



Watershed

THE TURNING POINT FOR NORTH SEA
OIL AND THE JUST TRANSITION



Friends of the Earth Scotland (FoES) campaigns for socially just solutions to environmental problems and to create a green economy: for a world where everyone can enjoy a healthy environment and a fair share of the earth's resources. Climate change is the greatest threat to this aim, which is why FoES is calling for a just transition to a 100% renewable Scotland through a well-managed phase-out of oil and gas production in the UK.

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Oil Change International (OCI) is a research, communications, and advocacy organization focused on exposing the true costs of fossil fuels and facilitating the ongoing transition to clean energy.

www.priceofoil.org

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Executive Summary

UK law requires every last drop of oil and gas that can be extracted profitably to be recovered from the North Sea, thanks to the principle of ‘maximising economic recovery’ (MER). Despite declaring a climate emergency, the Scottish Government’s policy remains to support MER – even though MER is incompatible with Scotland’s climate obligations and limiting warming to 1.5°C.

The implementation of MER by the Oil and Gas Authority (OGA) obliges petroleum licence holders, operators, infrastructure owners and developers to maximise recovery of UK oil and gas. Once the OGA has issued a licence – which will last around 30 years – all the oil and gas that can be extracted from it, must be extracted.

Recently, the UK Government’s net zero goals have been tacked on to its MER objective, by suggesting the industry reduce its emissions from extracting oil and gas. This ignores the 30 times greater emissions that come from burning it. The interpretation of MER also takes an irrationally narrow view of ‘economic’, focusing on what’s profitable for oil companies and ignoring many of the costs, from vast public subsidies to the consequences of the climate crisis itself. This is now the subject of a legal case against the UK Government.

The Scottish Energy Strategy boasts of up to 20 billion barrels remaining in the North Sea, and expresses the Scottish Government’s support for MER and for new exploration. However, as we reported in 2019, the CO₂ emissions from the oil and gas in the UK’s already-operating fields will exceed the UK’s fair share under the Paris Agreement.

Yet new research shows that in the last two years, another 0.8 billion barrels have come online, with developed reserves rising to 6.55 billion barrels.

The International Energy Agency has said that to reach net zero by 2050 and limit warming to 1.5°C, no new oil and gas fields can be approved for development. The UN has warned that governments are planning to produce twice as much fossil fuels by 2030 as is compatible with 1.5°C.

The Scottish Government now says that its support for North Sea oil and gas exploration and production is conditional on an increased net zero investment, with a strong emphasis on developing carbon capture and storage (CCS). This technology has been promoted by the fossil fuel industry for decades, as the future fix that justifies its business model continuing. Yet CCS projects have largely failed to materialise, despite billions of public investment, and expectations of it have been

downgraded. Meanwhile, renewable energy has progressed faster than expected: in the UK, it is already cheaper to generate a unit of electricity using wind or solar than using natural gas.

As a result of the prohibitive costs of CCS, the only two CCS power plants in the world both rely on revenue from Enhanced Oil Recovery, which uses the carbon captured to extract previously unreachable oil, increasing overall emissions. What’s more, the Tyndall Centre for Climate Change Research has found that significant CCS in the energy sector cannot be expected until at least the 2030s, while the IPCC’s Sixth Assessment Report confirms that it is the crucial next decade – our cumulative emissions each year up to 2030 – that will determine if we stay within 1.5°C. Gambling on CCS cannot stop climate chaos.

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Executive Summary

The First Minister claims that early closure of North Sea production would lead to increased imports of more carbon intensive fossil fuels, but this ‘carbon leakage’ argument does not hold water. To begin with, justice and equity require that wealthier countries with higher capacity to support the transition and lower dependence on fossil fuel production – like the UK – phase it out more rapidly.

Additionally, support for the fossil fuel industry – including for CCS – comes at the expense of renewable energy, effectively slowing down the shift to meeting Scotland’s demand with renewable sources. This argument also ignores efforts to reduce demand and increase energy efficiency, and forgets the abysmal record of UK North Sea oil companies at tackling preventable emissions.

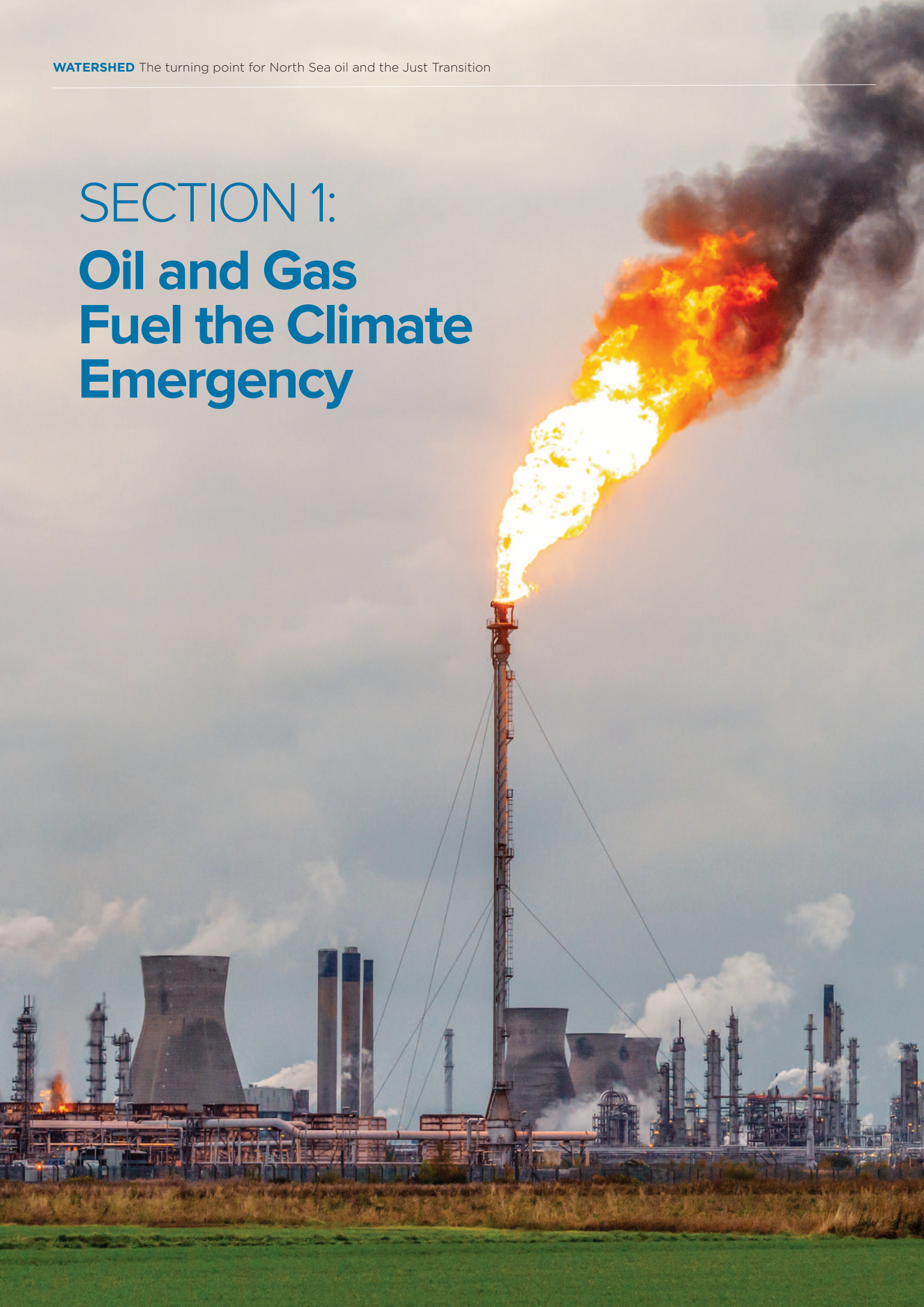
Finally, investment in fossil fuel infrastructure now locks us into oil and gas for decades, pushing the UK closer to a ‘deferred collapse’, whereby delayed action and worsening climate impacts forces a sudden and chaotic shutdown, pushing many workers out of work in a short space of time.

To keep within 1.5°C, in line with equity and climate justice, Scotland needs a just phase-out policy for oil and gas extraction, based on a managed winding down of production in this decade, shaped by affected workers and communities to ensure a just transition, and leaving some of the 6.55 billion barrels in the ground. Given the right policies, a just transition can generate more than three jobs in clean industries for every North Sea oil job at risk. The barriers are not technical, they’re political.

A rational, precautionary and cost-effective approach requires the Scottish Government to end its support for MER, and urge the UK Government to do the same, while redirecting financial support from fossil fuels and CCS to a just transition to a fully renewable Scotland.

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SECTION 1: Oil and Gas Fuel the Climate Emergency



Climate change impacts are worsening around the world, with communities and habitats increasingly ravaged by wildfires, floods, droughts and heatwaves

The 2015 Paris Agreement is a legally binding treaty to limit global warming to well below 2°C and pursue efforts to limit it to 1.5°C.¹ Action to deliver on these commitments, however, lags far behind what is needed.

Warming has already exceeded 1°C, and the UN Emissions Gap report warns that the world is on track to reach 3°C of warming by the end of the century.² Climate change impacts are worsening around the world, with communities and habitats increasingly ravaged by wildfires, floods, droughts and heatwaves.

In August 2021, the UN Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report gave the world a stark warning: climate

change is widespread, rapid, and intensifying, and only rapid and drastic reductions in greenhouse gases in this decade can prevent us surpassing 1.5°C, which would bring even more widespread devastation and extreme weather.³

UN Secretary General Antonio Guterres responded that this report “must sound a death knell for coal and fossil fuels, before they destroy our planet... Countries should end all new fossil fuel exploration and production”.⁴ Fossil fuels are the key driver of the climate crisis: continued efforts to extract new oil and gas are incompatible with tackling the climate emergency.

1.1 IEA says no new oil and gas

In May 2021, the International Energy Agency (IEA) – the world's most influential energy forecaster – produced a roadmap for the global energy sector to reach net zero by 2050.⁵ The roadmap marks the first time the IEA has attempted to take the Paris Agreement goal of limiting warming to 1.5°C into its energy projections.

One of the essential conditions for the energy sector, it found, is “a huge decline in the use of fossil fuels”, stating that “there is no need for investment in new fossil fuel supply in our net zero pathway”. They add that there should be “no new oil and gas fields approved for development”. A rapid drop in demand for oil and gas means that no further

fossil fuel exploration is required, nor any new oil or gas fields beyond those already under development.

According to the principle of common but differentiated responsibilities enshrined in the Paris Agreement, wealthy countries like the UK with high historic carbon emissions should cut emissions much faster than the global average. Given that the IEA's roadmap relies heavily on the future deployment of uncertain and costly large-scale CCS (see Section 2.6), a rational and precautionary approach that respects the principles of climate justice requires that the UK do much more than this.⁶

Wealthy countries with high historic emissions and low economic dependence on oil revenues, such as the UK, should phase out extraction faster than the countries for which it would be much harder.

Thus, not only must there be no new licences issued, but undeveloped licences need to be revoked and some already-producing or under-development fields will have to close before all the oil and gas within them has been extracted.



1.2 UN warns that governments must wind down fossil fuel production

The UN Production Gap Report report measures the gap between Paris Agreement goals and countries' planned and projected production of coal, oil, and gas. The 2020 Production Gap report⁷ warned that “due to the disconnect between climate and energy planning”, governments around the world are planning to produce more than twice the amount of fossil fuels by 2030 than is compatible with limiting warming to 1.5°C. To limit warming to 1.5°C, it says, global fossil fuel production must decrease by around 6% per year from 2020 to 2030.

An equitable phase-out, however, requires that wealthy countries like the UK, which are less dependent on fossil fuel production and have a higher capacity to support a just transition, act more rapidly (see 2.7). However, the report warns that countries are planning an average annual increase of 2%, despite the fact that continued production of fossil fuels at current levels, let alone increases envisioned by governments like the UK, “is at odds with a climate-safe future”.

The 2020 UN Production Gap report therefore calls on policymakers to restrict new fossil fuel production to avoid locking in levels of production inconsistent with climate goals and to reduce the risk of stranded assets⁸ and communities. Additionally,

it says, producer subsidies and public finance investment into fossil fuels need to be ended – something which the G7 has pledged to do by 2025.⁹

However, the report also points out a major challenge to a timely transition in countries like the UK: private fossil fuel firms are “highly politically organized, investing considerable resources into lobbying, campaign finance, public relations, and think tank sponsorship” and exert influence “through a ‘revolving door’ between business and government”.

This acts as a major barrier to decarbonisation: a just transition and rapid phase-out of fossil fuels requires weakening these incumbent interests.

1.3 UK oil and gas reserves will drive us well past our Paris commitments

Previous research by Oil Change International showed that the CO₂ emissions from the oil and gas in *already-operating or under construction fields* (i.e. developed reserves) around the world will push us far beyond 1.5°C of warming.¹⁰

Focusing on the UK – a rich country with a large share of historical responsibility for causing climate change – our 2019 ‘Sea Change’ report found that the UK’s developed fields at that time contained about 5.7 billion barrels of oil and gas, more than enough to exceed the UK’s share under the Paris climate goals.

New Rystad Energy data as of July 2021 shows that since ‘Sea Change’ was published in May 2019, new fields have opened and the UK’s developed oil and gas reserves have grown.

As Table 1 shows, existing fields (those already producing and those under development) now contain 6.55 billion barrels of oil and gas reserves. This means that in the two years since the Scottish Government and UK Parliament declared a climate emergency, in April 2019 and May 2019 respectively, new fields have been opened for production and more than 0.8 billion barrels of oil and gas have come online – equivalent to 361Mt of CO₂.¹¹

The projected total of UK offshore oil and gas reserves (including undeveloped and undiscovered fields) is 20 billion barrels. As shall be explained further in Section 2, both UK and Scottish Government policy is to continue to license, explore for and develop new fields in order to extract all 20 billion barrels of oil and gas. This would nearly triple the emissions from the UK’s developed reserves, pushing the world further into climate breakdown.

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Table 1: UK offshore oil and gas reserves in developed fields and projected in undeveloped and undiscovered fields

	Developed fields			Undeveloped fields			
	Producing fields	Under development	Total developed	Discovered, undeveloped fields	Undiscovered licensed fields	Unlicensed fields	Total undeveloped + undiscovered
Oil (billion barrels)	4.53	0.26	4.79	3.88	0.92	1.52	6.32
Gas (billion barrels of oil equivalent)	1.42	0.33	1.75	2.10	4.44	0.63	7.17
Total (billion barrels of oil equivalent)	5.96	0.59	6.55	5.99	5.36	2.14	13.49
Emissions (million tonnes of carbon dioxide)	2413	228	2641	2384	1973	861	5218

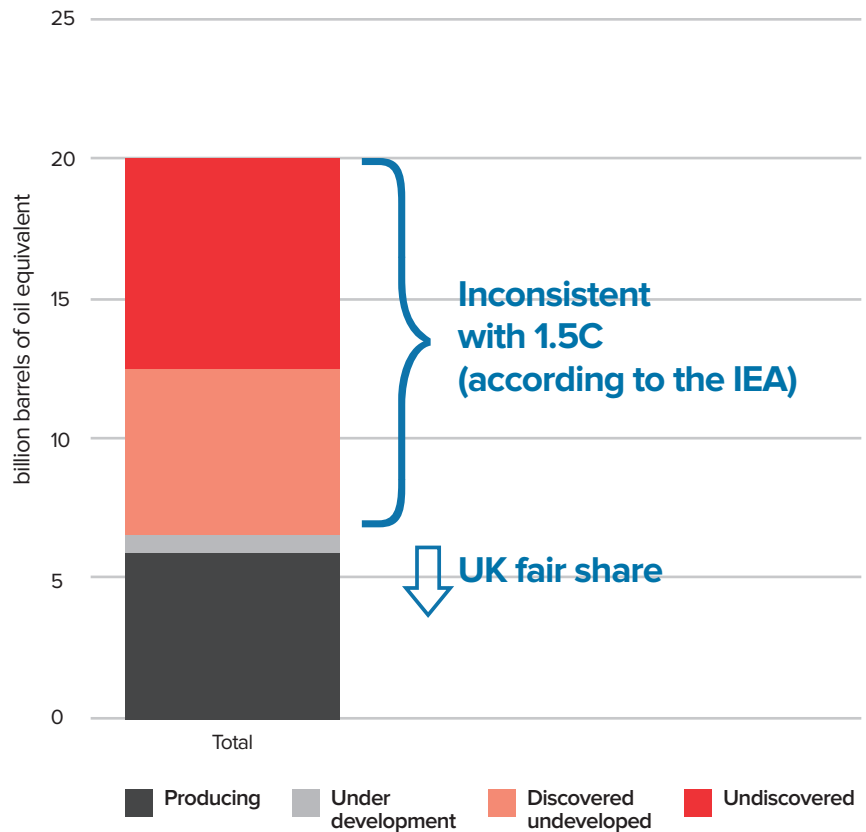
Sources: Rystad Energy UCube (July 2021), IPCC emissions factors for combustion of oil and gas. These data update Table 1 of the 2019 ‘Sea Change’ report.

1.4 Bringing UK production within climate limits

The IEA roadmap and guidance that there should be “no new oil and gas fields approved for development”¹² means that the 13.5 billion barrels of as yet undeveloped UK oil and gas needs to stay that way, with no further exploration, licencing or development. Figure 1 shows these undeveloped reserves in red. The IEA states that developing these reserves would be inconsistent with limiting warming to 1.5°C.

Figure 1:

UK cumulative future projected oil and gas production. IEA states that to limit warming to 1.5°C, no new fields can be developed. Furthermore, an equitable approach means that the UK must phase out a portion of already developed reserves early.



Source: Rystad Energy UCube (July 2021)

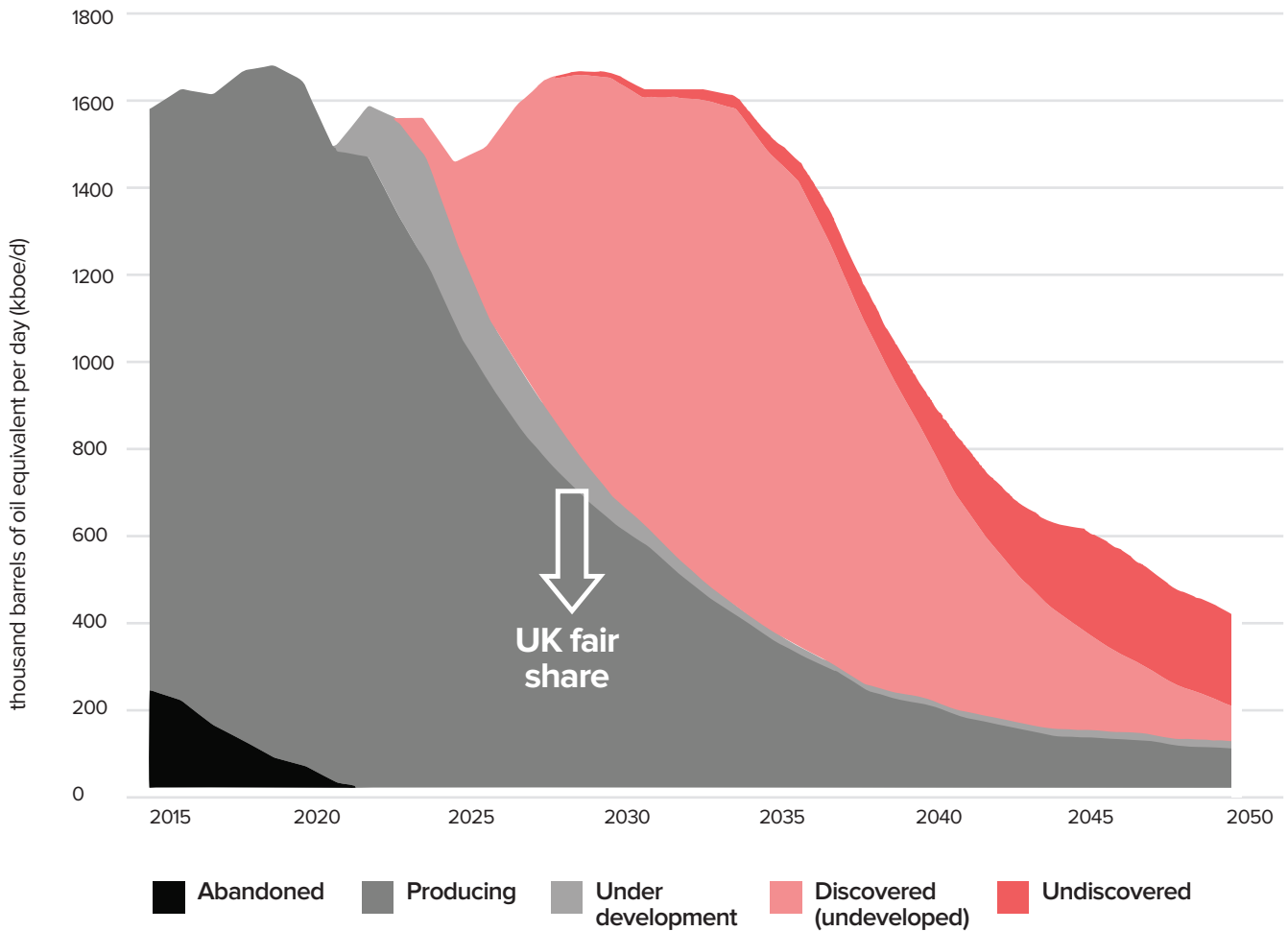
Oil Change International’s ‘Sky’s Limit’ report detailed how ending new oil and gas developments would bring the world much closer to staying within our carbon budgets, but would still not be enough to achieve the Paris goals.¹³ To limit warming to 1.5°C, some early closure of already-producing or under-development fields, before fully extracting their reserves, will be required. An equitable approach suggests that wealthy countries with high historic emissions and low

economic dependence on oil revenues, such as the UK, should take the lead – phasing out faster than the countries for which it would be much harder.¹⁴

This means that not all of the 6.55 billion barrels of oil in the UK’s currently producing or under development fields can be extracted. Figure 1 shows how some of these reserves, shown in grey, will also be inconsistent with the UK’s fair share in a 1.5°C-consistent pathway.

...wealthy countries with high historic emissions and low economic dependence on oil revenues, such as the UK, should take the lead

Figure 2: UK projected oil and gas production. An equitable approach means the UK cannot extract all 6.55 billion barrels in these developed fields and must phase out production of some producing and under development reserves early.



Source: Rystad Energy UCube (July 2021)

Figure 2 shows projected UK oil and gas production, with currently producing and under development fields in grey and undeveloped reserves in red. Rystad's model shows that decline could extend beyond 2050 if production were contained to fields developed as of 2021.

However, as stated above, in line with an equitable global phase-out, the UK cannot extract all 6.55 billion barrels in these developed fields and must phase-out production more quickly. Some fields currently producing and under development will have to close early, before fully extracting their reserves. UK oil and gas production must be wound down over this decade.

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No country can claim to be a climate leader if they don't put an end to fossil fuel expansion and commit to phasing out production

1.5 'First mover' countries leading the way

A growing number of countries around the world are putting an end to extraction. **Denmark** – now the largest oil producer in the EU – has announced an end to all new oil and gas exploration in the North Sea, and cancelled its latest licensing round. As the Danish climate minister explained, “We want to be climate neutral in 2050. And if we are to have any credibility in that, then this is a necessary decision”.¹⁵ Likewise, Ireland has banned licences for new oil and gas exploration, with its climate minister stating that “By keeping fossil fuels in the ground, we will incentivise the transition to renewable energy”.¹⁶ **Spain**, too, has now enacted a ban on new fossil fuel exploration and production licences, with similar rules coming into force in **Greenland, France, Portugal, Costa Rica, Belize**, and **New Zealand**.¹⁷

Denmark and Costa Rica are also spearheading the **Beyond Oil and Gas Alliance**, a diplomatic initiative aiming to accelerate the phase-out of oil and gas production by bringing together countries committed to ending new exploration and setting end dates for extraction in line with the Paris Agreement goals.¹⁸ As Oil Change International have highlighted, this momentum shows that “no country can claim to be a climate leader if they don't put an end to fossil fuel expansion and commit to phasing out production. This goes for the United Kingdom, whose refusal to phase out North Sea oil and gas production seriously weakens its credibility as COP26 host.”¹⁹

The UK Government is now facing a legal challenge over its continued support for North Sea oil and gas production and its policy of maximising economic recovery (see Section 2) as both unlawful and irrational, given the UK's climate targets and the colossal tax breaks given to the industry (see Box A).



SECTION 2: UK and Scottish Government Policy



Both the UK and Scottish Governments have commitments to enable as much offshore oil and gas as possible to be extracted. This section explores the legal obligation of Maximising Economic Recovery of oil and gas reserves in UK law and in Scottish Government policy, and its implications for the Paris commitment of limiting warming to 1.5°C.

2.1 Maximising Economic Recovery

Maximising Economic Recovery (MER) means ensuring that all oil and gas resources are extracted where the economic benefits of recovery outweigh the costs.²⁰ In other words, so long as the oil and gas can be extracted profitably, it must be extracted, or as then-Chancellor Philip Hammond put it in 2017, “We are working with the industry to ensure that we extract every drop of oil and gas that it is economic to extract”.²¹ The application of MER, however, tends to ignore many indirect costs, from vast public subsidies to the consequences of the climate crisis itself, instead focusing narrowly on oil companies’ balance sheets (see Box A).

2.2 MER at the UK level

Oil and gas licensing and regulation are reserved to the UK Government. The UK 1998 Petroleum Act introduced the principle objective of “maximising the economic recovery of UK petroleum”.²² This principle is supposed to direct UK energy policy, and govern the activities of petroleum licence holders, operators, infrastructure owners and developers – all of whom are legally obliged to maximise economic recovery.

The Petroleum Act was amended by the 2015 Infrastructure Act²³ and the 2016 Energy Act,²⁴ which formalised the role of the newly created Oil and Gas Authority (OGA) in producing strategies for maximising economic recovery. Two such strategies have been produced by the OGA:

- The March 2016 **MER UK strategy**²⁵ obliges petroleum licence holders and operators to “take the steps necessary to secure that the maximum value of economically recoverable petroleum is recovered from the strata beneath relevant UK waters”. They are also required to reduce the lifecycle costs of the recovery of petroleum as far as possible, and allow others to maximise recovery from their licences or infrastructure if they cannot or do not wish to do so (for whatever reason). In other words, once a licence is issued, all the oil and gas that can be extracted from it, must be extracted.

The strategy describes the obligation as maximising “the expected net value of economically recoverable petroleum from relevant UK waters, not the volume expected to be produced”, but it is clear from its interpretation that this has translated to the maximum volume. Notably, the strategy is subject to some safeguards, including that no obligation imposed by it can permit conduct prohibited under legislation related to health, safety or environmental protection. Despite this, the relevance of international and national climate law continues to be ignored in pursuit of MER (see Box A).

- **The OGA strategy**²⁶ entered into force in February 2021, and is an updated version of the MER strategy: it reiterates the objective of MER then simply tacks on the government’s commitment to net zero, as if they weren’t in open conflict. The strategy states that to assist meeting the net zero target, “the OGA encourages and supports industry to be proactive in identifying and taking the steps necessary to reduce their greenhouse gas emissions as far as reasonable in the circumstances”. This is token at best, as illustrated by the vague caveat, non-binding language and sole focus on the industry’s emissions from extracting oil and gas, while ignoring the far greater emissions from its use (see 2.5). Thus, licence holders and operators are only required to reduce emissions from flaring, venting and power generation for the purposes of extraction.

...the relevance of international and national climate law continues to be ignored in pursuit of MER

Another part of the strategy's token gesture to net zero is that it requires licence holders and operators to support carbon capture and storage (CCS) projects. However, CCS projects are defined as "any project relating to the capture, transportation or storage of carbon dioxide (including if only at the appraisal stage), or where there is a reasonable prospect of any such project being developed".

So, a company merely needs to say there is a future prospect of CCS to comply with its duty to support net zero. CCS has been promoted by the fossil fuel industry for decades as the future technofix that justifies continued fossil fuel investment (see 2.6).



Box A: MER narrow interpretation of 'economic'

MER is supposed to mandate only the production of oil that it is economic to extract, but the full economic costs and benefits of extraction are not even being assessed. These would include the costs of subsidising the oil and gas industry, as well as the costs of climate change, damage to the environment, the cost of all the regulators who oversee the industry's operations, the stress of insecurity of employment and the economic benefits of taking an alternative route. MER however takes 'economic' to refer only to the costs to, and balance sheet of, the oil companies. Yet without the generous tax breaks and favourable policy treatment the UK gives the oil and gas industry, it would not be 'economic' for the companies to extract it. By comparison, renewables are already cheaper than gas in many circumstances, especially when you consider the huge costs that CCS will add to oil and gas (see 2.6).

Despite this, the 2021 OGA strategy defines 'economically recoverable' petroleum as "those resources which could be recovered at an expected (pre-tax) market value greater than the expected (pre-tax) resource cost of their extraction."²⁷ In this way, the OGA's interpretation of MER "fails to take account of the billions of pounds of public money supporting the industry": £3.2 billion has been given to North Sea oil and gas companies since the Paris Agreement was signed in 2015.²⁸ The UK Government is now facing a legal case arguing that the OGA's interpretation of MER is unlawful, as it means seeking to maximise production that is not 'economic' for the UK as a whole, and irrational, because it will result in increased fossil fuel production in conflict with the UK's legal duty to achieve net zero emissions by 2050.²⁹

As the 2020 UN Production Gap report noted (see 1.2), production subsidies such as tax breaks and direct government spending can "encourage investment in fossil fuel production that would otherwise not be economically viable" leading to greater production, demand (through lower prices), and greenhouse gas emissions.³⁰ The fact that these subsidies continue in the face of the climate threat, it says, is due to the political and economic force of fossil fuel companies, which "often actively counter or resist bold climate action".

The OGA strategy, like the MER UK strategy before it, defines ‘economically recoverable’ in a way that allows the recovery of oil and gas that is economic to the operator *thanks to financial support from the UK’s industry-friendly tax regime*, but not economic to the UK as a whole. This failing has now become the subject of a legal case against the UK Government (see Box A and 1.4), in light of its support to the oil and gas sector through a tax policy and subsidy regime that artificially keeps the costs of extraction down for industry, while simultaneously depriving the public purse of tax revenue.

Tax allowances, reduced tax rates and decommissioning tax breaks have ensured that HM Treasury gave more money to oil companies in 2015–2017 than it took from them in taxes, a period

during which top beneficiaries BP and ExxonMobil made more than £1 billion of profits from UK extraction.³¹ Tax breaks for offshore oil extraction have not protected workers either. In the two years following the 2015 introduction of tax breaks allegedly for the sake of North Sea jobs, 28,000 people (or one fifth) of the UK oil and gas workforce lost their jobs.³² In 2020, Shell paid the UK negative \$99.1million in tax (ie the UK paid Shell almost \$100m), while paying its CEO \$7 million: then, in early 2021, Shell cut 330 North Sea jobs and increased its payouts to shareholders.³³ This serves as a reminder that tax breaks and cost-cutting (through job losses) go hand in hand, as ways to maximise company profitability.³⁴ This is partly thanks to MER, which requires costs of petroleum recovery to be reduced as much as possible.

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Box B: Oil and Gas Authority captured by the industry it regulates

The Oil and Gas Authority (OGA) is a government agency that was created in 2015 to drive progress towards maximising production of oil and gas. It was set up following a recommendation by former oil services executive Ian Wood in the UK Government-commissioned review of offshore production in 2013.³⁵ The OGA is responsible for granting oil and gas licences, which typically last for 26 or 30 years (and are extendable), and according to the OGA’s strategies for MER, *have to be fulfilled*. This means licences awarded today shape the UK’s energy system far into the future – long past the date we must stop extracting and burning fossil fuels.

The OGA’s role is to “regulate, influence and promote the oil and gas industry”.³⁶ The inherent tension between *promoting* and *regulating* is exhibited by the very close relationship the OGA has with the industry: many of its board members have current or former oil and gas company roles³⁷ and it co-wrote its ‘Vision 2035’ with fossil fuel lobby group Oil & Gas UK.³⁸ The (amended) Petroleum Act also requires that before producing or revising a strategy for the implementation of MER, the OGA must “consult such persons as the OGA thinks appropriate”.³⁹ This gives the oil and gas industry-captured OGA full discretion to choose *who* the appropriate stakeholders are, providing yet another avenue for fossil fuel industry influence over its regulator.

2.3 Scottish Government

The December 2017 Scottish Energy Strategy⁴⁰ states that there “are still significant opportunities in the North Sea, with up to 20 billion barrels of oil equivalent remaining – which could sustain production for at least another 20 years. That is why **we continue to support Maximising Economic Recovery from the North Sea.**” It sets out the Scottish Government’s near-term actions, including to “work constructively with the industry to encourage new exploration in the North Sea”. Like Westminster, Scottish Government policy is committed to maximising oil and gas production, including further exploration.

In its 2019–2020 Programme for Government,⁴¹ the Scottish Government announced that its continued support for oil and gas exploration and production in the North Sea “will now be conditional upon a sustainable, secure and inclusive energy transition” including “an increased net zero investment by industry and government.” In her speech introducing the programme,⁴² the First Minister noted that Scotland is committed to achieving net zero emissions by 2045, that tackling climate change will be central to their investment decisions, and that the government will work with the Oil and Gas Technology Centre to “help develop

renewable technologies that can be integrated with our existing oil and gas infrastructure” such as carbon capture, utilisation and storage (CCUS). However, CCUS is *not* a renewable energy technology, and it is deeply problematic to rely on it to justify continued extraction (see 2.6).

The ‘conditionality’ being applied to the oil and gas sector not only refers to investments in CCUS, but focuses primarily on the reduction of emissions from the *extraction* of offshore oil and gas, not reducing the extraction of the fossil fuels themselves. Despite the urgency of the IPCC’s Sixth Assessment Report, this approach has still not fundamentally changed: in her August 2021 letter to Prime Minister Boris Johnson, First Minister Nicola Sturgeon calls on the UK Government to enhance the “climate conditionality associated with offshore oil and gas production” and to reassess licences issued but as yet undeveloped for their compatibility with climate obligations, but does not acknowledge the need for extraction to be phased out. Both CCUS and fossil gas-based hydrogen are presented as indispensable to the climate compatibility of continued extraction.⁴³

The 2019–2020 Programme for Government also talks about maximising the value of Scotland’s “marine assets”, and promises public funding to the oil and gas industry for CCS

development, including by working with the Scottish National Investment Bank “to explore how we can help industry develop this technology”. The £62 million Energy Transition Fund announced by the Scottish Government in June 2020 is also intended to support the oil and gas sector, with a significant emphasis on the development of CCS, including for fossil gas-based hydrogen – ‘solutions’ designed by the industry to allow the continued extraction and consumption of fossil fuels, at the expense of the transition to renewables (see Box D).⁴⁴ However, the agreement of the Scottish Government with the Scottish Green Party to work together over the next five years, and to respond to the climate emergency, states that any strategy for the deployment of CCUS and hydrogen “cannot be used to justify unsustainable levels of fossil fuel extraction or impede Scotland’s just transition to net zero.”⁴⁵

Like Westminster, Scottish Government policy is committed to maximising oil and gas production, including further exploration

Other ways that the oil and gas industry receives support from the Scottish Government include decommissioning funding and assistance,⁴⁶ and lobbying of Westminster to promote the industry's interests in CCS.⁴⁷ What's more, the Scottish Government's advisory group, the 'Oil and Gas and Energy Transition Strategic Leadership Group' gives fossil fuel executives from BP, Shell, Equinor and Oil and Gas UK⁴⁸ a formal avenue to influence policy, including direct access to the Minister who chairs it. A government spokesperson claims the group is "driving progress" and that the "sector will play a positive role in our transition to net-zero, helping to design the diverse energy system we need for the future".⁴⁹ The very real conflict of interest in inviting oil and gas corporations to shape the energy transition

is not only ignored, but explicitly endorsed. This is despite decades of evidence of how fossil fuel companies have sought to deny and delay action on climate change, and subvert, weaken and co-opt climate policy to preserve their own business model and profit.⁵⁰ Scotland's commitment to MER are examples of ignoring this contradiction.

2.4 MER paves the way for new oil and gas fields

Thanks to the UK and Scottish Governments' commitment to MER, new fields in the North Sea are threatening to lock us into a fossil fuel dependent energy system for decades longer than our climate can afford. For example, Siccar Point Energy and Shell are seeking OGA approval to develop the huge

Cambo oil field, aiming to produce until at least 2050, long after the UK must stop burning fossil fuels (see Box C).⁵¹ This follows new North Sea extraction starting at BP's Clair Ridge project in 2018, which aims to extract 640 million barrels of oil over the next thirty years,⁵² and Total's Culzean field, which contains 250–300 million barrels and began producing gas in 2019.⁵³ Worse, in September 2020, the OGA granted 113 licences for 65 companies to search for more oil and gas in the North Sea, as part of its 32nd Offshore Licensing Round.⁵⁴ These licences which will last around 30 years, and because of MER, oblige licence holders to extract as much oil and gas as they can.

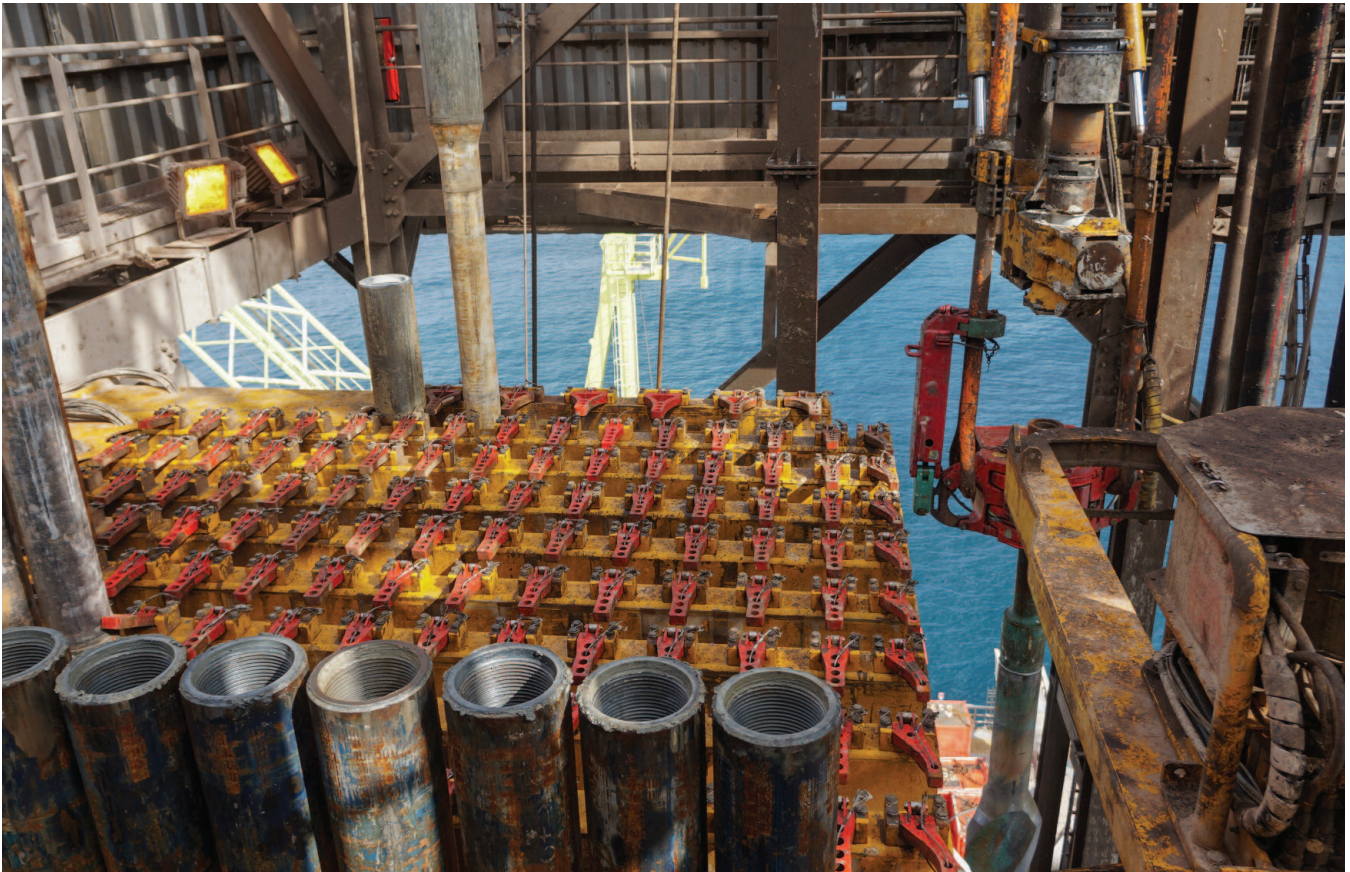
Box C: Climate cannot afford Cambo oil field

Siccar Point Energy and oil giant Shell have applied to the UK Government for permission to drill the new Cambo oil field, 80 miles west of Shetland. Cambo is the second largest undeveloped field on the UK Continental Shelf, and if approved, drilling would begin in 2022.

The initial licence for exploration of Cambo was granted in 2001, but this does not guarantee an automatic right to develop the field for production: licence-holders must apply to the Secretary of State for Business, Energy and Industrial Strategy and to the OGA for consent to extract the oil and gas.

The devastating climate impacts of developing Cambo leave no doubt that it must be stopped: Phase 1 aims to extract 170 million barrels, the climate equivalent of running 18 coal-fired power stations for a year, and would continue until 2050 – five years after Scotland's net-zero deadline. Phase 2 would continue beyond 2050, and aims for "full-field development":⁵⁵

Over 80,000 people in the UK objected to the development.⁵⁶ Dr Fatih Birol, Executive Director of the IEA,⁵⁷ John Kerry, US Special Presidential Envoy on Climate Change⁵⁸ and Lord Deben, Chair of the UK Committee on Climate Change⁵⁹ have all expressed caution over the project.



2.5 Ignoring emissions from burning oil and gas

The OGA strategy, with its token gesture towards net zero tacked on to the existing MER obligation (see 2.2), fails to address emissions from the combustion of the oil and gas (referred to as downstream or ‘Scope 3’ emissions) that the industry will extract. Focusing on reducing upstream emissions from production – for example by reducing flaring and venting or powering rigs with renewable energy – while ignoring downstream emissions from the use of the oil and gas leaves up to 90–95% of total emissions unaccounted for, according to some analysts.⁶⁰

A landmark Dutch court ruling recently required Shell to reduce its total CO₂ emissions, *including*

the emissions resulting from the use of the fossil fuels they sell (see 1.4). This has significant implications for the North Sea oil industry’s promises to reduce emissions from extracting oil and gas – to create a “net zero hydrocarbon basin” as the Scottish Government says⁶¹ – while ignoring the emissions from burning the oil and gas extracted.⁶²

2.6 CCS: Gambling our climate on future technologies

The Scottish and UK Governments – including the OGA strategy – and the IEA’s net zero roadmap, all depend heavily on the future deployment of carbon capture and storage (CCS) to compensate for continuing to extract and burn fossil fuels. Essentially, rather than betting on existing affordable

renewable energy technologies, this is gambling the viability of our planetary systems on a still-distant ‘solution’ promoted for decades by an industry with a vested interest in preserving its business model and continuing to extract fossil fuels. An industry with a history of delaying, co-opting and subverting climate policy, at all levels.

...this is gambling the viability of our planetary systems on a still-distant ‘solution’

Box D: Polluters perpetuating the ‘net zero’ con

The flurry of fossil fuel companies making ‘net zero’ commitments – often depending on CCS and speculative ‘negative emissions’ technologies – is the latest in a long line of greenwashing tactics to present themselves as part of the solution to the climate crisis instead of part of the problem. These tactics often distract from, and delay, the real action needed to address the climate crisis.⁶³

Central to the ‘net zero’ plans of these big polluters is that the companies can continue – or even increase – their emissions-intensive production, while promising to compensate at a later date with technologies that are hugely risky and uncertain, such as direct air capture, or which will perpetuate unjust power relationships, like carbon offsetting or bioenergy with CCS. The latter, so called ‘BECCS’, would require converting land to grow bioenergy instead of food, risking large-scale food shortages and land grabs: ‘negating’ a third of today’s fossil fuel emissions would require land equivalent to up to half of the world’s total crop-growing area.⁶⁴ Similarly, the reliance on ‘offsetting’ fossil fuel emissions discounts equity and justice and ignores the finite – and already overstretched – capacity of our planet to absorb carbon. Shell’s ‘net zero’ plans for example rely on offsetting 120 million tonnes of CO₂ a year by 2030, which is more than the entire global voluntary carbon offset market capacity in 2019.⁶⁵ Hydrogen from natural gas with CCS, meanwhile, is a smokescreen for continued investment in fossil gas infrastructure, and an attempt to revive ailing political support for CCS following decades of over-promising and under-delivering.

Many big polluters’ ‘net zero’ pledges are so vague as to be meaningless, with little action to reduce emissions at source for decades. As a group of over 40 scientists recently warned that without major and unprecedented reductions in emissions now, we will consume the small remaining global carbon budget within just a few years: the ‘negative emissions’ technologies being developed “are expensive, energy intensive, risky, and their deployment at scale is unproven. It is irresponsible to base net zero targets on the assumption that uncertain future technologies will compensate for present day emissions”.⁶⁶

Shell’s net zero plans were challenged in a legal case brought by Friends of the Earth Netherlands and over 17,000 co-plaintiffs. The court in the Hague ruled that Shell must reduce CO₂ emissions by 45% within 10 years⁶⁷ in order to comply with the Paris Agreement, whose targets the Dutch court concluded cannot be met without action from companies.⁶⁸ Crucially, it is not just Shell’s direct emissions (from its rigs and refineries) that must be reduced but the emissions resulting from customers’ use of their products.

A study by the Tyndall Centre for Climate Change Research highlights how far CCS is from being the ‘solution’ its proponents claim: currently, global operational CCS capacity is about 0.1% of annual global emissions from fossil fuels, with none in the UK at all.⁶⁹ What’s more, 81% of carbon captured has been used to extract more oil via the process of Enhanced Oil Recovery (EOR), thereby contributing to further

emissions from oil that would otherwise have been unreachable. CCS’ deployment in the power sector is extremely limited, with a total of two coal CCS power plants in the world, both using captured CO₂ for Enhanced Oil Recovery. Combined: their capacity is 129 times less than would be needed to meet the IEA Sustainable Development Scenario 2030 target for CCS.⁷⁰ The Tyndall Centre concludes

that we cannot expect significant CCS capacity in the power sector until at least the 2030s. And even that scenario looks unlikely: Petra Nova, one of the two existing CCS power plants – which started operating in Texas in 2017 thanks to a \$190 million public grant and the revenue from EOR – has *already been mothballed*, following the fall in oil prices.⁷¹

Deployment of CCS has been far slower than proponents predicted: projects have consistently failed to materialise, with less than a fifth of CCS capacity under development in 2010 operational by 2019. The reliance on CCS in many future energy pathways is a stark contrast with the current global capacity (despite vast public investment), and, the Tyndall Centre concludes, there is an “inconsistency between CCS projects” in development and “interim and long-term expectations”.⁷² Many EU-funded CCS projects, for example, have been labelled a waste of money, with the European Court of Auditors criticising the channelling of €424 million into unsuccessful CCS projects, and even the International Association of Oil & Gas Producers admitting that CCS had “failed to live up to its potential”.⁷³

The Scottish Government is committed to emissions reductions of 75% on 1990 baseline levels by 2030. To achieve the Paris goals and limit warming to 1.5°C, the IPCC’s 2018 Special Report says that far-reaching and transformative change in every sector is needed in the crucial next decade. It is the cumulative emissions from each year between now and 2030 that will determine if we are to achieve this goal, a decade in which global emissions must halve if we are to stay within 1.5°C.⁷⁴ The Tyndall Centre research shows that we cannot expect CCS to make a meaningful contribution to 2030 climate targets: prioritising this lifeline to the fossil fuel industry will not help us avert climate crisis. In this context, CCS is a distraction from

the growth of renewables and energy efficiency that is critical to rapidly reducing emissions.

Against the backdrop of CCS projects’ failure and prohibitive costs over many years – breaching the polluter pays principle by being viable only with huge public subsidies – is the faster than expected progress on renewable energy, storage and demand-side technologies. In the UK, it is cheaper to generate a unit of electricity using wind or solar than using natural gas.⁷⁵ The vast expense of CCS on top of the existing costs of fossil energy has significant implications for MER: with cheaper and far safer ways of producing zero-emissions energy, promoting maximum recovery of oil and gas with the caveat of future (costly) CCS is *not* economic. Hence, projections for the role of CCS in electricity generation in international, European and UK energy pathways have actually decreased significantly in recent years.⁷⁶

CCS leaves significant residual, process and supply chain emissions unaddressed, and carries the risk of CO₂ leakage from transport and storage. The mere possibility of global climate-related leakage risks from this technology – when cheaper, safer and already available renewable alternatives exist – indicates that the sway of the fossil fuel industry is undermining a rational, precautionary and cost-effective approach to energy policy. CCS is a bad economic decision, given that renewables are already cheaper than gas, and a bad climate decision, because if it does not work out, climate change will be locked in.

The only way to ensure emissions from fossil fuels don’t end up in the atmosphere is to leave them in the ground, especially in the crucial next decade when significant CCS is not expected to exist.

Finally, CCS is also being touted as the key to so-called ‘blue hydrogen’ – hydrogen made via the steam methane reforming of fossil-gas, with CO₂ captured and stored – and promised as a low-emissions alternative for everything from transport fuels to heating buildings. The Tyndall Centre notes, however, that CCS is “currently minimal or non-existent” in fossil fuel hydrogen production or industrial capture, two sectors that Scotland envisages its use for.⁷⁷ A new peer reviewed study from researchers at Cornell and Stanford Universities has found that even with the “optimistic and unproven assumption” that captured CO₂ can be stored indefinitely, the greenhouse gas footprint of ‘blue hydrogen’ is over 20% greater than burning natural gas or coal for heat and 60% greater than burning diesel oil for heat, and is therefore “difficult to justify on climate grounds”.⁷⁸

The sway of the fossil fuel industry is undermining a rational, precautionary and cost-effective approach to energy policy

Decisions that favour fossil fuels today lock us in to carbon emissions for decades to come

2.7 Countering the ‘carbon leakage’ argument

Announcing the Scottish Energy Strategy (see 2.2), the First Minister claimed to understand why many people “argue that part of our response to the climate emergency should be the immediate withdrawal of support for oil and gas” but said, echoing the industry’s line, “the hard fact is that the early closure of domestic production – before we are able to meet all demand from zero carbon sources – would be likely to increase emissions, because a significant proportion of the oil that would then require to be imported has a higher carbon intensity than UK production.”⁷⁹

This sort of ‘carbon leakage’ argument as a justification for continued oil and gas support is highly problematic for numerous reasons:

- Support for the fossil fuel industry (including for CCS) comes at the expense of renewable energy, effectively *slowing down* the shift to meeting all of Scotland’s demand from zero carbon, renewable sources. Oil and gas suck investment from clean energy: at the UK level, promises of political and financial stability and certainty for the oil and gas sector have contrasted with sudden and detrimental changes to the fiscal and planning regime for renewables.⁸⁰ Decisions that favour fossil fuels today lock us in to carbon

emissions for decades to come: new UK extraction licences last about 30 years, while new fossil infrastructure creates economic incentives to keep operating, competitive advantages over alternatives, and political and legal barriers to policies that would make it redundant. Meanwhile, increased extraction (and policies to make extraction cheaper) pushes down oil and gas prices, strengthening their competitiveness against clean energy and diminishing the effectiveness of policies to reduce fossil fuel demand.

- To meet the Paris goals, all countries will need to wind down fossil fuel production, but as the 2020 UN Production Gap report notes, “some more rapidly than others”.⁸¹ Countries with higher capacity, or income per capita, to manage and support a just transition and with lower fossil fuel dependence – like the UK – are better positioned to pursue a rapid, just transition away from fossil fuels, and therefore need to act more quickly.⁸² In global terms, the UK is amongst the lowest dependence (i.e. a highly diversified economy) and highest capacity (i.e. wealthy) countries. It is, therefore, well primed to lead the global fossil fuel phase-out, with “limited macroeconomic effects and major co-benefits”.⁸³ A just transition away from fossil fuel production on a *global scale* requires Scotland to lead with a rapid, just transition at the *national* level.
- Given the tightness of remaining carbon budgets, each new license, permit or tax break for oil and gas pushes the UK further from a managed, just transition

for workers and communities, and towards ‘deferred collapse’, whereby delayed action and worsening climate impacts precipitates the UK oil industry’s collapse, pushing many workers out of work in a short space of time. The longer Scotland supports oil and gas, the more likely this is.⁸⁴

- Meeting Scotland’s energy demand from renewables is not just about phasing out fossil fuels – it is also about reducing demand for energy. Warnings of increased oil and gas imports mirror the industry’s projections of large increases in energy demand, which ignore vital mitigation efforts to reduce demand and increase energy efficiency. Arguments that continued oil and gas extraction is needed to meet energy demand can only be based on the assumption that the Paris goals will not be met. Whereas a policy of maximising extraction while minimising consumption in the UK could have the effect of increasing consumption – and emissions – in other countries.⁸⁵
- Implying that Scotland’s oil and gas is worthy of extraction because it has a lower carbon intensity belies past experience of the sector’s unwillingness to tackle its preventable emissions: a recent investigation found that since 2015, when BP, Total and Repsol promised to curb their emissions from venting and flaring in their North Sea operations, as part of their commitment to the Paris Agreement, their emissions have actually *increased*. The rate of flaring on the UK Continental Shelf is 11 times higher than in Norway, and twice the North Sea average.⁸⁶

SECTION 3: A Managed Phase-out for a Just Transition



There can be no doubt that continuing to expand North Sea oil and gas extraction is incompatible with limiting warming to 1.5°C. The science is clear there can be no new oil and gas developments, but that doesn't mean turning off the taps overnight. Depleting existing fields, even including some early closures, entails a managed transition during which extraction rates decline as clean energy expands at a rate both technically and economically possible.⁸⁷

We need a just phase-out policy for oil and gas extraction in the UK, based on a managed decline of production in line with Paris commitments, and shaped by affected workers and communities to ensure a just transition in Scotland.

3.1 Planning for a Just Transition

Our 'Sea Change report' set out the two alternative pathways for oil and gas facing the UK and Scottish governments:

- Continuing to pursue maximum extraction by developing new fields until worsening climate impacts force rapid action to cut emissions globally, resulting in a deferred collapse of the UK oil industry and pushing many workers out of work in a short space of time. **Or:**
- A managed transition with no new oil and gas developments and a phase-out of extraction in line with Paris climate goals, delivering a just transition for workers and communities and building decent jobs in a clean energy economy.

In light of the IEA's conclusion that no new oil and gas fields should be approved for development, the UK and Scottish Governments' commitment to maximising oil and gas production is a pathway to further catastrophic climate change or to 'deferred collapse'.

Each new licence, permit or tax break for oil and gas pushes the UK further towards the deferred collapse path, risking the future of workers and communities. Stopping new development and setting an end date for production would create the most predictable framework for just transition planning to support the workers and communities currently reliant on the oil and gas industry.

To ensure a just transition away from fossil fuel production at a *global* level, the following principle is a guide: transition should happen fastest where it is least socially disruptive, particularly in wealthier, less extraction-dependent countries.⁸⁸ In effect, extraction should be phased out more quickly in diversified, wealthier economies that can better absorb the transitional impacts – like the UK and Scotland.⁸⁹

That the transition needs to be rapid in Scotland is not, however, an excuse for it not to be just, and without the involvement of affected communities, there can be no justice (See principles for just transition, 3.3). Conversely, if too much political influence is given to oil and gas companies and their lobbyists, the transition will not be rapid.

That the transition needs to be rapid in Scotland is not, however, an excuse for it not to be just





3.2 A managed phase-out must start now

A managed decline of oil and gas production in line with 1.5°C and governed by just transition policies, must start now.

The first step, in accordance with the IEA roadmap to net zero 2050, is to end all new developments. All future offshore oil and gas licencing rounds must be cancelled, and licences revoked where no work has yet been carried out or where the reserves have not been developed.

As set out in 1.4, extracting and burning the 6.55 billion barrels of oil and gas in the UK's developed fields would already far exceed the UK's share in relation to the Paris climate goals, pushing the

world closer to catastrophic climate change. To keep within 1.5°C, therefore, in line with equity and climate justice "principles enshrined in international climate agreements", the UK must phase-out fossil fuels more rapidly than countries with greater dependence on fossil fuel production and less capacity to transition quickly. The UK and Scottish Governments must commit to a managed decline of oil and gas production, winding down extraction over this next decade and leaving some of the 6.55 billion barrels in the ground.

Given the right policies, and preparation together with trade unions, a just transition can create booming clean industries that generate more than three jobs for every North Sea oil job at risk. As our 2019 'Sea Change' report documented, numerous studies

have shown how replacing oil and gas at this rapid pace "is technically achievable and affordable in the UK, using only technology that is already available".⁹⁰ The barriers are political: a lack of courage by governments and obstruction by powerful vested interests in the oil and gas industry.

The UK and Scottish Governments must commit to a managed decline of oil and gas production, winding down extraction over the next decade and leaving some of the 6.55 billion barrels in the ground

Claiming to be a climate leader whilst at the same time seeking to maximise oil and gas extraction can only be seen by the world as hypocrisy

3.3 Recommendations

Claiming to be a climate leader whilst at the same time seeking to maximise oil and gas extraction can only be seen by the world as hypocrisy. In light of the incompatibility of MER with meeting Scotland's climate targets and commitments under the Paris Agreement, and in view of Glasgow's hosting of COP26, we urge the Scottish Government to:

- **Remove all support for maximising economic recovery of oil and gas** in government policy and financial decisions, whilst urging the UK Government to remove MER from all statute, policy and licences.
- **Develop a new Scottish Energy Strategy** aiming for a fully renewable energy system in Scotland, and replacing the commitment to MER with one to support and enable a just phase-out of oil and gas production in line with the Paris Agreement goal of limiting warming to 1.5°C.
- **Call on the UK Government to cease all new oil and gas field investments, developments, and licenses**, revoke all undeveloped licences, and assess which developed reserves need to close early. All future licencing rounds should be cancelled.
- **End all financial support** for the oil and gas sector, and call on the UK Government to end all subsidies, including tax breaks, and redirect them to fund a just transition. This should include COVID-19 recovery funds, particularly in light of the fact that by November 2020, the UK had committed the greatest proportion of public money to unconditional fossil fuels support out of all G20 countries' recovery packages – nearly \$40 billion compared to under \$20 billion on clean energy.⁹¹
- **Recognise the conflict of interest in allowing fossil fuel companies to influence energy and climate policy**, in light of the decades of evidence that they have denied science, and delayed, weakened, and sabotaged climate action, while making billions in profits from fuelling climate change.⁹² Protect climate policy from this conflict of interest, including by removing fossil fuel interests from advisory positions, and demanding the UK Government safeguard COP26 from their participation and influence.⁹³
- **Redirect public policy and financial support from CCS and blue hydrogen to renewables**, storage and energy savings technologies, and urge the UK Government to do the same. Cease membership of the Global CCS Institute, which puts the Scottish Government on the same platform as oil giants BP, Chevron, Eni Spa, Equinor, ExxonMobil and Shell.⁹⁴
- Join the **Beyond Oil and Gas Alliance** as a 'Friend of BOGA', a category for nations or jurisdictions without full power over oil and gas licencing, to express support for the alliance and help accelerate the just energy transition around the world.



The Scottish Government should, furthermore, develop and implement robust Just Transition Plans, guided by climate limits, global justice and equity, for the workforce and communities in Scotland dependent on the oil industry, based on the following principles:

- **Trade unions and communities at the heart:** Trade unions, elected worker representatives and community representatives should be actively involved in shaping and negotiating any employment transition. Decisions should not be limited to investors and the national government.
 - **Accountable industrial governance:** New industries' governance structures are more accountable to workers, including via codetermination (trade unions and elected representatives on companies' boards).
 - **Local accountability:** Transition measures for communities where the oil and gas workforce is concentrated, like Aberdeen and Aberdeenshire, should be locally accountable and ensure long-term investments to put their economies on a sustainable footing.
- Specifically, the Scottish Government should:
- **Use licencing, permitting, or financing conditions** to ensure designs of new offshore renewable installations contain no barriers to transferability of oil and gas workers, and advocate for harmonisation of international renewables standards (for example, the Global Wind Organisation) with those in oil and gas. Standardise certification for offshore work across oil and wind, allowing workers to move more easily to the latter.
 - **Guarantee job security:** Energy workers whose jobs are disappearing are offered equivalent jobs on at least equivalent terms and conditions and permanent contracts.
 - **Ensure workers do not bear the costs of transition:** Build and fund a skills and retraining programme in consultation with oil and gas workers to ensure targeted support, protect wages for five or more years where a matching salary cannot be secured (funded by industry and/or government); protect existing members' pensions and guarantee pensions for affected workers who do not already have them.
- **Strengthen trade union rights** for workers affected by energy transitions, including union recognition in workplaces and sectoral bargaining and agreements.
 - **A comprehensive regulatory regime** to guarantee the safe decommissioning of oil and gas infrastructure in the transition, with a requirement for quality jobs locally.
 - **Establish publicly-owned energy companies** in Scotland and the UK to drive new renewable energy generation, creating secure and sustainable work and prioritising the domestic supply chain. ●

End Notes

- 1 UNFCCC, Paris Agreement, 12 December 2015 https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- 2 UN Emissions Gap Report 2020 <https://www.unep.org/emissions-gap-report-2020>
- 3 IPCC, Climate change widespread, rapid, and intensifying – IPCC, 9 August 2021, <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>.
See also The Guardian, Major climate changes inevitable and irreversible – IPCC’s starkest warning yet, 9 August 2021, <https://www.theguardian.com/science/2021/aug/09/humans-have-caused-unprecedented-and-irreversible-change-to-climate-scientists-warn>
- 4 UN, Secretary-General’s statement on the IPCC Working Group 1 Report on the Physical Science Basis of the Sixth Assessment, 9 August 2021, <https://www.un.org/sg/en/content/secretary-generals-statement-the-ipcc-working-group-1-report-the-physical-science-basis-of-the-sixth-assessment>
- 5 IEA, Net Zero by 2050: A Roadmap for the Global Energy Sector, May 2021, <https://www.iea.org/reports/net-zero-by-2050>
- 6 Friends of the Earth Scotland (FoES), ‘No new oil & gas’ to meet climate commitments, says IEA report, 18 May 2021, <https://foe.scot/press-release/no-new-oil-gas-to-meet-climate-commitments-says-iea-report/>
- 7 UN Production Gap Report 2020, 02 December 2020, <https://www.unep.org/resources/report/production-gap-2020>
- 8 Assets that suffer from unanticipated or premature write-offs or downward revaluations, or that are converted to liabilities, as the result of a low-carbon transition or other environment-related risks. UN Production Gap Report 2020, *ibid.*
- 9 The Guardian, G7 nations pledge to end fossil fuel subsidies by 2025, 27 May 2016, <https://www.theguardian.com/environment/2016/may/27/g7-nations-pledge-to-end-fossil-fuel-subsidies-by-2025>
- 10 Oil Change International, The Sky’s Limit: Why the Paris climate goals require a managed decline of fossil fuel production, September 2016, <http://priceofoil.org/2016/09/22/the-skys-limit-report/>
- 11 BBC, Nicola Sturgeon declares ‘climate emergency’ at SNP conference, 28 April 2019, <https://www.bbc.co.uk/news/uk-scotland-scotland-politics-48077802>;
UK Parliament declares climate change emergency, 1 May 2019, <https://www.bbc.co.uk/news/uk-politics-48126677>
- 12 IEA, Net Zero by 2050, *ibid.*
- 13 Oil Change International, The Sky’s Limit, *ibid.*
- 14 Muttitt, G., Kartha, S., Equity, climate justice and fossil fuel extraction: principles for a managed phase out, Climate Policy, 2020, 20:8, 1024-1042, <https://doi.org/10.1080/14693062.2020.1763900>
- 15 BBC, Denmark set to end all new oil and gas exploration, 4 December 2020, <https://www.bbc.co.uk/news/business-55184580>
- 16 The Irish Times, Ban on licences for new oil and gas comes into force following Cabinet decision, 2 February 2021, <https://www.irishtimes.com/news/politics/ban-on-licences-for-new-oil-and-gas-comes-into-force-following-cabinet-decision-1.4474497>
- 17 Oil Change International, Spain becomes latest country to ban new oil and gas exploration and production, May 14, 2021, <http://priceofoil.org/2021/05/14/spain-becomes-latest-country-to-ban-new-oil-and-gas-exploration-and-production/>;
Time, Greenland Bans All Future Oil Exploration Citing Climate Concerns, 16 July 2021, <https://time.com/6080933/greenland-bans-oil-exploration/>
- 18 Reuters, Denmark, Costa Rica seek alliance to speed up the end of oil and gas, 25 August 2021, <https://www.reuters.com/business/sustainable-business/denmark-costa-rica-seek-alliance-speed-up-end-oil-gas-2021-08-25/>
- 19 Oil Change International, Spain becomes latest country to ban new oil and gas exploration and production, *ibid.*
- 20 HM Treasury (HMT), Review of the Oil and Gas Fiscal Regime: Call for evidence, July 2014, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/382785/PU1721_Driving_investment_-_a_plan_to_reform_the_oil_and_gas_fiscal_regime.pdf
- 21 Treasury Oral Answers, Hansard Volume 627, 18 July 2017, <https://hansard.parliament.uk/commons/2017-07-18/debates/559A1FBB46B0-4308-90DD-47082635724F/EconomicGrowth>
- 22 UK Government, Petroleum Act 1998, Part 1A, <https://www.legislation.gov.uk/ukpga/1998/17/part/1A>
- 23 UK Government, Infrastructure Act 2015, Part 6, Section 41, <https://www.legislation.gov.uk/ukpga/2015/7/section/41>
- 24 UK Government, Energy Act 2016, <https://www.legislation.gov.uk/ukpga/2016/20/contents>
- 25 OGA, The Maximising Economic Recovery Strategy for the UK, 2016, <https://www.ogauthority.co.uk/media/3229/mer-uk-strategy.pdf>
- 26 OGA, The OGA Strategy, December 2020, <https://www.ogauthority.co.uk/media/7105/the-oga-strategy.pdf>
- 27 OGA, The OGA Strategy, *ibid.*
- 28 Paid to Pollute, Press Release: Campaigners Launch Legal Challenge, May 2021, <https://paidtopollute.org.uk/news/campaigners-launch-legal-challenge/>
- 29 The Independent, Climate activists launch legal challenge against government over North Sea oil and gas support, 12 May 2021, <https://www.independent.co.uk/climate-change/news/north-sea-oil-uk-legal-challenge-b1846206.html>
- 30 UN Production Gap Report 2020, *ibid.*
- 31 FoES et al., Sea Change, *ibid.*

- 32 The Herald, Shell to axe 250 North Sea jobs, 26 March 2015, https://www.heraldscotland.com/news/13207399.Shell_to_axe_250_North_Sea_jobs/
- 33 Paid to Pollute, What's the problem? <https://paidtopollute.org.uk/learn/>
- 34 FoES et al., Sea Change, *ibid.*
- 35 Wood, Ian, UKCS Maximising Recovery Review: Final Report, February 2014, https://www.ogauthority.co.uk/media/1014/ukcs_maximising_recovery_review.pdf
- 36 OGA, Regulatory Framework: Overview, <https://www.ogauthority.co.uk/regulatory-framework/overview/>
- 37 OGA, Board of Directors, <https://www.ogauthority.co.uk/about-us/leadership-governance/board-of-directors/> See, for example, Iain Lanaghan, Tim Eggar, Andy Samuel
- 38 OGA, Vision 2035, 2017, <https://www.ogauthority.co.uk/media/3196/vision-2035-overview-january-2017.pdf>
- 39 UK Government, Petroleum Act 1998, *ibid.*
- 40 Scottish Government, Scottish Energy Strategy: The future of energy in Scotland, December 2017,
- 41 Scottish Government, Protecting Scotland's Future: the Government's Programme for Scotland 2019-2020, 3 Sep 2019 <https://www.gov.scot/publications/protecting-scotland's-future-governments-programme-scotland-2019-20/pages/5/>
- 42 Scottish Government, Programme for Government 2019-2020: First Minister's speech, 3 Sep 2019, <https://www.gov.scot/publications/fm-programme-government/>
- 43 Scottish Government, Climate change emergency: representation from Scottish to UK Government, 12 August 2021, <https://www.gov.scot/publications/climate-change-emergency-representation-from-scottish-to-uk-government/>
- 44 Scottish Government, £62 million fund for energy sector, 12 June 2020, <https://www.gov.scot/news/gbp-62-million-fund-for-energy-sector/>
- 45 Scottish Government, Scottish Government and Scottish Green Party: draft shared policy programme, 20 August 2021, <https://www.gov.scot/publications/scottish-government-and-scottish-green-party-shared-policy-programme/pages/responding-to-the-climate-emergency/>
- 46 Scottish Government, Oil and Gas, <https://www.gov.scot/policies/oil-and-gas/>
- 47 Scottish Government, Oil and gas: Policy actions - Carbon capture, utilisation and storage, <https://www.gov.scot/policies/oil-and-gas/carbon-capture-utilisation-and-storage/>
- 48 Scottish Government, Oil and Gas and Energy Transition Strategic Leadership Group, <https://www.gov.scot/groups/oil-and-gas-industry-leadership-group/>
- 49 The Herald, Oil and gas sector call for government help to meet climate ambitions, 16 March 2020, <https://www.heraldscotland.com/news/19162532.oil-gas-sector-call-government-help-meet-climate-ambitions/>
- 50 Fossil Free Politics, <https://www.fossilfreepolitics.org/>
- 51 CityA.M., New North Sea oil field set for approval ahead of COP26, 23 June 2021, <https://www.cityam.com/new-north-sea-oil-field-set-for-approval-ahead-of-cop26/>
- 52 FoES et al, Sea Change, *ibid.*
- 53 Total, Culzean: a large gas project in the North Sea, <https://www.totalenergies.com/energy-expertise/projects/oil-gas/culzean-a-large-gas-project-north-sea>
- 54 FoES, New Oil and Gas permits speed us towards climate breakdown, 3 September 2020, <https://foe.scot/press-release/new-oil-and-gas-permits-speed-us-towards-climate-breakdown/>
- 55 Siccar Point Energy, Corona Ridge Area, <https://www.siccarpointenergy.co.uk/our-portfolio/corona-ridge-area>
- 56 FoES, 'Taking the Stop Cambo campaign to Downing Street, 5 August 2012 <https://foe.scot/taking-the-stop-cambo-campaign-to-downing-street/>
- 57 Channel 4 News, 'IEA director hopes UK will be inspiration for the rest of world on climate action ahead of decision on Cambo oil field', 22 July 2021, <https://www.channel4.com/news/iea-director-hopes-uk-will-be-inspiration-for-the-rest-of-the-world-on-climate-action-ahead-of-decision-on-cambo-oil-field>
- 58 The Independent, 'No need for new fossils anywhere in the world, says John Kerry', 20 July 2021, <https://www.independent.co.uk/climate-change/news/fossil-fuels-john-kerry-climate-b1887476.html>
- 59 The Herald, 'Climate Change Committee warns Cambo field yet to be justified', 31 August 2021, <https://www.heraldscotland.com/politics/19548967.climate-change-committee-warns-cambo-oil-field-yet-justified/>
- 60 S&P Global, Equinor's move to halve carbon intensity, scope 3 emissions both praised, panned, 7 February 2020, <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/equinor-s-move-to-halve-carbon-intensity-scope-3-emissions-both-praised-panned-56984504>, Shell, "Our Climate Target", accessed 2 September 2021, <https://www.shell.com/energy-and-innovation/the-energy-future/our-climate-target.html#iframe=L3dlYmFwcHMvY2xpbWF0ZV9hbWJpdGlvbi8>
- 61 Scottish Government Protecting Scotland's Future: the Government's Programme for Scotland 2019-2020, *ibid.*
- 62 FoES, Climate change catches up with the oil industry, 3 June 2021, <https://foe.scot/climate-change-catches-up-with-the-oil-industry/>
- 63 Friends of the Earth International (FoEI), Corporate Accountability International, and Global Forest Coalition, The Big Con: How Big Polluters are advancing a "net zero" climate agenda to delay, deceive, and deny, June 2021, <https://www.corporateaccountability.org/resources/the-big-con-net-zero/>
- 64 FoES et al, Sea Change, *ibid.*
- 65 FoEI et al, The Big Con, *ibid.*
- 66 Climate Home News, 10 myths about net zero targets and carbon offsetting, busted, by 41 scientists, 11/12/2020, <https://www.climatechangenews.com/2020/12/11/10-myths-net-zero-targets-carbon-offsetting-busted/>

- 67 By 2030, Shell must cut its CO₂ emissions by 45% compared to 2019 levels, the Dutch court ruled.
- 68 Milieudefensie, Historic victory: judge forces Shell to drastically reduce CO2 emissions, 26 May 2021, <https://en.milieudefensie.nl/news/historic-victory-judge-forces-shell-to-drastically-reduce-co2-emissions>
- 69 FoES and Global Witness, Briefing: Tyndall Centre, "A Review of the Role of Fossil FuelBased Carbon Capture and Storage in the Energy System", January 2021, <https://foe.scot/wp-content/uploads/2021/01/CCS-Research-Summary-Briefing.pdf>
- 70 Tyndall Centre for Climate Change Research, A Review of the Role of Fossil Fuel Based Carbon Capture and Storage in the Energy System, Client: Friends of the Earth Scotland, December 2020 Prepared by: Dr Samira Garcia Freites & Dr Christopher Jones.
- 71 It also suffered outages on 367 days of its operation and missed its capture targets by 17%. Tyndall Centre, *ibid*.
- 72 Tyndall Centre, *ibid*.
- 73 Corporate Europe Observatory, Food and Water Action Europe, and Re:Common, The Hydrogen Hype: Gas Industry Fairy Tale or Climate Horror Story? December 2020, https://corporateeurope.org/sites/default/files/2020-12/hydrogen-report-web-final_3.pdf
- 74 The Guardian, Move faster to cut emissions, developing world tells rich nations, 15 July 2021, <https://www.theguardian.com/environment/2021/jul/15/move-faster-to-cut-emissions-developing-world-tells-rich-nations>
- 75 FoES et al., Sea Change, *ibid*.
- 76 Tyndall Centre, *ibid*.
- 77 Tyndall Centre, *ibid*.
- 78 Howarth, R W, Jacobson, M Z., How green is blue hydrogen? Energy Sci Eng. 2021; 00: 1– 12., <https://doi.org/10.1002/ese3.956>
- 79 Scottish Government, Programme for Government 2019-2020: First Minister's speech, *ibid*.
- 80 FoES et al., Sea Change, *ibid*.
- 81 UN Production Gap Report 2020, *ibid*.
- 82 Muttitt, G., Kartha, S., Equity, climate justice and fossil fuel extraction: principles for a managed phase out, Climate Policy, 2020, 20:8, 1024-1042, <https://doi.org/10.1080/14693062.2020.1763900>
- 83 UN Production Gap Report 2020, *ibid*.
- 84 FoES et al., Sea Change, *ibid*.
- 85 FoES et al., Sea Change, *ibid*.
- 86 Unearthed, Revealed: The North Sea oil giants fueling climate change with millions of tonnes in preventable emissions, 1 February 2021, <https://unearthed.greenpeace.org/2021/02/01/north-sea-oil-flaring-climate-change/>
- 87 Oil Change International, The Sky's Limit, *ibid*.
- 88 FoES et al, Sea Change, *ibid*.
- 89 Muttitt, G., Kartha, S., *ibid*.
- 90 FoES et al, Sea Change, *ibid*.
- 91 UN Production Gap Report 2020, *ibid*. See Figure ES.3.
- 92 Fossil Free Politics, *ibid*.
- 93 Glasgow Calls Out Polluters, Open Letter to the UK Government: Kick Polluters Out of COP26, <https://www.gcop.scot/open-letter/>
- 94 Global CCS Institute, Our Members, <https://www.globalccsinstitute.com/membership/our-members/>



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