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THE NORTH SEA DIVIDEND: WHAT BRITAIN GETS BACK

ADURA

FOREWORD



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The decision on the development of Rosebank and Jackdaw and on the continued development of the remaining oil and gas resources from UKCS come at a critical moment for the UK's energy security.

The global energy market has been destabilised over the last six months by the war in the Middle East. The Strait of Hormuz has been effectively closed for more than 200 days. That conflict continues with no sign of a lasting settlement. Disruption has now spread into the area of the Red Sea with attacks on the key Saudi pipeline to Yanbu.

With stocks drawn down and existing fields already producing at their maximum capacity, there is every chance of a serious supply shortage this winter which is likely to continue into 2027 because so many facilities around the Gulf have been damaged.

In these circumstances it is important to maximise production of oil and gas elsewhere, including in the North Sea. That is happening in Norway and should happen here. Rosebank and Jackdaw alone cannot substitute for the oil and gas trapped behind the blockade of Hormuz, but together they can make a positive contribution to preventing a surge in prices as supplies run short. They can limit the amount of oil and gas which the UK would otherwise have to import from the highly volatile international market. Increasing imports would of course also add to emissions because of the transportation involved.

This report sets out the facts clearly and objectively. Rosebank and Jackdaw are great projects of which we should be proud. Their development, along with the continued development of the other resources which remain in the UKCS, are an essential contribution to maintaining the energy security on which British consumers, business, as well as households rely.

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EXECUTIVE SUMMARY

This Public First report, commissioned by Adura, assesses the economic, fiscal and sustainability implications of the company's operations in the UK North Sea. By modelling five distinct policy and market scenarios - ranging from managed decline to national energy security prioritisation - the analysis compares how different fiscal, regulatory, investment and commodity price assumptions affect Adura's contribution to the UK economy, Exchequer revenues and energy security through to 2050. All policy scenarios in this report are compliant with Labour's manifesto commitment on exploration licensing.

The UK North Sea stands at a critical juncture. The policy framework governing the UK Continental Shelf will have a substantial impact on economic output, jobs and tax contributions associated with the oil and gas sector. This report demonstrates that the current trajectory of managed decline, reinforced by an overly restrictive fiscal and regulatory regime, carries a profound opportunity cost. By stifling long-term investment, these policies risk a premature erosion of the UK's energy security, leaving the nation increasingly reliant on carbon-intensive energy imports, while simultaneously sacrificing substantial economic value and thousands of high-quality, specialist jobs.

Conversely, a stable, growth-oriented policy environment - one that incentivises investment and aligns with the imperative of UK energy security - offers a compelling path forward. It creates a robust economic dividend, reduces import dependence and strengthens resilience to physical supply disruption, and ensures that the industrial capacity and workforce required for the energy transition are preserved rather than dismantled.

KEY FINDINGS

ECONOMIC IMPACT

A supportive and stable policy environment delivers a material economic dividend when commodity prices are held constant. Under the "supportive and stable" scenario, Adura supports £35.3 billion of cumulative GVA between 2026 and 2035, compared with £26.2 billion under the "status quo". Both scenarios assume average prices of $70 per barrel for oil and 70p per therm for gas, meaning that the more supportive policy and investment environment is associated with an additional £9.1 billion of GVA over the decade.

Under an "oil left in the ground" scenario, Adura supports £24.5 billion of cumulative GVA between 2026 and 2035, highlighting the specific £10.8 billion economic loss if key oil projects like Rosebank are not consented, compared to £35.3 billion under "Supportive and stable".

The full range of outcomes across the five scenarios is wider, reflecting differences in both policy and market conditions. Under "Molecules", Adura supports £46.0 billion of cumulative GVA and an average of 14,010 jobs a year between 2026 and 2035, compared with £15.2 billion of GVA and 7,100 jobs a year under "Electrons". The £30.8 billion GVA difference represents the range between the highest and lowest modelled outcomes and reflects different commodity price, investment and policy assumptions; it should not be interpreted as the effect of policy alone.

Even under the most restrictive scenario, Adura's operations support annual economic value equivalent to more than the entire Fishing or Forestry industries in the UK. In the most favourable scenarios, this contribution more than doubles, exceeding sectors like Iron and Steel.

Under "oil left in the ground", Adura supports an average of 10,530 jobs a year between 2026 and 2035, representing 3,330 fewer jobs per year compared to the 13,860 jobs supported under "Supportive and stable".

More than half of the jobs supported by Adura are estimated to be in Scotland, ranging from 3,810 to 7,330 per year over the next decade, depending on the policy scenario. The remaining 3,290 to 6,680 jobs a year are estimated to be supported across the rest of the UK, highlighting the reach of Adura's supply chain.

Jobs created in the North Sea are among the highest quality in the UK. Adura provides high-quality employment with salaries over double the UK and Aberdeen averages, with supportive policy environments ensuring these jobs are sustained for longer.

Adura's "jobs multiplier" is over twice as high as the economy average. The company creates a significant "jobs multiplier" effect, with 11 to 15 jobs supported across the economy for every direct Adura job. This reflects jobs supported along Adura's supply chain and through employees spending money in the wider economy.

Strategic social investment will help support employment during the energy transition. Adura is investing £1.5 million in social investment programmes in 2026, with £1.1 million specifically targeted at skills and workforce transition, including the NESCol Energy Transition Skills Hub[1], which aims to support 1,000 people into energy transition jobs in its first five years.

FISCAL CONTRIBUTION

The strongest fiscal outcomes arise where policy and market conditions sustain production and investment. The "Molecules" scenario generates £12.1 billion in cumulative tax revenues between 2026-27 and 2035-36, compared with £7.5 billion under the "status quo", £5.0 billion under "supportive and stable", £3.4 billion under "Electrons", and £2.5 billion under "oil left in the ground". Higher production and profits support substantial revenues on profits, whereas the contraction in the underlying tax base under "oil left in the ground" and "Electrons" reduces overall tax receipts.

Higher near-term tax revenues do not translate into stronger long-term revenues. Under the same benign price assumptions, the "status quo" scenario raises more than the "supportive and stable" scenario over the first decade because EPL remains in place for longer. However, in-year revenues under "Molecules" exceed the status quo from 2029-30, and those under the "supportive and stable" scenario from 2033-34.

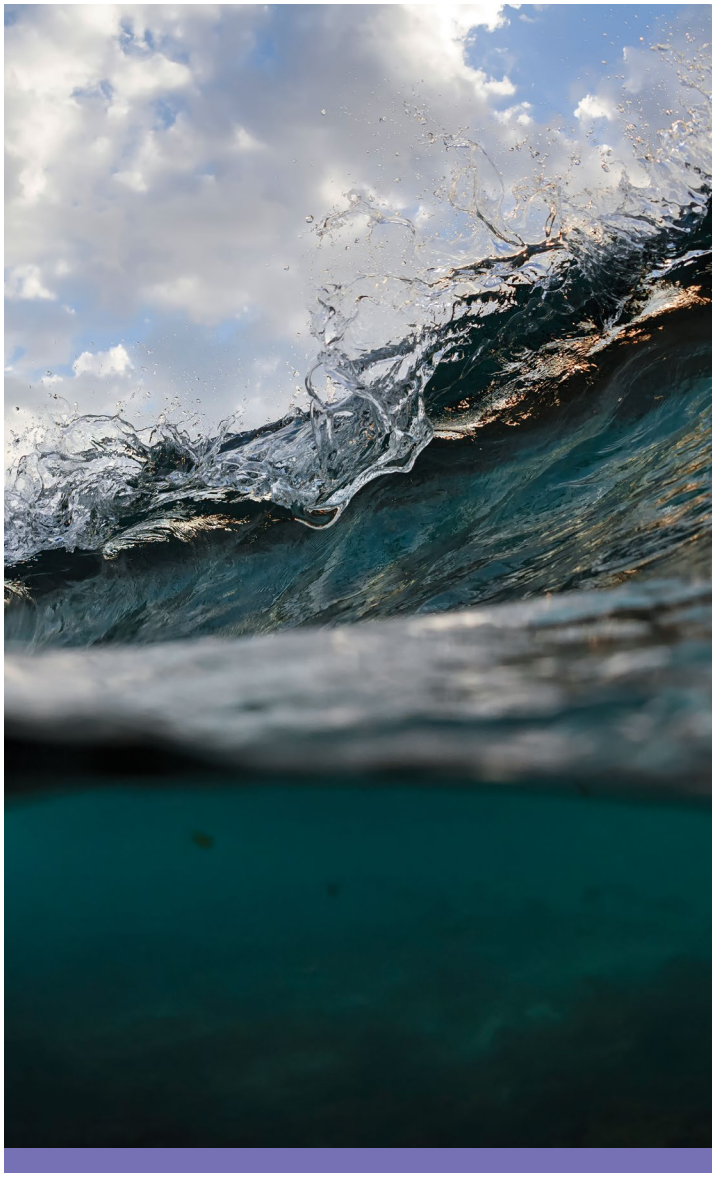
Supportive policies create a larger and more durable tax base. By 2049-50, cumulative revenues reach £30.5 billion under "Molecules" and £16.4 billion under the "supportive and stable" scenario, compared with £10.7 billion under the "status quo", £5.4 billion under "Oil left in the ground" and £4.5 billion under "Electrons". The stronger fiscal outcomes are delivered with higher GVA, employment and supply-chain activity.

SUSTAINABILITY AND ENERGY SECURITY

Supportive policies deliver substantial carbon savings. To estimate the potential UK-wide effects, we use the proportional change in Adura's production under each scenario as a stylised proxy for how production across the wider UK Continental Shelf could respond to the same policy, investment and project-approval conditions. On this basis, combined oil and gas supply-side emissions are 6.1 million tonnes of CO_2e lower in 2035 and 98.0 million tonnes lower cumulatively to 2050 than under "Electrons" using DESNZ's reference projections. **The 6.1 million-tonne saving is equivalent to the annual emissions of around 1.5 million homes in England.**[2] Even under an alternative scenario where UK demand for oil and natural gas falls steadily through to 2050, the corresponding savings remain 3.7 million tonnes in 2035 and 66.6 million tonnes cumulatively.

Policy choices and the resulting domestic production pathway determine whether the UK retains meaningful gas self-sufficiency. Under DESNZ reference projections for demand, the more supportive scenarios meet 57.1% of gross UK gas supply in 2030 and 42.4% in 2035. Under "Electrons", the domestic share falls to just 1.1% by 2035 and zero by the early 2040s. Even under alternative projections where demand falls over time, domestic production supplies 79.2% of gross gas supply in 2035 under the supportive scenarios, compared with 2.3% under "Electrons". Using the NSTA February 2026 Projections of UK Oil and Gas Production ("NSTA production projections"), the share still exceeds the "status quo" and "Electrons" pathways in 2035 under either demand path.

Supportive policy would reduce the UK's reliance on higher-emission Liquefied Natural Gas (LNG) imports. Under the DESNZ reference projections, LNG accounts for around 17% of UK gas supply in 2035 under the supportive scenarios, compared with 47.8% under "Electrons". Under the alternative lower demand scenario, the lower import requirement reduces LNG to a small share of the UK's gross supply of natural gas under the supportive scenarios (1.9%), while under "Electrons" the UK remains heavily import-dependent (46.8%).



INTRODUCTION



The UK North Sea is at a pivotal moment. For more than half a century, it has been a major source of domestic energy, high-value employment and public revenue. Today, its role is changing - but it remains central to the UK's economic resilience, energy security and managed transition to net zero. Recent geopolitical turmoil also highlights the importance of access to secure and affordable energy for both British households and businesses.

This pivotal moment is increasingly defined by an unfavourable fiscal and regulatory environment that threatens to discourage long-term investment in the North Sea. In recent years, the sector has faced intensified fiscal pressure, most notably through the introduction and repeated extensions of the Energy Profits Levy (EPL). Often framed as necessary responses to energy price volatility, these measures have frequently been criticised as damaging to industry confidence and long-term stability. Compounding this fiscal environment is a regulatory regime which has been on hold pending the introduction of new guidance on scope 3 assessments of downstream emissions and definition of the Transitional Energy Certificates proposed in the North Sea Future Plan. Together, these policies risk accelerating a 'managed decline' that could prematurely erode the UK's energy security and compromise the industrial capacity required for a sustainable transition.

Formed through the combination of Shell and Equinor's UK offshore oil and gas operations, Adura brings together two long-standing North Sea portfolios, deep operational expertise and a workforce rooted in Aberdeen and the wider UK energy supply chain. Its name reflects both place and purpose: the "A" of Aberdeen and the durability of an industry that has helped shape the UK economy, and which continues to support secure domestic energy production.

With these origins, Adura is one of the largest independent producers operating on the UK Continental Shelf, with a portfolio that includes major assets and projects across the basin. The scale of these operations means that policy decisions affecting Adura are not only decisions about one company. They are decisions about the future of domestic production, the viability of the UK's offshore supply chain, the Exchequer revenues generated by the sector, and the balance the UK strikes between energy security, affordability and sustainability.

This report assesses those choices. It examines how different policy and market scenarios would affect Adura's contribution to the UK economy, public finances and wider strategic objectives. All policy scenarios in this report are compliant with Labour's manifesto commitment on exploration licensing.

Specifically, we have modelled the implications of five policy and market scenarios over a 25-year time horizon:

"Status quo" of managed decline (benign conditions)
Assumes the continuation of unfavourable policy priorities despite stable prices (oil prices averaging $70/bbl and and gas prices averaging 70p/therm over the forecast horizon). The Energy Profits Levy (EPL) remains in place until 2030, with a slow transition to the UK Oil and Gas Revenue Levy (OGRL), leading to a managed decline of assets. Adura's investment is restricted to Rosebank, Jackdaw, and necessary infills; all other prospective projects (e.g., Tornado, Mid North Sea High, Clair Ridge Extension) are not approved.

"Supportive and stable" policy environment (benign conditions)
Assumes political stability with a focus on economic growth and cost-of-living. The scenario features a more supportive policy environment, stable energy prices, and the implementation of the UK Oil and Gas Revenue Levy (OGRL) by 2027. All Adura projects are approved. Prices assumed are $70/bbl for oil and 70p/therm for gas averaging over the forecast horizon.

"Oil left in the ground" (benign conditions)
This scenario is similar to the one above, with the implementation of OGRL by 2027 and prices of $70/bbl for oil and 70p/therm for gas averaging over the forecast horizon. However, in contrast to the supportive and stable scenario, there is a less permissive policy environment with respect to oil extraction. Rosebank is not consented. Other Adura projects including Clair CRX, Schiehallion Phase B onwards and Mariner West/East are not approved.

"Molecules" (National Energy Security)
A scenario prioritising domestic capacity amid high energy prices. It assumes overwhelming cross-party and public pressure to secure energy, resulting in strong support for domestic oil and gas production in the years through to 2050. The EPL ends by 2027 with no OGRL in its place. All Adura projects are approved. Prices assumed are $100/bbl oil and 100p/therm for gas averaging over the forecast horizon.

"Electrons" (Electricity priority)
A scenario where energy policy prioritises electrification. Characterised by high taxes and anti-industry rhetoric, it assumes the EPL is maintained indefinitely. Rosebank and Jackdaw are not approved; Adura investment is confined to ongoing operations and limited infill activity. Prices assumed are $70/bbl oil and 70p/therm gas average.

It should be noted that "Molecules" and "Electrons" are stylised analytical scenarios, not mutually-exclusive policy choices. The UK can pursue rapid electrification and reduce oil and gas demand while also maintaining domestic production to meet the residual demand that remains during the transition. The scenarios are intended to identify the consequences of placing greater or lesser policy weight on continued domestic production, rather than to suggest that electrification and domestic oil and gas production cannot proceed together.

As the scenarios differ in both policy and commodity price assumptions, the analysis distinguishes between the full range of scenario outcomes and the like-for-like comparison between the "supportive and stable" and "status quo" scenarios. The comparison between "Molecules" and "Electrons" illustrates the full range of modelled outcomes and should not be interpreted as an estimate of the effect of policy alone. By contrast, the "supportive and stable" and "status quo" scenarios use the same oil and gas price assumptions, allowing the effects of different policy and investment conditions to be considered directly.

The analysis begins by estimating the economic gross value added and employment supported by Adura under the five policy and market scenarios, including the direct effects of its operations and the wider impacts through the supply chain and employee spending.

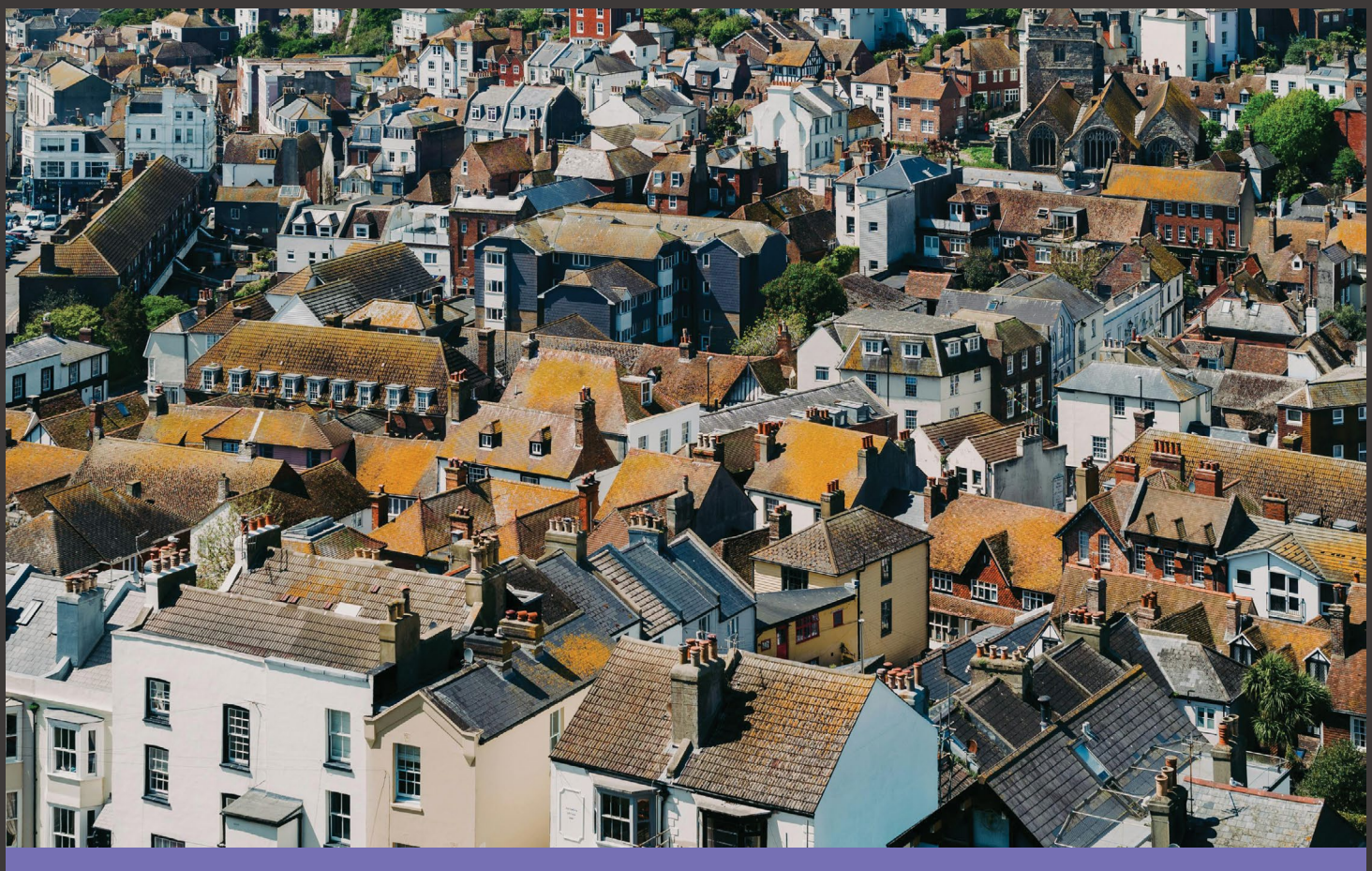
The report then quantifies the fiscal implications of different policy choices. This includes the tax revenues generated by continued production, as well as the potential consequences for the Exchequer if investment, output or asset lifetimes are reduced. The analysis also looks at tax revenues associated with Adura's workforce and businesses along Adura's supply chain - both of which would be adversely affected by an unfavourable policy environment.

Finally, the report assesses energy security[3] and supply-side emissions by applying each Adura scenario to two alternative UK demand cases: the DESNZ Energy and Emissions Projections reference scenario ("DESNZ reference demand") and the CCC Seventh Carbon Budget Balanced Pathway, using annual oil and gas demand series published by the NSTA ("CCC Balanced Pathway demand"). The two demand cases are inherently different in purpose and design and are reported as separate sensitivities rather than as competing or probability-weighted forecasts.

As the UK-wide results also depend on the production trajectory assumed for the wider UK Continental Shelf, the report presents estimates based on the NSTA's February 2026 UK Continental Shelf (UKCS) oil and gas production projections in place of the scenario-derived production paths. This provides an external benchmark for the scenario-derived production paths and should not be considered as a sixth scenario.

Taken together, the analysis shows that the policy framework for the North Sea will have consequences well beyond the basin itself. It will shape jobs and investment across the UK (though particularly in Scotland), influence the time profile and magnitude of public revenues, and determine whether the UK can retain the skills, infrastructure and industrial capacity needed for both today's energy system and tomorrow's.

THE ECONOMIC IMPACT OF ADURA



ADURA'S ECONOMIC FOOTPRINT AT A GLANCE

Adura's operations support significant economic activity across the UK. This includes the value generated directly by the company's production and investment, the wider activity sustained through its supply chain, and the jobs supported by employee spending in the wider economy.

Across the five scenarios modelled for this report, Adura supports between £15.2 billion and £46.0 billion of gross value added (GVA) between 2026 and 2035, in 2026 prices. Under "Oil left in the ground", GVA supported is £24.5 billion, illustrating the specific £10.8 billion loss in economic value if key oil developments such as Rosebank are not permitted, compared to the £35.3 billion delivered under "Supportive and stable". Even under the most restrictive scenario, Adura's operations support annual economic value equivalent to more than the entire Fishing or Forestry industries in the UK. Under the two supportive scenarios ("Supportive and stable", "Molecules"), this contribution more than doubles, exceeding entire sectors such as Iron and Steel.

Over the same period, it supports between 7,100 and 14,010 jobs a year on average across the UK economy, more than half of which are jobs in Scotland.

This range reflects differences across the scenarios in commodity prices, investment and project approvals, as well as the underlying North Sea policy regime. The clearest like-for-like assessment of the effect of policy is the comparison between the "supportive and stable" and "status quo" scenarios, which use the same commodity price assumptions and indicate an additional £9.1 billion of GVA between 2026 and 2035 under the more supportive framework.

In other words, the policy framework for the North Sea has material economic consequences for the UK.

UNDERSTANDING ADURA'S ECONOMIC CONTRIBUTION

Public First has quantified Adura's economic contribution over the years to 2050 through three main channels:

The first is its direct impact: the GVA and employment generated by Adura's own operations, production, investment and workforce.

The second is its supply chain (indirect) impact: the activity supported among contractors, suppliers and service companies that provide the goods and services required for offshore production.

The third is its employee spending (induced) impact: the additional economic activity supported when workers employed directly and indirectly by Adura spend their wages in the wider economy.

GVA IMPACTS UNDER DIFFERENT POLICY AND MARKET SCENARIOS

Gross value added (GVA) measures the economic value generated by an activity. It is the standard measure used to estimate the contribution of a company, sector or investment to the wider economy.

The modelling we have undertaken estimates Adura's GVA contribution under five scenarios. As set out in the introduction to this report, these scenarios differ by oil and gas price assumptions, the fiscal regime, licensing and consent policy, and the extent to which future Adura investment goes ahead.

Between 2026 and 2035, the estimated GVA impacts are:

Scenario	Direct GVA	Supply Chain GVA	Employee Spending GVA	Total GVA
"Supportive and stable" policy environment amid benign conditions	£24,854	£10,362	£71	**£35,287**
"Oil left in the ground" policy environment and benign conditions	£16,642	£7,751	£57	**£24,450**
"Status quo" of managed decline despite benign conditions	£19,336	£6,816	£61	**£26,213**
"Molecules" National Energy Security	£35,478	£10,469	£72	**£46,019**
"Electrons" Electricity is the Priority Energy Source	£10,104	£5,064	£43	**£15,211**

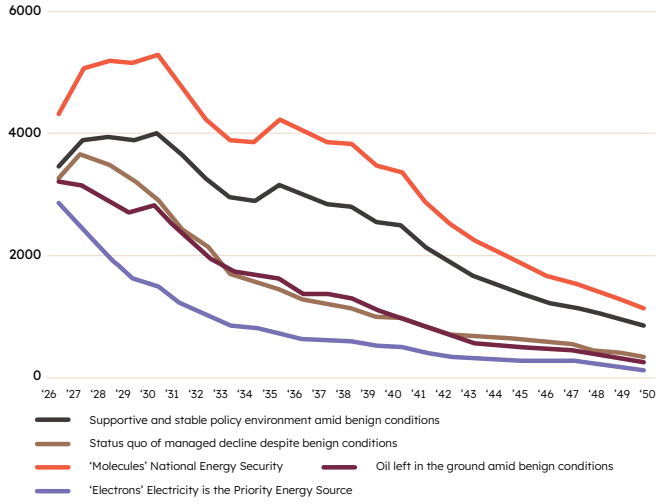
£millions, 2026 prices. Source: Adura, Public First economic modelling.

The two supportive scenarios generate the highest GVA outcomes among the five scenarios retained in the report. Under "Molecules", Adura supports £46.0 billion of GVA between 2026 and 2035, while the "supportive and stable" scenario supports £35.3 billion. Both assume that all Adura projects are approved, although the higher result under "Molecules" also reflects its higher commodity price assumptions. The "Oil left in the ground" scenario highlights the economic value lost if key oil projects like Rosebank are not permitted, generating £24.5 billion of GVA compared to £35.3 billion under "Supportive and stable".

By contrast, the lowest GVA outcome occurs under "Electrons", in which Rosebank and Jackdaw do not proceed, the Energy Profits Levy remains in place indefinitely, and longer-term infill activity and project spending are reduced. Under this scenario, Adura supports £15.2 billion of GVA over the decade.

The difference between "Molecules" and "Electrons" is £30.8 billion, illustrating the full range of outcomes across the scenarios. As these scenarios also use different commodity price assumptions, the clearest like-for-like assessment of the effect of policy is the comparison between the "supportive and stable" and "status quo" scenarios, set out below.

Total GVA profile (direct + indirect+ induced) – £millions, 2026 prices



Source: Adura, Public First economic modelling

The cost of the current status quo of managed decline

The comparison between the "supportive and stable" and the "status quo" scenarios provides the clearest like-for-like assessment of the effect of policy, because both are modelled under average price assumptions of $70 per barrel for oil and 70p per therm for gas.

Under the "supportive and stable" policy environment, Adura supports £35.3 billion of GVA between 2026 and 2035. Under the "status quo" of managed decline, this falls to £26.2 billion.

This implies that, even without assuming higher commodity prices, a more "supportive and stable" policy framework is associated with an additional £9.1 billion of GVA over the decade.

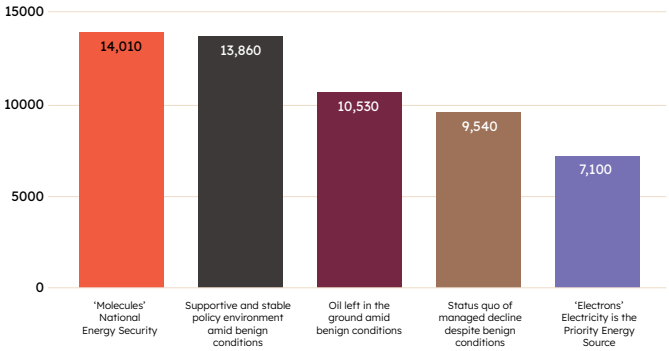
The difference grows over time. In 2026, the supportive scenario supports £3.5 billion of GVA, compared with £3.3 billion under the "status quo". By 2035, the "supportive and stable" scenario supports £3.2 billion, while the "status quo" supports £1.5 billion.

This suggests that the major impact of policy is not only on immediate activity, but on whether production, investment and supply chain activity are sustained into the 2030s.

JOBS SUPPORTED BY ADURA

The same pattern is visible in employment. Across the scenarios, Adura supports between 7,100 and 14,010 jobs a year on average between 2026 and 2035. Under the "supportive and stable" policy environment, Adura supports an average of around 13,860 jobs a year between 2026 and 2035. Under the "status quo", this falls to around 9,540 jobs a year. That is a difference of around 4,320 jobs a year.

Average jobs supported by Adura per year, 2026–2035



Source: Public First economic modelling

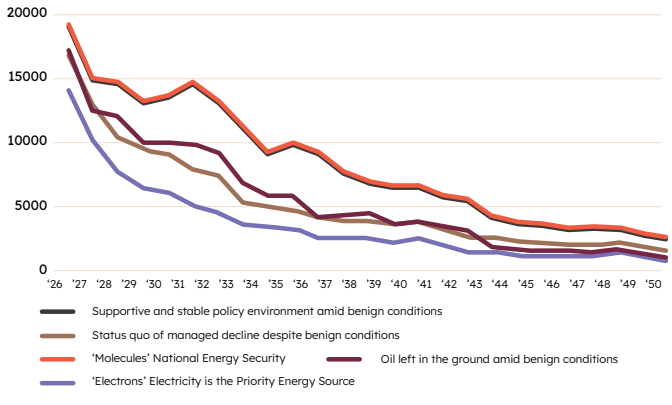
Under the "Oil left in the ground" scenario, Adura supports an average of 10,530 jobs a year between 2026 and 2035 - representing 3,330 fewer jobs per year compared to the 13,860 jobs supported under the "Supportive and stable" policy environment.

Under the "Molecules" scenario, Adura again supports around 14,010 jobs a year. Under the "Electrons" scenario, this falls to around 7,100 jobs a year. The difference is just under 7,000 jobs a year.

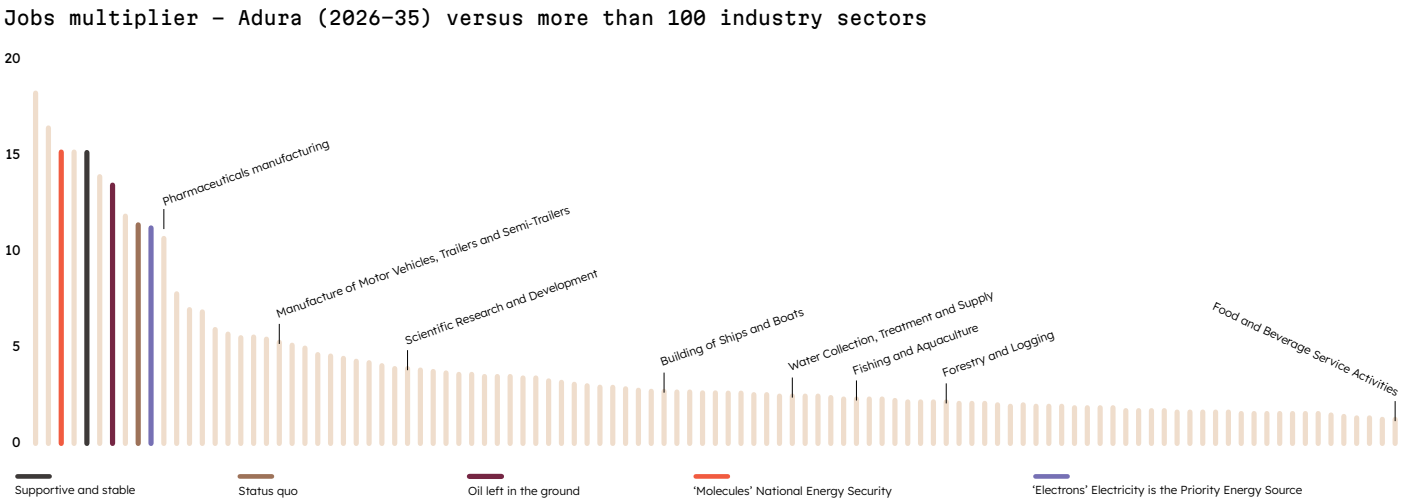
These jobs are not limited to offshore roles. The modelling captures wider employment across the supply chain and through employee spending. In all scenarios supply chain jobs account for the overwhelming majority of employment supported by Adura over the decade. This reflects the structure of the UK offshore energy industry: a relatively small number of operators support a much larger network of contractors, suppliers and specialist service firms.

A significant proportion of the jobs supported by Adura are estimated to be in Scotland, ranging from 3,810 to 7,330 per year over the next decade, depending on the policy scenario.

Total jobs profile (direct + indirect+ induced)



Source: Adura, Public First economic modelling. The fall in the total jobs profile from 2026 to 2027 reflects an expected fall in capital expenditure and abandonment expenditure.



Source: Public First economic modelling

Note: "Pharmaceuticals Manufacturing" represents Manufacture Of Basic Pharmaceutical Products And Pharmaceutical Preparations.

Adura's "jobs multiplier" effect

The economic impact of Adura extends well beyond the direct employment it provides, creating a significant "jobs multiplier" effect across the UK economy - with a multiplier of 11 to 15 jobs supported for every direct job at the company (2026-2035 average), depending on the scenario.

This multiplier effect is primarily driven by the extensive network of supply chain contractors, suppliers, and service companies that rely on Adura's operations. This industrial ecosystem not only sustains thousands of jobs annually but also preserves essential specialist capabilities - such as offshore engineering, subsea services, and fabrication - that are critical for the UK's broader energy transition infrastructure.

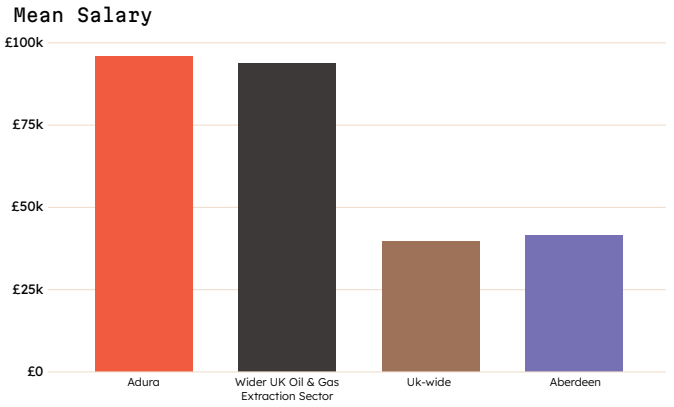
A jobs multiplier this large benchmarks very high compared with the more than 100 UK industry sectors within Public First's impact model, as shown in the chart overleaf. Adura's jobs multiplier is over double the 3.7 average seen across these industry sectors.

Not just jobs – but quality jobs

The jobs supported by Adura are highly-paid, specialist roles. Mean Adura salaries are more than twice the UK-wide and Aberdeen averages and are broadly comparable with pay across the wider UK oil and gas extraction sector.

The retention of these high-quality roles is critical for maintaining the UK's specialist industrial skills base. Expertise in areas such as subsea engineering and offshore operations is highly transferable and remains vital for the nation's broader energy transition.

Further, maintaining this skilled workforce will help to sustain the domestic capability required to deliver future infrastructure projects amid the wider renewables transition, including carbon capture, hydrogen, and offshore wind. The retention of these professionals is therefore a strategic asset for achieving the nation's long-term energy goals.



Source: Public First analysis of Adura data and ONS Annual Survey of Hours and Earnings

Investing in the future: The social value of Adura's skills initiatives

Adura's contribution to the UK extends beyond economic metrics through a commitment to people, skills, and communities. In 2026, Adura is investing £1.5 million in social investment programmes, with £1.1 million specifically targeted at skills, education, and workforce transition.

Key strategic initiatives that provide significant social value include:

- **The NESCol Energy Transition Skills Hub:** A £1.1 million multi-year commitment supporting a flagship facility in Aberdeen, designed to help 1,000 people into energy transition jobs over its first five years.
- **Girls in Energy:** A programme supporting around 280 students annually from 18 secondary schools, delivering industry exposure and a National 5 qualification to address gender imbalance in industry.
- **Pipeline development:** Investment in initiatives at the University of Aberdeen and Robert Gordon University, including Master's scholarships and active industry sponsorship of the APTUS apprenticeship scheme, ensuring a steady influx of skilled professionals.

These investments demonstrate the long-term commitment to the North East of Scotland, fostering a diverse, skilled workforce essential for both current operations and the broader energy transition.

POLICY CHOICES SHAPE THE PATH OF DECLINE

All scenarios show that Adura's economic contribution declines over time as production matures. The question is the pace and scale of that decline. Policy choices will determine whether the UK retains a stronger North Sea industrial base into the 2030s and beyond.

A "supportive and stable" policy framework enables more investment, sustains higher levels of production, and supports a larger supply chain. A more restrictive framework accelerates decline, reduces economic value and weakens employment across the wider offshore energy economy.

Further, these projections may underestimate the true scale of risk. There is a potential for an even sharper decline in jobs than modelled under the most unfavourable scenarios. If a "tipping point" is reached where the domestic supply chain loses the critical mass required to operate viably, we could see a more rapid exodus of specialist firms. This would not only reduce the number of direct jobs but would fundamentally weaken the UK's industrial capacity, necessitating a much higher reliance on overseas supply chains to service remaining assets.

The implication is clear: decisions about Adura and the future of the North Sea are not only decisions about oil and gas production. They are decisions about UK economic value, skilled employment, industrial capacity and the resilience of the supply chain that will be needed for the wider energy transition.



FISCAL IMPACTS



ADURA'S FISCAL CONTRIBUTION AT A GLANCE

Adura's operations support substantial revenues for the UK Exchequer. This includes taxes paid directly on the company's profits, Pay As You Earn (PAYE) Income Tax and National Insurance contributions (NICs) associated with its workforce, and tax revenues generated through activity in its UK supply chain.

Across the scenarios modelled for this report, Adura supports between £2.5 billion and £12.1 billion in cumulative tax revenues between 2026-27 and 2035-36, in current prices. Revenues are highest under the "Molecules" scenario, at £12.1 billion, and lowest under "Oil left in the ground", at £2.5 billion (and £3.4 billion under "Electrons").

As "Molecules" also assumes higher commodity prices, the clearest like-for-like policy comparison is between the "supportive and stable" and the "status quo" scenarios, both of which use the same benign price assumptions. Over the first decade, the "status quo" generates higher cumulative revenues: £7.5 billion compared with £5.0 billion, largely because Energy Profits Levy (EPL) is assumed to remain in place for longer.

However, this position reverses over time. Annual revenues under "Molecules" exceed those under the "status quo" from 2029-30, while revenues under the "supportive and stable" scenario overtake the "status quo" from 2033-34. By 2035–36, annual revenues are around £1.7 billion under "Molecules" and just over £1.0 billion under the "supportive and stable" scenario, compared with around £0.5 billion under the "status quo" and £0.2 billion under "Electrons".

The higher short-term fiscal take under the "status quo" scenario also comes with substantial economic consequences. As set out in the previous chapter, it is accompanied by lower investment, production, GVA and employment, whereas more supportive scenarios sustain a larger economic and tax base into the 2030s and beyond.

UNDERSTANDING ADURA'S FISCAL CONTRIBUTION

Adura's fiscal contribution is estimated across the following taxes and social contributions levied on income, earnings and profits:

- Pay As You Earn Income Tax;
- Class 1 employee and employer NICs;
- Ring Fence Corporation Tax (RFCT);
- Supplementary Charge (SC);
- Energy Profits Levy and, where applicable, the UK Oil and Gas Revenue Levy (OGRL); and
- tax revenues generated through Adura's supply chain.

Scenario projections for tax revenues from RFCT, SC, EPL and the OGRL proxy have been sourced from Adura's own internal forecast modelling framework. Further information on the approach used to calculate the projected tax revenues from PAYE Income Tax, NICs and through the supply chain can be found in the Annex.

FISCAL IMPACT UNDER DIFFERENT POLICY SCENARIOS

The modelling estimates Adura's fiscal contribution under the five scenarios and is informed by Adura's tax-liability projections for RFCT, EPL, OGRL and the Supplementary Charge, alongside the jobs modelling presented earlier in this report.

Tax revenues vary materially across the five scenarios

Between 2026-27 and 2035-36 inclusive, the estimated cumulative tax revenues raised across the different scenarios (in £ million, current prices) are as follows:

Scenario	PAYE Income Tax	NICs	RFCT	SC / OGRL	EPL / OGRL	Supply Chain	Total Tax Revenues
"Supportive and stable" policy environment amid benign conditions	105.3	96.0	3022.2	264.4	68.1	1491.3	**5,047.5**
"Oil left in the ground" policy environment and benign conditions	82.4	77.6	1107.0	0.0	75.3	1109.6	**2,451.9**
"Status quo" of managed decline despite benign conditions	85.4	81.8	2823.7	543.0	2987.4	961.9	**7,483.3**
"Molecules" National Energy Security	108.2	97.8	8134.1	2028.1	204.4	1505.9	**12,078.5**
"Electrons" Electricity is the Priority Energy Source	56.9	58.2	43.0	0.0	2488.1	717.0	**3,363.2**

Source: Adura, Public First fiscal modelling. Figures may not sum due to rounding.

Across the five retained scenarios, cumulative revenues between 2026–27 and 2035–36 are highest under "Molecules", at £12.1 billion. This is followed by the "status quo" at £7.5 billion, the "supportive and stable" scenario at £5.0 billion, "Electrons" at £3.4 billion, and "Oil left in the ground" at £2.5 billion.

Under "Molecules", around two-thirds of total revenues are generated through RFCT, reflecting the scenario's combination of higher commodity prices, sustained production and continued investment. Under the "status quo" scenario, the continued application of EPL generates approximately £3.0 billion and raises near-term revenues relative to the "supportive and stable" scenario.

To put that in context, direct taxes on Adura's profits under the "Molecules" scenario are projected to reach £1.7 billion in 2030–31, more than the OBR forecasts the UK will raise from either the Bank Levy (£1.5 billion) or the Digital Services Tax (£1.3 billion) in the same year.[4]

By contrast, although the EPL generates approximately £2.5 billion under "Electrons", RFCT and Supplementary Charge revenues fall to very low levels as production and taxable profits decline. This demonstrates that maintaining higher tax rates does not necessarily generate higher overall revenues where the underlying production and tax base contract substantially.

Tipping points in longer-term tax revenues

As with GVA and employment, the fiscal projections extend to 2050. In-year revenues under "Molecules" overtake those under the "status quo" in 2029–30 and remain higher thereafter. Annual revenues under the "supportive and stable" scenario similarly exceed those under the "status quo" from 2033–34 onwards. **These crossovers reflect higher production and profits, alongside a larger workforce and greater supply-chain activity.**

By 2035–36, annual revenues are around £1.7 billion under "Molecules" and just over £1.0 billion under the "supportive and stable" scenario, compared with approximately £0.5 billion under the "status quo" and £0.2 billion under "Electrons". The higher later-year revenues under the supportive scenarios are primarily

driven by RFCT revenues associated with greater production and profitability.

Under the "status quo", tax revenues peak at £1.3 billion in 2029-30, mostly comprising of EPL revenues (£1.0 billion). Annual revenues are lowest under "Oil left in the ground" through to 2031–32. From 2032–33 onwards, they are lowest under "Electrons", as SC revenues remain at zero and RFCT revenues fall to very low and intermittent levels, while PAYE and NICs revenues decline with employment. **Under "Electrons", revenues peak at £0.5 billion in 2028-29 before gradually falling to near-zero by 2049-50.**

Another way of showing how tax revenues under the more supportive scenarios are eventually higher is to express tax revenues on a cumulative basis from 2026-27 onwards, as shown below. **On this basis, "Molecules" generates the largest fiscal contribution among the retained scenarios, reaching approximately £30.5 billion by 2049–50.** The "supportive and stable" scenario generates around £16.4 billion, compared with £10.7 billion under the "status quo", £5.4 billion under "Oil left in the ground", and £4.5 billion under "Electrons". Compared with "Supportive and stable", under "Oil left in the ground" cumulative tax revenues are lower by £2.6 billion between 2026–27 and 2035–36, and by £10.9 billion by 2049–50.

The comparison between the "supportive and stable" scenario and the "status quo" is particularly instructive because both apply the same commodity price assumptions. **Although the "status quo" generates higher revenues initially because EPL remains in place for longer, this advantage is more than reversed in the following decades as the supportive scenarios sustain greater production, profits, employment and supply chain activity.**

The retained scenarios therefore show that supportive policy can sustain both a larger economic contribution and a more durable long-term tax base. **In other words, higher tax rates alone cannot compensate for the fiscal effects of declining production, investment and taxable activity.**

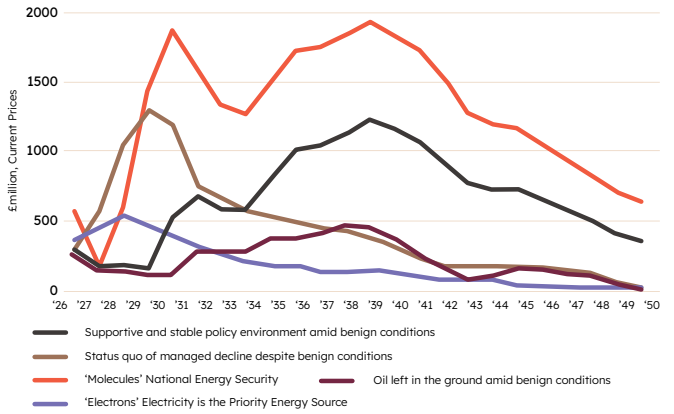
POLICY CHOICES ALSO SHAPE FISCAL IMPACTS

Adura's annual fiscal contribution eventually declines across all five scenarios as production matures, while the pace and persistence of that decline vary substantially with the policy environment.

The fiscal outcomes reflect both the applicable tax regime and the scale and longevity of Adura's activity. Under the same benign commodity price assumptions, the "status quo" generates more revenue than the "supportive and stable" scenario over the first decade because EPL remains in place for longer. **Annual revenues under "Molecules" exceed those under the "status quo" from 2029–30, while revenues under the "supportive and stable" scenario do so from 2033–34. Their cumulative contributions are substantially higher by 2049–50.**

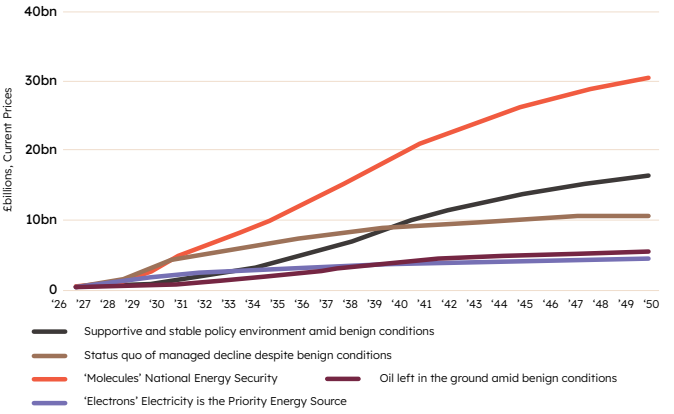
The "Molecules" scenario - combining a supportive policy environment with higher commodity prices - generates the highest fiscal contribution overall. Conversely, "Electrons" generates the lowest revenues as production, profits, employment and supply-chain activity fall away. **As with economic activity, this shows that policy choices affect not only the revenues raised today, but whether the Exchequer can rely on a substantial and durable tax base into the 2030s and beyond.**

Adura – Total Tax Revenues (Direct and Supply Chain), £million



Source: Adura, ONS, Public First analysis

Adura – Total Tax Revenues (Direct and Supply Chain), Cumulative from 2026–2027, £billion



Source: Adura, ONS, Public First analysis

SUSTAINABILITY AND ENERGY SECURITY



EMISSIONS AND ENERGY SECURITY AT A GLANCE

UK demand for oil and gas is expected to remain substantial through to 2050, even as the UK moves towards Net Zero. The source of this energy will therefore have important consequences for the UK's energy security and emissions.

In addition to raising UK GVA and jobs, the more supportive scenarios could also help to reduce the UK's annual supply-side emissions while raising energy security amid an unstable global environment.[5] Higher levels of domestic production would reduce UK demand for imports of primary oils and LNG, with LNG on average having an emissions intensity three-times higher than domestically produced gas (see footnote 12 below).

Under the Department for Energy Security and Net Zero (DESNZ) Energy and Emissions Projections reference scenario for demand ("DESNZ reference demand") and using the stylised UKCS production pathways derived from Adura's scenario trajectories - under the more supportive scenarios, **we estimate that emissions would be up to 6.1 million tonnes (CO_2 equivalent, combined across both oil and natural gas) lower in 2035,** compared with the "Electrons" scenario. On a cumulative basis over the period 2026-2050, combined emissions would be **98.0 million tonnes lower.** Furthermore, **domestic production would supply up to 42.4% of the UK's natural gas supply by 2035,** compared to only 1.1% under the "Electrons" scenario.

This finding also holds under an alternative demand projection: the CCC Seventh Carbon Budget Balanced Pathway, using annual oil and gas demand series published by the North Sea Transition Authority (NSTA) ("CCC Balanced Pathway demand"). Under this alternative **demand path, combined oil and gas supply-side emissions are estimated to be 3.7 million tonnes of CO_2e lower in 2035 under the supportive production pathways than under "Electrons", with cumulative savings of 66.6 million tonnes between 2026 and 2050.** The corresponding savings under the DESNZ reference projection are 6.1 million tonnes in 2035 and 98.0 million tonnes cumulatively.

The scale of these outcomes depends substantially on the assumed UKCS production pathway, i.e. UK domestic production of oil and natural gas. Under the separate NSTA production projections, combined oil and gas supply-side emissions in 2035 are estimated at 33.4 million tonnes of CO_2e under DESNZ reference demand and 19.4 million tonnes under CCC Balanced Pathway demand. These are respectively 1.8 million and 1.6 million tonnes lower than under "Electrons", with cumulative savings of 26.7 million and 24.2 million tonnes between 2026 and 2050.

The scenario analysis therefore illustrates the potential consequences if the wider UKCS were to follow the production trajectories implied by Adura's scenarios. The NSTA production projections provide a lower external production benchmark and confirm the direction of the result, while producing substantially smaller gains in domestic supply and emissions savings.

However, the results presented here should therefore not be interpreted as presenting a binary choice between electrification and domestic production. Lower demand reduces the total volume of oil and gas required, while supportive domestic production determines how much of the remaining requirement is met from UK sources rather than imports.

MODELLING SCENARIO PATHS FOR UK DOMESTIC PRODUCTION AND EMISSIONS

UK oil and gas demand will stay high, and the origin of supply will affect emissions

Primary demand for energy[6] **is expected to fall in the UK in the coming decades.** This will be driven by secular trends, including further improvements in energy efficiency, electrification becoming prevalent, and consumption switching away from fossil fuels and towards renewables and nuclear power.

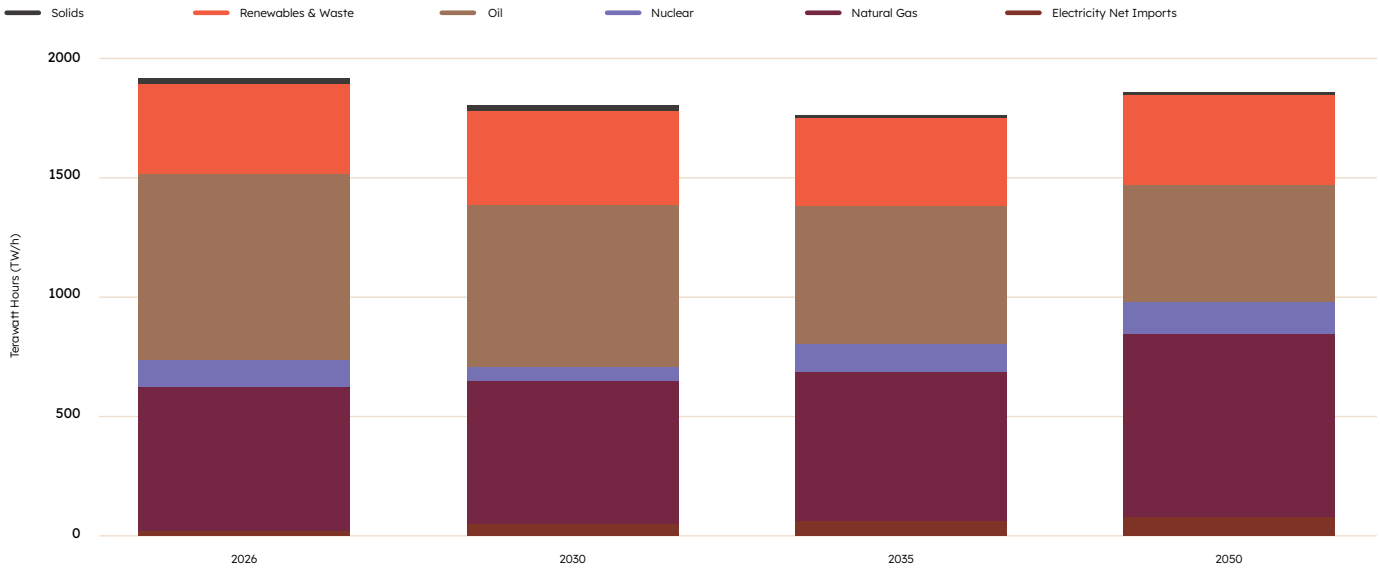
However, UK demand for oil and natural gas will remain significant. This is due to the expectation **that large parts of the economy will only be partially electrified by 2050**, with some activities - such as heavy industry, heating, aviation, shipping and road transport - being harder, slower or more costly to convert to direct electrification. In its latest central projection ("reference scenario")[7] based on current policies and as shown in the illustrative chart below, DESNZ projects that:

- UK demand for natural gas will increase from 606 Terrawatt-hours (TWh)[8] in 2026 to 756 TWh by 2050, and its share of total primary demand will rise from 31.7 to 40.8 per cent.
- UK demand for oil will fall from 771 TWh in 2026 to 485 TWh by 2050, but will still be expected to fulfil over a quarter of the UK's total primary energy demand.

Demand for oil and gas is expected to remain high even amid the implementation of further (as-yet unimplemented and/or budgeted) Net Zero policies in the coming decades. Using CCC Balanced Pathway demand[9], UK demand for natural gas will fall gradually - demand will fall by around 26 per cent between 2026 and 2030[10], and will still be around half the 2026 level in 2035, and will remain above zero even by 2050, at 168 TWh. A similar trend is observed for primary oil demand as well.

The UK will therefore need a level of supply to meet this significant demand, growing or otherwise, which will either need to be sourced from the UK's own domestic production, or through imports.[11] The composition of this supply will in turn have significant implications for UK carbon emissions, as domestic production and imports of oil and natural gas carry different emissions footprints. **For example, the NSTA estimates that the emissions intensity of LNG imports is over three-times as high as domestic production,**[12] with LNG imports comprising 17.3% of UK gross supply of natural gas in 2025.[13]

Primary Energy Demand by Fuel, DESNZ Reference Scenario



Source: DESNZ, Public First analysis

UKCS production pathways under the scenarios and NSTA production projections

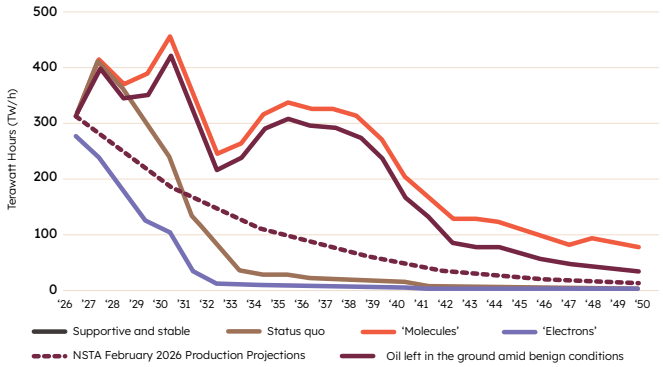
To translate Adura's company-level scenarios into UK-wide energy security and emissions estimates, we construct stylised production pathways for the wider UKCS. For natural gas and primary oils separately, Adura's projected production in each year is expressed relative to its starting level. The same proportional path—not Adura's absolute production volumes—is then applied to the latest DESNZ UKCS production outturn. In practical terms, wider UKCS production is assumed to follow the same proportional trajectory over time as Adura's production under each scenario.

This illustrates how basin-wide production could respond if operators faced the same policy, investment and project-approval conditions. It is not a forecast and does not assume that individual operators would replicate Adura's assets, projects or field-level trajectory. Because this assumption materially affects the results, we also rerun the analysis using the NSTA's February 2026 UKCS production projections. Demand, supply-balance and emissions assumptions are held constant, allowing the effect of the alternative production pathway to be isolated. The NSTA pathway is treated as an external benchmark, rather than a sixth scenario.

These production volumes form the numerator in the domestic share calculations that follow. The DESNZ reference and CCC Balanced Pathway series provide alternative assumptions for the corresponding UK demand or supply requirement.

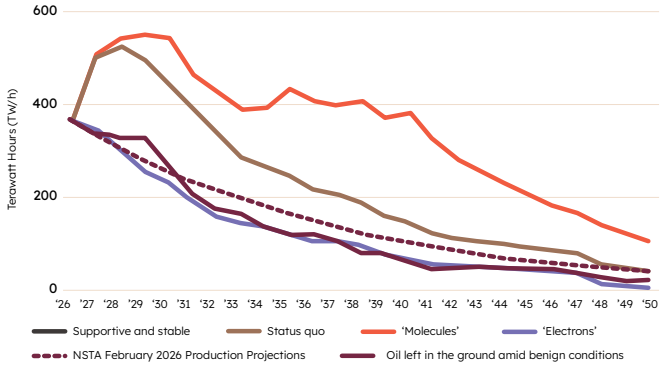
In 2035, the supportive production pathway implies UKCS output of approximately 337.1 TWh of natural gas and 428.1 TWh of primary oils, compared with 95.8 TWh and 161.1 TWh respectively under the NSTA projection. The supportive pathway is therefore around 3.5 times the NSTA projection for gas and 2.7 times the NSTA projection for primary oils in that year.

Natural Gas: Domestic Production paths under the different scenarios and NSTA projections



Source: Adura; DESNZ; NSTA February 2026 production projections; Public First analysis. "Supportive and stable" and "Molecules" share the same production trajectory.

Primary Oils: Domestic Production paths under the different scenarios and NSTA projections



Source: Adura; DESNZ; NSTA February 2026 production projections; Public First analysis. "Supportive and stable" and "Molecules" share the same production trajectory.

DOMESTIC ENERGY SECURITY UNDER ALTERNATIVE PRODUCTION PROJECTIONS

More supportive scenarios could substantially raise domestic energy security

To assess how the different scenarios could affect the UK's domestic energy security, we combined Adura's scenario projections for its own oil and gas production with historical DESNZ data for the balance for UK supply and demand[14], and DESNZ reference and CCC Balanced Pathway for primary energy demand. The former provides a current-policy reference case, while the latter tests the results under a lower-demand pathway consistent with achieving Net Zero.

Alongside the scenario-based results, we report separate results using the NSTA's February 2026 UKCS production projection, paired in turn with each demand pathway. This provides an external production benchmark and is not treated as a sixth scenario.

Natural gas: domestic production as a share of UK supply

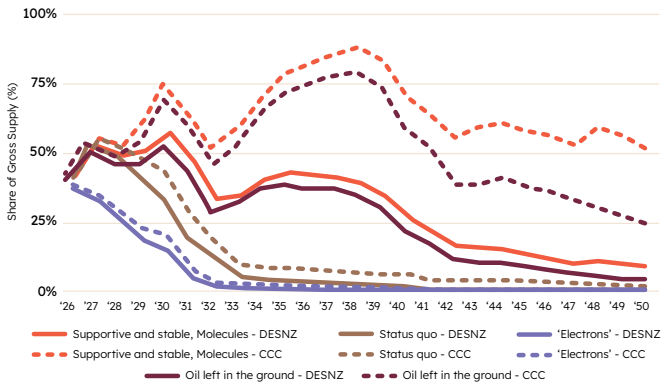
For natural gas and using DESNZ reference demand, we estimate that the share of UK supply from domestic production would rise to 57.1% by 2030 under the "supportive and stable" and "Molecules" scenarios, with significantly higher domestic production offsetting lower imports. **Domestic production would still fulfil around 9% of UK supply in 2050 under these scenarios.** In contrast, the share of UK gross supply provided by domestic natural gas production would fall steadily under the "status quo", with the decline even swifter under the "Electrons" scenario.

The gap in domestic self-sufficiency when compared to the more supportive scenarios would particularly widen in the 2030s. **Under the "status quo", the share of gross supply provided by domestic production would fall to 33.1% by 2030 and 4.0% by 2035. Under "Electrons", the share would fall to only 1.1% by 2035 and then to zero by the early 2040s.**

Alternatively, under CCC Balanced Pathway demand, the same domestic production profiles account for a substantially larger share of a smaller gas market. **In 2035, domestic production supplies 79.2% of gross gas supply under the supportive and "Molecules" pathways, compared with 8.5% under the "status quo" and 2.3% under "Electrons".** These higher shares reflect lower assumed gas demand rather than higher domestic production.

Under the NSTA production projections, domestic production supplies 13.3% of gross gas supply in 2035 under DESNZ reference demand and 27.5% under CCC Balanced Pathway demand. The higher share under the latter reflects the same NSTA production volume being measured against a lower assumed level of demand.

Natural Gas:
Share of UK Supply from UK Domestic Production



Source: DESNZ, NSTA/CCC, Adura, Public First analysis. Shares using the NSTA production projections are shown separately in the table below.

The lower demand assumed under the CCC Balanced Pathway also reduces the overall import requirement, particularly under the supportive scenarios. **In 2035, LNG provides only 1.9% of gross gas supply under "supportive and stable" and "Molecules" under CCC Balanced Pathway demand, compared with 17.0% under DESNZ reference demand.** However, under "Electrons", LNG still supplies 46.8% of gross supply under CCC Balanced Pathway demand, only slightly below the 47.8% estimated under DESNZ reference demand. Lower demand therefore improves energy security, but the domestic production pathway remains a major determinant of import dependence.

Supply of UK natural gas	DESNZ reference demand			CCC Balanced Pathway demand		
Scenario	**Domestic Production**	**Pipeline Imports**	**LNG Imports**	**Domestic Production**	**Pipeline Imports**	**LNG Imports**
"Supportive and stable" policy environment amid benign conditions	42.4%	40.6%	17.0%	79.2%	18.9%	1.9%
"Oil left in the ground" policy environment and benign conditions	38.2%	42.2%	19.6%	72.4%	24.0%	3.6%
"Status quo" of managed decline despite benign conditions	4.0%	50.7%	45.3%	8.5%	50.0%	41.5%
"Molecules" National Energy Security	42.4%	40.6%	17.0%	79.2%	18.9%	1.9%
"Electrons" Electricity is the Priority Energy Source	1.1%	51.1%	47.8%	2.3%	50.9%	46.8%
NSTA February 2026 production projections – external benchmark	13.3%	49.2%	37.5%	27.5%	45.8%	26.7%

Source: DESNZ, NSTA/CCC, Adura, Public First analysis. Figures may not sum to exactly 100% because of rounding. "Supportive and stable" and "Molecules" share the same physical production trajectory. Supply shares for the NSTA production projections apply the NSTA February 2026 UKCS production projection separately to the DESNZ reference and CCC Balanced Pathway demand cases. The resulting domestic production and import shares are Public First modelled results. It should be considered as an external benchmark, rather than as a sixth scenario.

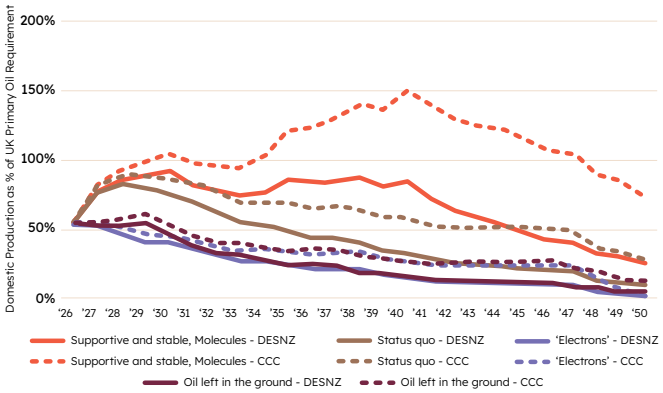
Primary oils: domestic production as a share of UK requirements

While domestic production of primary oils[15] is expected to fall over time as the UK basin continues to mature, the difference in relative self-sufficiency over time across the scenarios is significant. Again under DESNZ reference demand, **under the more supportive scenarios, domestic production supplies more than three-quarters of UK primary oil requirements for much of the period to 2040 and remains at around half of the UK primary oil requirement until the mid-2040s.**

In contrast, under the "status quo" this share falls below 50% by 2035. Under "Electrons", it falls below 25% by 2035 and to nearly zero by 2050.

The lower oil demand path produces an even larger change in UK self-sufficiency. Under CCC Balanced Pathway demand, **domestic production is equivalent to 120.9% of the UK's primary oil requirement in 2035** (with surplus domestic production assumed to be exported) under the more supportive scenarios. This compares to 69.1% under the "status quo" and 33.7% under "Electrons". Under "Oil left in the ground", the corresponding domestic share in 2035 falls to 23.7% under DESNZ demand and 33.5% under CCC demand, compared with 85.6% and 120.9% respectively under "Supportive and stable".

Primary Oils:
Share of UK Supply from UK Domestic Production



Source: DESNZ, NSTA/CCC, Adura, Public First analysis. Values above 100% indicate that domestic primary oil production exceeds the modelled UK primary oil requirement, with the surplus exported.

Under the NSTA production projections (not shown in the chart above), domestic production is equivalent to 32.2% of the UK primary oil requirement in 2035 under DESNZ reference demand and 45.5% under CCC Balanced Pathway demand. The NSTA result therefore lies below the "status quo" pathway but above "Electrons" in both demand cases.

UK SUPPLY-SIDE EMISSIONS UNDER ALTERNATIVE PRODUCTION PROJECTIONS

More supportive scenarios could substantially lower the UK's carbon emissions

In addition to raising domestic energy security, more supportive scenarios could also lead to lower supply-side carbon emissions. Higher domestic production would reduce the UK's reliance on imports of more emissions-intensive Liquefied Natural Gas (LNG) and primary (unrefined) oil.

Under DESNZ reference demand and under all scenarios, after an initial fall to 2028 under the supportive scenarios, natural gas supply emissions subsequently rise as domestic production declines and imports account for a greater share of supply. In contrast, emissions from upstream oil supply[16] fall in line with lower domestic production and overall demand.

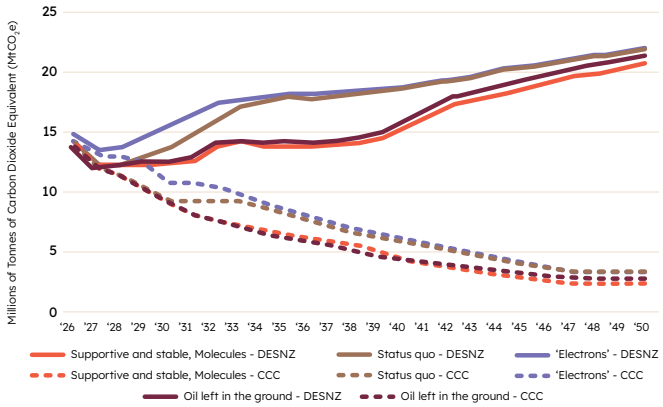
As with Adura's own economic contribution, the question is the pace and scale of these changes - and in particular, the extent of the UK's dependence on higher-emission LNG imports. **Under the "supportive and stable" and "Molecules" scenarios, total supply-side emissions from natural gas fall from 14.3 million tonnes of CO_2e in 2026 to 12.2 million tonnes in 2028, before gradually rising to 20.5 million tonnes by 2050.**

In contrast, emissions rise steadily after 2028 under the two more restrictive scenarios. **They reach 17.9 million tonnes of CO_2e by 2035 under the "status quo" and 18.3 million tonnes under "Electrons". Under "Electrons", emissions rise further to 21.9 million tonnes by 2050.**

The difference in estimated carbon emissions from natural gas is therefore substantial. We estimate that, under the more supportive scenarios, annual supply-side emissions from natural gas would be 4.4 million tonnes lower by 2035. **To put that in context, 4.4 million tonnes is roughly equivalent in scale to the annual CO_2 emissions of around 1.1 million homes in England[17], or approximately 2.6 million average-passenger return journeys between London and New York.[18]**

Under the NSTA production projections, natural gas supply-side emissions in 2035 are estimated at 16.7 million tonnes of CO_2e under DESNZ reference demand and 7.0 million tonnes under CCC Balanced Pathway demand. These are respectively 1.6 million and 1.4 million tonnes lower than under "Electrons".

Natural Gas: Estimated UK Supply-side Emissions



Source: DESNZ, NSTA/CCC, Adura, Public First analysis

Under CCC Balanced Pathway demand, lower gas demand and a greater biomethane contribution reduce absolute emissions across every scenario. **Emissions in 2035 fall to 6.3 million tonnes under the more supportive scenarios and 8.4 million tonnes under "Electrons", leaving a smaller but still material saving of 2.0 million tonnes.** The lower saving reflects the reduced requirement for imported gas, particularly LNG.

For oil production and imports, the difference in carbon emissions between the scenarios is smaller in comparison to natural gas, as the emissions-intensity gap between domestically-produced and imported oil is relatively modest on an upstream extraction basis.[19]

Across all scenarios, emissions from upstream oil supply fall steadily up to 2035 and by around 28.7% or more. The fall is largest under the more supportive scenarios: from 23.7 million tonnes in 2026 to 15.2 million tonnes in 2035, and 12.5 million tonnes by 2050.

We estimate that, under the more supportive scenarios, annual supply-side emissions from oil would be 1.7 million tonnes lower by 2035. **This is roughly equivalent in scale to the annual CO_2 emissions of around 425,000 homes in England, or approximately 1.0 million average-passenger return journeys between London and New York.**

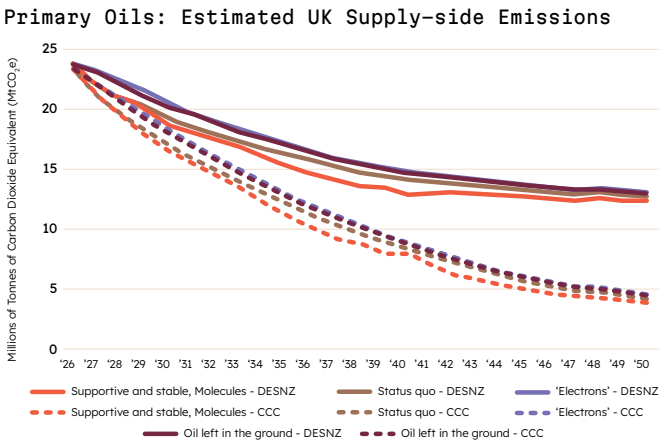
Oil supply emissions are also substantially lower in absolute terms under CCC Balanced Pathway demand. In 2035, they are estimated at 10.9 million tonnes of CO_2e under the supportive pathways and 12.6 million tonnes under "Electrons", compared with 15.2 million and 16.9 million tonnes respectively under DESNZ reference demand.[20]

Under the NSTA production projections (not shown above), primary oil supply-side emissions in 2035 are 16.7 million tonnes of CO_2e under DESNZ reference demand and 12.4 million tonnes under CCC Balanced Pathway demand—around 0.2 million tonnes below "Electrons" in each case.

Combining oil and natural gas, the more supportive scenarios reduce supply-side emissions relative to "Electrons" by 6.1 million tonnes of CO_2e in 2035 under the DESNZ reference demand and by 3.7 million tonnes under CCC Balanced Pathway demand. **The 6.1 million-tonne combined saving is roughly equivalent in scale to the annual CO_2 emissions of around 1.5 million homes in England, or approximately 3.6 million average-passenger return journeys between London and New York.** Under CCC Balanced Pathway demand, the corresponding 3.7 million-tonne saving is equivalent to around 900,000 homes or 2.2 million return passenger journeys.

The emissions differences become more substantial when considered cumulatively over the full modelling period. **Between 2026 and 2050, combined oil and natural gas supply-side emissions under the supportive production pathways ("Supportive and stable" and "Molecules") are estimated to be 98.0 million tonnes of CO_2e lower than under "Electrons" using the DESNZ reference demand.** Under the CCC Balanced Pathway demand, the cumulative savings vs. "Electrons" remain substantial at 66.6 million tonnes under the supportive production pathways. Compared with "Supportive and stable", "Oil left in the ground" results in 40.1 million tonnes more cumulative supply-side emissions under DESNZ demand and 28.4 million tonnes more under CCC demand.

The "status quo" also produces lower cumulative emissions than "Electrons", but by a much smaller margin: **27.4 million tonnes under DESNZ reference demand and 26.0 million tonnes under CCC Balanced Pathway demand.** Lower demand reduces absolute emissions under the latter, while reducing the volume of higher-emission imports that additional domestic production can displace.



Source: DESNZ, NSTA/CCC, Adura, Public First analysis

Supply-side emissions by scenario and demand projection pathway	DESNZ reference demand		CCC Balanced Pathway demand	
Scenario	Cumulative emissions, 2026-2050	Emissions saving vs "Electrons"	Cumulative emissions, 2026-2050	Emissions saving vs "Electrons"
"Supportive and stable" policy environment amid benign conditions	775.4	98.0	407.9	66.6
"Oil left in the ground" policy environment and benign conditions	815.5	57.8	436.3	38.2
"Status quo" of managed decline despite benign conditions	846.0	27.4	448.5	26.0
"Molecules" National Energy Security	775.4	98.0	407.9	66.6
"Electrons" Electricity is the Priority Energy Source	873.3	-	474.5	-
NSTA February 2026 production projections – external benchmark	846.7	26.7	450.3	24.2

All figures in $MtCO_2e$

Source: DESNZ, NSTA/CCC, Adura, Public First analysis. Figures cover supply-side emissions from UK domestic oil and gas production and imported oil and gas. They exclude end-use combustion. "Supportive and stable" and "Molecules" have the same physical production trajectory and produce identical emissions results. Savings are calculated from unrounded values and may therefore differ slightly from the difference between the displayed cumulative totals. Emissions based on the NSTA production projections are presented here as an external benchmark rather than as a scenario.

POLICY CHOICES SHAPE ENERGY SECURITY AND EMISSIONS

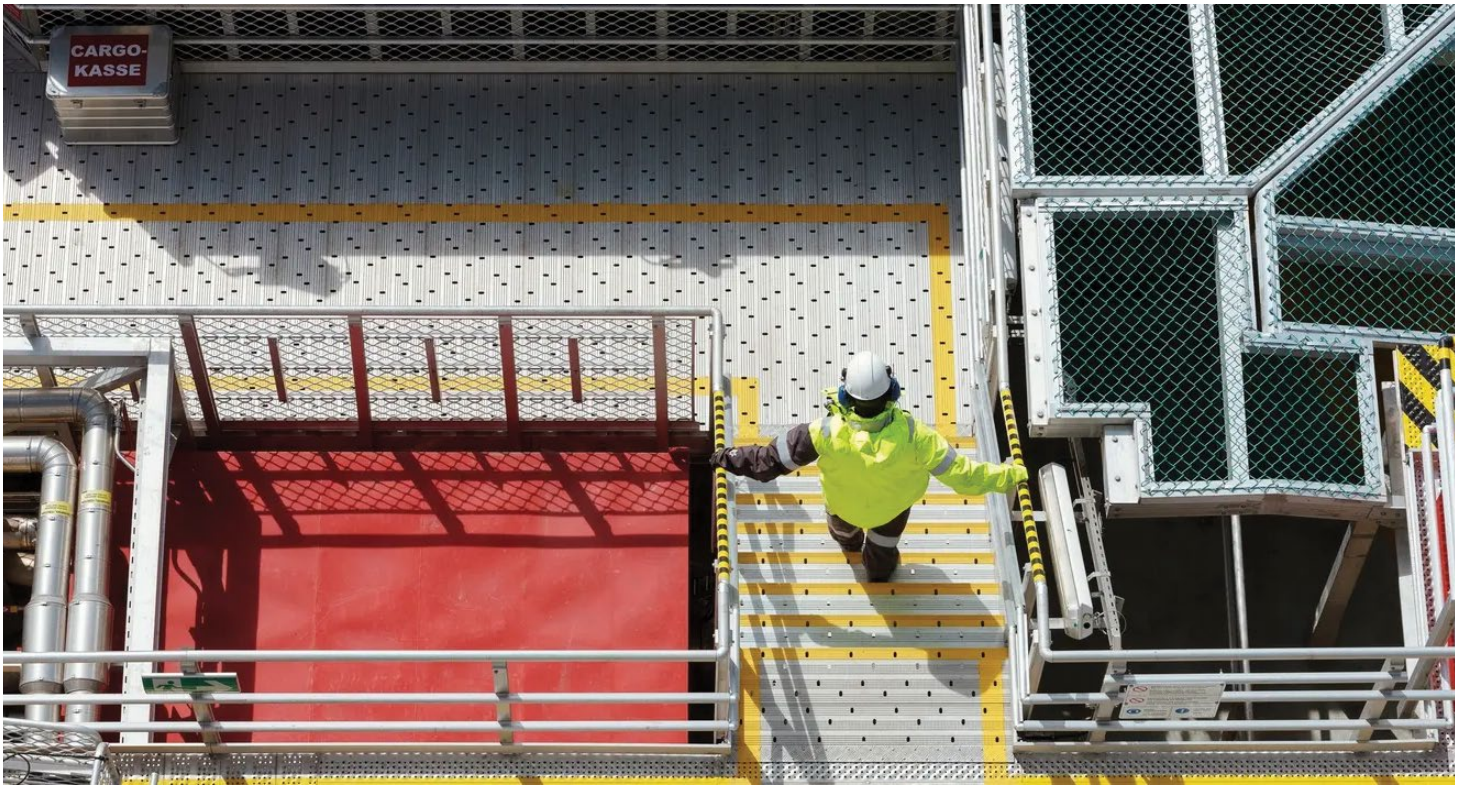
Domestic production volumes decline over time across all five scenarios as the basin matures. However, the share of UK requirements met domestically also depends on the demand pathway: it generally declines under DESNZ reference demand, but can rise under the lower-demand CCC Balanced Pathway. Emissions from upstream oil supply will fall, while emissions from natural gas will depend on the extent to which UK demand falls in response to new Net Zero policies. Regardless, policy choices will have a strong influence on the pace and scale of these trends.

The domestic production pathway has a substantial effect on domestic supply, import dependence and supply-side emissions. The NSTA production projections show that the direction of these effects is robust, but that their magnitude depends materially on the UKCS production trajectory assumed.

In 2035, under the more supportive scenarios, domestic production provides 42.4% of gross UK gas supply under the DESNZ reference projection and 79.2% under CCC Balanced Pathway demand. Under "Electrons", the corresponding shares are only 1.1% and 2.3%. Combined supply-side emissions under the supportive scenarios are also 6.1 and 3.7 million tonnes lower than under "Electrons" under the DESNZ reference demand and CCC Balanced Pathway demand respectively.

Under the NSTA production projections, domestic production supplies 13.3% of gross gas supply in 2035 under DESNZ reference demand and 27.5% under CCC Balanced Pathway demand. Combined supply-side emissions are respectively 1.8 million and 1.6 million tonnes of CO_2e lower than under "Electrons", compared with 6.1 million and 3.7 million tonnes under the supportive production pathways.

This shows that policy choices and the resulting domestic production pathway will determine whether the UK can retain a degree of energy security alongside the pace at which it reduces carbon emissions. A "supportive and stable" policy framework enables more domestic production while also having a greater impact in lowering emissions, particularly by lowering the need for LNG imports. Conversely, a more restrictive production pathway increases import dependence and results in higher supply-side emissions than the supportive scenarios.



ANNEX

In this annex, we have provided some further detail on the modelling used for the fiscal impacts and emissions analysis set out earlier in this report.

GVA AND JOBS IMPACTS MODELLING

This report assesses the economic contribution of Adura through the estimation of Gross Value Added (GVA) and employment. The analysis follows the standard economic impact framework used by the UK Government, which is compliant with HM Treasury Green Book guidance.

The analysis captures the economic footprint of Adura through three primary channels:

- **Direct Impact:** The economic value generated directly by Adura's operations.
- **Indirect Impact:** The "supply chain ripple effect", which captures the economic output and employment supported among contractors, service providers, and suppliers that facilitate offshore production.
- **Induced Impact:** The economic activity supported by the re-spending of wages by those employed directly by Adura and indirectly within its supply chain, as household income is spent in the wider economy (e.g., retail, housing, services).

The model is driven by Adura's internal financial and cashflow data and forecasts, which serve as the primary inputs for direct impact calculations. To estimate the indirect and induced effects, we applied standard economic multipliers derived from the Office for National Statistics (ONS) input-output analytical tables which capture the interrelationships between different industries.

To estimate the specific impact in Scotland—where Adura's activities are highly concentrated—we utilised location quotients, specifically using Flegg Location Quotients (FLQs).[21] These adjustments refine the national economic multipliers to account for the specific industrial density of the oil and gas extraction sector in Aberdeen and the wider Scottish economy. By adjusting the national average coefficients based on local employment and output concentration, we adjust the national coefficients to approximate the higher intensity of local supply chain integration typical of the North Sea energy cluster.

FISCAL IMPACTS MODELLING

Methodology

Scenario design and terminology. The five scenarios were devised when the proposed successor to the EPL was described as the Oil and Gas Price Mechanism (OGPM). In the main report, the corresponding post-EPL regime is referred to as the UK Oil and Gas Revenue Levy (OGRL). For the purposes of this analysis, the terms are interchangeable: the updated terminology does not alter the underlying scenario assumptions or Adura's modelled tax projections.

The fiscal impact analysis estimates the tax revenues generated from Adura's own projected activity under each of the five scenarios. Estimated tax revenues reflect the company's projected production, profit, employment, remuneration and supply chain activity under each scenario. The analysis considers direct tax revenues raised from Adura's profits and employee remuneration, as well as tax revenues generated from employment and profits from firms operating in Adura's supply chain. Revenues from "indirect taxes" (e.g. VAT, Emissions Trading Scheme or duties) were not included.

For Adura's direct tax contribution, Projected Ring Fence Corporation Tax (RFCT), Supplementary Charge (SC), Energy Profits Levy (EPL) and, where applicable, UK Oil and Gas Revenue Levy (OGRL) revenues were taken directly from Adura's internal scenario modelling. Employment-related tax receipts (PAYE Income Tax and Class 1 National Insurance Contributions, NICs) were calculated by Public First using a combination of Adura internal data (for the total number of employees and by residence, gross wages and salaries in total and across income deciles, and salary sacrifice proportions) alongside current and projected tax rates and thresholds from the UK Government and Scottish Government (see key assumptions below).

The analysis also estimated wider supply-chain fiscal impacts, which (for consistency with Adura's own tax contribution) reflect PAYE Income Tax, Class 1 NICs and Corporation Tax revenues raised on firms operating in Adura's supply chain. These were calculated by combining data on Adura's supply chain procurement (operating expenditure and capital expenditure) in the UK, with tax-to-output multipliers. Tax-to-output ratios and multipliers[22] were then generated using the ONS input-output tables.[23]

Data Sources

We used a combination of Adura's internal data, official statistical sources and Public First modelling inputs to estimate the fiscal impacts associated with Adura's activity under the five scenarios.

- **Adura internal data:** Adura's internal payroll data was used to provide a distribution for gross wages and salaries by decile across its employees, a breakdown of employees residing in Scotland and the rest of the UK[24], and the value of payroll salary sacrifice deductions
- **ONS Annual Survey of Hours and Earnings (ASHE):** ASHE earnings data (annual gross pay by industry)[25] were used to estimate total PAYE Income Tax and NICs by UK industry (which was then used to construct the tax-to-output multipliers).[26]
- **ONS input-output analytical tables:** ONS 2023 input-output analytical tables[27] were used to estimate the wider economic activity supported by Adura's supply-chain spending, including direct and indirect effects across sectors.
- **OBR economic and fiscal forecasts:** OBR forecasts from the Spring Statement 2026[28] were used to project relevant

macroeconomic assumptions, chiefly inflation, where future-year tax thresholds or wage profiles required uprating.

- **HMRC Annual UK Corporation Tax Statistics 2025[29]:** HMRC data for Corporation Tax liabilities by industry are used to calculate the tax-to-output multipliers.

Key Assumptions

To construct the scenario projections, we make the following assumptions:

- Adura's RFCT, Supplementary Charge, EPL and OGRL projections were converted into pounds sterling using a fixed US Dollar-GBP sterling exchange rate of 1.35.[30]
- All in-year tax revenues were calculated and presented in nominal (current price) terms, with cumulative figures calculated as simple, undiscounted sums.
- Adura employees' wages and salaries[31] were assumed to be subject to either UK or Scottish income tax thresholds and rates[32] for the purpose of estimating PAYE Income Tax, with rates remaining unchanged over the forecast.[33] Current and projected UK and Scottish income tax thresholds were taken from current UK and Scottish Government policy.[34] Future thresholds are projected forward by growing these in line with the OBR's latest CPI inflation forecast, with a simplified uprating assumption (CPI 2%) used from 2031 onwards.[35]
- For Class 1 employee and employer NICs, rates and thresholds are taken from current UK Government policy. The main thresholds used to calculate contributions—the Primary Threshold, Secondary Threshold and Upper Earnings Limit—are frozen until April 2031.[36] Beyond this, rates are held constant, with thresholds beyond 2031 grown forward using a simplified uprating assumption (in line with an annualised CPI rate of 2%).
- The Adura income distribution was assumed to remain unchanged over the forecast period, and applied to projected wages and salaries in future years. Decile midpoint salaries were used to estimate tax liabilities within each earnings band.
- Direct tax revenues generated through the supply chain were calculated by applying industry-average PAYE, NIC and Corporation Tax-to-output coefficients to UK procurement through ONS input-output relationships. This includes direct and indirect supply-chain effects but excludes induced employee-spending effects.

In summary, the analysis should be interpreted as an estimate of gross tax revenue associated with Adura-supported activity, not as a net fiscal impact assessment or an estimate of total UK oil and gas sector tax revenues. Furthermore, the fiscal impacts modelling did not attempt to estimate wider macroeconomic feedbacks, commodity price effects, or displacement effects.

EMISSIONS MODELLING

Methodology Overview

The emissions analysis estimates the UK industry-level emissions from natural gas and oil under each of the five scenarios alongside the latest NSTA production projections (February 2026). We employed a residual energy-balance accounting approach to project future domestic production and imports of natural gas and oil, and associated emissions at UK-level.

Scenario projections for primary demand for oil and natural gas

To test how sensitive the results are to assumptions about future UK oil and gas demand, the analysis applies each of the five Adura production scenarios against two published primary demand pathways:

- **DESNZ Energy and Emissions Projections reference scenario.** The DESNZ reference scenario provides an official baseline ("business-as-usual") for future UK energy demand. It incorporates policies that had been implemented, or were sufficiently developed and funded, at the June 2025 modelling cut-off, and illustrates what could happen if no further policies were introduced beyond those already included. It is therefore best understood as a current policy counterfactual used to assess the potential effects of future policy, rather than as a forecast of the Government's intended Net Zero pathway.
- **CCC Seventh Carbon Budget Balanced Pathway.** The Balanced Pathway underpins the Climate Change Committee (CCC)'s advice on the Seventh Carbon Budget and sets out a credible, cost-effective route from 2025 to net zero by 2050. It is not a prediction of the most likely future, but a modelled pathway showing how the statutory target could be achieved through measures including rapid electrification, greater energy efficiency, low-carbon fuels, carbon capture and storage, some reductions in demand for high-carbon activities, and engineered removals to balance residual emissions.

These pathways are inherently different in purpose and design and should not be interpreted as competing projections on a directly comparable basis. The DESNZ pathway is a current policy reference case, while the CCC pathway is characterised as a route consistent with achieving the UK's statutory Net Zero target. Results are therefore presented separately as alternative sensitivities rather than combined or assigned relative probabilities.

NSTA production projections

As an external benchmark, the same supply-balance and emissions calculations are rerun using the NSTA's February 2026 projected UKCS oil and gas production series. The selected DESNZ or CCC demand pathway, balance assumptions and emissions factors are otherwise held constant. The NSTA projections are not mapped to Adura's economic or fiscal scenarios, and not treated as a sixth scenario.

Balancing supply and demand

For the five scenario runs, domestic production is based on the Adura-derived proportional UKCS paths. For the NSTA production projections, these domestic production inputs are replaced with the NSTA February 2026 domestic production projections, while the remainder of the gas and oil balances are calculated using the same methodology.

For natural gas, imports are calculated as the residual source of supply after accounting for domestic production, exports, stock changes, transfers and other balance items. For oil, changes in domestic production are applied to the primary oils balance: primary oil imports are adjusted in response to changes in domestic primary oil production, while petroleum-product imports are modelled separately through the petroleum-products balance. All balance items were expressed on a terawatt-hour (TWh) basis for consistency.

The projected gas and oil supply balances are then converted into emissions estimates by applying source-specific emissions factors to projected domestic production and import volumes. The resulting estimates capture supply-side emissions associated with hydrocarbon production and imports, rather than emissions from end-use combustion.

Projecting the LNG imports share

For natural gas, our emissions analysis takes into account the expected impact of varying domestic gas production profiles on Liquefied Natural Gas (LNG) imports, and the resulting impact on emissions given that LNG imports carry a high average emissions intensity. For example, a rise in domestic gas production under a more supportive scenario would consequently reduce the need for LNG imports, lowering overall supply-side carbon emissions.

After projecting forward gross imports under each scenario, we then calculate the component imports: imports sourced via pipelines and imports from Liquefied Natural Gas (LNG). In 2025, 70.4% of the UK's gross imports of natural gas were sourced from pipelines[37], with the vast majority from Norway. To do so, we modelled and forecasted the pipeline share of gas imports under each scenario, and then applied this to the projections for gross imports. The process for this was as follows:

- We used quarterly DESNZ outturn data for domestic production, gross imports of natural gas (in total, and for pipeline and LNG imports separately) and gross supply. For the scenario projections, we converted these from annual to quarterly frequency by using historical seasonal patterns. This enabled us to construct a dataset over the period 2000Q1 to 2050Q4.
- We then estimated an econometric model a fractional logit model[38] with the pipeline share of imports as the dependent variable (after establishing stationarity[39]) with quarterly dummies. The dependent variable was pipeline share of imports. The model includes lags for the pipeline share (first and second lags) and the second lag of the price differential between a representative LNG price[40] and a representative gas pipeline price.[41] A negative association between the pipeline share and import dependency was found, and a positive association for the gas price differential term, both with statistically significant coefficient terms.[42]
- Finally, we used the model outputs to dynamically project forward the pipeline share from 2026Q1 onwards using scenario projections for gross supply and imports. After applying the predicted share to projected gross imports, this in turn yielded the value of pipeline and LNG imports. A higher import dependency under the more restrictive scenarios led to lower pipeline shares.

The same process is applied to the NSTA production projections: the NSTA domestic production path determines the residual gross import requirement, after which the econometric model is used to divide those imports between pipelines and LNG.

Data Sources

We used three categories of data to construct the imports and emissions projections: Department for Energy Security and Net Zero (DESNZ) statistical publications; alternative scenario projections and external estimates of emissions intensity from the North Sea Transition Authority (NSTA) and the Climate Change Committee (CCC); and Adura's own oil and gas production projections under the five scenarios.

- For Natural Gas outturns of domestic production, imports and exports, we used the DESNZ "Energy Trends" publication.[43] Table 4.2, Natural gas supply and demand, was used for domestic production, imports, exports and demand. Table 4.3, Gas imports, was used to distinguish pipeline imports from LNG imports.
- For oil outturns, we used DESNZ DUKES oil balance data (specifically DUKES Table 3.1).[44] Primary oils were treated as crude oil and NGLs, while petroleum products were treated separately as refined products. This distinction was made because the scenarios feature varying domestic production of primary oils, whereas petroleum-product imports and exports are determined through the wider oil balance.
- For projected primary energy demand, we used two sources:
  - **DESNZ Energy and Emissions Projections: 2024 to 2050**, specifically Annex E[45], Primary Energy Demand, expressed in terawatt hours. The DESNZ reference scenario ("DESNZ reference demand") was used to provide the current-policy demand pathway for total UK oil and natural gas demand.
  - **The CCC Seventh Carbon Budget Balanced Pathway** ("CCC Balanced Pathway demand"), using the annual demand series published alongside the NSTA's February 2026 oil and gas production projections.[46] This provided the CCC pathway for total gas demand and for oil demand, including estimated non-energy use, together with associated biomethane-to-grid assumptions used in the gas balance.

For the NSTA production projections, we used the NSTA's February 2026 annual UKCS oil and gas production projections from its Production and Expenditure Projections workbook.

- For emission intensities, we used the latest NSTA estimates for the average emissions intensity for domestic production, pipeline imports and LNG imports[47], which are held constant over the forecast period. Oil emissions intensities were estimated on an upstream extraction basis. For domestic production, a UK oil-production factor was derived from NSTA upstream emissions data, adjusted to reflect an oil-only estimate for primary oils, including crude oil and NGLs.[48]
- For natural gas, projected domestic production, pipeline imports and LNG imports are each multiplied by their respective emissions factors. This reflects the different emissions intensities of gas supplied from the UK Continental Shelf, pipeline imports and LNG, including the higher supply-chain emissions associated with LNG liquefaction, shipping and regasification.
- For oil, projected domestic primary oil production is multiplied by a UK upstream oil-production emissions factor. Imports of primary oils and petroleum products are multiplied by an international upstream oil-production emissions factor.[49] The oil calculation is therefore an upstream extraction-based estimate, covering emissions associated with producing domestic primary oils and the imported oil supplied to the UK, but excluding refining, onward transport, distribution and end-use combustion. Imported petroleum products are treated only in terms of the upstream extraction emissions embodied in the crude-equivalent input used to produce them.

Key Assumptions

To construct the scenario projections, we make the following assumptions:

- For each scenario, UK oil and gas demand is modelled under two alternative demand projections: the DESNZ Energy and Emissions Projections reference scenario and the CCC Seventh Carbon Budget Balanced Pathway. Results are reported separately as sensitivities and are not combined or probability-weighted. This reflects a) that the UK will remain a price taker and b) the purpose of testing how different domestic production pathways affect the composition and emissions intensity of UK hydrocarbon supply, rather than to model changes in demand. The analysis does not model effects on global commodity prices, UK wholesale prices, retail energy prices or consumer bills.
- The published DESNZ and CCC demand series are shown in the report for context. For modelling purposes, each pathway is anchored to the latest available outturn and projected using the annual growth profile of the relevant published series. The modelled demand levels therefore differ slightly from the published pathway levels while preserving their respective trajectories.
- The UK supply-demand balance for natural gas and oil is closed in each year from 2026 to 2050. For simplicity, the statistical difference is set to zero. Stock changes and other minor balance items are generally held in line with recent historical averages. In the CCC demand path for gas, the pathway's explicit biomethane-to-grid series is treated as a positive transfer into gas supply, reducing the residual requirement for fossil domestic gas and imports; synthetic coke-oven gas is modelled separately using the stated historical assumption.
- Where domestic production exceeds the UK requirement under the lower-demand CCC demand projection, the surplus is assumed to be exported. Emissions associated with all UK domestic production—including exported volumes—remain included in the supply-side emissions estimates. The CCC-compatible oil demand series excludes marine bunkers from the primary demand total because these are modelled separately within the oil balance.
- For the scenario analysis, the wider UKCS is assumed to follow the same proportional production trajectory as Adura under each scenario, using the latest DESNZ outturn as the starting point. As a separate benchmark, this assumption is replaced with the NSTA's February 2026 UKCS oil and gas production projections. The demand pathway, supply-balance treatment, LNG/pipeline import methodology and emissions intensity assumptions are otherwise held constant.
- For natural gas, changes in domestic production are assumed to affect imports directly, with LNG acting as the flexible marginal source of supply after pipeline imports and other balance items are accounted for. For oil, changes in domestic production are applied to the primary oils balance.[50] A change in domestic primary oil production is assumed to result in an equivalent change in primary oil imports, with exports calculated residually to close the primary oils balance.[51]
- Carbon emissions intensities for domestic production and imports of natural gas and oil remain constant in line with current NSTA and CCC estimates across the forecast period, in the absence of any available forward projections.

In summary, the analysis presented in this report should be interpreted as a supply-side emissions comparison rather than a full analysis of the lifecycle carbon footprint. It intentionally excludes end-use combustion emissions for both oil and gas. For oil, it also excludes refining, onward transport and distribution emissions. The estimates therefore show how emissions associated with the supply mix change across scenarios, rather than the total emissions associated with final consumption of oil and gas in the UK.

FOOTNOTES

1 The Energy Transition Skills Hub was founded by ETZ Ltd, Shell UK, and North East Scotland College, with support from the Scottish Government's Just Transition Fund and UK Government funding. Adura is the lead industry partner.

2 See Footnote 17 for methodology and source.

3 The energy security analysis focuses on the physical composition and resilience of UK supply, including domestic production and import dependence. It does not estimate effects on international commodity prices, UK wholesale prices or consumer energy bills, and assumes that the UK remains a price taker.

4 Office for Budget Responsibility (OBR), March 2026 forecast, https://obr.uk/efo/economic-and-fiscal-outlook-march-2026. See detailed forecast tables: receipts, table 3.8: Current receipts (on a cash basis). £1.45 billion from Bank Levy, £1.34 billion from the DST in 2030–31.

5 The estimated emissions savings are a supply-composition effect. For a given expected level of UK demand, higher domestic production reduces the requirement for imported primary oil and, in particular, higher-emission LNG.

6 The demand for energy contained in raw sources before it is converted into consumable form or turned into products.

7 DESNZ (2026). Energy and emissions projections: 2024 to 2050. Annex E: Primary Energy Demand. The reference scenario reflects policies that had been implemented or were sufficiently developed by June 2025, and is intended to show what would happen if no further policies were planned or implemented beyond that point. https://www.gov.uk/government/publications/energy-and-emissions-projections-2024-to-2050

8 A Terawatt Hour is a unit of energy representing one trillion watts of power used or generated continuously for one hour.

9 See the Annex for further description of the NSTA/CCC projection used for primary demand.

10 NSTA (Feb 2026). https://www.nstauthority.co.uk/data-and-insights/insights-and-analysis/production-and-expenditure-projections/. Projections for CCC 7CB Balanced Pathway. Energy demand for gas falls from 687.0 TWh in 2026 to 508.2 TWh in 2030 (26.0% fall relative to 2026), 356.6 TWh in 2035 (48.1% fall) and 168.1 TWh in 2050 (75.5% fall).

11 If ignoring the relatively small quantities taken from transfers and stock changes.

12 NSTA (2025). 2024 Emissions intensity of producing natural gas. https://www.nstauthority.co.uk/media/nupk5sx1/emissions-intensity-of-producing-natural-gas-factsheet-sept-2025.pdf

13 PF calculation using DESNZ (2026). Energy Trends: UK gas. DESNZ Energy Trends Table 4.3, Natural Gas. https://www.gov.uk/government/statistics/gas-section-4-energy-trends

14 The main scenario results use the Adura-derived proportional UKCS production paths shown in the charts above. Results using the NSTA February 2026 production projection are reported separately as an external benchmark. See the Annex for further information.

15 Primary oils are the raw, unrefined outputs following extraction, including crude oil, natural gas liquids (NGLs), condensates, and feedstocks extracted directly from the ground or imported. These are distinguished from "petroleum products", which represent secondary, refined outputs processed at oil refineries. Under the primary energy balance framework, domestic production by definition only captures primary oils.

16 Oil emissions are assessed on an upstream supply basis, covering domestic production of primary oils and the upstream emissions embodied in imported primary oils and petroleum products. Domestic refining emissions are excluded; see Annex for further details.

17 Estimate calculated by taking emissions from the English housing stock (100 million tonnes of CO2) and average dwelling producing around 4 tonnes per year. Source: English Housing Survey 2022 to 2023. The comparison is approximate because the model results are expressed in CO_2e, while the housing estimate is expressed in CO_2.

18 Estimate calculated using 2026 UK Government Greenhouse Gas Reporting Factors for international long-haul aviation. Greenhouse-gas conversion factor for an average long-haul passenger travelling to or from the UK, including indirect non-CO_2 aviation effects: 0.15282 $kgCO_2e$ per passenger-kilometre. Assumes an indicative London–New York distance of approximately 5,540 kilometres each way then yielding around 1.69 tonnes CO_2e per return passenger journey.

19 See the Annex for the emissions intensity assumptions applied for natural gas, primary oils and petroleum products.

20 The estimated in-year saving remains around 1.7 million tonnes under both demand pathways in 2035. This is because we assume that additional UK primary oil production displaces imported primary oil on a one-for-one basis while imports remain necessary. The savings narrow in later years where lower demand under the CCC Balanced Pathway projection removes the remaining import requirement and surplus domestic production is exported.

21 Flegg Location Quotients (FLQs) are a method for deriving regional input–output coefficients from national tables. They adjust national industry relationships to reflect both a region's relative sectoral specialisation and its overall economic size, providing an estimate of the proportion of inputs likely to be sourced within the region.

22 The multipliers were calculated by firstly estimating total direct taxes by industry, using a combination of HMRC data on corporation tax liabilities by industry and estimated PAYE Income Tax and NICs by industry (using ONS earnings data)

23 The HMRC Tax liability by Standard Industrial Classification (SIC) records 85 industries, and the Annual Survey of Hours and Earnings records 98 industries. To construct the tax-to-output multipliers, we mapped the respective Corporation Tax (HMRC) and PAYE Income Tax and NICs (ONS) liabilities to the 104 industry categories used in the ONS input-output tables.

24 Scottish Income Tax rates and thresholds were applied for employees residing in Scotland, and rUK rates and thresholds applied for all other employees, and taken from current UK and Scottish Government policy.

25 Office for National Statistics (October 2025). SIC2007 Table 4.7a Annual pay - Gross (£) - For all employee jobs: United Kingdom, 2025.

26 The earnings-distribution shape and Scotland/rest-of-UK workforce mix are held constant; annual forecast years are aligned to the corresponding tax years.

27 ONS (December 2025). UK Input-output analytical tables: 2023. https://www.ons.gov.uk/releases/ukinputoutputanalyticaltables2023

28 Office for Budget Responsibility (March 2026). Economic and fiscal outlook – March 2026. March 2026 Economic and fiscal outlook – detailed forecast tables: economy. https://obr.uk/efo/economic-and-fiscal-outlook-march-2026/

29 HMRC (September 2025). Corporation Tax Statistics 2025. See Table 8, Tax liability by Standard Industrial Classification (SIC) division, 2018-19 to 2023-24. https://www.gov.uk/government/statistics/corporation-tax-statistics-2025

30 See OBR March 2026 forecast, Detailed forecast tables (economy). $/£ exchange rate of 1.35 in 2026Q1. A fixed exchange rate of US$1.35 per £1 is used across every year and scenario.

31 A single aggregate salary-sacrifice proportion, derived from Adura payroll data, is applied uniformly across the earnings distribution and held constant over the forecast. Individual variation in salary-sacrifice arrangements is not modelled. The analysis did not model individual-level tax circumstances such bonuses, student loans, or personal reliefs beyond the standard Personal Allowance (PA) and taper.

32 GOV.UK (2026). Income Tax rates and Personal Allowances. https://www.gov.uk/income-tax-rates. Income Tax in Scotland. https://www.gov.uk/scottish-income-tax. The £100,000 Personal Allowance taper threshold is held fixed up to 2049/50.

33 Starter rate: 19%; Basic rate 20% Intermediate rate: 21%; Higher rate: 42%: Advanced rate: 45%; Top rate: 48%.

34 The model applies the 2026–27 rest-of-UK and Scottish Income Tax schedules, and UK Class 1 employee and employer NICs, on a marginal-band basis, incorporating announced threshold freezes. See Scottish Fiscal Commission (January 2026, revised 11 February 2026). https://fiscalcommission.scot/wp-content/uploads/2026/02/Scotlands-Economic-and-Fiscal-Forecasts-January-2026-revised-11-02-2026.pdf

35 For simplicity, the analysis assumed no behavioural response by employees or Adura to changes in tax thresholds, tax rates, wages, employment or scenario conditions.

36 GOV.UK (April 2026). Rates and allowances: National Insurance contributions. https://www.gov.uk/government/publications/rates-and-allowances-national-insurance-contributions/rates-and-allowances-national-insurance-contributions

37 DESNZ (July 2026). Energy Trends: UK gas. Table 4.3. https://www.gov.uk/government/statistics/gas-section-4-energy-trends

38 A fractional logit model is appropriate for a dependent variable bounded between zero and one. The model was run using a sample from 2005Q1 as this is when LNG imports commenced in the UK, as shown by DESNZ data.

39 Using Augmented Dickey-Fuller (ADF) / Phillips–Perron (PP) tests for the pipeline share from 2005 to 2026.

40 The Asia LNG price series (PNGASJPUSDM) was sourced from the Federal Reserve Bank of St. Louis FRED database and converted from US$/MMBtu to €/MWh for consistency with the Dutch pipeline gas price series, exchange rate series sourced from the European Central Bank.

41 Taken as the average of the following two series: GTFTX00 |DUTCH TTF EUR/MWH DAY AHEAD(EUR/MGW) : HIGH; GTFTX00 |DUTCH TTF EUR/MWH DAY AHEAD(EUR/MWh): LOW. The series were provided by Adura and were expressed in €/MWh, providing the comparator series used to construct the LNG–pipeline gas price differential.

42 In other words, higher import dependency was found to be associated with a lower pipeline share of imports. As total imports become a larger share of total gas supply, the model plausibly suggests the marginal additional imports tend to be met more by LNG than by pipeline imports. A higher LNG price differential implies that if LNG becomes relatively more expensive, this leads to a higher share of pipeline imports.

43 DESNZ (July 2026). Energy Trends: UK gas. https://www.gov.uk/government/statistics/gas-section-4-energy-trends

44 DESNZ (July 2026). Digest of UK Energy Statistics (DUKES): petroleum. https://www.gov.uk/government/statistics/petroleum-chapter-3-digest-of-united-kingdom-energy-statistics-dukes

45 DESNZ (February 2026). Energy and emissions projections: 2024 to 2050. https://www.gov.uk/government/publications/energy-and-emissions-projections-2024-to-2050

46 NSTA (February 2026). Production and expenditure projections. Production Projections plus CCC and DESNZ demand projections. https://www.nstauthority.co.uk/data-and-insights/insights-and-analysis/production-and-expenditure-projections/

47 NSTA (September 2025). 2024 Emissions intensity of producing natural gas. NSTA's 2024 gas factsheet estimates average emissions intensities of 28 $kgCO_2e$/boe for UK domestic gas, 8 $kgCO_2e$/boe for pipeline imports, and 85 $kgCO_2e$/boe for LNG imports. www.nstauthority.co.uk/media/nupk5sx1/emissions-intensity-of-producing-natural-gas-factsheet-sept-2025.pdf

48 For imports, the domestic factor was scaled using the CCC's estimate that UK oil extraction emissions are around 25% lower than the global average, giving a higher international upstream emissions factor for imported primary oils and petroleum products. These factors exclude refining, onward transport, distribution and end-use combustion. See CCC letter here: https://www.theccc.org.uk/wp-content/uploads/2022/02/Letter-to-Kwasi-Kwarteng-Climate-Compatibility-of-New-Oil-and-Gas-Fields.pdf

49 The central oil emissions factors used are 26 $kgCO_2e$/boe for UK domestic primary oil production and 34.7 $kgCO_2e$/boe for imported oil. The domestic factor is a derived oil-only estimate based on NSTA's reported 2023 UK offshore oil-and-gas emissions intensity of 24 $kgCO_2e$/boe, uplifted to reflect oil-only production given that flaring is predominantly associated with oil fields. NSTA reports that offshore asset emissions intensity was projected to be 24 $kgCO_2e$/boe in 2023 and that 88% of gas flaring came from oil fields. The imported-oil factor is derived from the CCC's estimate that UK oil extraction emissions are around 25% lower than the global average: $26 \div 0.75 = 34.7$ $kgCO_2e$/boe.

50 The oil and gas models differ because the underlying commodity balances differ. Natural gas is modelled as a direct supply-demand balance, whereas oil is split between primary oils and petroleum products. As a result, changes in domestic oil production are applied to the primary oils balance and do not automatically imply changes in UK refinery throughput or petroleum-product imports.

51 Petroleum product imports are modelled separately through the petroleum-products balance and are not assumed to fall automatically as domestic crude production rises.

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