The Science Is Clear: No New Oil & Gas

Arguments in favour of new North Sea oil and gas are rife with misinformation *(Part 1 of 2)*

Myth

"Stopping new oil will increase bills"

Reality

Renewables now offer significantly better value and stability than fossil fuels

The high and volatile cost of gas has been a major contributor to inflation and the cost of living crisis[1],estimated to be responsible for over 90% of the increase in energy bills in recent years[2]. The additional fossil fuels that could be produced from the North Sea would not significantly affect these gas prices, which are set globally[3]. Meanwhile the cost of renewables is continually falling[4], with 2022 seeing UK offshore wind projects promising costs 9 times cheaper than the gas price[5]. Decisions to cut climate policies (or 'get rid of the green crap') back in 2013 have effectively added billions to energy bills[6].

"New oil provides energy independence"

UK licences are no guarantee of UK supply, as once a licence is awarded, the fuels belong to the licence holder (i.e. fossil fuel companies) rather than the UK government.

This is how, even though the use of fossil fuels in the UK vastly exceeds domestic production, most oil and gas produced in the UK is exported[7, 8]. Even if this were not the case, and if there were no climate crisis to consider, North Sea supplies are now very depleted[9], making renewables and energy efficiency much more fundamental to energy independence than fossil fuels.

"Decarbonising our energy supply will cost too much"

NOT decarbonising rapidly costs MUCH more.

Under the pathway to net zero emissions recommended by the UK Climate Change Committee, the cost of this transition is estimated at less than 1% of GDP over 30 years - an investment that would pay for itself in savings on fuel alone, and is expected to boost GDP and employment[10, 11]. Meanwhile, climate-related damage is currently costing the UK 1.1% GDP and is expected to increase substantially[12]. The Office of Budgetary Responsibility has clearly stated that ***"The costs of failing to get climate change under control would be much larger than those of bringing emissions down to net zero."***[13]

Most importantly, decarbonisation will save lives - both human and other species - and mitigate suffering from escalating climate impacts.

"No new oil means 'turning the taps off' overnight"

Existing reserves and production are available as we transition

According to UK Oil & Gas Authority data[14], it takes an average of 28 years for an exploration licence to lead to oil and gas production. Because of this, licences given now may not be contributing to supply until the 2040s or 2050s, during which UK fossil fuel usage is to be largely phased out[10].

"North Sea oil is 'lower carbon'"

Fossil fuels from any source are highly polluting. Further production is incompatible with climate commitments.[10]

Whilst emissions caused by transporting fuel would be lower for domestic supplies than they would be for imported supplies, it's highly misleading to suggest this makes them less carbon intensive overall: the use of particularly polluting practices makes North Sea production on average ~2.5 times, more greenhouse gas intensive than Norway's for instance[16]. Ultimately, more UK production likely leads to more consumption overall, when ***no new fossil fuel production is compatible with our climate commitments***.

The Science Is Clear: No New Oil & Gas

Arguments in favour of new North Sea oil and gas are rife with misinformation *(Part 2 of 2)*

Myth	Reality
"Oil companies aid the transition to cleaner energy"	**Only ~1% of major fossil fuel companies' spending goes towards low carbon energy.** In 2022 the industry invested around 50 times as much in oil and gas than it did in low carbon energy. Payments to shareholders also dwarfed clean energy spending (around 40 times higher), amounting to hundreds of billions of dollars[17].
"New oil and gas will create good jobs"	**Jobs in North Sea oil and gas are already at risk due to dwindling supplies.** Workers and unions in this sector have called for pathways out of these high-carbon jobs[18]. and their skills are highly transferable to adjacent energy sectors[19]. The Climate Change Committee's assessment is that many more jobs - hundreds of thousands - would be created than lost by a rapid transition to clean energy[20].
"Carbon capture technology means we can keep burning fossil fuels"	**Emissions from new fossil fuels dwarf those proposed to be captured** by technologies as-yet unproven to work at scale. When burned, the products of the proposed Rosebank oil field alone would emit in the region of 100 to 200 million tonnes of CO_2 whilst current government plans are to capture only a few tens of millions of tonnes[21]. Meanwhile, deep emissions reductions are needed urgently for the UK to meet its legal obligations under the Paris agreement and moral obligations to show leadership in securing a liveable future.
"Global heating is only a problem for future generations"	**Climate breakdown is here, now and escalating rapidly.** Urgent action is needed. Decisions made **now** will determine the extent to which current and future generations will experience these impacts. *(see additional factsheets)*

Sources

[1] Food and Energy Price Inflation, *Office for National Statistics* (2023)
[2] Why UK Energy Bills Are Soaring to Record Highs - and How to Cut Them, *CarbonBrief* (2022)
[3] Oil & Gas in the UK, UK Extractive Industries Transparency Initiative (2023)
[4] Competitiveness of Renewables Continued Amid Fossil Fuel Crisis, *International Renewable Energy Agency* (2022)
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[7] According to government data, in 2022 UK gas production amounted to ~38 billion cubic metres (bcm), over 60% (23.5bcm) of which was exported. Natural gas demand in the UK amounted to ~72 bcm in 2022, of which around 80% was imported.
[8] According to government data,iIn 2022 UK crude oil production amounted to ~38 million tonnes, over 80% (31 million tonnes) of which was exported. ~46.5 million tonnes of crude oil was imported.
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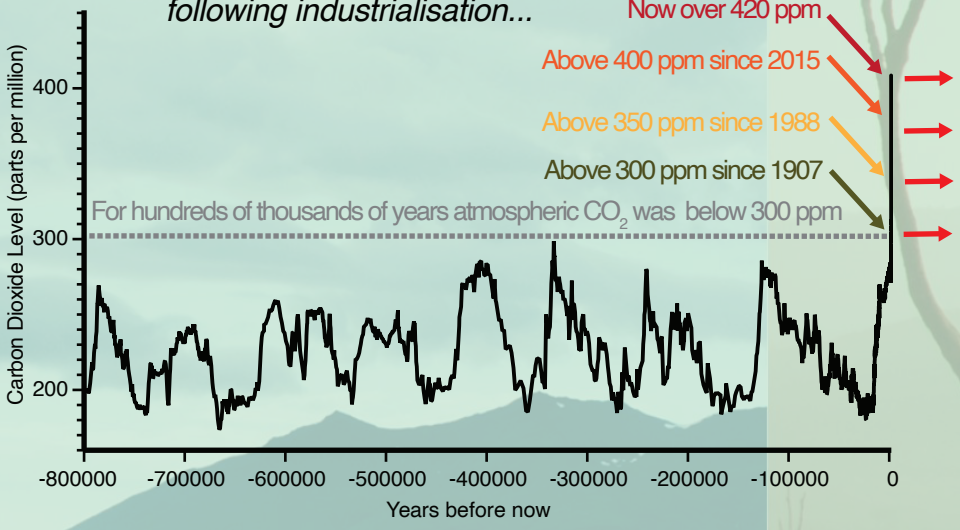
The Science Is Clear: No New Oil & Gas

The Climate Crisis is here, and its deadly impacts will escalate rapidly *(Part 1 of 4)*

i) Human-caused climate change continues to heat the Earth

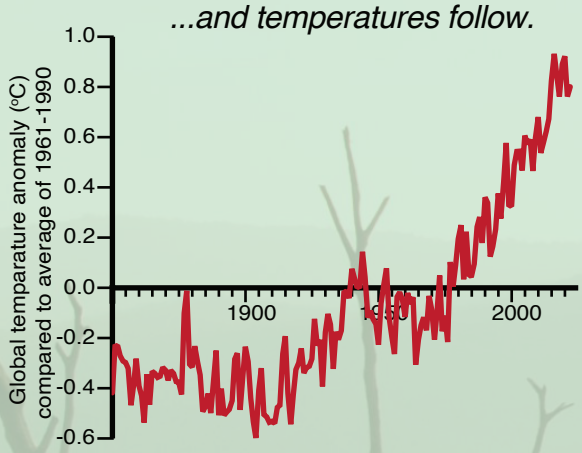
The average temperature of the Earth's surface is now at least 1.1°C higher, due to global heating, fuelled by greenhouse gas emissions.

CO_2 levels shoot upwards following industrialisation...



Data source: *NOAA (US National Oceanic and Atmospheric Administration)*

...and temperatures follow.



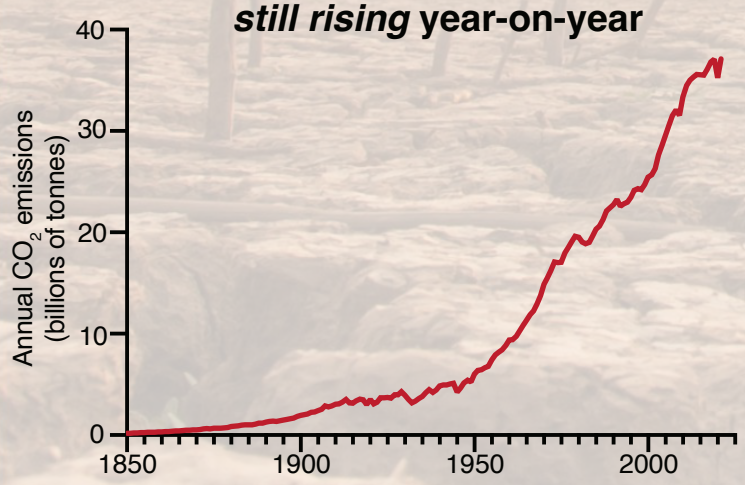
Data source: *Met Office* Hadley Centre (HadCRUT5)

"If emissions follow the trajectory set by current NDCs [government pledges], ***there is a less than 5% chance of keeping temperatures well below 2°C above pre-industrial levels, and less than 1% chance of reaching the 1.5°C target set by the 2015 Paris Agreement."***

- Climate Change Risk Assessment, *Chatham House* (2021)

When surveyed by *Nature*, most IPCC co-authors (leading climate scientists) reported that they anticipated global heating of **3°C or more by 2100**.

Global CO_2 emissions are *still rising* year-on-year



Data source: Global Carbon Budget (2022)

What does this mean for us?

"The scientific evidence is unequivocal: climate change is a threat to human wellbeing and the health of the planet. Any further delay in concerted global action will miss the ***brief, rapidly closing window to secure a liveable future****."*

- *Intergovernmental Panel on Climate Change (IPCC)*

"Direct risks and impacts compound to affect whole systems, including ***people, infrastructure, the economy, societal systems and ecosystems****"*

- Climate Change Risk Assessment, *Chatham House* (2021)

"Risks are ***unevenly distributed*** *and are generally greater for disadvantaged people and communities in countries at all levels of development."*

- *IPCC WG2* (2014)

The Science Is Clear: No New Oil & Gas

The Climate Crisis is here, and its deadly impacts will escalate rapidly *(Part 2 of 4)*

ii) Climate impacts are intensifying and spreading *(part 1 of 2)*

We are already seeing....	Further warming will mean...
Heatwaves becoming stronger and more frequent Example: Persistent heatwaves in Europe in 2022 caused tens of thousands of excess deaths. The UK recorded temperatures exceeding 40°C for the first time ever[1].	**Increasing numbers of people and species exposed to deadly heat stress** At just 2°C of global heating, one billion people are projected to experience 'a potentially fatal combination of heat and humidity' [2].
Droughts intensifying and spreading Example: The record-breaking temperatures and low rainfall in the summer of 2022 saw Europe's worst drought in 500 years, made 'at least 20 times more likely by human-caused climate change' [3].	**No region will be spared from drought** By 2040 it is projected that one third of global cropland will be affected by severe drought, and 700 million people a year are likely to be exposed to droughts of at least six months' duration.[4]
Fires starting and spreading more easily amidst heatwaves and droughts Example: In mid August 2023 Canada is enduring its worst wildfire season, with more than 1,000 active fires burning across the country. More than half of the region's population is under evacuation orders[5].	**'Even the Arctic' will be vulnerable to wildfires.** Climate change and land-use change are projected to make wildfires more frequent and intense, with a global increase of extreme fires of up to 14% by 2030, 30% by the end of 2050 and 50% by the end of the century[6].
Flooding exacerbated by cyclones, which are fuelled by hotter oceans Example: 2022 saw devastating floods in Pakistan that were reported to have affected over 30 million people. These impacts were exacerbated by heatwaves approaching 50°C in the preceding months[7].	**Low-lying and coastal regions will be submerged,** and inland regions also subject to increased risks due to river flooding and extreme rainfall. Under the IPCC's models, the impact of sea level rise alone would mean that large, populous areas of the UK, including multiple coastal cities and London boroughs, would be underwater by 2050[8].
Food production is threatened by heat, droughts, extreme weather and losses of wild animals (e.g. as fish and pollinating insects). Example: EU maize, sunflower and soybean yields were expected to have fallen by around 8% during the 2022 heatwave, piling further pressure onto food prices[9].	**Crop failure and loss of marine life cause and exacerbate hunger and famine** Whilst global demand for food is expected to rise by 50% by 2050, crop yields 'could decline by 30% in the absence of dramatic emissions reductions'[4].

table continues....

The Science Is Clear: No New Oil & Gas

The Climate Crisis is here, and its deadly impacts will escalate rapidly *(Part 3 of 4)*

ii) Climate impacts are intensifying and spreading *(part 2 of 2)*

We are already seeing....	Further warming will mean...
Irreversible damage to ecosystems Example: In mid August 2023 corals across several countries are bleaching and dying from unprecedented levels of heat stress, prompting fears that an unfolding tragedy in the Americas could become a global event[10].	**Elimination of vital ecosystems.** Without drastic action, 99% of coral reefs - amongst the most vulnerable ecosystems - will experience heatwaves too frequent for them to recover by the early 2030s[11]. This has devastating impacts on marine life and the ocean's capacity to lock up CO_2, and exposes coastal regions to more damage from currents and waves.
Impacts on physical and mental health Example: Australia's 2019–20 bushfires directly caused ~ 450 deaths, 1300 emergency asthma presentations, and 1120 cardiovascular and 2030 respiratory admissions, in addition to worsening mental health outcomes and displacing 47 000 people[12].	**Heat, pollution, malnutrition and wider spread of infections hugely exacerbate disease burden** The combined effect of a heating planet will have 'cascading impacts on the social and natural systems that good health depends upon' [12].
Areas becoming uninhabitable due to heat, drought, famine and conflict. Example: Whilst UN estimates that globally 20 million per year are displaced due to extreme climate-related events[13], in 2014 the first UK town became be subject to 'decommissioning', as its future was deemed incompatible with rising seas[14].	**Massive increase in the number of climate refugees, along with intensified conflict over food and resources** Models predict that 'each degree of temperature rise above the current baseline roughly corresponds to one billion humans left outside the temperature niche'[15].

"Our children will not forgive us if we leave them a world of withering heat and devastating storms where sea level rises and extreme temperatures force millions to move because their countries are no longer habitable.
None of us can avoid our responsibility.
Delay is not an option"

- Lord Deben, as Chair of the Climate Change Committee writing to Prime Minister Sunak (June 2023)

Sources

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[2] One billion face heat-stress risk from 2°C rise, *Met Office* (2021)
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[5] Canada wildfires: British Columbia in state of emergency while 19,000 flee Yellowknife fire, *Guardian* (2023)
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[9] Falls in Europe's crop yields due to heatwaves could worsen price rises, *Guardian* (2022)
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[11] Safe havens for coral reefs will be almost non-existent at 1.5°C of global warming, *The Conversation* (2023)
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[13] Displaced on the Frontlines of Climate Change, *UN Office of the High Commissioner for Refugees* (2021)
[14] The UK climate refugees who won't leave, *BBC* (2022)
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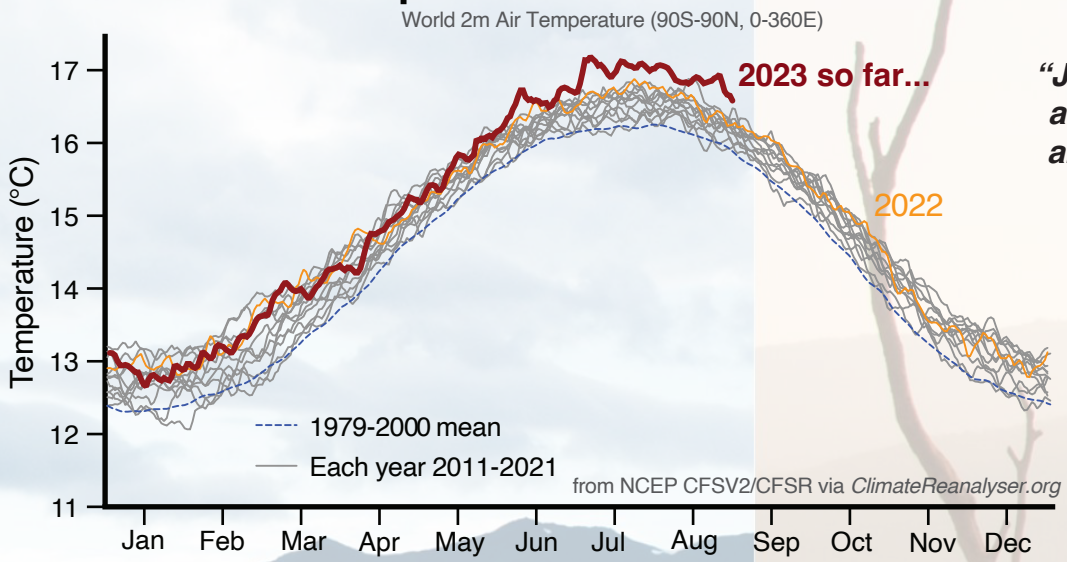
The Science Is Clear: No New Oil & Gas

The Climate Crisis is here, and its deadly impacts will escalate rapidly *(Part 4 of 4)*

iii) 2023's records are a frightening sign of heating accelerating

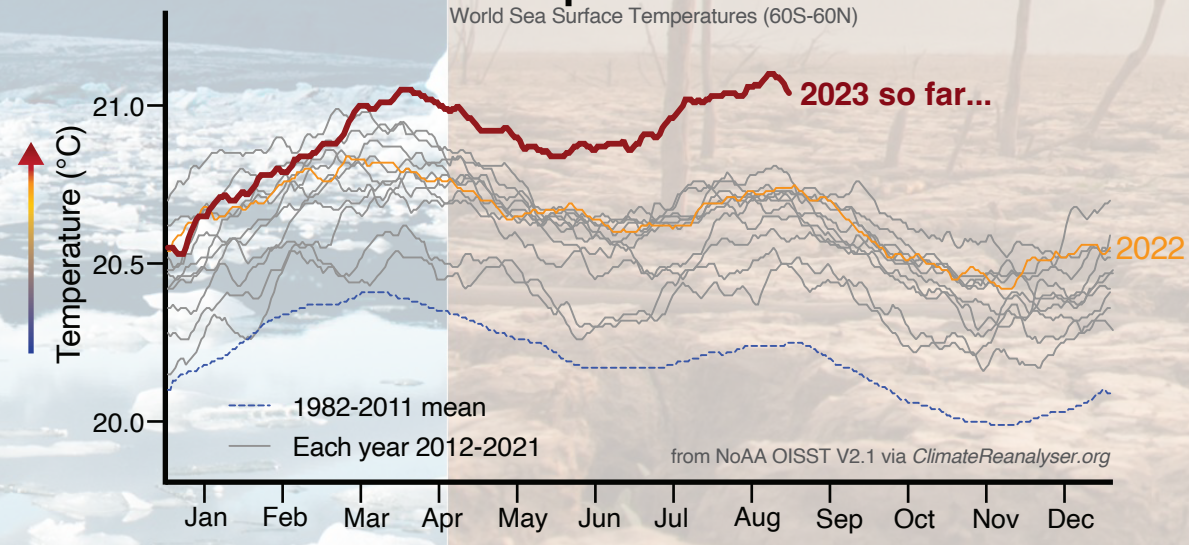
Global air temperatures rose to record levels



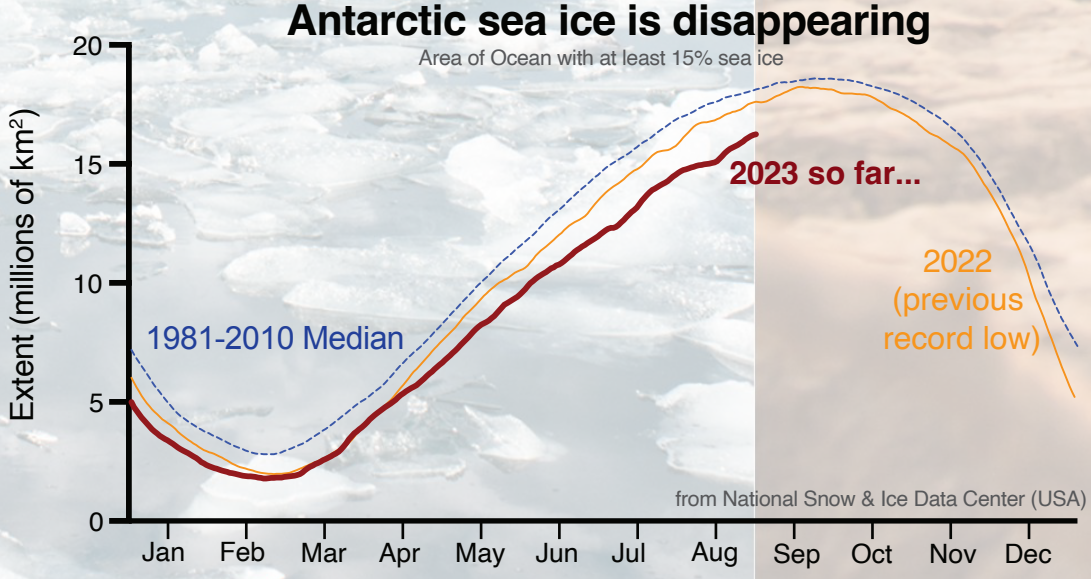
"July was packed with weather anomalies, but some were so abnormal they sent a wave of consternation through the scientific community"

\- Washington Post (2023)

Sea surface temperatures "off the charts"



Antarctic sea ice is disappearing



The Science Is Clear: No New Oil & Gas

New fossil fuels are not compatible with protecting life
nor with legally-binding climate committments

The UK's legal committments

The **Climate Change Act** (2008)[1] commits the UK government by law to reduce greenhouse gas emissions, and requires the government to set and adhere to carbon budgets - currently this means following a series of steps to reduce emissions to ***'Net Zero' by 2050*** [2,3].

Globally, as signatory to the 2015 **Paris Agreement** - a legally binding international treaty - the UK has committed to contribute to emission reductions that ***limit Earth's average temperature rise to well below 2°C*** and to pursue efforts towards 1.5°C above pre-industrial levels[4].

"While the UK's targets are broadly aligned with cost-effective domestic pathways, ***they do not represent a fair share of the global effort to address climate change****.*

The UK's current approach is therefore incompatible with the principles of equity and common-but-differentiated responsibilities which are central to the Paris Agreement."

\- Climate Action Tracker [5]

Are we on track?

The latest progress report from the Climate Change Committee[6], is absolutely clear that there is a ***"lack of urgency"*** and a ***"loss of leadership"*** being shown in relation to the UK's climate commitments. The introduction to the report states:

*"**We have backtracked on fossil fuel commitments**, with the consenting of a new coal mine and support for new UK oil and gas production – despite the strong wording of the [COP26] Glasgow Climate Pact."*

To achieve the goal for 2030, set out at COP26 of at least a 68% fall in territorial emissions from 1990 levels, ***"the rate of emissions reduction outside the power sector must almost quadruple****. Continued delays in policy development and implementation mean that the [goal's] achievement is increasingly challenging."*

*"**Progress in other areas is also too slow**, including tree planting and the roll-out of low-carbon heating"*

*"There continues to be an **overly narrow approach to solutions**, which crucially does not embrace the need to reduce demand for high-carbon activities. A more realistic approach to delivery is needed.* ***This cannot wait until after the next General Election****."*

New fossil fuel projects in a climate crisis?

There is a large consensus across all published studies that developing new oil and gas fields is "**incompatible**" with the global 1.5°C target[7], the IPCC warning last year the **emissions resulting from the fuels produced by current and planned projects would already take us beyond this and close to 2°C**[8].

"Investing in new fossil fuels infrastructure is moral and economic madness".

\- UN Secretary-General António Guterres

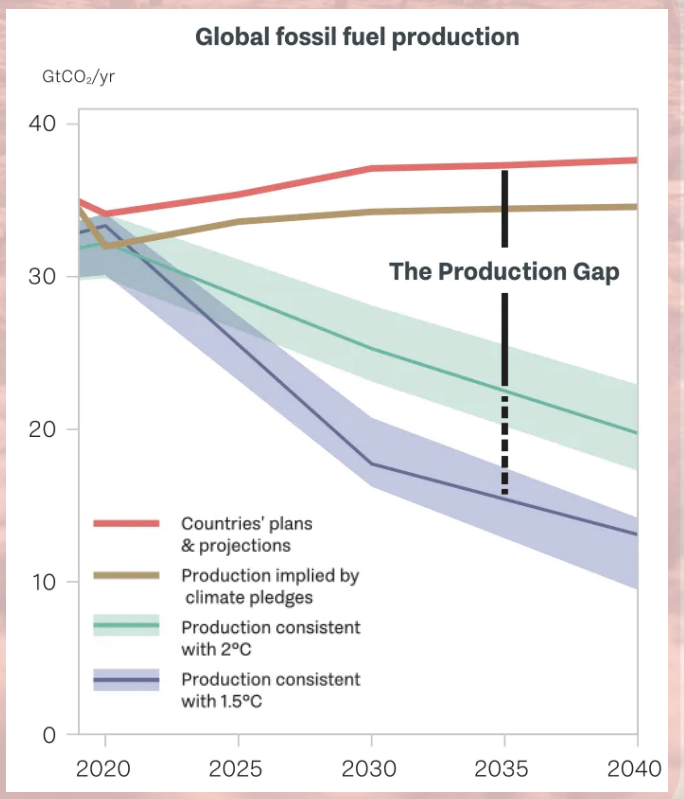
"If governments are serious about the climate crisis, there can be no new investments in oil, gas and coal"

\- Fatih Birol, Executive Director of the International Energy Agency

*"The bottom line is that **we do not lack resources—we lack the political conviction** to direct resources toward addressing sustainability challenges. Removing fossil fuel support would stop fanning the flames of the climate crisis while liberating substantial public funds for more productive purposes"*

\- International Institute for Sustainable Development [10]

"The world's governments plan to produce more than twice the amount of fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C"[9]



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[3] Sixth Carbon Budget, *Climate Change Committee* (2020)
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[9] Production Gap Report, *Stockholm Environment Institute* (2021)
[10] Fanning the Flames: G20 provides record financial support for fossil fuels, *International Institute for Sustainable Development/Global Subsidies Initiative* (2023)

The Science Is Clear: No New Oil & Gas

The UK public want climate leadership; it is needed urgently

According to recent government data, **82% of UK adults are concerned about climate change.**[1]

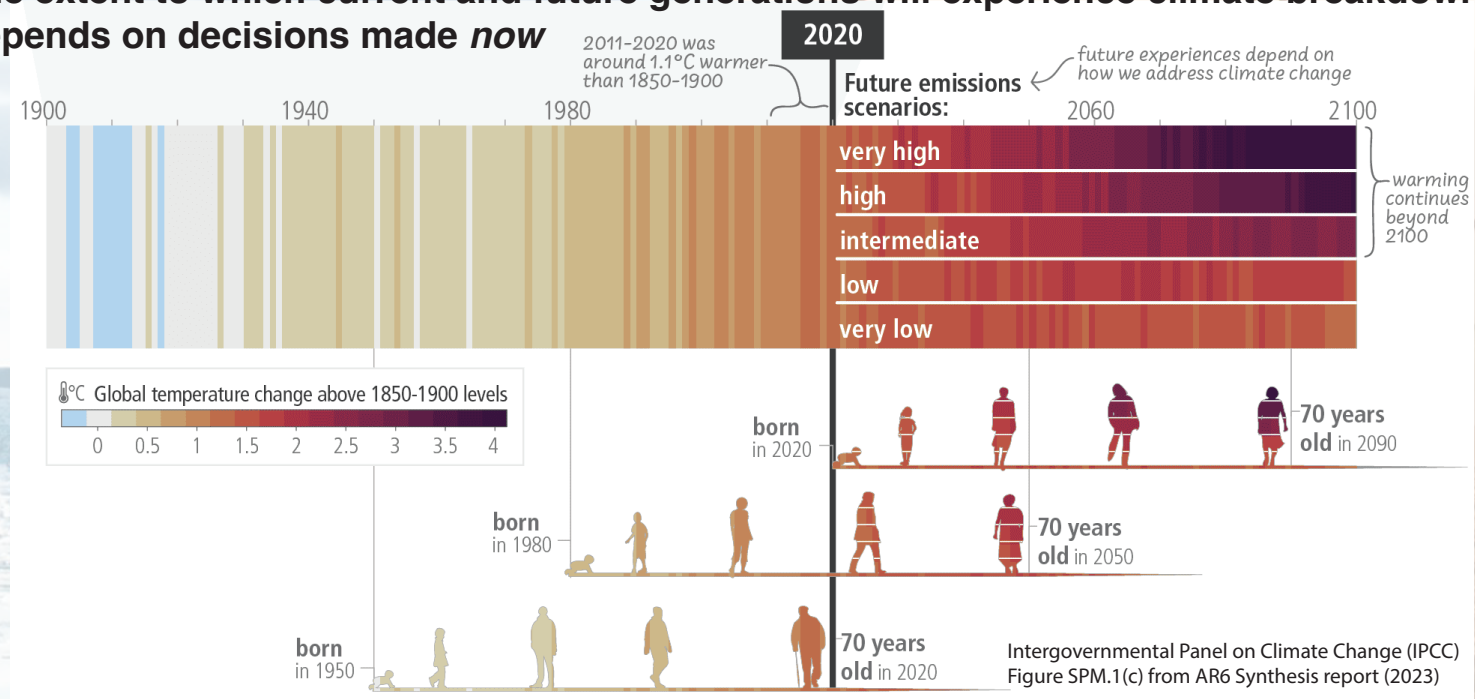
There is **majority support across all voting groups for the UK reducing its emissions** to Net Zero by 2050[3].
73% of voters planning to vote Conservative at next election support the target of reaching net zero carbon emissions by 2050.[4]

When asked about a range of issues last year, **climate change was the second biggest concern amongst UK adults**, with the rising cost of living being the main concern.[2]

Two-thirds of voters polled said they would be **proud to support a party which was in favour of generating more electricity from renewables** such as solar and wind.[4]

[1] DESNZ Public Attitudes Tracker: Net Zero and Climate Change Spring 2023
[2] Worries about climate change, Great Britain: September to October 2022. *ONS*
[3] YouGov/TheTimes Polling Data (July 2023)
[4] Stick with Net Zero, Tory voters tell Sunak, *Politico* (August 2023)

The extent to which current and future generations will experience climate breakdown depends on decisions made *now*



Intergovernmental Panel on Climate Change (IPCC)
Figure SPM.1(c) from AR6 Synthesis report (2023)

We can escape the "Climate Blame Game" with leadership at all levels

from Dr Aaron Thierry