2021

THE FOSSIL FUELLED 5

Comparing rhethoric with reality on fossil fuels and climate change

Freddie Daley, University of Sussex and the
Fossil Fuel Non-Proliferation Treaty Initiative

FOSSIL FUEL NON-PROLIFERATION TREATY

This synthesis report was conducted by Freddie Daley of the University of Sussex in collaboration with the Fossil Fuel Non-Proliferation Treaty Initiative, as well as key partners in each of the five countries analysed – Greenpeace Norway, The Australia Institute, Stand.earth, Uplift UK and Oil Change International.

We would like to acknowledge and thank the following people for their help, guidance, comments and support in bringing this paper to fruition: Johnny West from Koinon and consultant to Carbon Tracker Initiative; Niclas Hällström from WhatNext?; Professor Peter Newell of the University of Sussex; Dr. Fatih Uenal of the University of Geneva; Silje Lundberg, Collin Rees, Kelly Trout and Bronwen Tucker of Oil Change International;

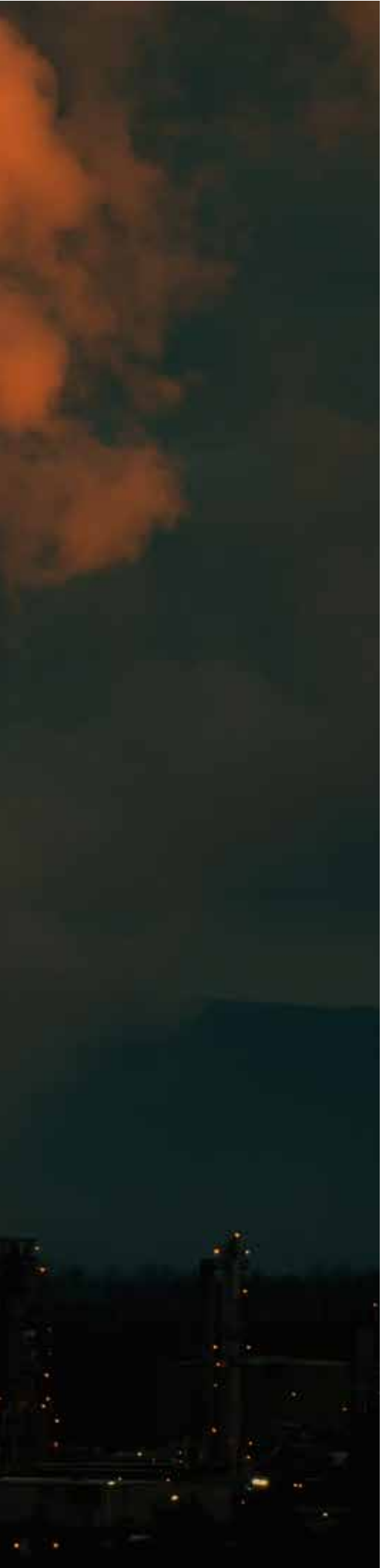
GREENPEACE

The Australia Institute
Research that matters.

STAND .earth

UPLIFT

OILCHANGE INTERNATIONAL



THE FOSSIL FUELLED 5

CONTENTS

SUMMARY

The scientific consensus is clear: limiting global warming to 1.5°C above pre-industrial levels is essential to protecting lives and livelihoods the world over.

Current pledges, promises and international commitments from governments around the world put the planet on track for nearly 3°C of heating by the end of this century,[1] far more warming than allowed under the goals of the *Paris Agreement*. While some progress has been made in ramping up commitments to reduce emissions in the build up to COP26 in Glasgow, this limited progress is likely to be completely undermined by a failure to address the ongoing and expanding production of fossil fuels.

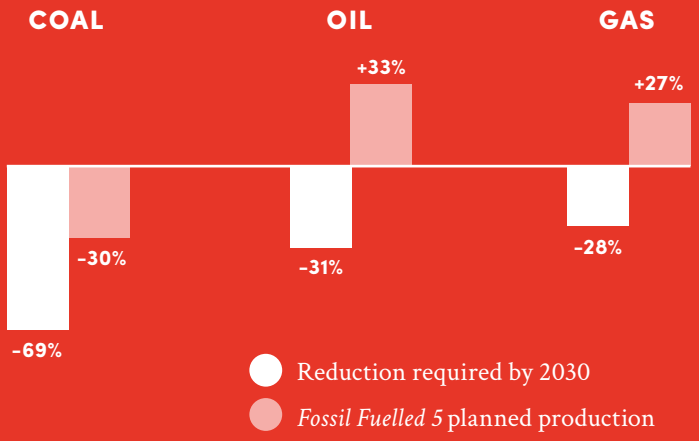
Fossil fuels are by far the biggest contributor to climate change, responsible for 86% of CO_2 emissions in the past decade.[2] And nearly two thirds of greenhouse gases added to the atmosphere since the dawn of the Industrial Revolution can be traced back to just 90 fossil fuel companies.[3] Enough coal, oil and gas is already under production in existing mines and wells today to take humanity well beyond 1.5°C if burnt.[4] Yet, despite this, governments around the world are expected to produce more than twice the amount of fossil fuels by 2030 that is consistent with keeping the 1.5°C target alive.[5]

The United Kingdom, United States, Canada, Norway and Australia represent five wealthy fossil fuel producer and exporter countries with high levels of historic responsibility for the climate crisis, and low levels of dependence on fossil fuels for economic development. These five countries, referred to in this paper as the ***Fossil Fuelled 5***, have both the **responsibility** and **capacity** to transition rapidly away from fossil fuels with limited impact to their own economies, and to support developing countries around the world to move away from fossil fuels, under timeframes and conditions that are fair, reasonable and just. Yet, despite these wealthy countries holding themselves up as climate leaders and pioneers, they are failing to provide international leadership on halting fossil fuel expansion and winding down production in a just and equitable manner. Instead, they are downplaying their historical responsibility for the climate crisis and effectively appropriating the limited remaining fossil fuels that can be produced before humanity breaches 1.5°C.

This paper compares the climate commitments of the Fossil Fuelled 5 with their future fossil fuel production plans and finds that:

There is an alarming gap between what the *Fossil Fuelled 5* are pledging to do to reduce their domestic emissions and their plans to expand fossil fuel production, undermining efforts to curtail global emissions and ignoring their responsibility to phase out fossil fuels rapidly and justly.

Coal, oil and gas production must fall globally by 69%, 31% and 28% respectively between now and 2030 to keep the 1.5°C target alive. **However, the projections suggest that the *Fossil Fuelled 5* will reduce coal production by only 30%, and actually increase oil and gas production by 33% and 27%, respectively. As wealthy nations, the *Fossil Fuelled 5* should be leading the transition away from fossil fuels.**



$150 billion

The *Fossil Fuelled 5* have invested more than $150 billion USD to support the production and consumption of fossil fuels since the beginning of the COVID-19 pandemic, despite their pledges to 'build back better'.[6]

This level of support from the *Fossil Fuelled 5* is more than the entire G7 put towards clean energy as part of the pandemic recovery effort ($147 billion).[7]

THE 5 FOSSIL FUELLED

CANADA

70 **tonnes of CO_2 per capita**

In Saskatchewan and Alberta, per capita emissions are nearly 70 tonnes of CO_2 – more than 12 times the global average.

Forecasting an increase of 18% for gas and 17% for oil above 2019 production levels by 2040, a decade before it is supposed to reach net zero.

↑ **17%** OIL ↑ **18%** GAS

UNITED STATES

20% **of historical emissions**

Largest polluter ever, responsible for 509 $GtCO_2$ since 1850 – approximately 20% of total historical emissions.

Planning to expand oil and gas more than any other country between 2019 and 2030.

Plans to expand:

↑ **17%** OIL ↑ **12%** GAS

UNITED KINGDOM

#2 **Second largest oil and gas producer in Europe, after Norway**

£30 **billion**

Pledged nearly £30 billion in support of fossil fuel production and consumption during the COVID-19 pandemic – 59% of all energy-related funding commitments over this period.

NORWAY

1/2 total exports

Oil and gas nearly 1/2 of total value of Norwegian exports (42%).

20x global average

96.3 tonnes emissions per capita when fossil fuel exports are included – **nearly** 20x global average

AUSTRALIA

#1 World's largest gas exporter

#2 World's second largest coal exporter

World's second largest coal exporter (and the largest when expressed in economic terms).

Planning on expanding fossil fuels by 2030.

↑ **4%** COAL ↑ **12%** GAS ↑ **32%** OIL

KEEPING 1.5°C ALIVE

The current pledges, promises and international commitments from governments around the world **fall far short of what is needed to avert climate catastrophe**. On our current trajectory, we can expect nearly 3°C of heating by the end of this century, far more warming than allowed under the goals of the *Paris Agreement*.[8] This would have disastrous impacts for all life on our planet, but especially those communities in the Global South who have done the least to create this crisis and have the fewest resources to adapt to its impacts. At the time of writing (November 2021), combining the most recent emissions reductions commitments from governments around the world lead to a reduction of just 7.5% by 2030,[9] when the 1.5°C temperature goal requires emissions reductions of at least 55% by 2030.[10]

Closing this gap will require both ambition and action from governments to be ramped by at least a factor of five.[11] As the IPCC Special Report on 1.5°C made clear, limiting global heating to 1.5°C will "require rapid, far-reaching and unprecedented changes in all aspects of society",[12] but especially within the energy system. **While many countries and corporations are putting forward 'net zero' targets for 2050, these distant commitments are full of loopholes, and most importantly, do not focus on the urgent need to stop production and consumption of fossil fuels in the immediate term.** Net zero targets are meaningless without stringent measures to ensure that CO_2 does not accumulate, year after year, eating up the remaining carbon budget.

To have any chance of keeping global temperatures within 1.5°C, we need to see swift and far-reaching emissions reductions at their source and firm rejections of overreliance on untried or underdeveloped technologies, such as carbon capture and storage (CCS), or on the limited amount of natural carbon sinks that can be provided by restoring and protecting nature. It is vital that the international community works together to achieve this. The difference between a 1.5°C world and 2°C world by the end of this century could not be starker, let alone the 3°C or more that the world is on track to experience. It will be felt through the rising seas and the wildfires, droughts and floods that rip through communities around the world. Preventing every 0.1 degree of heating matters.

While many countries and corporations are putting forward ‘net zero’ targets for 2050, these distant commitments are full of loopholes, and most importantly, do not focus on the urgent need to stop production and consumption of fossil fuels in the immediate term.

THE ELEPHANT IN THE ROOM

Fossil fuels are by far the primary cause of climate change. The burning of fossil fuels is responsible for 86% of CO_2 emissions in the past decade.[13]

To date, climate policy has tended to focus on measures aimed at reducing the demand for fossil fuels, or supporting the growth of alternative energy technologies, such as wind and solar.[14] Such measures should translate into reduced demand for fossil fuels that should, in turn, limit fossil fuel production. And yet, according to the latest figures, governments plan to produce more than double the amount of fossil fuels consistent with a 1.5°C trajectory by 2030.[15]

The breakdown of production by the type of fossil fuel paints a deeply worrying picture, with **countries forecast to produce: 240% more coal, 57% more oil and 71% more gas than is consistent with a 1.5°C trajectory by 2030**.[16]

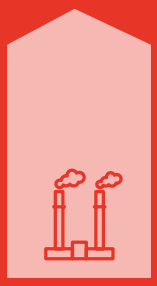
Even if the expansion of fossil fuel production ended overnight, the levels of fossil fuels already under production in existing coal mines, as well as oil and gas wells, would take humanity well beyond 1.5°C if burnt.[17] To have even a 50% chance of keeping the 1.5°C target alive, nearly 60% of oil and gas, and 90% of coal must remain in the ground.[18] Between now and 2030, there must be average annual declines in production of coal by at least 11%, oil by 4% and gas by 3%, leading to total median reductions of around 69% for coal, 31% for oil and 28% for gas by 2030, based on 2020 levels, with the need for wealthy countries to take the lead and move even faster.[19] In other words, we need to see sudden and drastic reductions in fossil fuel production and a scaling up of efforts to move economies away from fossil fuel dependency, while transitioning workers into industries and sectors that will help build the future.

However, things are moving in the opposite direction. While at a domestic level countries may be making progress on their emissions reduction pledges, ongoing production of coal, oil and gas (a significant portion of which will be burnt elsewhere and therefore will not contribute to their domestic emissions) is undermining this progress by contributing to *global* greenhouse gas emissions. The oil and gas industry is expected to invest $1.4 trillion into new fossil fuel projects between 2020 and 2024, creating emissions equivalent to building 1200 new U.S. coal-fired power stations, although investor appetite will have been dampened by the global pandemic.[20] Between 2019 and 2030, the largest increases in oil and gas production are expected to occur in the United States, followed by Brazil and Iran for oil, and Canada and Saudi Arabia for gas.[21]

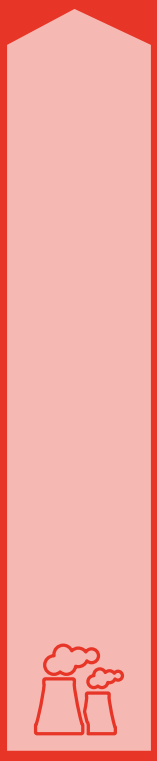
Coal production is expected to fall everywhere, apart from a small increase in India.[22] The global pipeline of proposed coal power plants has fallen by a massive 76% since the *Paris*

The breakdown of production by the type of fossil fuel paints a deeply worrying picture, with countries forecast to produce:

57%
MORE OIL



71%
MORE GAS



240%
MORE COAL

than is consistent with a 1.5°C trajectory by 2030.

* 2021 Production Gap Report

Agreement was signed in 2015.[23] However, **coal production is winding down far slower than needed,** resulting in coal having the biggest production gap of the three main fossil fuels, with a production gap of 240% compared to a 1.5°C pathway.[24]

Many had hoped that the recovery effort from the COVID-19 pandemic would be an opportunity to build back better and put the world on track to zero emissions. Due to the economic disruption caused by COVID-19, global emissions declined by 6.4% in 2020.[25] However, emissions soared again in 2021 to the second highest rate in history, due in part to government stimulus to the fossil fuel industry as part of a "green recovery".[26] Between January 2020 and March 2021, G7 countries committed more than $189 billion in support to coal, oil and gas.[27] Since the beginning of the pandemic, G20 countries directed almost $300 billion in new funds to fossil fuel activities, eclipsing the funds allocated to clean energy projects.[28] **Of the almost $17 trillion of COVID-19 stimulus spending that has been pumped into economies by governments around the world, just 2.5% has gone towards low-carbon areas of the economy.**[29] It is no surprise that the UN states, in no uncertain terms, that the opportunity to use COVID-19 recovery spending to build back better "has been missed in most countries so far."[30] And the support for fossil fuel production and consumption through government subsidies is set to continue around the world. Global subsidies in 2020 were $5.9 trillion, which is around 6.8% of global GDP and an estimated $11 million *per minute*.[31] By 2025, these subsidies are expected to rise to a value equivalent to 7.4% of global GDP.[32]

Of the almost $17 trillion of COVID-19 stimulus spending that has been pumped into economies by governments around the world, just 2.5% has gone towards low-carbon areas of the economy.

Continuing to expand fossil fuel production undermines climate policy, and efforts to tackle the climate crisis more broadly, in a number of ways:

1. If the fossil fuels are extracted and burnt domestically, the country's greenhouse gas emissions will rise, making the challenge of bending the emissions curve even more daunting.

2. If fossil fuels are exported and burnt elsewhere, both the emissions of the importing country and cumulative *global* greenhouse gas emissions will climb. While these emissions will not be reflected in the producer country's domestic emissions, they still contribute to rising global temperatures and will undo the benefits from curtailing domestic emissions.

3. The principles of fairness and equity are vital for collective international action on climate. Wealthy countries failing to phase down fossil fuel production leaves little incentive for developing nations, who are typically more dependent on the revenues and employment opportunities derived from fossil fuel production, to do the same.

4. Wealthy nations expanding fossil fuel production has a symbolic effect. Continuing to extract and burn fossil fuels, as well as supporting the fossil fuel industry through subsidies, implies that large-scale fossil fuel production is compatible with steep declines in emissions and essential to future prosperity, despite overwhelming evidence to the contrary.[33]

THE FOSSIL FUELLED 5

Despite the growing consensus around the speed and scale of action now required to tackle the climate crisis, and the need to move the global economy away from its reliance on fossil fuels, some of the wealthiest nations on earth are doubling down on fossil fuel production, driving much of the expected growth in production.The *Fossil Fuelled 5* plan on expanding fossil fuel production in the face of overwhelming evidence that they need to do the opposite.[34]

At the same time, these nations have all signed and ratified the *Paris Agreement*, most have made national commitments to reduce domestic emissions, and some have even enshrined the net zero target by 2050 into law. Yet, despite these commitments, as well as their professed leadership on matters of climate, **the elephant in the room remains fossil fuel production.** For instance, throughout the COVID-19 pandemic, these five nations provided huge support for fossil fuel production and consumption of over $150 billion.[35]

The elephant in the room remains fossil fuel production.

The nations that make up the ***Fossil Fuelled 5*** have a duty to lead by example and begin winding down fossil fuel production immediately to keep 1.5°C alive due to their:

- **Wealth:** These nations have amassed vast amounts of wealth through the production and combustion of fossil fuels. The United Kingdom, for instance, was the first nation on earth to industrialise. Through the process of fossil-fuelled economic growth, spanning centuries, these nations were able to achieve high standards of living for their citizens and diversify their economies into other sectors, such as technology and manufacturing, offshoring much of their emissions to other nations. This is captured in Table 1 below as Gross National Income per capita.

› **Responsibility:** There is a historical responsibility to rising emissions that must be put front and centre. Since 1850, humanity has emitted 2,500 billion tonnes of CO_2 ($GtCO_2$) into the atmosphere, with only 400 $GtCO_2$ remaining of breathing space before humanity breaches 1.5°C of heating. But the responsibility for these cumulative emissions is not evenly spread. The United States is responsible for nearly one-fifth of all historical emissions, and is culpable for 420 $GtCO_2$ from the burning of fossil fuels.[36] The birthplace of the industrial revolution, the United Kingdom, is liable for approximately 74.9 $GtCO_2$ of historic emissions from fossil fuels, while Canada is responsible for 34.2 $GtCO_2$, respectively.[37] Australia is responsible for around 18.9 $GtCO_2$ of cumulative historical emissions from fossil fuels, while Norway has a much smaller historic contribution at 2.6 $GtCO_2$.[38] When adjusted for population, Canada, the United States, Australia and the United Kingdom are ranked first, second, fourth and eighth respectively in terms of their cumulative greenhouse gas emissions.[39] The climate crisis we all face can be traced back to the industrial development of the *Fossil Fuelled 5*.

› **Limited dependence on fossil fuel production:** These nations have high rates of Gross Domestic Product (GDP) per capita and low concentrations of workers in fossil fuel production. This means they have both a greater capacity to fund a just transition and fewer workers exposed to the impacts of winding down fossil fuel production.[40] One indication of fossil fuel dependence is a country's economic complexity score – the more complex an economy, the less reliant it is on one particular source of revenue and the more likely it can adapt to shifting economic circumstances. Of the five countries, the United States is ranked 1st in the world for economic complexity, while Australia is below average at 86 (out of 133 countries analysed). By contrast, fossil fuel dependent developing countries like Nigeria, Venezuela and Azerbaijan all fall within the bottom 12. Specifically relating to oil and gas, the United States, Canada, United Kingdom and Norway are all well placed to fund a just transition due to their wealth and the limited contribution oil and gas profits make to government revenues.[41] The *Fossil Fuelled 5* are the most able to fund a just and smooth transition for workers, but are instead intent on expanding fossil fuel production.

The *Fossil Fuelled 5* account for 25% of global fossil fuel exports.

› **Exports:** Together, **the *Fossil Fuelled 5* account for 25% of global fossil fuel exports.**[42] Nations such as Australia, Norway and the United States continue to export huge amounts of coal, oil and/or gas, essentially exporting their greenhouse gas emissions and contributing to the continued fossil fuel-dependence of many countries worldwide. Due to the urgency of addressing the climate crisis, wealthy nations should be aiding poorer nations to transition away from fossil fuels and adapt to increasingly frequent climate impacts.[43]

On average, coal production is expected to fall by a total of 30% between 2020-2030, while oil production in the *Fossil Fuelled 5* countries is projected to increase by 34% and gas production is expected to increase by 27%. By contrast, the 2020 production gap report found that on average coal, oil and gas production should fall by 69%, 31% and 28% respectively between 2020 and 2030 to keep the 1.5°C target alive, with wealthy countries reducing even faster.

Country profile	UK	Norway	US	Canada	Australia
Wealth: Gross national income (GNI) per capita 2019	32nd $42,130 USD	3rd $81,620 USD	7th $65,910 USD	22nd $46,460 USD	14th $55,100 USD
Responsibility: historical GHG emissions, ranked[45]	Absolute: 8th Population adjusted: 8th	n/a	Absolute: 1st Population adjusted: 2nd	Absolute: 10th Population adjusted: 1st	Absolute: 13th Population adjusted: 4th
Responsibility: Tonnes of CO_2 emissions per capita, excluding exports (global average is 5 tonnes per capita)[46]	6	7	16	15	16
Dependence: Economic Complexity Ranking (out of 133 – lower number = less dependence)[47]	12	41	1	36	86
Fossil Fuel exports as a % of domestic exports (2020)[48]	6.63%	42%[49]	12.7%	24%	19%
Government support for Oil & Gas production and consumption since the beginning of the COVID-19 pandemic.[50]	$39.54 billion	$11.37 billion	$68.67 billion	$28.93 billion	$1.64 billion

Fossil fuel production 2019-2030 – Government plans & trend analysis

The rows below capture two different sets of data: 1) explicitly stated government plans and projections for fossil fuel production, as captured by the 2021 Production Gap Report, and 2) projections of fossil fuel production based on expected economic trends, under today's policy environment, drawn from Rystad's UCube database and the IEA's Stated Policies Scenario, as captured by Achakulwisut and Erickson (2021).

Data is available for the largest producers per fuel type. In several instances, specific numbers on planned production up to 2030 are not available (see government projections for Norway and Canada), but in these instances there is still a clear trajectory of increased fossil fuel production when production needs to fall significantly over the next decade.

The United States, Canada, Norway and Australia are all expected to fall far short of the production declines required to meet 1.5°C, as elaborated by the Production Gap Report. The UK government's plans suggest that production may fall sufficiently over the next decade, however the Oil and Gas Authority's Vision 2035 indicates that production may be higher than projected, and economic trend analysis by Rystad suggests that the United Kingdom may increase production.

Country profile	UK	Norway	US	Canada	Australia
Change in coal production (goal: decline by more than 69%)	-	-	Government plans: -30% Trend: -53.82%	-	Government plans: +4% Trend: -11.24%
Change in oil production (goal: decline by more than 31%)	Government plans: -58% by 2040** Trend: +17.63%	Government plans: planned increase Trend: +18.86%	Government plans: +17% Trend: +32.36%	Government plans: +17% (by 2040*) Trend: +17.43%	Government plans: +32%
Change in gas production (goal: decline by more than 28%)	Government plans: -70% by 2040** Trend: n/a	Government plans: planned increase up to 2025	Government plans: +12% Trend: +27.35%	Government plans: +18% (by 2040*) Trend: +45.02%	Government plans: 12% Trend: +10.94%

* Only 2040 government plans available, however 2040 data indicates an upwards trajectory for oil and gas production in Canada.

** The Production Gap Report 2021 highlights UK government projections that estimate oil and gas production could decline in the United Kingdom out to 2030 due natural resource depletion (rather than government policy), but the industry body (OGUK) 2035 vision plans for production to exceed these estimates, and projections by Rystad suggest production of oil in the United Kingdom could in fact increase rather than decrease.

UNITED KINGDOM

As the birthplace of the industrial revolution, the United Kingdom has been at the heart of the fossil fuel economy since its inception in the 1880s. To date, the United Kingdom is responsible for 3% of the total historical cumulative emissions, although this does not include the emissions historically released overseas throughout the colonial British Empire.[53] **The United Kingdom is currently the second largest oil and gas producer in Europe, after Norway.**[54]

The United Kingdom has long held itself to be a climate pioneer that provides "global leadership"[55] on both domestic climate policy and international climate diplomacy, enacting several ambitious policies. In 2008, the UK government passed the Climate Change Act which saw the creation of the world's first independent climate advisory body, the Committee on Climate Change, which requires the UK government to set carbon budgets covering five year periods. In 2016, the United Kingdom ratified the *Paris Agreement.* Then in 2019, the United Kingdom enshrined the net-zero target by 2050 into law, becoming the first major economy to do so.[56] In the build up to COP26, the UK government has announced a range of green policies and investment schemes, including mobilising £12 billion of government funds as part of a 'green industrial revolution'.[57] Earlier this year, the UK's COP26 President Alok Sharma stated emphatically that "the science shows us that to keep 1.5°C alive we must halve global emissions by 2030, and reach net zero emissions by mid-century" and that we "need to follow the science, take action this year and make sure at COP26 we are able to credibly say that we have kept 1.5°C alive."[58] However, when scrutinised further, these targets and commitments do not add up to what is required from the United Kingdom. The United Kingdom's current commitments in relation to keeping the 1.5°C target alive shows the need to increase its mitigation ambition by at least a factor of two.[59]

The United Kingdom is currently the second largest oil and gas producer in Europe, after Norway.

Furthermore, meeting these current commitments may be derailed by the continued expansion of fossil fuel production which, if burnt, could limit the United Kingdom's ability to meet its already insufficient carbon budgets and net zero goal, in addition to introducing further fossil fuel supply to the global market. Although the United Kingdom's Oil & Gas Authority (OGA) projects a decline in oil and gas production over the long term, this is primarily a reflection of the depletion of reserves rather than an intentional wind down of production.[60] Other projections from the likes of Rystad project an increase in UK offshore fossil fuel production in the coming years.[61] What's more, in the United Kingdom there is a statutory duty to maximise the economic recovery of offshore oil and gas, with the government emphasising its aim to 'extract every drop of oil and gas that it is economic to extract'.[62] Such a duty is completely incompatible with keeping the 1.5°C target alive.

The United Kingdom is also considering approving the Cambo Oilfield in the North Atlantic, together with 30 other oil and gas fields before 2025, which could significantly slow the United Kingdom's decline in fossil fuel production. Cambo oilfield contains approximately 255 million barrels of oil, with 170 million barrels of oil expected to be extracted in the first phase alone.[63] Just the emissions from the first phase of production would be equivalent to the yearly

emissions from 18 coal-fired power plants.[64] With drilling starting as early as 2022 and extraction lasting up to 25 years, the Cambo oilfield and subsequent oil and gas field approvals will lock the UK economy into fossil fuel production way beyond the point when it, and other wealthy nations, should be winding down the production and use of fossil fuels to reach net zero.

As the license for exploration was granted in 2001 and 2004, Cambo is highly unlikely to be subject to the government's 'climate compatibility checkpoint', designed by the government to determine whether future licenses are compatible with "the government's broad climate change ambitions".[65] This is despite the IEA making clear that developing any new oil fields is incompatible with reaching net zero emissions by 2050.[66] Significant pressure is mounting for the UK government to reject the Cambo project.[67] In addition to Cambo, the UK government is also set to approve an oil project in Surrey and a coal mine in Cumbria. The combined emissions from these three projects alone would be around 296 million tonnes of CO_2 equivalent, more than four times higher than the annual emissions from all the cars in the United Kingdom.[68] Unfortunately, these three projects are not the only ones on track to be given the green light in the United Kingdom. According to Friends of the Earth, fossil fuel companies plan to launch at least 40 new coal, oil and gas extraction projects in the United Kingdom over the next few years. If approved, the combined greenhouse gas emissions from these projects would reach 1.3 billion tonnes of CO_2 equivalent, which is nearly three times the annual greenhouse gas emissions of the entire UK.[69]

Climate commitments	Fossil fuel supply-side actions
› Introduced the Climate Change Act into law in 2008, which saw the creation of the Committee on Climate Change (CCC), and required government to publish five-yearly carbon budgets. › In 2016, the United Kingdom ratified the *Paris Agreement*, enshrining its goals into law. › In 2019, the United Kingdom became the first industrialised nation to enshrine net-zero into law. › £3 billion of green investment into retrofitting and improving the energy efficiency of buildings.[70] › Ending all new public finance for fossil fuel production overseas, making it the first G20 nation to do so.[71] However there remains a large loophole where funds labelled as 'development aid' can leave the United Kingdom through the government's development bank, CDC Group, which is not governed by this policy.[72]	› Statutory duty to maximise economic recovery of offshore oil and gas, despite the UK net zero target being enshrined in law.[73] › Expected to give the green light to the Cambo oil field, which would extract up to 170 million barrels of oil in its first phase alone. › Continuing to subsidise fossil fuels with vast amounts of public money. Since 2016, the United Kingdom has provided £4 billion to oil and gas companies.[74] › $1.15 billion in export finance support provided to a natural gas project in Mozambique, which could emit between 3.3 and 4.5 billion tonnes of CO_2 equivalent over the project's lifespan, more than the combined annual greenhouse gas emissions of all 27 EU countries.[75] › The pipeline of the 40 potential UK fossil fuel production projects includes: 30 offshore oil and gas projects expected to seek approval between now and 2025; seven onshore oil and gas projects; and three coal mines.[76]

UNITED STATES (U.S.)

The United States is by far the biggest polluter on an historical scale, responsible for 509 $GtCO_2$ since 1850, which amounts to around 20% of total historical emissions.[77] The United States' present share of annual global emissions is around 14.5%, despite having just 4.28% of the world's current population. On a per-person basis, the United States' emissions are some of the highest in the world, coming in at 16 tonnes, which is over three times the global average.[78]

With the election of President Joe Biden in 2020, the world hoped that the United States would step up to assume a role of international climate leadership after a prolonged absence under former president Donald Trump. It seemed, at first, that these hopes were well-placed, with President Biden bringing the United States back into the *Paris Agreement* on his first day in office.[79] President Biden also blocked the controversial Keystone XL pipeline project, which would have delivered around 830,000 barrels of oil from Canada's carbon-intensive tar sands every day.[80] Likewise, Biden's $2 trillion USD Build Back Better Plan was set to allocate $500 billion to clean infrastructure and climate projects, which would have been a substantial positive investment toward transformative climate action. Yet the plan has yet to be enacted, and some of its most ambitious elements – such as a Clean Electricity Performance Program, a methane fee, and a repeal of most domestic fossil fuel subsidies – are likely to be dropped due to opposition from conservative members of Biden's own party.[81] President Biden has also pledged to halve emissions by 2030 and achieve net-zero economy-wide emissions 'no later than 2050' as part of a so-called Green New Deal, though these commitments are also threatened by legislative paralysis in the United States.[82]

But despite a clear pivot in climate rhetoric, President Biden has done very little to constrain oil and gas expansion, and the United States is still set to significantly expand fossil fuel production. By 2030, the U.S. government projects oil production to rise by 17% and gas production to rise by 12% above 2019 levels, putting the United States in the top four countries expanding fossil fuel production. Looking at projected production based on economic trends, rather than government plans, **the United States is expected to expand oil and gas more than any other country between 2019 and 2030**, with much of the increase in production set for export markets.[83] Coal production is projected to decline by 30% overall by 2030, although this falls well short of the 69% (11% per year) required to limit warming to 1.5°C.[84]

But despite a clear pivot in climate rhetoric, President Biden has done very little to constrain oil and gas expansion, and the United States is still set to significantly expand fossil fuel production.

As part of the U.S. government's COVID-19 relief stimulus, energy-related funding commitments in the United States amounted to $100 billion. Of this total, 73% was pledged to fossil fuel energy ($72 billion) and only 27% to clean energy.[85] Beyond pandemic spending, the U.S. government provides direct subsidies to fossil fuel production to the tune of over $20 billion per year, with 80% going towards oil and gas, although these are conservative estimates with the total figures likely to be far higher.[86] Since 2015, the year the *Paris Agreement* was forged, the United States has increased fossil fuel subsidies by 36.7%.[87] During this time period, the United States' production of oil and gas has accelerated too. While the United States' coal production has dropped, the United States still remains the fourth-largest coal exporter globally and has the world's largest proven coal reserves.[88] And despite cancelling the Keystone XL oil pipeline, President Biden is yet to take a similar approach to other polluting infrastructure projects, such as the 570,000-barrel-per-day Dakota Access pipeline or the 760,000-barrel-per-day Line 3 pipeline.

The wealth, power and size of the United States makes it a vital international partner in keeping the 1.5°C target alive. While the pivot of rhetoric under President Joe Biden around decarbonisation and net-zero is a welcome step in the right direction, the extensive planned fossil fuel production in the United States undermines these efforts and threatens local communities impacted by extraction and the fossil fuel supply chain.

Climate commitments	Fossil fuel supply-side actions
› Pledging to halve emissions by 2030 and net-zero economy-wide emissions 'no later than 2050' as part of President Biden's 'Green New Deal'. › Using $1.7 trillion of federal investment over the next decade to scale up clean energy.[89] › Doubling the United States' climate finance contribution to $11.4 billion per year by 2024.[90] › Committing to end all international public finance for oil, gas and coal by the end of 2022. In recent years, this support has averaged around $1.5 billion per year for overseas oil, gas and coal projects.[91]	› Over $20 billion in annual support to the fossil fuel industry, with 80% going to oil and gas production.[92] › No actions to stop the Dakota Access or Line 3 pipelines, or over 20 other pipelines and gas export facilities pending approval from the Biden administration, which combined would emit over 1.6 $GtCO_2e$ per year.[93] › Continued leasing of public lands and waters to fossil fuel firms at below-market rates, with 40% of all coal production extracted from public land.[94] › Expansion of crude oil and gas export facilities, which would lock in fossil fuel production for decades to come. The end-use emissions of this oil and gas would also not be covered by U.S. emissions accounting. › Exemption of fossil fuel production from a number of federal environmental regulations.[95] › Plans for oil and gas production to increase by 17% and 12% respectively between 2019-2030, while coal production will fall by only 30%.

CANADA

Canada is currently the eleventh biggest emitter globally,[96] but on a per capita basis Canada has emissions in the realm of 15 tonnes of CO_2 per Canadian – three times the global average of 5 tonnes.[97] In the oil and gas producing provinces of Saskatchewan and Alberta emissions are nearly 70 tonnes of CO_2 equivalent per capita, which is more than 12 times the global average.[98] Even though Canada makes up just 0.49% of the global population, they are responsible for nearly 1.6% of annual emissions.[99]

The beginning of the 2000s looked promising for Canadian climate action, with Canada hosting COP11 in Montreal in 2005, which saw the creation of the Montreal Action Plan which initiated negotiations for the extension of the Kyoto Protocol beyond 2012 (and were concluded the subsequent year with the Doha Amendment).[100] Fast forward to 2008, and British Columbia became the first jurisdiction in North America to introduce a carbon tax to curtail emissions, with the Canadian oil-rich state of Alberta following in its footsteps in 2015.

The hopes of Canada providing international leadership on the climate crisis suffered a serious setbcak in 2011 when then-prime minister Stephen Harper withdrew Canada from the Kyoto Protocol, making it the first signatory to do so. However, after Justin Trudeau defeated Harper in the 2015 general election, Canada's rhetoric around climate action ramped up – most notably with PM Trudeau declaring that "Canada is back" at the Paris Climate Summit of the same year, which Canada then became a signatory to.[101] In 2020, PM Trudeau delivered plans to reach net zero by 2050 after campaigning hard on climate action during his 2019 re-election campaign, but the regulations have yet to be developed.[102]

Despite the ramping up of rhetoric from the Canadian government under Trudeau's leadership, actual progress towards reducing emissions and winding down fossil fuel production has been sluggish. Canada missed its emission reduction targets in 2020 under its current Nationally Determined Commitment, and is on track to miss its 2025 target too.[103] What's more, Canada's overall emissions are still

Despite the ramping up of rhetoric from the Canadian government under Trudeau's leadership, actual progress towards reducing emissions and winding down fossil fuel production has been sluggish.

accelerating in sectors such as transportation and oil and gas production. This is unsurprising when you consider that the federal government clearly sees fossil fuel exports as a route to economic growth and post-pandemic recovery, carving out specific measures for the oil and gas sector with 88% of commitments going towards fossil fuel production.[104]

Alongside this, the Canadian government has approved three new offshore exploration drilling projects in recent years and also granted a $240 million federal support package to Newfoundland and Labrador's offshore oil sector. For the oil industry in Alberta, British Columbia and Saskatchewan, the Canadian government earmarked $1.3 billion for inactive conventional oil and gas well clean-up, a policy that shifts the social and environmental costs of fossil fuel production away from producers onto the taxpayer. **Canada is still forecasting an increase of 18% for gas and 17% for oil above 2019 production levels by 2040, a decade before it is supposed to reach net zero.**[105] These production forecasts have been revised down in light of the growing global pressure to tackle the climate crisis, but ramping up fossil fuel production in this way escalates the climate crisis. In 2020, the federal Canadian government either announced or provided nearly $18 billion in support to the oil and gas sector.[106] This included $3.28 billion in direct subsidy programmes and $13.47 billion in public finance funneled to oil and gas companies through the non-transparent export credit agency, Export Development Canada (EDC).[107]

Climate commitments	Fossil fuel supply-side actions
› In 2020, Canada introduced a net zero target into law, establishing a series of interim emissions reduction targets at 5-year milestones.[108] › $5.1 billion for the buildings sector supported clean energy, notably $3.4 billion in unconditional funding from the federal government's two largest building retrofit programmes.[109] › Transport also saw a large share of clean energy commitments, despite new highway projects. The federal government announced $11.1 billion in new funding for public transit infrastructure over eight years, including the creation of a permanent public transit fund starting in 2026.[110] › Arguably Canada's most significant move to reduce emissions was the federal government's announcement to increase the carbon tax by $11/$tCO_2$ (CA$15/$tCO_2$) per year, starting in 2023 and rising to $127/$tCO_2$ (CA$170/$tCO_2$) in 2030.[111]	› In 2020, the federal Canadian government either announced or provided nearly $18 billion in support to the oil and gas sector.[112] › Since 2016, Export Development Canada (EDC) has provided an annual average of over $10 billion in public finance for fossil fuels.[113] › Pre-pandemic national and subnational subsidies reached $3.6 billion per year, mostly going towards fossil fuel production.[114] › Between 2018 and 2020, the governments of Canada and Alberta provided around $17 billion in public finance to three fossil fuel pipelines.[115] › Canada is still forecasting an increase of 18% for gas and 17% for oil above 2019 production levels by 2040.[116]

NORWAY

The Scandinavian nation of Norway is often touted as a true climate leader, with its electric vehicle (EV) roll-out far outstripping any other industrialised nation[117] and its electricity generation being almost exclusively powered through renewables, with only 2.4% of generation from fossil fuels.[118] The government of Norway has also set ambitious emissions reductions targets, raising its NDC to 50-55% by 2030 and 'climate neutrality' by 2050.[119] Norway's ability to meet these targets, and its ambitious 2025 EV target, is in part due to the vast amount of wealth the nation has created through the production and export of fossil fuels. The sovereign wealth fund of Norway, created through the profits from oil and gas, is worth an estimated $1.3 trillion, increasing by more than $125 billion in 2020 alone. As of 2021, this works out as roughly $248,000 for every single Norwegian citizen.[120]

Despite the eye-watering amount of wealth being generated, sufficient to stimulate a deep and rapid shift away from fossil fuels, Norway's new prime minister, Jonas Gahr Store, recently stated that if Norway were to "close down production from the Norwegian shelf" it "would put a stop to an industrial transition that is needed to succeed in the momentum towards net zero."[121] Norway remains in the top ten largest exporters of crude oil globally, representing 2% of total global crude output,[122] and is western Europe's biggest oil and gas producer followed by the UK.[123] When combined, oil and gas currently make up nearly half of the total value of Norwegian exports (42%),[124] with long-term profits a key pillar of both government policy and public contestation in the recent election.[125] While Norway's emissions per person are around 7 tonnes of CO_2 equivalent, this excludes the vast impact of their oil and gas exports that are burnt overseas. **When you take into account Norway's fossil fuel exports, emissions skyrocket to 96.3 tonnes per person, which is higher than the United States, Russia, China and the United Kingdom.**[126] Only the per capita emissions of Brunei, Qatar and Kuwait are larger than Norway's when you factor in their exports of fossil fuels around the world.[127]

The oil and gas industry is responsible for around 27% of the total annual greenhouse gas emissions within Norway.[128] **In 2021 alone, the government has issued over 60 licenses for**

In 2021 alone, the government has issued over 60 licenses for fossil fuel production and offered 84 new exploration zones on the Norwegian continental shelf including the North Sea, Barents Sea and Norwegian Sea.

fossil fuel production and offered 84 new exploration zones on the Norwegian continental shelf including the North Sea, Barents Sea and Norwegian Sea. [129] A series of fossil fuel reserve discoveries mean that Norway is expected to actually increase production in the coming years, with much of this fossil fuel production exported to other nations, despite the urgency of reducing global emissions in the face of the climate crisis. Instead of contributing to ongoing fossil fuel consumption worldwide, Norway could help facilitate a transition away from fossil fuels.

Although Norway has set ambitious emissions reduction targets, the current domestic policy environment is highly supportive of fossil fuel production. For instance, the Norwegian government invests substantially in exploration through tax deductions, essentially de-risking the investment of private companies with taxpayers' money. Such a policy not only helps fossil fuel production continue within Norway, but actively encourages the further expansion of the Norwegian fossil fuel industry.

Additional direct policy from the Norwegian government includes deferred taxation schemes to help producers deal with fluctuating oil prices, costing an estimated $850 million.[130] In response to the COVID-19 crisis, Norway granted a temporary tax relief on new investments to help fast track new fossil fuel projects in the North Sea worth an estimated $10.8 billion.[131]

Even though Norway is ramping up its fossil fuel production, it still claims that its forecast oil and gas production is compatible with the 1.5°C target. However, the long-term decline of Norwegian fossil fuel production reflects the rate at which the fossil fuel reserves will be used up,[132] meaning that Norway expects to squeeze as much profit as possible from its reserves at the expense of the planet.

Climate commitments	Fossil fuel supply-side actions
› Raising the ambition of its NDC to 50-55% by 2030 and reaching 'climate neutrality' by 2050.[133] › No sales of any new fossil-fuel vehicles by 2025, the most ambitious phase-out in the world.[134] › Norway's sovereign wealth fund divesting from coal and some upstream oil and gas companies.[135] Although there are some concerns that the divestment does not cover integrated energy companies.[136]	› Granting over 60 new licenses for fossil fuel production and granting access to 84 new exploration zones since the beginning of 2021.[137] › A tax giveaway worth $10.8 billion to help fossil fuel production weather the impact of the global pandemic.[138] › Government plans to increase fossil fuel production up to the middle of this decade, before scaling back production.[139]

AUSTRALIA

After several weeks of negotiations, Australia's coalition government finally announced a net zero target by 2050, one week before the start of COP26 in Glasgow. However, this commitment did not include an update to Australia's 2030 emissions reduction targets of cutting emissions by between 26% and 28% by 2030, which is already well short of what is required to keep the 1.5°C target alive. The net zero target also does not come with any associated domestic policies. Instead, the government has committed to an approach it terms 'technology not taxes',[140] where the government will invest more than $20 billion over the next decade in low emissions technologies, although they have not been explicit about whether this includes fossil fuel gas. Other low emissions technologies include as yet unproven technologies like carbon capture and storage that seems 'designed to allow the fossil fuel industry to keep operating for decades to come'.[141] Australian Energy Minister, Angus Taylor, acknowledged that the government does not intend to wind down fossil fuels as part of its net zero plan, as the government is 'still going to have gas as an important part of the mix for many, many years to come'.[142] Recent analysis comparing Australia to 22 OECD countries and Russia found that Australia ranked the worst in terms of progress towards decarbonisation and electrification.[143]

Australia's poor record on climate has often been justified by its political leaders on the basis that Australia is responsible for just over 1% of global emissions (1.13%).[144] Yet, when combined with emissions from fossil fuel exports this rises to between 3-4%.[145] And with only 0.33% of the global population, Australia is amongst some of the world's top emitters of carbon emissions with an average carbon footprint of 16 tonnes per capita, over three times the global average.[146] Despite climate change concerns rising up the public agenda in Australia,[147] and the nation having a huge natural advantage in wind, solar and geothermal energy, **the Australian government projects an increase in coal production of 4%, a 12% increase in gas production and a 32% increase in oil production up to 2030.[148]**

Since 2010, the Australian coal and gas sectors have seen a vast expansion. As of 2021, **Australia is the world's second largest coal exporter (and the largest when expressed in economic terms) and the largest gas exporter,** although the United States is likely to overtake it in the coming years.[149] Every year, Australia exports almost 400 million tonnes of coal and around 75 million tonnes of gas, which when burnt results in over 1.5 billion tonnes of emissions.[150] Between 75-80% of the coal mined in Australia is exported, locking many developing countries into coal dependency.[151] While earnings from Australia's coal exports are

The Australian government projects an increase in coal production of 4%, a 12% increase in gas production and a 32% increase in oil production up to 2030.

expected to fall from $20 billion in the 2019-20 financial year to $14 billion from 2020-2021, the government is expecting earnings to increase once more to $15 billion by 2025.[152] The value of Australia's gas exports are expected to reach $45 billion by 2025.[153]

As other wealthy nations declared the need for a green recovery in the face of economic damage wrought by COVID-19, the Australian government has touted the need for a 'gas-fired recovery'[154] and provided extensive public funding to open-up new gas basins, expand gas infrastructure and boost both gas supply and domestic usage.[155] All these measures are expected to cost the Australian government $39.9 million over a four year period.[156] These policy measures add to an already extremely favourable environment for fossil fuel production in Australia. For instance, Australia's tax regime for oil and gas production enables some major fossil fuel operators to pay very little or nothing at all in resource rent taxes.[157] In terms of coal production, the Queensland state government last year agreed to defer any royalties owed on the Carmichael coal mine, which has been the subject of a major civil society campaign amid fears it will unlock the Galilee basin, one of the largest remaining untouched deposits of coal in the world.[158] At the time of writing (November 2021), the Australian government has approved a further three coal mines in the past month, committed $226 million in funding to new gas projects that will open up the Beetaloo Basin, and approved the Woodside Scarborough Gas Field, which is expected to produce emissions equivalent to building 15 coal fired power stations over its lifetime.[159] A further worrying development from the Australian government is the recent announcement that it will grant carbon credits for Carbon Capture and Storage (CCS) schemes, despite them having limited proven capacity at scale.[160]

In total, Australia has around 72 major coal projects under development and 44 major gas and oil projects under development.[161] The combined emissions associated with all these projects is around 1.7 billion tonnes of CO_2 every year – more than three times Australia's total annual emissions.[162]

Climate commitments	Fossil fuel supply-side actions
› $549 million for residential energy efficiency support, one-off power bill relief payments for eligible recipients and an expansion of residential solar energy.[163] › Almost $1 billion invested by State governments in the first stage of several 'renewable energy zones' to be developed a; cross Victoria and NSW.[164] › Australia's NDC sets out a 2030 emissions reduction target of 26-28% on 2005 levels. › Government has announced it will reach net zero by 2050, but has not ramped up ambition for its 2030 target. › $15 billion for 'low-emissions technologies' over the next 20 years.	› Australian fossil fuel subsidies hit $7.7 billion last year.[165] › Continued support for coal through tax breaks, opened tenders for parcels of land for exploration and production, as well as deferring rent payments to aid the cash flow of mining companies.[166] › Fossil fuel production is expected to continue as part of Australia's net zero pathway, with Prime Minister Scott Morrison saying that he wants "our heavy industries, like mining, to stay open, remain competitive and adapt, so they remain viable for as long as global demand allows".[167] › Australia has around 72 major coal projects and 44 major gas and oil projects under development, with combined associated emissions of approximately 1.7 billion tonnes of CO_2 every year.[168] › Government planning expansion of 4%, 32% and 12% for coal, oil and gas respectively.

CONCLUSION

PREVENT THE EXPANSION OF FOSSIL FUEL PRODUCTION – BEFORE IT'S TOO LATE

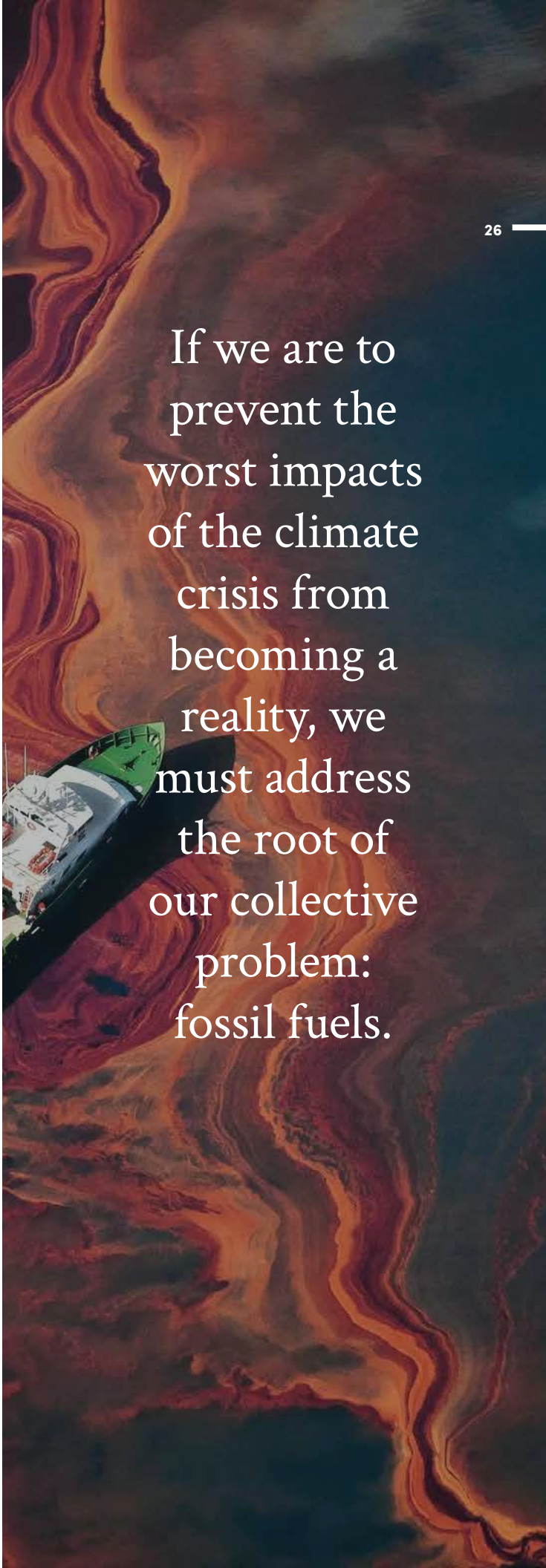
Countries around the world are beginning to ramp up their climate commitments in response to citizens' growing concerns over the climate crisis. Without a doubt, net zero pledges – with all their shortfalls – are now mainstream, with 68% of global GDP covered by net zero commitments and 61% of global greenhouse gas emissions covered by national net zero commitments.[169] More importantly, popular demand for real action and concrete solutions are increasing. In terms of emissions reductions, the direction of travel has clearly changed. But the speed at which we are heading there is nowhere near sufficient to keep 1.5°C alive. And while progress on emissions reduction targets is clearly being made, we are not yet seeing this same level of ambition regarding fossil fuel production. This must change as the continued expansion of fossil fuel production will undermine both the progress towards curtailing global emissions and meeting domestic emissions reduction targets.

The *Fossil Fuelled 5* illustrate the tensions at play and emphasises what is at stake if we do not act now. **As five wealthy fossil fuel producing nations that have amassed vast wealth through the fossil fuelled economy, these nations have the responsibility and capacity to immediately stop expansion and wind down fossil fuel production, rapidly and justly.** But, instead, the *Fossil Fuelled 5* are planning to expand fossil fuel production and develop new projects that will remain in operation for decades to come. This would undermine both domestic and international emissions reductions, impacting the lives of billions alive today and those yet to be born.

The United Kingdom, United States, Canada, Norway and Australia with their wealth, historical responsibility and limited dependence on fossil fuel production should be the first to ramp up ambition and take a leading role in winding down fossil fuel production. These wealthy nations can end the era of fossil fuels by:

- Halting the licensing for further exploration and extraction of fossil fuels.
- Committing to a timeline for domestic phase-out of fossil fuels in line with 1.5°C, noting that wealthy countries can and should move first and should therefore exceed the average rates identified in the Production Gap Report of phasing out coal, oil and gas on average by 11%, 4% and 3% each year.
- Ending the support for fossil fuel production through subsidies, tax relief and other mechanisms of government support.
- Joining the Beyond Oil & Gas Alliance (BOGA) to work with other ambitious governments to end fossil fuel production and fund a just transition for workers.
- Acting as first movers as part of the Fossil Fuel Non-Proliferation Treaty.
- Redirecting the vast financial support currently provided to fossil fuel industries towards helping developing countries shift away from a reliance on fossil fuel production and consumption.

If we are to prevent the worst impacts of the climate crisis from becoming a reality, we must address the root of our collective problem: fossil fuels.



REFERENCES

1 UNEP, 2021, 'Emissions Gap Report 2021', https://www.unep.org/resources/emissions-gap-report-2021

2 IPCC, 2021, Sixth Assessment Report, https://www.ipcc.ch/assessment-report/ar6/

3 CDP, 2017, 'The Carbon Majors Database', https://6fefcbb86e61af1b2fc4-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf?1501833772

4 Welsby et al., 2021, 'Unextractable fossil fuels in a 1.5 °C world', Nature, https://www.nature.com/articles/s41586-021-03821-8

5 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

6 Numbers drawn from Energy Policy Tracker, https://www.energypolicytracker.org

7 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

8 UNEP, 2021, 'Emissions Gap Report 2021', https://www.unep.org/resources/emissions-gap-report-2021

9 UNEP, 2021, 'Emissions Gap Report 2021', https://www.unep.org/resources/emissions-gap-report-2021

10 UNEP, 2021, 'Emissions Gap Report 2021', https://www.unep.org/resources/emissions-gap-report-2021

11 UNEP, 2020, 'Emissions Gap Report 2020', https://www.unep.org/emissions-gap-report-2020

12 IPCC, 2019, 'Global Warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C', https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf

13 IPCC, 2019, 'Global Warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C', https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf

14 Green & Denniss, 2018, 'Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies', Climatic Change, https://doi.org/10.1007/s10584-018-2162-x

15 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

16 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

17 Teske, 2021, 'Fossil Fuel Exit Strategy: A global just transition that delivers renewable energy to all'.

18 Welsby et al., 2021, 'Unextractable fossil fuels in a 1.5°C world', Nature, https://www.nature.com/articles/s41586-021-03821-8

19 UN Production Gap Report, 2020, https://productiongap.org/ – updated to 2021. These numbers may also be higher depending on the scenario used and assumptions around the viability of technologies such as carbon capture and storage. For example, Teske and Niklas (2020) found that production would need to decline by an average of 9.5% for coal, 8.5% for oil and 3.5% for gas between 2021 and 2030.

20 CIEL, 2019, 'Oil, Gas and The Climate: An Analysis of Oil and Gas Industry Plans for Expansion and Compatibility with Global Emission Limits', https://www.ciel.org/wp-content/uploads/2019/12/oilGasClimateDec2019.pdf

21 SEI, 2021, 'Trends in fossil fuel extraction: Implications for a shared effort to align global fossil fuel production with climate limits', https://cdn.sei.org/wp-content/uploads/2021/04/trends-in-fossil-fuel-extraction.pdf

22 SEI, 2021, 'Trends in fossil fuel extraction: Implications for a shared effort to align global fossil fuel production with climate limits', https://cdn.sei.org/wp-content/uploads/2021/04/trends-in-fossil-fuel-extraction.pdf

23 E3G, 2021, 'No New Coal by 2021', https://www.e3g.org/publications/no-new-coal/

24 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

25 IEA, 2021, https://www.iea.org/news/global-carbon-dioxide-emissions-are-set-for-their-second-biggest-increase-in-history

26 IEA, 2021, https://www.iea.org/news/global-carbon-dioxide-emissions-are-set-for-their-second-biggest-increase-in-history

27 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

28 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

29 UNEP, 2021, 'Emissions Gap Report 2021', https://www.unep.org/resources/emissions-gap-report-2021

30 UNEP, 2021, 'Emissions Gap Report 2021', https://www.unep.org/resources/emissions-gap-report-2021

31 Parry et al., 2021, 'IMF Working Paper: Still not getting energy prices right', https://www.imf.org/en/Publications/WP/Issues/2021/09/23/Still-Not-Getting-Energy-Prices-Right-A-Global-and-Country-Update-of-Fossil-Fuel-Subsidies-466004

32 Parry et al., 2021, 'IMF Working Paper: Still not getting energy prices right', https://www.imf.org/en/Publications/WP/Issues/2021/09/23/Still-Not-Getting-Energy-Prices-Right-A-Global-and-Country-Update-of-Fossil-Fuel-Subsidies-466004

33 Erickson et al., 2020. 'Why fossil fuel producer subsidies matter', Nature, https://www.nature.com/articles/s41586-019-1920-x.pdf?proof=t

34 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

35 Numbers drawn from Energy Policy Tracker, https://www.energypolicytracker.org/

36 Simon Evans, 2021, 'Analysis: Which countries are historically responsible for climate change?', Carbon Brief, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change

37 Simon Evans, 2021, 'Analysis: Which countries are historically responsible for climate change?', Carbon Brief, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change

38 Ritchie and Rosser, 2020, 'Norway: CO_2 Country Profile', Our World In Data, https://ourworldindata.org/co2/country/norway?country=NOR~GBR~US~CAN~AUS#what-share-of-global-cumulative-co2-has-the-country-emitted

39 Simon Evans, 2021, 'Analysis: Which countries are historically responsible for climate change?', Carbon Brief, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change

40 Muttitt and Kartha, 2020, 'Equity, climate justice and fossil fuel extraction: principles for a managed phase out', Climate Policy, https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1763900

41 Muttitt and Kartha, 2020, 'Equity, climate justice and fossil fuel extraction: principles for a managed phase out', Climate Policy, https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1763900

42 IEA, 2021, 'World Energy Balances', (2019 figures), https://www.iea.org/reports/world-energy-balances-overview

43 Newell and Simms, 2019, 'Towards a fossil fuel non-proliferation treaty', Climate Policy, https://doi.org/10.1080/14693062.2019.1636759

44 World Bank, 'GNI per capita', https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?most_recent_value_desc=true

45 Simon Evans, 2021, 'Analysis: Which countries are historically responsible for climate change?', Carbon Brief, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change

46 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

47 Economic Complexity Index (ECI)

48 World Bank, 'Fuel Exports Data', https://data.worldbank.org/indicator/TX.VAL.FUEL.ZS.UN?locations=NO-GB-US-AU-CA

49 Statistics Norway, 2021, 'Handelsoverskuddet nesten utradert i 2020', https://www.ssb.no/utenriksokonomi/artikler-og-publikasjoner/handelsoverskuddet-nesten-utradert-i-2020

50 Oil & Gas subsidy figures taken from Energy Policy Tracker, https://www.energypolicytracker.org/

51 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

52 SEI, 2021, 'Trends in fossil fuel extraction: Implications for a shared effort to align global fossil fuel production with climate limits', https://cdn.sei.org/wp-content/uploads/2021/04/trends-in-fossil-fuel-extraction.pdf

53 Simon Evans, 2021, 'Analysis: Which countries are historically responsible for climate change?', Carbon Brief, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change

54 The Oxford Institute for Energy Studies, 2020, 'Net Zero Targets and GHG Emission Reduction in the UK and Norwegian Upstream Oil and Gas Industry: A Comparative Assessment', https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/11/Net-zero-targets-and-GHG-emission-reduction-in-UK-and-Norwegian-upstream-oil-and-gas-NG-164.pdf

55 UK Gov, 2021, 'PM Boris Johnson's address to the UN Security Council on Climate and Security: 23 February 2021', https://www.gov.uk/government/speeches/pm-boris-johnsons-address-to-the-un-security-council-on-climate-and-security-23-february-2021

56 UK Parliament, 2021, 'Climate change targets: the road to net zero?', https://lordslibrary.parliament.uk/climate-change-targets-the-road-to-net-zero/#:~:text=The%20Climate%20Change%20Act%2C%20as,2050%2C%20compared%20to%201990%20levels.

57 UK Gov, 2020, 'The ten point plan for a green industrial revolution', https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution

58 UK GOV, 2021, 'Alok Sharma: Following the science to take climate action and make sure COP26 keeps the 1.5 degree goal alive', https://www.gov.uk/government/speeches/following-the-science-to-take-climate-action-and-make-sure-cop26-keeps-the-15-degree-goal-alive

59 Anderson et al., 2020, 'A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris compliant pathways', Climate Policy, https://doi.org/10.1080/14693062.2020.1728209

60 SEI, IISD, ODI, E3G, and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

61 Rystad Energy, 2021, 'Drilling activity is set for two consecutive years of growth but will lag pre-pandemic levels', https://www.rystadenergy.com/newsevents/news/press-releases/drilling-activity-is-set-for-two-consecutive-years-of-growth-but-will-lag-pre-pandemic-levels/

62 UK Parliament, 2017, 'Economic growth: House of Commons Hansard', https://hansard.parliament.uk/commons/2017-07-18/debates/559A1FBB-46B0-4308-90DD-47082635724F/EconomicGrowth

63 Oxfam, 2021, 'Removing emissions created by Cambo oilfield would require landmass 1.5 times the size of Scotland – Oxfam', https://oxfamapps.org/scotland/2021/08/03/removing-emissions-created-by-cambo-oilfield-would-require-landmass-1-5-times-the-size-of-scotland-oxfam/

64 Stop Cambo Statistics, https://www.stopcambo.org.uk/

65 UK Gov, 2021, 'Net Zero Strategy: Build Back Greener', https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1028157/net-zero-strategy.pdf

66 IEA, 2021, 'Net Zero by 2050', https://www.iea.org/reports/net-zero-by-2050

67 Stop Cambo, '#StopCambo Campaign Updates', https://www.stopcambo.org.uk/updates

68 Friends of the Earth, 2021, 'Tip of the iceberg: The future of fossil fuel extraction', https://policy.friendsoftheearth.uk/reports/tip-iceberg-future-fossil-fuel-extraction

69 Friends of the Earth, 2021, 'Tip of the iceberg: The future of fossil fuel extraction', https://policy.friendsoftheearth.uk/reports/tip-iceberg-future-fossil-fuel-extraction

70 UK Gov, 2020, 'UK government launches taskforce to support drive for 2 million green jobs by 2030', https://www.gov.uk/government/news/uk-government-launches-taskforce-to-support-drive-for-2-million-green-jobs-by-2030

71 UK Gov, 2020, 'PM announces the UK will end support for fossil fuel sector overseas', https://www.gov.uk/government/news/pm-announces-the-uk-will-end-support-for-fossil-fuel-sector-overseas

72 Mohamed Adow, 2021, 'Slash and burn: how the UK government is cutting aid while propping up fossil fuels', Climate Change News, https://www.climatechangenews.com/2021/03/22/slash-burn-uk-government-cutting-aid-propping-fossil-fuels

73 UK Parliament, 2015, 'Infrastructure Act 2015', https://www.legislation.gov.uk/ukpga/2015/7/section/41/enacted

74 Paid to Pollute, 2021, 'NEW: The UK Has Given £4 Billion To Oil & Gas Companies Since Signing The *Paris Agreement*', https://paidtopollute.org.uk/news/4-billion-to-oil-and-gas/

75 Friends of the Earth, 2021, 'Tip of the iceberg: The future of fossil fuel extraction', https://policy.friendsoftheearth.uk/reports/tip-iceberg-future-fossil-fuel-extraction

76 Friends of the Earth, 2021, 'Tip of the iceberg: The future of fossil fuel extraction', https://policy.friendsoftheearth.uk/reports/tip-iceberg-future-fossil-fuel-extraction

77 Simon Evans, 2021, 'Analysis: Which countries are historically responsible for climate change?', Carbon Brief, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change

78 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

79 US Gov, 2021, 'The United States Officially Rejoins the *Paris Agreement*', https://www.state.gov/the-united-states-officially-rejoins-the-paris-agreement/#:~:text=On%20January%2020%2C%20on%20his,becomes%20a%20Party%20again%20today

80 Reuters, 2021, 'Even without Keystone XL, U.S. set for record Canadian oil imports', https://www.reuters.com/business/energy/even-without-keystone-xl-us-set-record-canadian-oil-imports-2021-01-22

81 Financial Times, 2021, 'Biden fights to salvage ambitious climate agenda ahead of COP26', https://www.ft.com/content/0001f3c3-73e4-4783-a0f0-b33dd539d744

82 Joe Biden, 2020, 'The Biden Plan for a Clean Energy Revolution and Environmental Justice', https://joebiden.com/climate-plan

83 US EIA, 2021, 'Annual Energy Outlook 2021', http://www.eia.gov/forecasts/aeo

84 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

85 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

86 Oil Change International, 2017, 'Dirty Energy Dominance: How the U.S. Fossil Fuel Industry Depends on Subsidies and Climate Denial', http://priceofoil.org/dirty-energy-dominance

87 Parry et al., 2021, 'IMF Working Paper: Still not getting energy prices right', https://www.imf.org/en/Publications/WP/Issues/2021/09/23/Still-Not-Getting-Energy-Prices-Right-A-Global-and-Country-Update-of-Fossil-Fuel-Subsidies-466004

88 NS Energy, 2020, 'Ranking the top five coal exporting countries globally', https://www.nsenergybusiness.com/features/five-coal-exporting-countries

89 Joe Biden, 2020, 'Climate Plan', https://joebiden.com/climate-plan

90 Reuters, 2021, 'Biden pledges to double U.S. climate change aid; some activists unimpressed', https://www.reuters.com/business/environment/us-seeks-double-climate-change-aid-developing-nations-biden-2021-09-21

91 S&P Global, 2021, 'COP26: US joins commitment to clip international public finance for fossil energy', https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/110421-cop26-us-joins-commitment-to-clip-international-public-finance-for-fossil-energy

92 Oil Change International, 2017, 'Dirty Energy Dominance: How the U.S. Fossil Fuel Industry Depends on Subsidies and Climate Denial', http://priceofoil.org/dirty-energy-dominance

93 Oil Change International, 2021, 'Greenhouse Gas Pollution Estimates of Proposed U.S. Fossil Fuel Infrastructure', http://priceofoil.org/2021/10/12/biden-ghg-fossil-fuel-projects

94 SEI, IISD, ODI, E3G, and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

95 Achakulwisut, P., Erickson, P., & Koplow, D, 2021, 'Effect of subsidies and regulatory exemptions on 2020-2030 oil and gas production and profits in the United States', Environmental Research Letters, https://doi.org/10.1088/1748-9326/ac0a10

96 Union of Concerned Scientists, 'Each Country's Share of CO_2 Emissions', 2020, https://www.ucsUS.org/resources/each-countrys-share-co2-emissions

97 Our World in Data, 2020, 'CO_2 Emissions', https://ourworldindata.org/co2-emissions

98 Canada Energy Regulator, 'Provincial and Territorial Energy Profiles: Saskatchewan', https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-saskatchewan.html & Canada Energy Regulator, 'Provincial and Territorial Energy Profiles: Alberta', https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-alberta.html

99 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

100 Stand.Earth, 'Canada's Climate Leadership', https://www.stand.earth/canada-climate-energy/canadas-climate-leadership

101 The Star, 2015, "Canada is back,' says Trudeau in Paris. 'We're here to help', https://www.thestar.com/news/canada/2015/11/30/busy-day-for-trudeau-at-paris-climate-change-talks.html

102 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

103 BBC News, 2020, 'Trudeau unveils Canada's net-zero by 2050 plans', https://www.bbc.co.uk/news/world-us-canada-55006702

104 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

105 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

106 Environmental Defence Canada, 2021, 'Paying Polluters: Federal Financial Support to Oil & Gas in 2020', https://environmentaldefence.ca/wp-content/uploads/2021/04/Federal-FossilFuelSubsidies-April-2021.pdf

107 Environmental Defence Canada, 2021, 'Paying Polluters: Federal Financial Support to Oil & Gas in 2020', https://environmentaldefence.ca/wp-content/uploads/2021/04/Federal-FossilFuelSubsidies-April-2021.pdf

108 Government of Canada, 2020, 'Net-Zero Emissions by 2050', https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050.html

109 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

110 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

111 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

112 Environmental Defence Canada, 2021, 'Paying Polluters: Federal Financial Support to Oil & Gas in 2020', https://environmentaldefence.ca/wp-content/uploads/2021/04/Federal-FossilFuelSubsidies-April-2021.pdf

113 Oil Change International, 2020, 'Still Digging: G20 Governments Continue to Finance the Climate Crisis', http://priceofoil.org/2020/05/27/g20-still-digging/

114 IISD, 2019, 'Locked in and losing out: British Columbia's fossil fuel subsidies', https://www.iisd.org/publications/locked-in-losing-out

115 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

116 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

117 Rapid Transition Alliance, 2021, 'No' way back for petrol and diesel cars – how Norway flicked an electric transport switch', https://www.rapidtransition.org/stories/no-way-back-for-petrol-and-diesel-cars-how-norway-flicked-an-electric-transport-switch/

118 IEA, Norway Country Profile, https://www.iea.org/countries/norway

119 The Oxford Institute for Energy Studies, 2020, 'Net Zero Targets and GHG Emission Reduction in the UK and Norwegian Upstream Oil and Gas Industry: A Comparative Assessment', https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/11/Net-zero-targets-and-GHG-emission-reduction-in-UK-and-Norwegian-upstream-oil-and-gas-NG-164.pdf

120 Guardian, 2021, 'Norway's sovereign wealth fund gains more than £90bn during 2020', https://www.theguardian.com/business/2021/jan/28/norways-sovereign-wealth-fund-gains-more-than-90bn-during-2020

121 Financial Times, 2021, 'Drilling shutdown would mean end of green transition, Norway PM warns', https://www.ft.com/content/cbf5bc66-660f-46da-a4f7-4f26eb752298

122 The Oxford Institute for Energy Studies, 2020, 'Net Zero Targets and GHG Emission Reduction in the UK and Norwegian Upstream Oil and Gas Industry: A Comparative Assessment', https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/11/Net-zero-targets-and-GHG-emission-reduction-in-UK-and-Norwegian-upstream-oil-and-gas-NG-164.pdf

123 The Oxford Institute for Energy Studies, 2020, 'Net Zero Targets and GHG Emission Reduction in the UK and Norwegian Upstream Oil and Gas Industry: A Comparative Assessment', https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/11/Net-zero-targets-and-GHG-emission-reduction-in-UK-and-Norwegian-upstream-oil-and-gas-NG-164.pdf

124 Statistics Norway, 2021, 'Handelsoverskuddet nesten utradert i 2020', https://www.ssb.no/utenriksokonomi/artikler-og-publikasjoner/handelsoverskuddet-nesten-utradert-i-2020

125 Norsk Petroleum, 'Exports of Oil & Gas', https://www.norskpetroleum.no/en/production-and-exports/exports-of-oil-and-gas/

126 Topdahl et al., 2021, 'Slik går Norge fra å være miniputt til gigant på klima-statistikken', https://www.nrk.no/klima/xl/norske-co_-utslipp_-slik-gar-norge-fra-a-vaere-miniputt-til-gigant-pa-klimastatistikken-1.15600846

127 Topdahl et al., 2021, 'Slik går Norge fra å være miniputt til gigant på klima-statistikken', https://www.nrk.no/klima/xl/norske-co_-utslipp_-slik-gar-norge-fra-a-vaere-miniputt-til-gigant-pa-klimastatistikken-1.15600846

128 The Oxford Institute for Energy Studies, 2020, 'Net Zero Targets and GHG Emission Reduction in the UK and Norwegian Upstream Oil and Gas Industry: A Comparative Assessment', https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/11/Net-zero-targets-and-GHG-emission-reduction-in-UK-and-Norwegian-upstream-oil-and-gas-NG-164.pdf

129 Norwegian Ministry of Petroleum and Energy, 2021, 'High interest in continued exploration activity on the norwegian continental shelf', https://www.regjeringen.no/en/aktuelt/high-interest-in-continued-explorationactivity-on-the-norwegian-continental-shelf/id2829102/

130 Norwegian Ministry of Finance, 2021, 'Norway towards 2025: Report from a commission appointed by royal decree on 12 May 2020 to consider the economic consequences of the coronavirus pandemic. NOU 2021: 4', https://www.regjeringen.no/en/dokumenter/nou-2021-4/id2841052/

131 OECD, 2021, 'Update on Recent Progress in Reform of Inefficient Fossil-Fuel Subsidies that Encourage Wasteful Consumption', https://www.oecd.org/fossil-fuels/publicationsandfurtherreading/OECD-IEA-G20-Fossil-Fuel-Subsidies-Reform-Update-2021.pdf

132 Norwegian Ministry of Petroleum and Energy, 2021, 'Energi til arbeid – langsiktig verdiskapning fra norske energiressurser (Energy to work – long-term value creation from Norwegian energy resources) White Paper', https://www.regjeringen.no/en/aktuelt/regjeringen-legger-frem-stortingsmelding-om-verdiskaping-fra-norske-energiressurser/id2860271/

133 Government of Norway, 2020, 'Updated nationally determined contribution', https://www4.unfccc.int/sites/NDCStaging/pages/Party.aspx?party=NOR

134 Norsk Elbilforening, 2020, 'Norwegian EV Policy', https://elbil.no/english/norwegian-ev-policy/

135 Reuters, 2019, 'Norway sovereign wealth fund to divest oil explorers, keep refiners', https://www.reuters.com/article/us-norway-swf-oil-idUSKBN1WG4R9

136 Novethic, 2019, 'Norway's Sovereign Wealth Fund Backtracks on Decision to Divest from Oil', https://www.novethic.com/sustainable-finance/isr-rse/norway-s-sovereign-wealth-fund-backtracks-on-its-decision-to-divest-from-oil-147600.html

137 Norwegian Ministry of Petroleum and Energy, 2021, 'High interest in continued exploration activity on the norwegian continental shelf', https://www.regjeringen.no/en/aktuelt/high-interest-in-continued-explorationactivity-on-the-norwegian-continental-shelf/id2829102/

138 OECD, 2021, 'Update on Recent Progress in Reform of Inefficient Fossil-Fuel Subsidies that Encourage Wasteful Consumption', https://www.oecd.org/fossil-fuels/publicationsandfurtherreading/OECD-IEA-G20-Fossil-Fuel-Subsidies-Reform-Update-2021.pdf

139 SEI, IISD, ODI, E3G and UNEP, 2021, 'The Production Gap Report 2021', http://productiongap.org/2021report

140 Jeremy Moss, 2021, 'Australia's net-zero plan fails to tackle our biggest contribution to climate change: fossil fuel exports', https://theconversation.com/australias-net-zero-plan-fails-to-tackle-our-biggest-contribution-to-climate-change-fossil-fuel-exports-170646

141 Jeremy Moss, 2021, 'Australia's net-zero plan fails to tackle our biggest contribution to climate change: fossil fuel exports', https://theconversation.com/australias-net-zero-plan-fails-to-tackle-our-biggest-contribution-to-climate-change-fossil-fuel-exports-170646

142 ABC News, 2021, 'Government promises to cut emissions to reach net zero by 2050 under new climate change plan', https://www.abc.net.au/news/2021-10-26/government-commits-to-net-zero-by-2050-climate-deal/100565254

143 The Australia Institute, 2021, 'Back of the pack: An assessment of Australia's energy transition, https://australiainstitute.org.au/wp-content/uploads/2021/08/P1096-Back-of-the-Pack-110821.pdf

144 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

145 Jeremy Moss, 2021, 'Australia's net-zero plan fails to tackle our biggest contribution to climate change: fossil fuel exports', https://theconversation.com/australias-net-zero-plan-fails-to-tackle-our-biggest-contribution-to-climate-change-fossil-fuel-exports-170646

146 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

147 The Australia Institute, 2021, 'Climate of the Nation 2021: Tracking Australia's attitudes towards climate change and energy', https://australiainstitute.org.au/report/climate-of-the-nation-2021/

148 Australian Department of Industry, Science, Energy and Resources, 2020, 'Australia's emissions projections 2020', https://www.industry.gov.au/data-and-publications/australias-emissions-projections-2020

149 IEA, 2020, 'LNG exports for selected countries, 2015-2025', https://www.iea.org/data-and-statistics/charts/lng-exports-for-selected-countries-2015-2025

150 The Australia Institute, 2021, 'Undermining Climate Action: The Australian Way', https://australiainstitute.org.au/wp-content/uploads/2021/11/P1163-Undermining-climate-action-the-Australian-way-WEB.pdf

151 Australian Department of Industry, Science, Energy and Resources, 2021, 'Resources and Energy Quarterly', https://publications.industry.gov.au/publications/resourcesandenergyquarterlymarch2021/index.html

152 Australian Department of Industry, Science, Energy and Resources, 2021, 'Resources and Energy Quarterly', https://publications.industry.gov.au/publications/resourcesandenergyquarterlymarch2021/index.html

153 Australian Department of Industry, Science, Energy and Resources, 2021, 'Resources and Energy Quarterly', https://publications.industry.gov.au/publications/resourcesandenergyquarterlymarch2021/index.html

154 Prime Minister of Australia, 2020, 'Gas-fired recovery', https://www.pm.gov.au/media/gas-fired-recovery

155 Australian Department of Industry, Science, Energy and Resources, 2020, 'Unlocking the Beetaloo: The Beetaloo strategic basin plan', https://www.industry.gov.au/data-and-publications/unlocking-the-beetaloo-the-beetaloo-strategic-basin-plan/the-plan-at-a-glance

156 OECD, 2021, 'Update on Recent Progress in Reform of Inefficient Fossil-Fuel Subsidies that Encourage Wasteful Consumption', https://www.oecd.org/fossil-fuels/publicationsandfurtherreading/OECD-IEA-G20-Fossil-Fuel-Subsidies-Reform-Update-2021.pdf

157 The Guardian, 2021, 'Shell expects to pay Australia no resource tax on gas drawn from Gorgon project', http://www.theguardian.com/business/2021/apr/12/shellexpects-to-pay-australia-no-resource-tax-on-gas-drawnfrom-gorgon-project

158 ABC News, 2020, 'Queensland Government signs deal to allow Adani to defer royalty payments for unspecified period', https://www.abc.net.au/news/2020-10-01/adani-carmichael-coal-mine-royalties-deferred-qld-election/12716272

159 The Australia Institute, 2021, 'Government not on track for net zero by 2050', https://australiainstitute.org.au/wp-content/uploads/2021/10/Not-on-track-for-Net-Zero-Briefing-Note-1.pdf

160 Pinsent Masons, 2021, https://www.pinsentmasons.com/out-law/news/australia-to-issue-carbon-credits-for-carbon-capture-and-storage

161 The Australia Institute, 2021, 'Undermining Climate Action: The Australian Way', https://australiainstitute.org.au/wp-content/uploads/2021/11/P1163-Undermining-climate-action-the-Australian-way-WEB.pdf

162 The Australia Institute, 2021, 'Undermining Climate Action: The Australian Way', https://australiainstitute.org.au/wp-content/uploads/2021/11/P1163-Undermining-climate-action-the-Australian-way-WEB.pdf

163 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

164 Victoria State Government, 2021, 'Renewable Energy Zones', https://www.energy.vic.gov.au/renewable-energy/renewable-energy-zones#toc__id_3_investing

165 The Australia Institute, 2021, 'Australian fossil fuel subsidies hit $10.3 billion in 2020-21', https://australiainstitute.org.au/post/australian-fossil-fuel-subsidies-hit-10-3-billion-in-2020-21/

166 Tearfund Report, 2021, 'Cleaning up their act? G7 fossil fuel investments in a time of green recovery', https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

167 BBC News, 2021, 'Climate change: Australia pledges net zero emissions by 2050', https://docs.google.com/document/d/1Z3QWxEznDmp1PHOyKzXYsZKc34iqZJibWOpCEuow-7c/edit#

168 The Australia Institute, 2021, 'Undermining Climate Action: The Australian Way', https://australiainstitute.org.au/wp-content/uploads/2021/11/P1163-Undermining-climate-action-the-Australian-way-WEB.pdf

169 ECIU, 2021, 'TAKING STOCK: A global assessment of net zero targets', https://ca1-eci.edcdn.com/reports/ECIU-Oxford_Taking_Stock.pdf?mtime=20210323005817&focal=none

FOSSIL FUEL NON-PROLIFERATION TREATY

fossilfueltreaty.org