

**OGUK**

# **Economic Report 2021**



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# Economic Report 2021

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# Foreword

The UK's offshore oil and gas industry remains a central pillar of the UK economy. Providing energy, jobs and actively driving low carbon innovation the length and breadth of the country, its footprint extends into every sector, community, and home across the UK.

OGUK's *Economic Report 2021* provides a detailed insight into our changing energy landscape at a critical time in the national conversation. The need for urgent action, by everyone, to tackle climate change is indisputable.

As the government prepares to host COP26 in Glasgow, we, the UK's changing offshore oil and gas industry, are unequivocal in our support for net zero. Indeed, we are already in action to improve the production of cleaner indigenous oil and gas while putting our skills to work to help other sectors transform.

Almost six months on from the ground-breaking North Sea Transition Deal, the report reinforces industry's long-term commitment to the transition to a low carbon future and details the value of the sector to the wider economy.

However, our report also sets out the stark choices the country faces as it charts its transition towards a lower carbon future.

In the first few months of 2021, the UK has imported more gas than any other year, as demand rose and domestic production fell. And while renewables have made inroads in supporting electricity generation, that electricity still only accounts for 20 per cent of the UK's total primary energy needs.

Nearly three-quarters of the UK's energy currently comes from oil and gas, of which around 70 per cent was

met by production from the UK Continental Shelf (UKCS) in 2020. Even as we transition to a net-zero future, the work of the Climate Change Committee shows half of the UK's energy requirements between now and 2050 will still be met by oil and gas.

The facts and evidence throughout this report underline the need for governments and policymakers to support a managed transition.

Such an approach will ensure that for as long as the UK continues to use oil and gas, as much as possible can be met by indigenous production, as set out in the North Sea Transition Deal.

In this way the UK can retain the essential skills needed to deliver and underpin its low carbon energy transition and importantly, not offshore its responsibility and accountability for emissions associated with such demand.

OGUK refutes the cliff edge approach being suggested by some as a symbolic gesture that would do little to address the UK's ongoing demand for energy, including oil and gas.

A managed transition, supported by governments, regulators and industry, will further reinforce the global competitiveness of the UKCS and the UK as "open for business". Such an approach will ensure that the UK continues to attract the billions of pounds of investment into the UKCS that is needed for cleaner oil and gas production as well as for low carbon and renewable energies.

The changes to the regulatory framework for oil and gas over the past 18 months are timely. Industry welcomed



the revised Oil and Gas Authority (OGA) Strategy, which requires the ongoing economic recovery of hydrocarbons while taking appropriate steps to support the delivery of net zero targets.

The future competitiveness of producing basins and the rationale for ongoing exploration and production will depend as much on the embedded emission content of energy production as it does on operating costs. This is what government, investors and society at large require and a key objective of this report is to assess progress to date in terms of meeting such challenging objectives.

Our industry is inextricably linked to achieving a just transition to a lower-carbon future. With a truly inclusive transition, we can make full use of the 1,000 or more supply chain companies which service the full lifecycle of the oil and gas industry as well as the other growing energy sectors that we need to deliver our net zero goals.

The report also details the major economic and employment contributions that the oil and gas sector continues to make, with its activity supporting 200,000 jobs. The gross value add to the UK economy is calculated at £31.1 billion – 1.7 per cent of the UK total – and means that every £1 million spent by the oil and gas sector generates another £2.5 million of activity in other parts of the economy.

Therefore it is essential that this transition fairly supports the communities where our sector has a significant presence, to change and adapt. This is also recognised in the North Sea Transition Deal, with a significant commitment by companies to ensure at least 50 per cent UK content is achieved over the life of the decarbonising

projects, including carbon capture, hydrogen, offshore emissions reduction and electrification. This will ensure the benefits are being delivered by companies here in the UK.

With a managed, fair and inclusive transition, we can be confident of our collective path to deliver net zero, but we need all parties to work with us and to actively support us in our commitments and endeavours.

We have a radical plan in the shape of the North Sea Transition Deal to accelerate homegrown greener energies. As the first of its kind, it is a guiding light for industry, supporting jobs and communities across the UK and championing the growth of our supply chain.

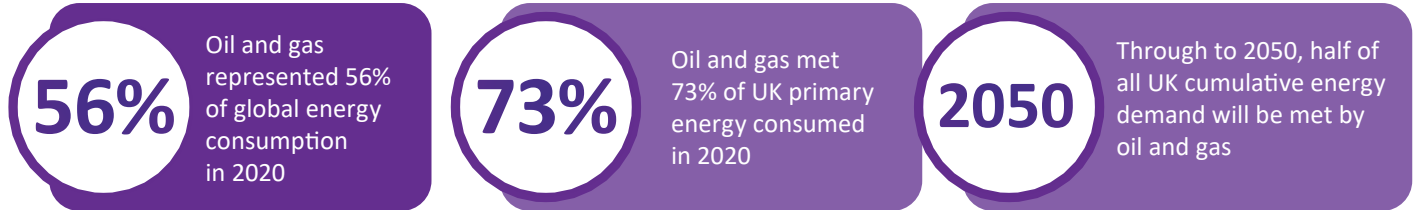
To develop these domestic greener industries, and to support other nations in their bid to cut emissions, we need to ensure the UK becomes the global leader in low carbon solutions through urgently implementing the North Sea Transition Deal. We have the framework, we have the forward path, and we are already in action to make it a reality.



**Deirdre Michie OBE**  
**Chief Executive**  
**OGUK**

# Key findings

## Energy Security



## Investment



## Value-Adding Activity



## Employment

Industry activity is estimated to support almost 200,000 jobs in 2021, spanning every region of the UK



- 26,900 direct
- 91,500 indirect
- 77,500 induced



## Fiscal Contribution

The industry remains a net contributor to the UK Treasury, providing:



**£360**  
bn

£360 bn net over the last 50 years and £33.7 bn since 2010

**£1.7**  
bn

£1.7 bn in net tax payments expected between 2021–26

## Performance

2021 price averages:

**OIL**  
**£48.52**  
/bbl

**GAS**  
**67.41**  
p/th

**-11%**

Oil and gas production in Q1 2021 was 1 million boepd – 11% down on Q1 2020

**39**  
wells

39 wells drilled have been so far in 2021:

- 3 exploration
- 2 appraisal
- 34 development

## Powering Net Zero

The North Sea Transition Deal was agreed in March 2021, supporting:

Up to £16bn investment

40,000 jobs

60 million tonnes of emissions reduction

Industry has committed to halve operational emissions by 2030

Providing the talent and technology to support the development of CCS, hydrogen and offshore wind

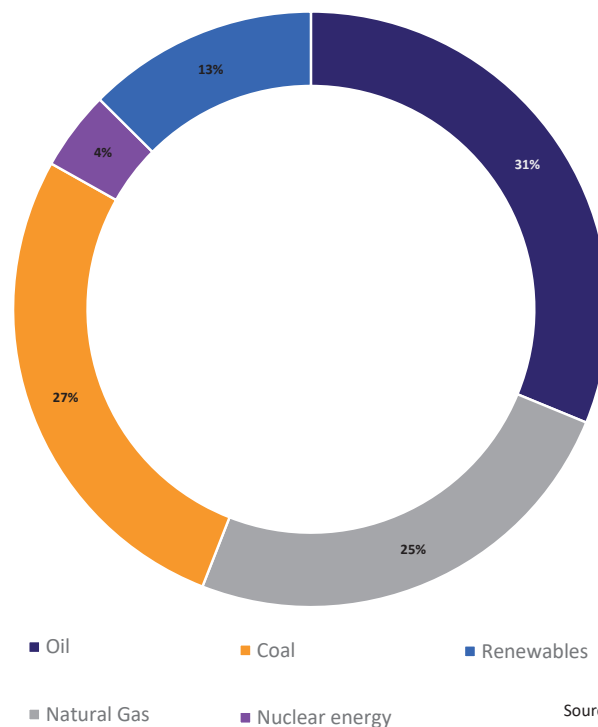
# The global energy landscape

Oil and gas represented 56 per cent of global energy consumption in 2020, 6 per cent down on the prior year, primarily because of the impact of COVID-19 on the global economy, and which affected oil more than any other fuel. As the pandemic restrictions remain in place across the globe, energy demand continues to be subdued, as was seen throughout 2020. Forecasts suggest that emerging and developing markets will represent most of the energy demand increase, with their demand set to rise 3.4 per cent above 2019 levels.

The International Energy Agency (IEA) estimates that global oil demand will rise by 5.4 million barrels per day (bpd) in 2021 to about 96.7 million bpd – an almost 6 per cent increase – and recover to pre-pandemic levels by the end of 2022.<sup>1</sup>

The Agency also expects gas demand to increase by 3.6 per cent and exceed pre-pandemic levels by the end of this year, largely driven by demand in Asian and Russian markets. Globally, greater levels of investment are still needed to avoid supply-demand tensions, which would otherwise lead to significant price increases. This investment is in support of “existing resources” identified by the IEA and is critical to ensure demand is met.

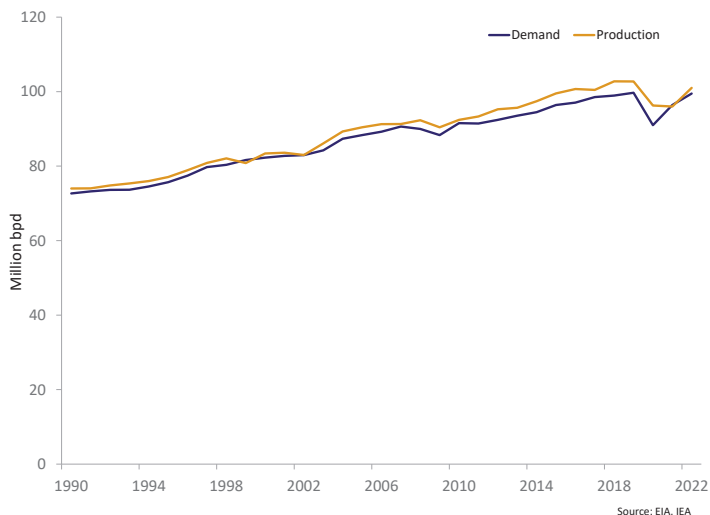
Figure 1: Global Energy Consumption, 2020



<sup>1</sup> <https://www.iea.org/reports/oil-market-report-june-2021>



Figure 2: Global Oil Demand and Production



## The UK energy system

The UK's primary energy needs are met by a diverse range of sources, of which oil and gas provide the majority, followed by bioenergy and waste, renewables, nuclear and imported electricity. Oil and gas met an estimated 73 per cent of the UK's energy needs in 2020, with production from the UKCS providing around 70 per cent of this (enough to meet 95 per cent of oil demand and 54 per cent of gas demand). This is a higher proportion than that typically seen in recent years as a result of the impact of the pandemic suppressing travel and aviation, both of which are highly reliant on oil, and oil products.

Energy consumption in 2020 was at its lowest levels since the 1950s<sup>2</sup> as the restrictions to manage COVID-19 significantly reduced activity across the economy. The restrictions which were reimposed in the first quarter of 2021 have had a further impact on demand. Total energy consumption was 7.4 per cent lower in the first quarter than the same period in 2020. This fall was the result of reductions in both transport (31 per cent) and industrial consumption (2.1 per cent), however domestic (residential) consumption increased by 8.9 per cent as movement restrictions and colder weather prevailed. As

restrictions continue to be lifted, in particular those on travel, it is anticipated that there will be a sharp upturn in energy demand which should be met by making the most of indigenous resources.

Overall UK energy production fell by 12 per cent in the first quarter of 2021 compared with the same period in 2020, largely due to reductions in domestic oil and gas output as COVID-19 suppressed activity on the UKCS. The impact on production reflects lower rates of brownfield and greenfield investment and the impact of increased planned maintenance outages deferred from 2020, including that of the Forties Pipeline System in May. Whilst these outages will have a short-term impact on production, there will be a limited impact on overall production levels in the next year.

<sup>2</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1006569/DUKES\\_2021\\_Chapter\\_1\\_Energy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1006569/DUKES_2021_Chapter_1_Energy.pdf)

**Oil:** In the UK, oil is primarily used for transport and manufacturing, including petrochemical needs. In general, UK oil production makes up 0.9 per cent of global output based on 2021 production to date. Oil use in the first four months of the year was down 29 per cent on the same period in 2020. Significantly, there was a 31 per cent reduction in overall transport demand, largely driven by a 70 per cent reduction in aviation as international travel was curtailed.

**Gas:** The UK is one of the largest consumers of gas in Europe, at 44 billion cubic metres<sup>3</sup> per year, most of which primarily supports domestic and industrial heating needs. Gas consumption rebounded in early 2021, up 8.1 per cent compared to Q1 2020. This was largely the result of increased use in electricity generation, where output increased by 19 per cent year on year due to reductions in renewable and coal generation output. Gas accounted for 35 per cent of electricity generation in Q1 2021 and

remains a central part of the electricity system. The flexibility gas brings makes it a critical pillar in the energy landscape and helps complement production from other sources. To offset lower production and higher-than-normal demand for gas generation, gas imports reached a record level in Q1, accounting for 56 per cent of total UK gas supplies.

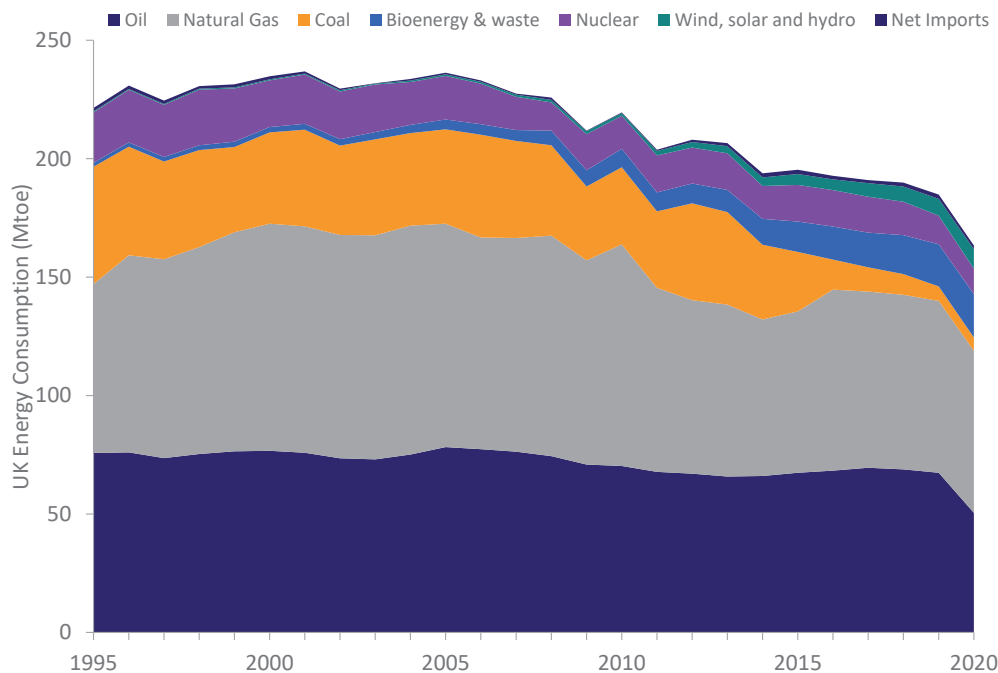
Making the most of indigenous resources helps meet UK demand and contain price growth, providing secure supplies with a lower carbon footprint than imports offer. This will be crucial to avoiding a growing reliance on imports and offshoring of emissions to meet the supply shortfall.

**Renewables:** Whilst we are increasingly electrifying the economy, electricity still only supports around 20.5 per cent of the UK's total primary energy demand. Renewable energy – wind, hydro, solar and biomethane – is the largest contributor to the UK's electricity supply,

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<sup>3</sup> <https://www.gov.uk/government/statistics/gas-section-4-energy-trends>

Figure 3: UK Energy Consumption



Source: BEIS

having grown its percentage share of total electricity significantly over the last two decades, to 41.6 per cent today.

In Q1 2021, total electricity demand was 3 per cent lower compared with the same period last year. Whilst renewable power generation was down 5.6 per cent compared to 2020, largely due to less favourable conditions for wind generation, gas-fired electricity generation rose by 6.8 per cent to help balance supplies.

**Coal:** Coal demand for electricity generation was 30 per cent down in the first quarter of 2021 compared to 2020 (to the lowest first quarter levels on record) as coal-fired generation (2.8 per cent of total electricity generation) continues to be displaced in favour of gas-fired and renewable power. The UK has committed to ceasing coal use by 1 October 2024, through a managed decline in coal-fired electricity generation. Domestic coal production mirrored this, with a 53 per cent reduction largely driven by the closure of Fiddlers Ferry and Aberthaw mines in March 2020.

Despite falling demand, the UK remains reliant on imported coal to meet a supply gap from domestic production. Imports rose by 45 per cent in Q1 2021 compared with the same period in 2020 to fill the remaining demand gap largely within the industrial sector. Coal imports have supported most of the UK's coal supply for the last decades, reaching a peak in 2013.

The replacement of coal-fired generation with gas has been central to the UK cutting its carbon emissions by over 40 per cent since 1990. Continued access to gas generation alongside renewable power will be key to continuing to displace coal whilst ensuring ongoing security of supply. In this context, the UK has successfully avoided scenarios such as those seen currently in the EU, where coal-fired generation is increasing to supplement gas supplies constrained by production challenges.<sup>4</sup>

### Commodity prices and markets

Commodity prices have seen continued recovery from the low levels experienced during the pandemic, with Brent crude prices reaching \$70/barrel by the end of August and gas prices touching 112 pence per therm (p/th). Indeed, prices for the first half of 2021 have averaged 67.41p/th, one of the highest levels ever recorded.

*Oil:* Despite the increase in prices, there is still uncertainty within the supply-demand dynamic as we continue to see subdued oil demand, below pre-pandemic levels, which is directly impacting the recovery in supply. Owing to reduced production, the market is reliant on OPEC+ countries to provide stability through continued production restrictions. The oil price collapse has constrained investment and greater confidence in long term pricing signals will help unlock investment in all types of energy resources including both greenfield and brownfield oil and gas projects. Such a recovery is still likely to be gradual, reflecting the range of pressures which companies continue to face.

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<sup>4</sup>[https://ec.europa.eu/energy/sites/default/files/quarterly\\_report\\_on\\_european\\_gas\\_markets\\_q1\\_2021\\_final.pdf](https://ec.europa.eu/energy/sites/default/files/quarterly_report_on_european_gas_markets_q1_2021_final.pdf)

Figure 4: Brent Oil Price

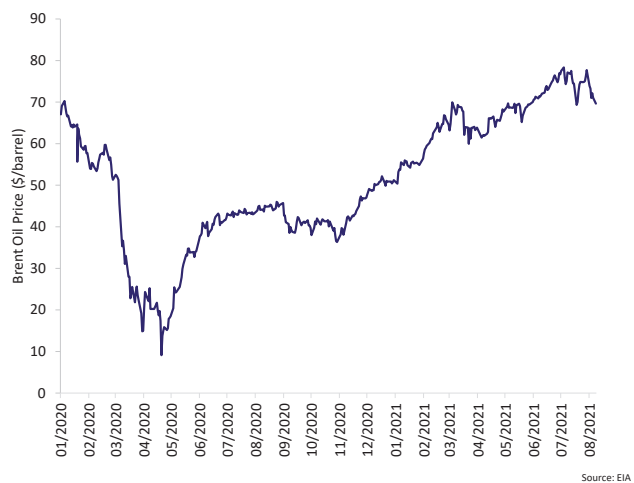
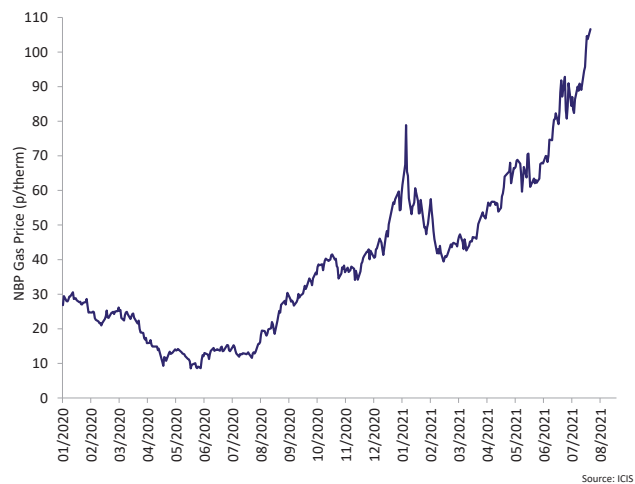
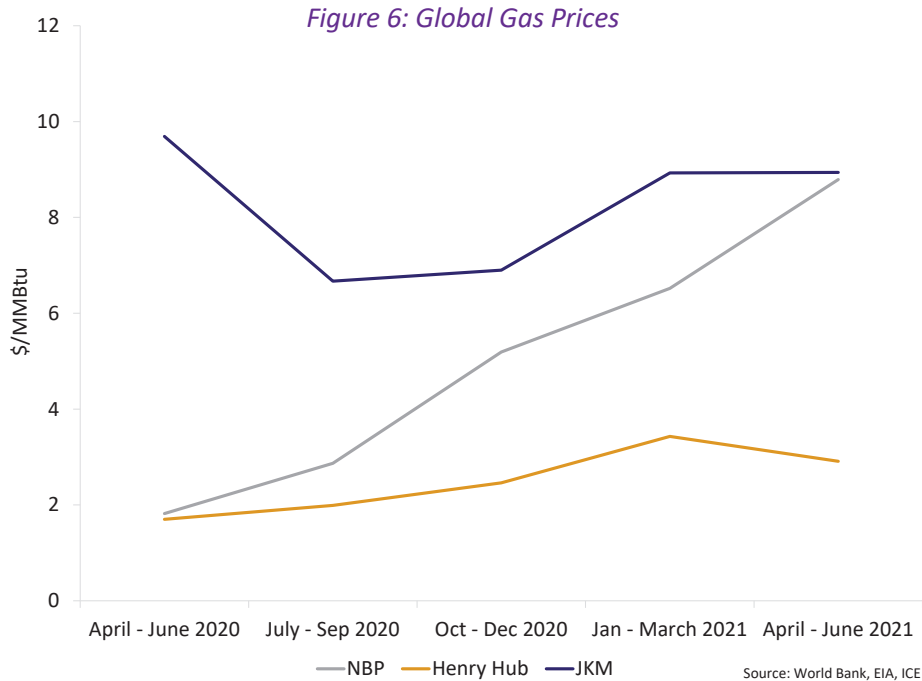


Figure 5: NBP Gas Price





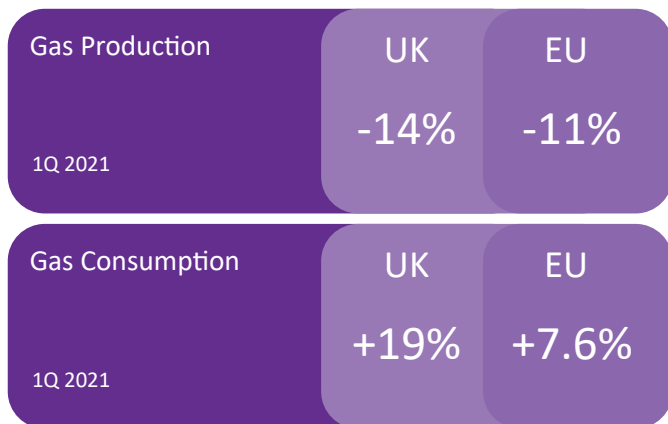


**Gas:** 2021 has seen a notable increase in UK and European gas prices. As well as growth in demand, prices have been driven by the increase in carbon prices now that the EU Emissions Trading Scheme (ETS) has entered Phase IV, alongside the launch of the UK's separate national scheme (UK ETS). Both have led to increased charges for gas in electricity generation and industrial applications, though other influences including the longer winter of 2020–21, decreased production and a rapid uptick in demand, have led to a restricted market.

Reduced production both in the UK and in Europe, along with increased Asian demand due to fuel-switching, are having a significant impact on global gas market dynamics. In the former markets we are

beginning to see structural change and production challenges being priced in accordingly. As a result, UK National Balancing Point (NBP) and Dutch Title Transfer Facility (TTF) prices are beginning to mirror the Japan Korea Marker (JKM). Recently, NBP and TTF prices have increased as rising carbon prices, coupled with supply constraints and changing demand patterns, are all factored into pricing mechanisms.

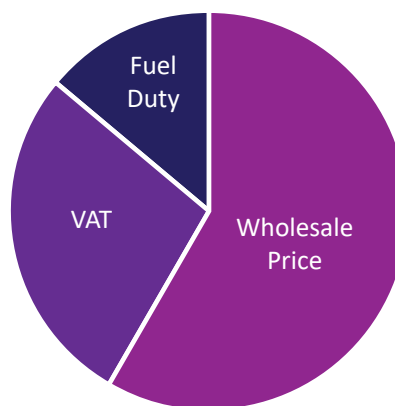
Given current constraints on supply, both in the UK and on the continent, there are serious concerns that wholesale prices will reach record levels and generate cost challenges during the coming winter months. This is already having consequences across the whole value-chain, including electricity prices and household energy



costs, which Ofgem estimates could increase by £135 per household.

Similarly, the UK (and others) are recording some of the highest petrol and diesel prices since 2013. These are largely linked to rising oil prices as well as constraints in domestic and continental production along with refinery output pressures being priced in. Alongside increased carbon prices, these various factors are all affecting the wholesale price of oil. As fuel duty and VAT have remained stable, the pressures within the wholesale market are expected to be borne in terms of cost to the end-user. OGUK anticipates that fuel costs are likely to continue to rise as policy moves towards decarbonising the transport sector and incentivising the use of low-carbon vehicles.

Figure 7: UK Fuel Price Breakdown



# The path to net zero

## Global landscape

The energy landscape is fundamentally changing at both a global and national level. It is widely forecast that energy intensity is beginning to fall globally, despite trends which have historically linked economic growth with higher energy consumption. Indeed, it is expected that the energy intensity of global GDP could drop 40 per cent by 2050.<sup>5</sup> This decoupling of energy and GDP growth will be driven by efficiency gains, technology advancements and fuel switching – trends already being seen here in the UK.

The IEA has forecast that by 2050, total global energy consumption will have fallen by 8 per cent,<sup>6</sup> despite the world's population increasing by over 2 billion people to around 9.6 billion and annual global GDP growth averaging around 2.6 per cent.<sup>7</sup> This will be driven by energy efficiency improvements, the application of new technologies and systemic behavioural changes. The recent Intergovernmental Panel on Climate Change

(IPCC) AR6 report highlights the need for industry, policy leaders and consumers to act now to curb climate change impact and embed the transition to net zero on a global scale. We are already taking action in the UK to respond, in particular the oil and gas industry, as evidenced by the North Sea Transition Deal and Roadmap 2035.

As the IEA and others show, oil and gas production will continue to have an important role to play in the energy ecosystem and will remain the backbone of many hard-to-decarbonise sectors and developing economies. The recent IEA *Net Zero by 2050 Report*<sup>8</sup> outlined one such global pathway to green the entire global energy ecosystem by 2050. The report considered radical changes with global energy supply dominated by renewables by 2050 with carbon capture and hydrogen crucial to decarbonisation. The net zero pathway focussed on supply-side measures and assumed that demand for oil and gas would fall to just over 20 per cent

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<sup>5</sup> <https://www.mckinsey.com/industries/oil-and-gas/our-insights/global-energy-perspective-2021>

<sup>6</sup> <https://www.iea.org/reports/net-zero-by-2050>

<sup>7</sup> <https://www.bp.com/en/global/corporate/energy-economics/energy-outlook/global-backdrop.html>

<sup>8</sup> <https://www.iea.org/reports/net-zero-by-2050>

of primary energy needs in 2050, compared with 80 per cent in 2020.

Whilst the report offers a valuable insight into the opportunities to decarbonise the global energy system, further consideration of the pace of demand side measures will also be needed to balance the supply scenarios. This will be particularly relevant in emerging markets and low- to middle-income economies to ensure all have the same opportunities for growth from which other developed countries have benefitted.

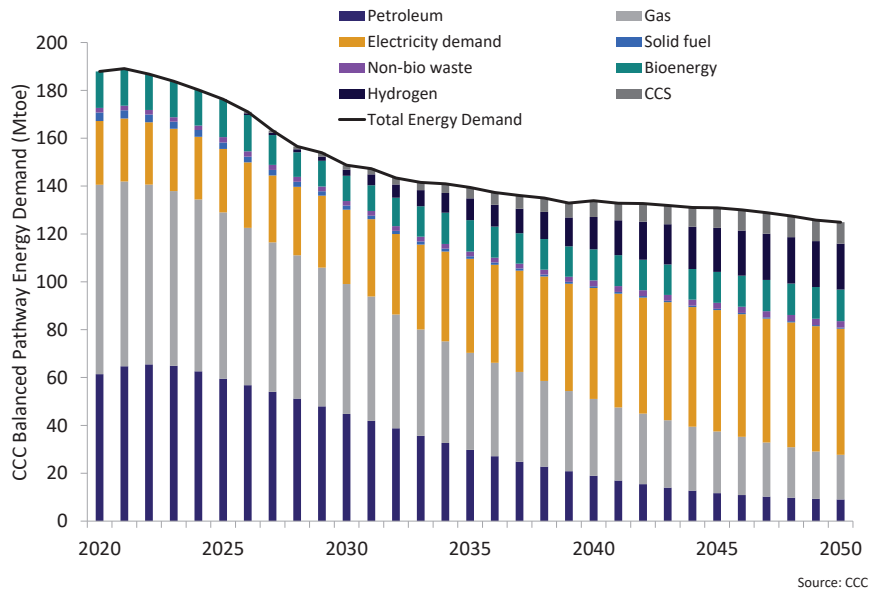
Under one scenario, the IEA assumes that oil and gas needs could be met globally from existing known resources, however this would mean a radical change to the functioning of global oil and gas markets and risks energy security and loss of environmental controls. It could, for example, result in 52 per cent of the global oil supply being controlled by OPEC countries, an increase on the 37 per cent share they currently hold.

The shift in oil supply dynamics could also impact energy security for many countries including the UK, as the

market becomes increasingly monopolised. This reliance becomes exacerbated as certain countries look to stop exploration and production licences without addressing the demand side of the energy market.

OGUK is clear that there is a continued need to invest in new oil and gas developments to ensure security of supply and a strong domestic industry upon which to build the low-carbon energy ecosystem of the future. In the UK, this investment will also help unlock other low carbon energy sources and would include ensuring the full scale of the government's Hydrogen Strategy can be embraced. In line with this, the production of oil and gas must be made lower carbon, including through means such as the electrification of facilities and increasing abatement opportunities. Facilitating the balance between a secure energy supply whilst supporting decarbonisation will be critical to ensure net-zero is achieved in a managed, fair, and efficient manner for all parts of the economy.

Figure 8: CCC Balanced Pathway Energy Demand



## UK landscape

As the UK transitions towards net zero, the projected demand for oil and gas in the UK will decrease as we see low carbon sources displacing demand. However, in its Balanced Net Zero Pathway scenario (a scenario compatible with achieving net zero), the UK Climate Change Committee (CCC) outlines that oil and gas will still be needed to meet around half of total cumulative energy consumption over the next three decades.

Within that scenario, oil and gas are projected to provide around 70 per cent of UK energy over this decade (2020s), around 50 per cent in the next decade (2030s) and around 28 per cent in the 2040s. By 2050, the CCC forecast assumes that demand for oil products falls by 85 per cent – an average yearly decline of 6.1 per

cent – while gas consumption will have fallen by 76 per cent. In the Balanced Net Zero scenario, gas would still be supporting 15 per cent of the energy demand in 2050, albeit decarbonised or otherwise used with a net-zero carbon impact.

As in the global case, it is essential the UK works towards a net-zero energy ecosystem in the most economical, fair, efficient, and environmentally responsible manner. However, restricting supply from the UKCS will do nothing to address demand. Continuing to meet as much of our domestic demand through investment in clean domestic resources minimises net imports whilst controlling environmental standards and supporting jobs and communities across the country.



### CASE STUDY: THREE60 Energy

THREE60 Energy Group is a leading independent energy service company offering complete asset life cycle solutions. The company has not only trebled in size over a four-year period, but also expanded its team and secured several significant new contracts, enabling it to grow operations in key strategic locations around the world including the UK, Norway and Southeast Asia.

In addition, the company secured contracts which saw it become a duty holder on three facilities in the UK and internationally. This success acted as a catalyst for funding, and saw the group secure a seven-figure deal that would aid further global expansion through both organic growth and acquisitions.

A key factor supporting THREE60 Energy's strong position to engage with lenders earlier this year was its range of proprietary digital technology, which is supporting the energy transition.

For example, its Poseidon 4D seismic software has been proven to reduce volumetric uncertainty, highlighting new targets for increased recovery. It typically delivers an estimated 70% reduction in analysis time. Wider adoption of Poseidon across the UKCS could help unlock some of the estimated 2.1 billion barrels remaining in existing fields – enabling oil and gas diversification and the transition to net zero.

Furthermore, the group's ability to provide skills to support renewables projects around the world, in particular offshore wind developments, has positioned it well for growth and investment.



## Making the most of indigenous resources

The UKCS has produced around 46 billion barrels of oil equivalent (boe) over the last five decades and just under 600 million boe in 2020 (around 85 million tonnes of oil and gas equivalent).

In 2020, overall production was 5 per cent lower than in 2019 in large part due to the impact of the pandemic and constraints on activity and investment. This will also influence production in 2021 as deferred maintenance activity including major infrastructure is also addressed.

Even as the UKCS is in long-term natural decline it still has the resources to underpin the supply of oil and gas that the UK will need as it makes the transition to a net-zero carbon future.

The Oil & Gas Authority (OGA) estimates that remaining UK recoverable petroleum resources are in the range of 10–20 billion boe, including both discovered and undiscovered petroleum resources as at the end of 2019. Oil and gas reserves as at the end of 2019 were 5.2 billion boe, with contingent resources in producing fields and proposed new developments of 3.8 billion boe and 3.5 billion boe in marginal discoveries. In

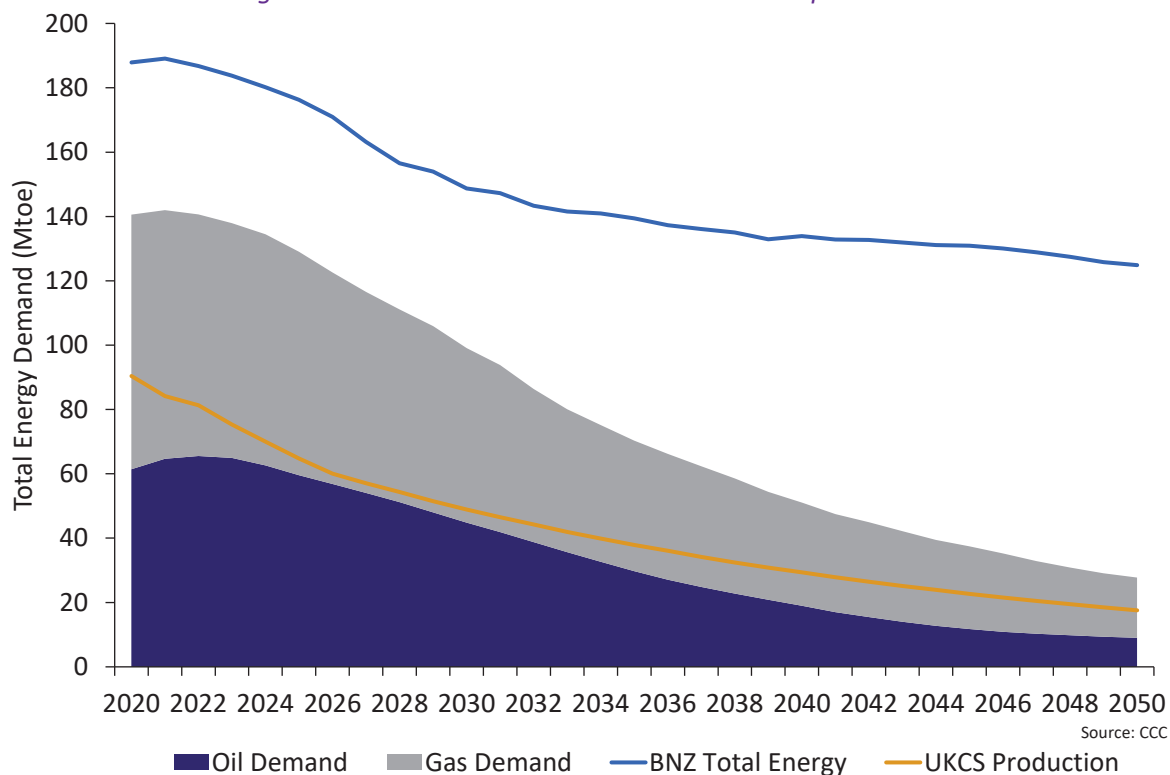
addition, exploration potential from prospects and leads was estimated at 4.1 billion boe with an additional 11.2 billion boe in plays across the UKCS, all based on mean prospective assessments. Against projected global demand and supply this is comparatively small, but the continued exploration and development of these resources is critical to prevent overreliance on imported energy.

Looking forward, oil and gas will continue to feature as important components within the energy mix.

Over the next three decades to 2050, as the work of the CCC demonstrates, oil and gas will provide just over half of the cumulative energy needs in the UK, albeit declining over the period. Given this, the UK should ensure that it continues to meet as much of domestic demand as possible from UK resources and as cleanly as possible whilst benefitting the wider economy.

In its Balanced Net Zero Pathway, the CCC estimates that the UK will consume 18.3 billion boe of oil and gas over the next three decades, with around 8.5 billion boe (45 per cent) of this demand forecast to be met by

Figure 9: UK Oil and Gas Production and Consumption Forecast



ongoing production from the UKCS.

These projections for oil and gas supply from the UKCS are wholly consistent with the UK’s net zero plans and already reflect ongoing development of reserves and resources and anticipated exploration activity on the UKCS in support of projected demand.

The UK’s existing connected reserves alone will not meet expectations on domestic supply in the years to come. Continued development of existing discoveries has been fully accounted for in the CCC’s scenarios and

framework which progressively deliver net zero in 2050. This continued activity not only supports the energy transition but also allows the UK to set environmental standards, reduces reliance on imports and sustains jobs and skills in years to come.

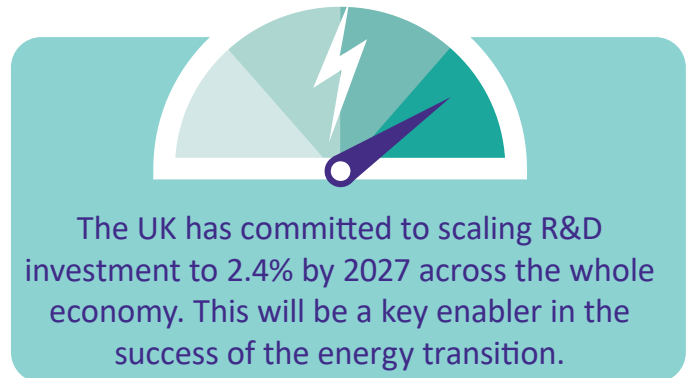
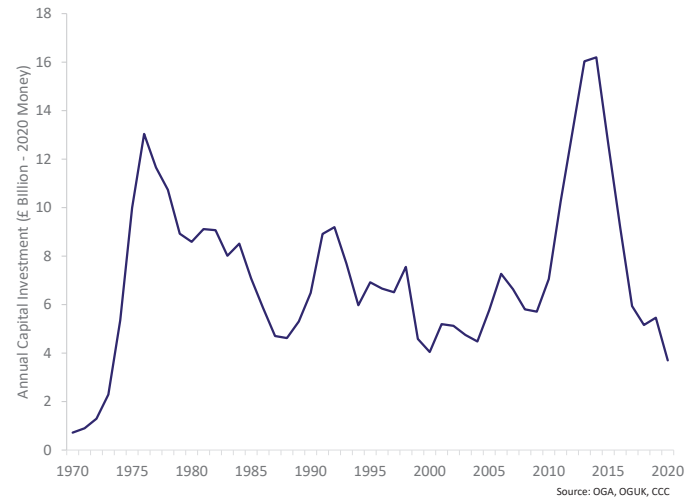
Even with sustained ongoing exploration and development activity from the UKCS, it is still estimated that the UK will import 36 per cent of its oil and 63 per cent of its gas requirements in 2050.

# Building sustainable investment in UK energy

Activity arising from oil and gas production, coupled with the export of related goods and services, continues to make a substantial contribution to the wider UK economy, with benefits delivered across the UK. In 2021, the oil and gas sector is estimated to support £31.1 billion of gross value added (GVA), amounting to £17.9 billion direct, £25.5 billion indirect and £5.6 billion induced, or 1.7 per cent of the UK total. This means that every £1 million spent by the oil and gas sector is estimated to support around £2.5 million of activity in other parts of the economy. Additionally, the UK energy services sector is a major exporter of oilfield goods and services and is valued at £60 billion over the last five years (prior to the pandemic).

OGUK estimates that in the region of £3 billion was taken out of E&P company plans for 2020–21 as the sector responded to the widespread challenges posed by COVID-19. The fragility of the market over the last year has had an impact on investor confidence and it will take time and sustained higher commodity prices to generate the confidence needed to unlock capital.

Figure 10: UKCS Capital Investment



Whilst the UKCS saw a sharp tail-off in activity through the pandemic, and is only now beginning to recover, the negative impact on the Norwegian Continental Shelf (NCS) has been minimal, with the maintenance of pre-pandemic rates of investment and production. This has been achieved through a package of focused fiscal measures which enabled companies to continue to invest and progress opportunities conducive to the long-term future of the NCS. Although similar fiscal measures have previously been implemented on the UKCS, they have been more impactful in a Norwegian context.

### Supply chain and the recovery

The impact of the oil and gas price crash last year added further pressure to the supply chain companies servicing the oil and gas sector. This was felt particularly sharply because many companies entered 2020 still fragile from dealing with the challenges of the previous downturn that they were just starting to emerge from. During the last 18 months companies have had to make hard choices, in

many cases reducing their workforce to align with the business outlook. However there are now some tentative signs to suggest that activity levels may be starting to slowly pick up.

As the industry recovers, margins must be sufficient to allow innovation to flourish and support companies to move into the opportunities offered by the energy transition.

Increasingly in recent years we have seen oil and gas supply chain companies diversify their businesses to meet the new opportunities offered by the energy transition. The rate of diversification has continued through the pandemic. The capabilities developed in design, construction and operations, as well as project management (both onshore and offshore) are equally applicable in CCUS, hydrogen and offshore wind, particularly floating wind. Many companies investing and operating on the UKCS are also entering these other energy markets, and indeed, last year 85 per cent of OGUK supply chain members surveyed expected to increase their diversification efforts in the coming years.



As governments continue to progress and support the path to net zero, it is anticipated this repositioning will only grow. The energy supply chain continues to have a unique opportunity to capitalise on the growing energy market, pivoting from purely oil and gas production to maximise wider energy system opportunities. This is an important step that needs to continue, as the energy supply chain will continue to be global leaders in developing technologies that will be an important driver in overcoming technology barriers. It is therefore crucial that we build back a strong base from which to pivot into new energy opportunities – and at pace. The NSTD highlights a number of key areas of opportunity and the integrated approach needed to do this.

### Capital investment on the UKCS

Around £390 billion of capital has been invested on the UKCS over the last 50 years (2020 prices), enabling the production of 46 billion boe of oil and gas. Over £100 billion of this has been invested since 2010, although investment levels have generally been in decline since the middle of the previous decade, on the back of record investment levels and following the price downturn between 2014–17. That trend has manifested particularly over the past 18 months as a result of COVID-19 and the collapse in oil price. This led to only £3.7 billion being invested in 2020 – the lowest level in real terms since 1973 – and a reduction of around one-third compared with 2019 (almost £5.5 billion). The contraction in investment seen by the UK’s oil and gas industry has been larger than that seen across the sector globally, which Rystad Energy estimates shrank by 27 per cent last year. It is also greater than that seen by other sectors of the UK economy; for example, overall UK business investment in early 2020 fell by 17 per cent compared with before the pandemic.<sup>9</sup>

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<sup>9</sup> <https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/businessinvestment/januarytomarch2021revisedresults>

**£21**  
bn

£21bn of capital in company plans from 2021–25 – 75% brownfield projects, 25% greenfield

**£14.5**  
bn

£14.5bn of investments yet to be sanctioned

**2/3**  
Brownfield

Brownfield is the area of greatest opportunity – representing 2/3 of unsanctioned activity

**50%**

Half of CAPEX opportunity is in wells activities, 2/3 of which is unsanctioned and brownfield

**£9.5**  
bn

£9.5 bn opportunities in facilities investment – most of which is greenfield work

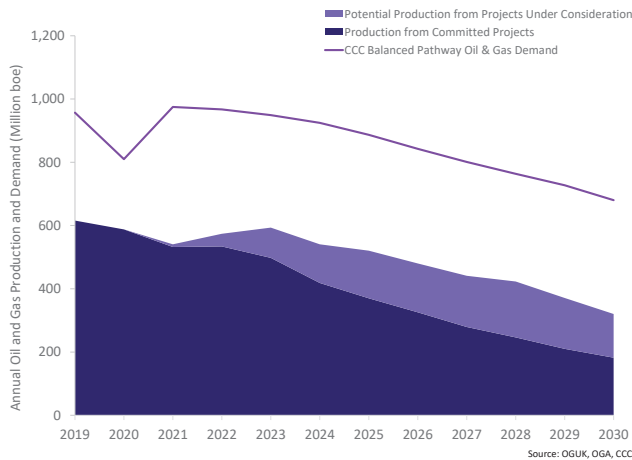
**£2**  
bn

There is also an estimated £2bn in OPEX opportunity within these unsanctioned projects

OGUK has visibility of around £21 billion of potential capital within E&P plans between 2021–25 which would unlock 2.7 billion boe over the production period, however less than one-third of this (£6.6 billion) has been fully committed by companies. In a no-further-investment case, total capital could fall to less than £1 billion per year by the middle of the decade. Such a scenario would lead to the UK providing less than one-third of the CCC Balanced Net Zero Pathway demand for oil and gas (a net-zero aligned forecast) by 2027. This would see the UK’s reliance on imports grow to supplement the demand gap, damaging the economy and reducing energy security. It would also limit the energy service’s export opportunity which is currently valued at just less than half of company oil and gas turnover recorded in 2019.<sup>10</sup>

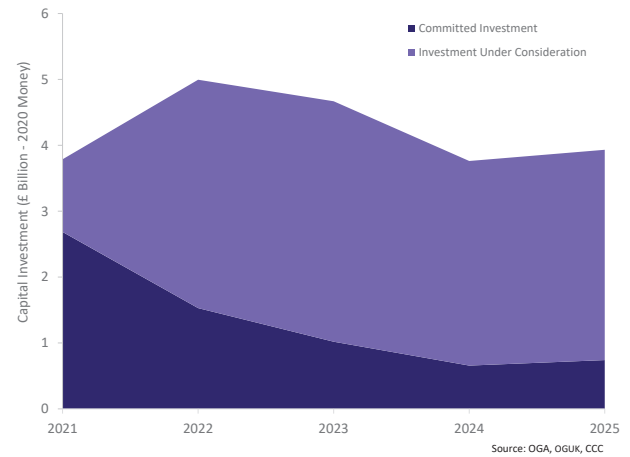
<sup>10</sup>[https://assets.ey.com/content/dam/ey-sites/ey-com/en\\_uk/topics/energy-resources/how-accelerating-energy-transition-will-shape-the-industry/ey-uk-energy-services-overview.pdf](https://assets.ey.com/content/dam/ey-sites/ey-com/en_uk/topics/energy-resources/how-accelerating-energy-transition-will-shape-the-industry/ey-uk-energy-services-overview.pdf)

Figure 11: UKCS Production and Demand

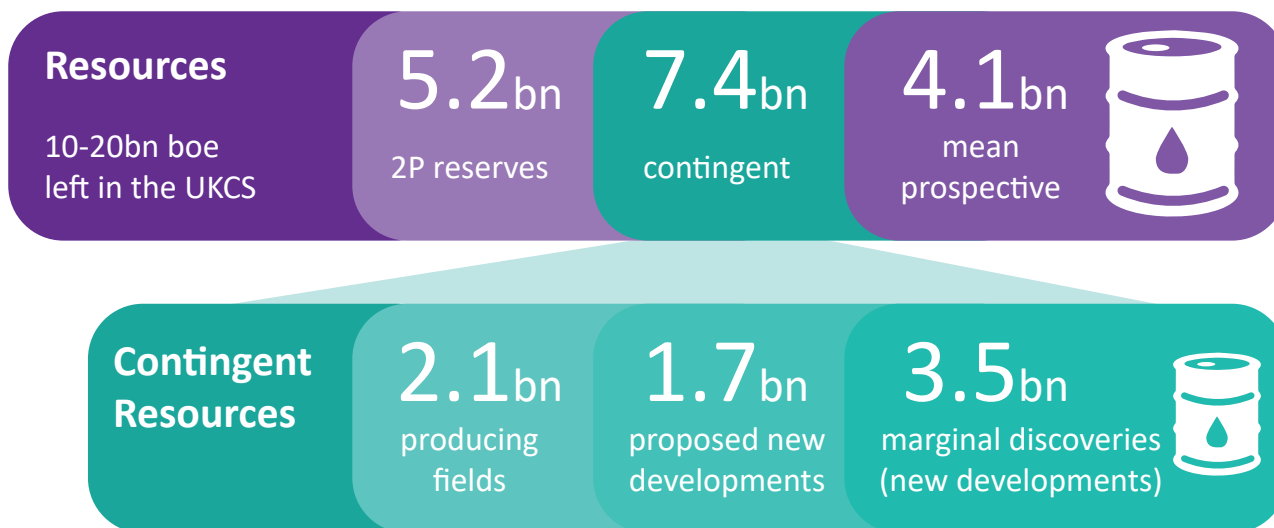


Progression of these investments provides the opportunity to maintain the proportion of domestic oil and gas demand met by domestic resources. A loss of investment would result in the UK becoming increasingly reliant on international sources of oil and gas, without having any impact on levels of consumption.

Figure 12: UKCS Committed and Non-Committed Investment



The UK must continue to offer a robust economic proposition to attract and retain both investors and companies, as many will make an important net zero contribution whilst helping to ensure stability of supply throughout the transition.



Source: OGA

## Exploration

Ongoing exploration for new resources will play an important role in reducing reliance on net energy imports whilst helping to underpin the transition. Through the North Sea Transition Deal, the industry will ensure all exploration and production and industry activities will meet the NSTD framework of 50 per cent emission reductions by 2030, 90 per cent by 2040 and net zero by 2050. This coupled with the application of the proposed Climate Compatibility Checkpoint (see overleaf), specifically

for exploration, provides the opportunity to demonstrate alignment with net-zero targets whilst providing the resources the UK will continue to need on its journey to a net-zero future.

As previously noted, the CCC in its Balanced Net Zero Pathway estimates that the UK will consume 18.3 billion boe of oil and gas over the next three decades with around 8.5 billion boe (45 per cent) of this demand currently forecast to be met by ongoing production from the UKCS. Current reserves will only

provide 5.2 billion boe, illustrating the need for ongoing investment both in the maturation of contingent resources and from continued exploration where prospects and leads offer an additional 4.1 billion boe of resources on a mean basis.

Exploration on the UKCS can develop resources in an efficient and lower carbon manner, benefiting the UK's wider carbon footprint. This is largely helped by the fact much of this exploration potential is close to existing infrastructure. Currently, there are 76 production hubs either producing or under development, and they form a key driver for exploration campaigns on the UKCS. Without continued activity the number of hubs will dramatically reduce over the next decade, to just 39, which could lead to assets becoming stranded as future opportunities are deemed too small to be carried out as single campaigns. There are several examples whereby existing infrastructure has had its life cycle extended by decades, as in the cases of Magnus and the Forties pipeline, due to the option of continued step-out development. Maximising this infrastructure will be key

to providing affordable energy whilst preserving key infrastructure for future low-carbon needs such as CCUS. Similarly, as we continue to progress CCUS opportunities, it is clear we will require continued exploration to identify reservoirs and opportunities within the rich natural resources of the UKCS.

### Updated OGA Strategy and Climate Compatibility Checkpoint

Over the past 18 months, there have been significant changes to the UK's oil and gas regulatory regime implemented by the OGA. Maximising Economic Recovery (MER UK) is no longer the sole focus of the UK's hydrocarbons strategy. The revised Strategy from the OGA places a range of stringent net zero obligations on the UK oil and gas industry. Alongside the new OGA Strategy, the proposed Climate Compatibility Checkpoint for exploration provides an effective balance focussing on the net zero objective whilst addressing the associated policy objectives of an affordable and diverse energy supply.

The Checkpoint must be implemented in a consistent, sustainable and fit-for-purpose way to ensure ongoing investor confidence as companies transition into new opportunities. This will ensure we can continue to meet the UK's energy needs in a manner compatible with actions to combat climate change. As the UK unlocks the exploration potential offered by the UKCS, it will all be within the Climate Compatibility Checkpoints being put in place and the CCC and OGA estimate for production and emissions.

**80%****UKCS Production Efficiency  
maintained at 80% in 2020****£11  
barrel****Operating Costs – £11/barrel****£1.40  
barrel****Finding Costs – £1.40/barrel****95%****95% of prospects in the UKCS are within  
45km of a hub currently in production or  
coming online within the next 10 years**

Source: OGUK, Westwood

## Investing in the transition

The UK's oil and gas sector continues to offer an attractive proposition to a wide range of investors, illustrated by the more than £15 billion in transactions on the UKCS completed over the last three years, including several new entrants. Companies continue to be attracted to the UK due to the range of prospects available, access to infrastructure, competitive operating costs and a predictable regulatory regime. Similarly, the competitive energy supply chain that has been active on the UKCS for the last five decades provides innovative and well-established technologies and management to maximise efficient production. The UK is also leading the response by the oil and gas industry to embrace the energy transition through the ground-breaking North Sea Transition Deal, demonstrating the industry's commitment to invest in and deliver a net-zero future at pace.

In current times, investors and stakeholders are increasingly looking at a far wider range of non-financial

disclosures from businesses with respect to their alignment with environmental, social and governance (ESG) factors, and in parallel with company profitability. Through the North Sea Transition Deal, the industry is able to demonstrate the action it is taking on the UKCS to meet demanding emission reduction targets and invest in wider emissions reduction technologies that the UK will require. Performance and investment plans will be transparently monitored to ensure targets are being met and companies' environmental and net zero objectives are aligned.

It is key that the UK continues to offer a robust economic proposition for investors that aligns with investors' expectations on ESG. This will ensure that investment across the energy sector is future-proof and consistent with the new energy landscape, providing energy security whilst unlocking future net zero projects.

### CASE STUDY: Proserv

Proserv's technology ethos has always been based around improving efficiencies, maximising performance and extending the life and reliability of key equipment.

That means using its coexistence capabilities on subsea control systems to refurbish existing infrastructure, avoiding the waste and environmental impact of full system replacements. Proserv's asset enhancement solutions enable it to monitor real-time operations out in the field, helping to optimise processes and prevent excess energy and fluid use.

Equally, the company has always had clear commitments to following best practice regarding its people, their development and how the company conducts business. But leadership recognised the company needed to do more to address its own operations to bring them in line with this technological philosophy and reflect the global responsibility towards protecting the environment. So, Proserv set about devising a range of obligations and goals in a new ESG policy.

Building an environmental roadmap required pooling the combined knowledge across the group's functions and sites, and almost 40 team members stepped forward to steer this project. The work involved analysing efficiencies around the globe and how they could be improved.

The outcome from this evaluation is that Proserv now has an aspirational, yet achievable, target for reducing its carbon footprint. Proserv is committed to becoming a carbon net zero company by 2050 or sooner.

This policy has recently been published on Proserv's website.





## Growing stakeholder expectations

There is a growing range of expectations regarding non-financial disclosures which the industry supports. As with all emerging regulation, it will need to be managed carefully to ensure it collectively achieves the desired outcomes in the simplest and least disruptive manner. Streamlining of reporting obligations will encourage efficient capital allocation towards activities deemed consistent with long-term ESG expectations.

A key challenge to address will be to assimilate the reporting requirements placed on companies and across the value chain with regards to Scope 1–3 emissions. Stakeholder appetite is fundamentally changing how investments are appraised, which can be to the benefit of all if done carefully. However, improving reporting is not without its challenges. For example, meeting user expectations could require oil and gas companies to engage across their entire value chain to satisfy capital provider and stakeholder requirements. In this context, it is important that any regulatory or reporting measures

are put in place to maintain the objective of bringing market clarity through carbon accounting, rather than becoming a regulatory burden. Industry will continue to respond sensitively to stakeholder and shareholder expectations.

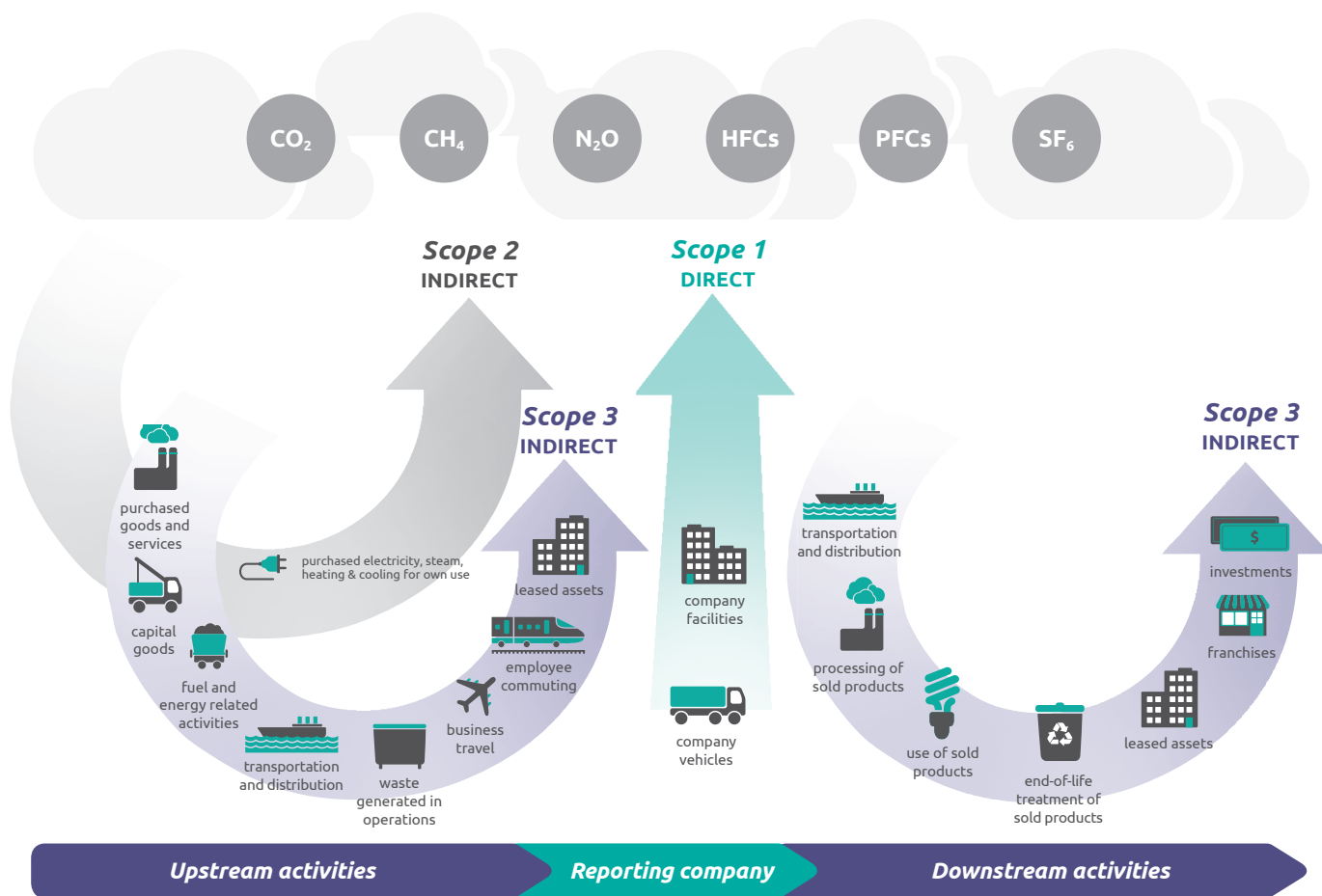
OGUK expects this trend to continue over the next decade as climate and environmental and social policies are embedded into the market through initiatives including the Taskforce on Climate-Related Financial Disclosures (TCFD), Taskforce on Nature-based financial disclosures (TNFD), and Green Taxonomies. Recognising this, OGUK has established a new work stream to positively position the industry to meet appropriate ESG criteria.

Both operator and supply chain companies on the UKCS are already leading the way on climate disclosures and this trend looks set to continue as energy companies continue to place themselves at the forefront of reporting.<sup>11</sup>

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<sup>11</sup> <https://www.fsb.org/2020/10/2020-status-report-task-force-on-climate-related-financial-disclosures/>

Figure 13: Understanding Scope 1–3 Emissions



Source: GHG Protocol

### CASE STUDY: ASCO

The world is changing at a fast pace, as we adopt new technologies, new regulations and a rising interest in reducing our environmental impact. Logistics and materials management group, ASCO is committed to becoming responsible custodians of our human, financial and natural capital, supporting the energy transition and protecting our planet by aiming to reduce its environmental impact and shape a low-carbon supply chain. The company commits to becoming a net-zero greenhouse gas emissions business by the end of 2040.



At the end of 2020, ASCO established “Sustainability” as one of its core obsessions along with Safety Excellence and Service Excellence, and will now assess all its operations under a sustainable framework, the ASCO Environmental Sustainability Policy. This recognises the environmental impact of operational activities and sets out a commitment to ensure that ASCO can effectively control, reduce and/or mitigate this impact. In doing so, ASCO was delighted to see a positive level of engagement and a great uptake from its staff, as well as partners and clients.

This transition is well under way, evidenced by the digitalisation and installation of shore power in some supply bases in Norway, the introduction of electric forklifts, alternative fuel trials and the launch of a new Operational Control Centre in Dyce, UK, to streamline operations and thus reduce emissions. There are further opportunities to maximise value throughout the supply chain and across value chains, benefiting from transferable skills and capabilities.

This requires transparency, close collaboration and trust with clients and partners to understand their current and future needs, working together in new business models and aligning strategies. ASCO strongly believes working together on these challenges will provide a better chance of success. The energy transition will undoubtedly bring exciting opportunities and the whole sector needs to work together to maximise them.



# The North Sea Transition Deal

The North Sea Transition Deal (NSTD), the first by a G7 country, will accelerate the energy transition, reduce UK emissions, and create new jobs across the UK.

The Deal represents an agreement between the UK government and industry to help deliver a net zero future as rapidly as possible, making the best use of the UK's own resources to provide clean energy and enabling the UK's energy supply chain to unlock a low carbon future, supporting communities and accelerating employment opportunities through the transition.

The OGA shows the true potential of the North Sea which will help decarbonise up to 60 per cent of the UK economy through a combination of providing cleaner oil and gas, and development of renewable and new energy capabilities (floating wind, electricity networks, CCS and hydrogen) on the pathway to net zero.<sup>12</sup>

The Deal sets ambitious targets to reduce the emissions from the production of oil and gas on the UKCS, which will be halved by 2030 and cut by 90 per cent by 2040.

The NSTD also sets out how the sector will contribute to the decarbonisation of the wider economy, in particular through the investment of billions of pounds in CCUS infrastructure and the production of hydrogen which has a vital role as a substitute for some existing uses of oil and gas in the economy.

Over the period to 2030 the Deal is expected to deliver £14–16 billion of additional investment into driving decarbonisation through the UKCS, on top of that required to meet ongoing oil and gas demand. Around 40,000 incremental jobs will result from this investment. This is expected to go some way to offsetting the expected reductions as the basin matures and thereby contributing to a fair and managed transition for the sector. These jobs will be across construction, operations and the supply chain and there is an aspiration to achieve 50 per cent UK content over the lifecycle of all related new energy projects, including 30 per cent locally provided technology content.

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<sup>12</sup> <https://www.ogauthority.co.uk/news-publications/publications/2020/ukcs-energy-integration-final-report/>



*The UK North Sea Transition Deal, the first by a G7 country, will accelerate the energy transition, reduce UK emissions, and create new jobs across the UK*

The Deal will require an internationally competitive and level playing field as part of a broader energy framework

**Supply decarbonisation**

*cutting upstream Oil and Gas industry emissions through an ambitious production emissions reduction programme*



**Carbon Capture & Storage**

*enabling large parts of UK industry and society to eliminate emissions*



**Hydrogen**

*providing a realistic alternative for heating, heavy industry, and transport*



Infrastructure delivery will be made reality through capability-related commitments that underpin the growth of the UK economy

**Supply chain transformation**

*developing expertise that underpins energy-sector wide export growth from the UK, creating a globally competitive energy supply chain of international repute*



**People & Skills**

*securing, stimulating, and creating tens of thousands of high quality jobs in industrial heartlands*



The rate of change to fully decarbonise the UK economy is only accelerating as we continue to unlock low carbon technologies and scale projects. At the core of the transition is managing both energy supply and demand fundamentals through robust supply and consumer step changes. Net zero and continued oil and gas production are intrinsically linked and will be the backbone of the future energy ecosystem. As we look ahead towards COP26, it is important that we continue to see the pace of policy decision and support of investment needed to ensure a successful transition.

The NSTD provides for a transitioning future for the UKCS, consistent with the net zero objectives of the government and wider society. This includes both the diversification into important new activities offshore, such as renewables and carbon capture and storage, and the ongoing production of oil and gas with consistently lower Scope 1 emissions. Industry continues to work with government and the OGA to realise and implement the commitments of the deal, including submissions to funding events.



Learn more about the  
North Sea Transition Deal  
and the work of OGUK



[www.oguk.org.uk/nstd](http://www.oguk.org.uk/nstd)

OGUK will publish its  
*Energy Transition Outlook*  
in Q3 2021







# Glossary

Boe(pd)	Barrel of oil equivalent (per day)
Break-Even Costs	The level required for a development to be cash-neutral, covering the cost of developing and operating a field
Brownfield	An oil or gas field already in production
CCUS	Carbon, capture, usage and storage
Contingent Resources	Volumes which are potentially recoverable, but not yet mature enough for development
CoP	Cessation of production
DRD	Decommissioning Relief Deed
EBITDA	Earnings before interest, taxes, depreciation, and amortization
FID	Final Investment Decision
Greenfield	An oil or gas development not yet in production
M&A	Mergers and acquisitions
Mtoe	Million tonnes of oil equivalent
NSTD	North Sea Transition Deal
OGA	Oil and Gas Authority
OPEC	The Organization of the Petroleum Exporting Countries

OSPAR	The Oslo and Paris convention is the Convention for the Protection of the Marine Environment of the North-East Atlantic
Production Efficiency	The total annual production divided by the maximum production potential of a field
p/th	Pence per therm (for gas)
Prospective Resources	Volumes which are yet to be discovered
Reserves	<p>Volumes which are discovered, commercial and within fields in production or under development. These can be further categorised as:</p> <ul style="list-style-type: none"> <li>• 1P reserves: proven reserves (both proved developed reserves + proved undeveloped reserves).</li> <li>• 2P reserves: 1P (proven reserves) + probable reserves, i.e. “proven AND probable”</li> <li>• 3P reserves: the sum of 2P (proven reserves + probable reserves) + possible reserves, i.e. “proven AND probable AND possible”</li> </ul>
TTH	Transferable Tax History
UKCS	UK Continental Shelf
UDC	Unit development costs
UOC	Unit operating costs

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