f-4cdf-a705-d1e9fbbef436>)

North Sea Transition Authority, 2024: *OGA Plan sharpens focus on emissions reduction* (<https://www.nstauthority.co.uk/news-publications/oga-plan-sharpens-focus-on-emissions-reduction/>)

North Sea Transition Authority, 2025: *Quadrants* (<https://experience.arcgis.com/experience/0f32136c674745a397022bc6ad510d96>)

Equinor, 2023: *Frequently asked questions about Rosebank* (<https://www.equinor.com/energy/rosebank#faqs>)

North Sea Transition Authority, 2023: *Wells report reveals significant growth opportunities which must be grasped* (<https://www.nstauthority.co.uk/news-publications/wells-report-reveals-significant-growth-opportunities-which-must-be-grasped/>)

North Sea Transition Authority, 2023: *Medium-term projections* (<https://www.nstauthority.co.uk/media/ufbbsoya/nsta-medium-term-projections-sep-2023.xlsx>)

North Sea Transition Authority, 2024: *UKCS Well Trends* (<https://app.powerbi.com/view?r=eyJrIjoiMGVkdjIwMjctNDcyYi00NzE3LWE3N2QtYzY4Zjc2NjgyYTdjIiwidCI6ImU2ODFjNTlkLTg2OGUtNDg4Ny04MGZlLWNIzZmMwYyMwIiwZiJ9>)

Norwegian Offshore Directorate, 2023: *Investments for the future on the Shelf* (<https://www.sodir.no/en/whats-new/news/general-news/2023/investments-for-the-future-on-the-shelf/>)

Telegraph, 2025: *Norway makes one of biggest North Sea discoveries in a decade* (<https://www.telegraph.co.uk/business/2025/08/22/norway-makes-one-of-biggest-north-sea-discoveries-in-decade/>)

Equinor, 2025: *Equinor makes new discoveries in the North Sea* (<https://www.equinor.com/news/20251205-new-discoveries-in-the-north-sea>)

Offshore Energies UK, 2025: *Impact Of UKCS Fiscal Policy On UK Economic Growth 2025* ([https://oeuk.org.uk/wp-content/uploads/woocommerce\\_uploads/2025/09/Impact-of-Fiscal-Policy-UKCS-OEUK-September-2025-u4zg8r.pdf](https://oeuk.org.uk/wp-content/uploads/woocommerce_uploads/2025/09/Impact-of-Fiscal-Policy-UKCS-OEUK-September-2025-u4zg8r.pdf))

Wood Mackenzie, 2025: *Wood Mackenzie analysis reveals that North Sea production can remain within IPCC net zero emissions targets even if commercial reserves were increased by 50%* (<https://www.woodmac.com/press-releases/wood-mackenzie-analysis-reveals-that-north-sea-production-can-remain-within-net-zero-targets-even-if-commercial-reserves-were-increased-by-50/>)

Wood Mackenzie, 2024: *An additional £10 billion of North Sea value could be extracted from existing assets if the right fiscal and regulatory regime is established* (<https://www.woodmac.com/press-releases/2024-press-releases/an-additional-10-billion-of-north-sea-value-could-be-extracted-from-existing-assets-if-the-right-fiscal-and-regulatory-regime-is-established/>)

OGV Energy, 2025: *Energy Profits Levy: UK's 78% Tax Rate Impact Analysis* (<https://ogv.energy/news-item/energy-profits-levy-uks-78-tax-rate-impact-analysis/>)

---

Upstream, 2025: *UK North Sea ‘largely uninvestable’, says EIG* (<https://www.upstreamonline.com/politics/uk-north-sea-largely-uninvestable-says-eig/2-1-1885668#:~:text=Under%20the%20current%20fiscal%20regime,%20most%20of,for%20capital%20allocation%20in%20our%20portfolio,%E2%80%9D%20EIG>)

This is Money, 2025: *Windfall tax ‘destroying’ North Sea oil and threatening growth, analysts warn* (<https://www.thisismoney.co.uk/money/markets/article-14731299/Windfall-tax-destroying-North-Sea-oil-threatening-growth-analysts-warn.html>)

Westwood Global Energy Group, 2025: *Licensing & infrastructure upside* (<https://oeuk.org.uk/product/licensing-and-infrastructure-report-2025/>)

National Energy System Operator, 2025: *Mitigations to protect future security of gas supply identified* (<https://www.neso.energy/news/mitigations-protect-future-security-gas-supply-identified>)

UK Government, 2022: *Energy (Oil and Gas) Profits Levy Act 2022* (<https://www.legislation.gov.uk/ukpga/2022/40/contents/enacted>)

Office for National Statistics, 2025: *Public sector current receipts: Appendix D* (<https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicsectorfinance/datasets/appendixdpublicsector-currentreceipts>)

HM Treasury, 2022: *Autumn Statement 2022* ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1118417/CCS1022065440-001\\_SECURE\\_HMT\\_Autumn\\_Statement\\_November\\_2022\\_Web\\_accessible\\_\\_1\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1118417/CCS1022065440-001_SECURE_HMT_Autumn_Statement_November_2022_Web_accessible__1_.pdf))

HM Treasury, 2024: *Spring Budget 2024* (<https://www.gov.uk/government/publications/spring-budget-2024>)

HM Treasury, 2024: *Changes to the Energy (Oil and Gas) Profits Levy* (<https://www.gov.uk/government/publications/july-statement-2024-changes-to-the-energy-oil-and-gas-profits-levy/changes-to-the-energy-oil-and-gas-profits-levy>)

The Independent, 2022: *“No brainer”: Calls for windfall tax mount as Shell announces bumper profits* (<https://www.independent.co.uk/climate-change/news/shell-profits-windfall-tax-oil-b2072050.html>)

House of Commons Library, 2024: *Domestic energy prices* (<https://commonslibrary.parliament.uk/research-briefings/cbp-9491/>)

Financial Times, 2023: *UK oil and gas group Harbour Energy says windfall tax ‘has all but wiped out’ profit* (<https://www.ft.com/content/7747b2b8-edc1-4ac2-9d84-8f0b7f599e03>)

Reuters, 2023: *North Sea oil producers seek price floor to limit UK windfall tax* (<https://www.reuters.com/business/energy/north-sea-oil-producers-seek-price-floor-limit-uk-windfall-tax-2022-12-06/>)

Harbour Energy, 2023: *Harbour Energy 2022 full-year results* (<https://www.harbourenergy.com/news-and-media/latest-news/2023/harbour-energy-2022-full-year-results/>)

BBC News, 2023: *Harbour Energy to shed 350 UK onshore jobs, blaming windfall tax* (<https://www.bbc.co.uk/news/uk-scotland-scotland-business-65178626>)

BBC News, 2025: *Oil and gas firm plans to cut 100 offshore jobs* (<https://www.bbc.co.uk/news/articles/cldz4d64qqpo>)

Robert Gordon University, 2025: *Striking The Balance - Building a sustainable UK offshore energy workforce* (<https://www.rgu.ac.uk/news/news-2025/8232-uk-offshore-energy-industry-faces-grangemouth-scale-redundancies-every-fortnight-without-intervention-warns-new-rgu-report>)

Financial Times, 2023: *Apache announces end to North Sea drilling hours after UK scales back windfall tax* (<https://www.ft.com/content/7a8e73e2-de4c-4f11-985b-80a6c56d8ee5>)

Ithaca Energy, 2023: *Full Year 2022 Financial Results (Press Release)* (<https://investors.ithacaenergy.com/sites/ithaca-ir/files/ithaca-energy-full-year-2022-results.pdf>)

Ithaca Energy, 2024: *Full Year 2023 Financial Results (Press Release)* (<https://investors.ithacaenergy.com/sites/ithaca-ir/files/2024-03/2023-year-end-financial-results.pdf>)

Ithaca Energy, 2025: *Full Year 2024 Financial Results (Press Release)* (<https://investors.ithacaenergy.com/sites/ithaca-ir/files/2025-03/2024-year-end-financial-results.pdf>)

EnQuest plc, 2024: *Results for the year ended 31 December 2023 and 2024 outlook* ([https://www.enquest.com/fileadmin/content/press\\_release\\_pdfs/2024/Results\\_for\\_the\\_year\\_ended\\_31\\_December\\_2023\\_and\\_2024\\_outlook.pdf](https://www.enquest.com/fileadmin/content/press_release_pdfs/2024/Results_for_the_year_ended_31_December_2023_and_2024_outlook.pdf))

EnQuest plc, 2022: *Results for the year ended 31 December 2021 and 2022 outlook* ([https://www.enquest.com/fileadmin/content/press\\_release\\_pdfs/2022/2021\\_Full\\_Year\\_Results\\_and\\_2022\\_Outlook.pdf](https://www.enquest.com/fileadmin/content/press_release_pdfs/2022/2021_Full_Year_Results_and_2022_Outlook.pdf))

Telegraph, 2023: *Windfall tax pushes North Sea oil giant into the red* (<https://www.telegraph.co.uk/business/2023/09/05/windfall-tax-pushes-north-sea-oil-firm-into-red/>)

EnQuest plc, 2025: *Annual Report and Accounts (Strategic Report)* ([https://www.enquest.com/fileadmin/content/Annual\\_Reports/Annual\\_Report\\_files\\_2024/EnQuest\\_ARA24\\_Strategic\\_Report.pdf](https://www.enquest.com/fileadmin/content/Annual_Reports/Annual_Report_files_2024/EnQuest_ARA24_Strategic_Report.pdf))

Offshore Energies UK, 2023: *Economic Report 2023* (<https://oeuk.org.uk/product/economic-report-2023/>)

Office for Budget Responsibility, 2023: *Economic and fiscal outlook – March 2023* (<https://obr.uk/efo/economic-and-fiscal-outlook-march-2023/>)

Office for Budget Responsibility, 2025: *Economic and fiscal outlook – November 2025* (<https://obr.uk/efo/economic-and-fiscal-outlook-november-2025/>)

Office for Budget Responsibility, 2023: *The evolution of North Sea oil and gas receipts* (<https://obr.uk/box/the-evolution-of-north-sea-oil-and-gas-receipts/>)

LabourList, 2025: *Caving to pressure for new oil and gas licences won't win SNP or Reform voters* (<https://labourlist.org/2025/04/climate-change-net-zero-oil-gas-labour-miliband-conservatives-reform/>)

Wood Mackenzie, 2025: *Scope 3 emissions: the growing regulatory and legal risks facing the UK North Sea* (<https://www.woodmac.com/reports/upstream-oil-and-gas-scope-3-emissions-the-growing-regulatory-and-legal-risks-facing-the-uk-north-sea-150368957/>)

Financial Times, 2024: *Ineos Energy chief warns 'punitive' UK taxes make North Sea uninvestable* (<https://www.ft.com/content/8000aaf1-6571-4b71-ba66-820dc4472472>)

Insider UK, 2024: *Apache blames windfall tax as it pulls out of North Sea* (<https://www.insider.co.uk/news/apache-blames-windfall-tax-pulls-34064682>)

Reuters, 2025: *Chevron to close Scotland office under restructuring* (<https://www.reuters.com/business/energy/chevron-close-scotland-office-under-restructuring-2025-06-30/>)

Offshore Energies UK, 2025: *Supply Chain Report 2025* ([https://oeuk.org.uk/wp-content/uploads/woocommmerce\\_uploads/2025/03/Supply-Chain-Report-2025-a5fecj.pdf](https://oeuk.org.uk/wp-content/uploads/woocommmerce_uploads/2025/03/Supply-Chain-Report-2025-a5fecj.pdf))

Offshore Energy, 2025: *UK underwater market hits £9.4 billion: Project delays place offshore energy supply chain at risk* (<https://www.offshore-energy.biz/uk-underwater-market-hits-9-4-billion-project-delays-place-offshore-energy-supply-chain-at-risk/>)

Aberdeen & Grampian Chamber of Commerce, 2025: *42nd Energy Transition Report* (<https://agcc.fra1.cdn.digitaloceanspaces.com/files/ET42-ONLINE.pdf>)

Financial Times, 2025: *Thousands of North Sea jobs at risk as Petrofac files for administration* (<https://www.ft.com/content/0e473e46-6043-4928-9ea9-975c7560c93b>)

Insider Media, 2025: *Hunting shifts Aberdeen manufacturing to Dubai in major restructure* (<https://www.insidermedia.com/news/scotland/hunting-shifts-aberdeen-manufacturing-to-dubai-in-major-restructure>)

Scottish Sun, 2025: *Jobs Blow: Several jobs axed as manufacturing firm CLOSES major Scots location* (<https://www.thescottishsun.co.uk/money/13766317/jobs-axed-vallourec-bridge-of-don-aberdeen-north-sea/>)

Daily Business, 2025: *Subsea firm Beam collapses with 200 job losses* (<https://dailybusinessgroup.co.uk/2025/05/subsea-firm-beam-collapses-with-200-job-losses/>)

Scottish Business News, 2025: *Aberdeen energy technology firm falls into administration* (<https://scottishbusinessnews.net/aberdeen-energy-technology-firm-falls-into-administration/>)

Offshore Energies UK, 2025: *Economic Report 2025* (<https://oeuk.org.uk/product/economic-report-2025/>)

North Sea Transition Authority, 2025: *Production and expenditure projections* (<https://www.nstauthority.co.uk/data-and-insights/insights-and-analysis/production-and-expenditure-projections/>)

Financial Times, 2024: *Shockwave hits wind industry as turbine blades fail* (<https://ft.pressreader.com/v99c/20240520/281659670151026>)

Fuel Cell Works, 2025: *BP Cancels First UK Green Hydrogen Project Amid Strategic Shift* (<https://fuelcellworks.com/2025/03/05/hydrogen/bp-cancels-first-uk-green-hydrogen-project-amid-strategic-shift>)

BBC News, 2025: *BP pulls out of building Teesside hydrogen plant* (<https://www.bbc.co.uk/news/articles/c865jwpw9p4o>)

ChemAnalyst, 2025: *Air Products scraps £2bn UK hydrogen project citing insufficient government backing* (<https://www.chemanalyst.com/NewsAndDeals/NewsDetails/air-products-scraps-2bn-uk-hydrogen-project-citing-insufficient-government-backing-37458>)

Westwood Global Energy Group, 2024: *Westwood Insight – Over a fifth of all European Hydrogen projects stalled or cancelled* (<https://www.westwoodenergy.com/news/westwood-insight-over-a-fifth-of-all-european-hydrogen-projects-stalled-or-cancelled>)

Financial Times, 2025: *Hydrogen dreams meet reality as oil and gas groups abandon projects* (<https://www.ft.com/content/b0981f8a-d115-4779-bbed-75a87316a892>)

Financial Times, 2025: *Lead developer of major Scottish carbon capture project to sell stake* (<https://www.ft.com/content/9192bbce-d364-454d-9488-849b46a5dad9>)

Oil Change International, 2024: *Written evidence submitted by Oil Change International* (<https://committees.parliament.uk/writtenevidence/131580/html/>)

Watt-Logic, 2025: *ASPs for AR7 prove renewables are not cheap* (<https://watt-logic.com/2025/07/27/asps-for-ar7-prove-renewables-are-not-cheap/>)

Reuters, 2022: *Harbour reviews spending, shuns UK licensing round after energy windfall tax* (<https://www.reuters.com/business/energy/harbour-reviews-spending-shuns-uk-licensing-round-after-windfall-tax-2022-12-15/>)

Independent, 2025: *Oil giant blames windfall tax as it scraps 100 jobs* (<https://www.independent.co.uk/news/business/harbour-energy-job-cuts-north-sea-b2876267.html>)

Scottish Financial News, 2024: *North Sea oil firm to slow down investment plans in light of fiscal and regulatory uncertainty* (<https://www.scottishfinancialnews.com/articles/north-sea-oil-firm-to-slow-down-investment-plans-across-its-portfolio-in-light-of-fiscal-and-regulatory-uncertainty>)

Reuters, 2025: *UK's Ithaca Energy to acquire Japex's North Sea business for \$193 million* (<https://www.reuters.com/markets/deals/uks-ithaca-energy-acquire-japexs-north-sea-business-193-million-2025-03-25/>)

Financial Times, 2025: *North Sea oil deals allow companies to offset billions in tax liabilities* (<https://www.ft.com/content/48d7ca6f-aed7-4245-8b28-249c0d68d032>)

Financial Times, 2025: *TotalEnergies merger creates largest UK North Sea producer* (<https://www.ft.com/content/5f33855f-acc6-4d41-99cd-db889f1d2046>)

CityAM, 2023: *BNP Paribas stops financing new oil and gas fields in green clampdown* (<https://www.cityam.com/bnp-paribas-stops-financing-new-oil-and-gas-fields-in-green-clampdown/>)

BBC News, 2022: *HSBC to end funding for new oil and gas fields* (<https://www.bbc.co.uk/news/science-environment-63975173>)

ESG Dive, 2025: *Banks reverse course, increase fossil fuel investments in 2024: report* (<https://www.esgdive.com/news/global-banks-increase-fossil-fuel-investments-jpmorgan-citi-wells-bofa-2025-banking-on-climate-chaos/751084/>)

Forbes, 2024: *How BlackRock Abandoned Social And Environmental Engagement*(<https://www.forbes.com/sites/michaelposner/2024/09/04/how-blackrock-abandoned-social-and-environmental-engagement/>)

The Times, 2025: *Global banking climate group collapses after US policy shift* ([https://www.thetimes.com/business/companies-markets/article/global-banking-climate-group-collapses-after-us-policy-shift-q6szfdjkh?gaa\\_at=eafs](https://www.thetimes.com/business/companies-markets/article/global-banking-climate-group-collapses-after-us-policy-shift-q6szfdjkh?gaa_at=eafs))

Westwood Global Energy Group, 2024: *North Sea jackup utilisation hits 94% despite falling demand* (<https://www.westwoodenergy.com/news/westwood-insight/westwood-insight-north-sea-jackup-utilisation-hits-94-despite-falling-demand>)

Offshore Energy, 2023: *Instead of killing 'the golden goose,' UK politicians urged to work with oil & gas industry for balanced transition* (<https://www.offshore-energy.biz/instead-of-killing-the-golden-geese-uk-politicians-urged-to-work-with-oil-gas-industry-for-balanced-transition/>)

Norwegian Offshore Directorate, 2024: *The Shelf in 2023: Robust activity and major investments* (<https://www.sodir.no/en/whats-new/news/general-news/2024/the-shelf-in-2023-robust-activity-and-major-investments/>)

Norwegian Offshore Directorate, 2025: *The Shelf in 2024* (<https://www.sodir.no/en/whats-new/publications/reports/the-shelf/the-shelf-in-2024/>)

Rystad Energy, 2023: *Double relief: Norwegian tax break will see gas and oil supply to Europe increase* (<https://www.rystadenergy.com/news/double-relief-norwegian-tax-break-will-see-gas-and-oil-supply-to-europe-increase>)

The Institute of Economic Affairs  
2 Lord North Street  
London SW1P 3LB  
Tel 020 7799 8900  
email [iea@iea.org.uk](mailto:iea@iea.org.uk)



**iea**  
Institute of  
Economic Affairs