

Why the UK must **NOT** exploit shale gas

Here I focus on the climate reason (of the many reasons)

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This is a shortened version. Full version online: www.dragonfly1.plus.com/NOtoShaleGas.pdf

1. There is a widespread lack of realization of how **urgently** we need to make very great reductions in carbon emissions, and that includes from burning fossil gas, and thus shale gas:

“The scientific study 'Natural Gas and Climate Change' by Professor Kevin Anderson and Doctor John Broderick of the Tyndall Centre for Climate Change Research reveals the **urgency** with which Europe needs to phase-out all fossil fuels. EU countries can afford just nine more years [at most] of burning gas and other fossil fuels at the current rate before they will have exhausted their share of the earth's remaining carbon budget for maximum temperature rises of 2°C.” - www.foeeurope.org/NoRoomForGas - and +2 degrees C is too much – it would be devastating for low-lying land such as many Pacific islands, and that’s just one example. We must aim for 1.5 degrees maximum even though that is hard to achieve now. The following chart shows we (globally) have only 3 years left before the IPCC 1.5 degrees budget is used up:

Carbon Countdown

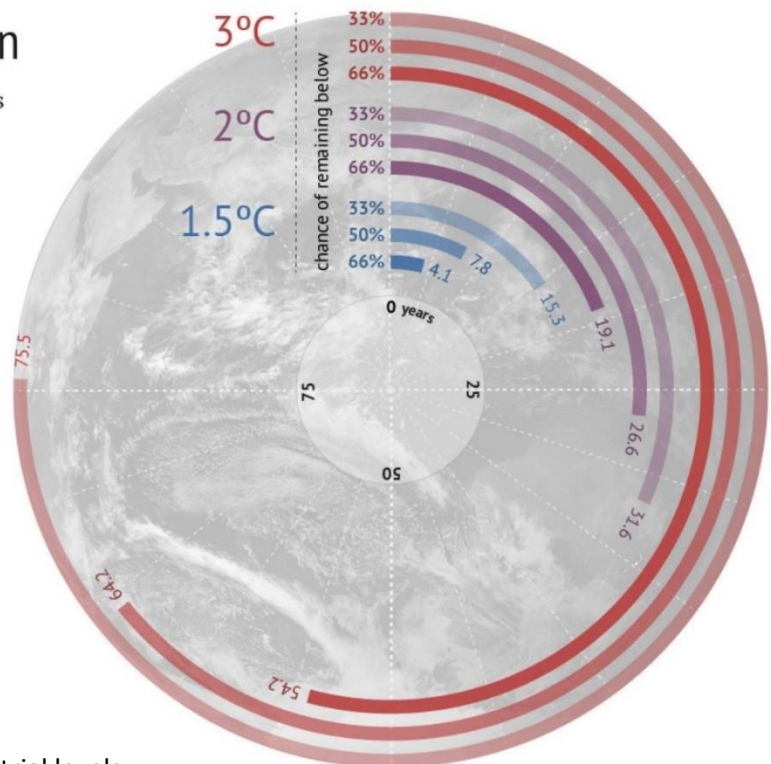
As of the start of 2017, how many years of current emissions would use up the IPCC's carbon budgets for different levels of warming?

Also the IPCC 1.5° budget is near to zero or negative for us in the EU & OECD.

(Note: budgets for 1.5 are not precise, and may be revised in 2018, as explained in full version, which includes notes on Millar et al. 2017)

Source link:

<https://www.carbonbrief.org/analysis-four-years-left-one-point-five-carbon-budget>



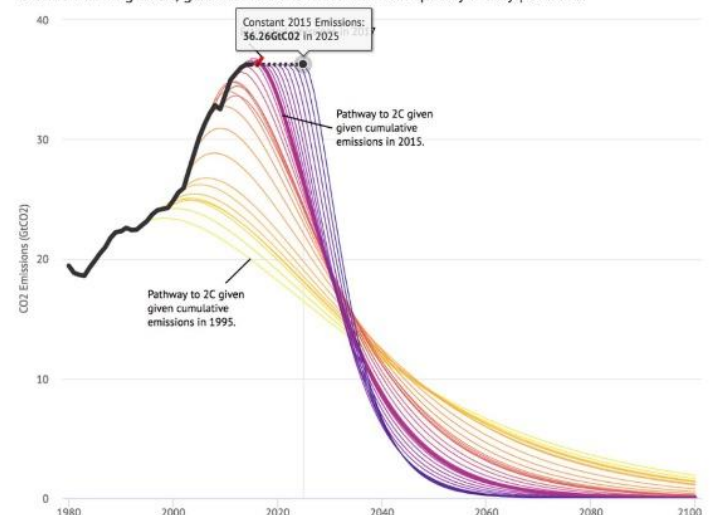
The temperature goals of The Paris Agreement are to keep “the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels”.

2. If the UK’s shale gas industry is allowed to establish and grow – it would thus reach its highest aimed-for production rate when the need to hugely reduce our gas burning would be at its most imperative: chart (via Carbon Brief): >>>

“To meet its Paris 2°C commitment the EU needs over 12% p.a. mitigation, starting immediately” – Anderson & Broderick’s report.

But the EU’s NDC (Nationally Determined Contribution) at present ignores the rate of reduction required now, hoping to incur a carbon debt that can be paid back by future technical inventions to suck CO2 out of the air! (Fantasy on such a large scale as world-wide)

To limit warming to 2C, global emissions must fall more quickly if they peak later



3. We must leave much more than two-thirds of existing global fossil fuel reserves in the ground to keep global temperature rise below 2 degrees – which means we have little to no (or even negative) carbon budget left to burn to keep the rise to nearer 1.5 degrees.

That budget includes GAS

Natural gas is no “bridging fuel”

I quote again from Anderson & Broderick 2017 – a Summary heading:

“11) Fossil fuels (including natural gas) have no substantial role in an EU 2°C energy system beyond 2035”

4. Without CCS, fossil GAS at best has a carbon intensity about half that of coal.

And it only needs a small percentage release of methane (around 3%) to raise its carbon intensity to that of coal. Fossil gas is thus a high carbon energy, especially without CCS.

5. UK’s gas consumption has been falling, and there is much scope for fossil gas demand to fall further – as it should. National Grid’s 2017 Future Energy Scenario for 2 degrees shows how.

5a. UK’s gas consumption has been declining since at least 2010 - though there was an uptick over 2016 (due in part to the welcome recent rapid reduction in use of coal partly resulting from the closure of many coal plants).

5b. There is much further scope for reducing fossil gas demand to comply with the urgent need.

Gas is used for electricity generation, space-heating etc (both domestic & commercial), and industrial uses such as for plastics manufacture; most or all of which have scope for reduction. Clean green renewables can replace much more of the fossil gas used for electricity generation. Plastics demand can be reduced – especially of the wasteful and environmentally-damaging single-use plastics. Gas demand for space-heating can be much reduced by insulation etc, and new-builds don’t need to have any gas supply if suitably built (e.g. with heat pumps etc).

Also: Biogas, green gas, hydrogen, have a much lower life-cycle carbon intensity than shale gas and other fossil gas if conditions are met. And we can go further than just reductions in fossil gas consumption:

6. Our energy needs can be met without fossil fuels or nuclear:

This is shown by a number of studies – some of which I have collated here: See page 2 of:

<http://www.dragonfly1.plus.com/EnergyWithoutFossilFuels&Nuclear.pdf>

7. The use of gas as a “bridge” to decarbonized energy is unlikely to be cost effective

According to: ‘**The future role of natural gas in the UK: A bridge to nowhere?**’ by energy analysts Pye et al. (2017).

8. UK’s GAS SECURITY OF SUPPLY – SHALE GAS NOT NEEDED (government-commissioned report)

The recent [Gas Security Supply Strategic Assessment](#) (12oct17) commissioned by BEIS (The Department of Business, Energy and Industrial Strategy), concluded that shale gas was not needed to guarantee secure supply.

I provide more on this topic in my full version: www.dragonfly1.plus.com/NOtoShaleGas.pdf

Also: National Grid’s 2017 Future Energy Scenario for 2 degrees excludes shale gas

9. CCC says shale gas incompatible, unless 3 conditions met – but they have not been met! Furthermore the 3rd condition re offsetting is flawed, nor is government meeting it anyhow

[CCC = Committee on Climate Change]

I explain how in the full version.

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CONCLUSION: The exploitation of shale gas in the UK is thus ruled out by the climate change temperature goals, and also - we have no need for it anyhow! Also:

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10. UK shale gas exploitation is also unacceptable for a number of other reasons – especially its threats to public health via air/ground/water pollution, no social licence – the over-riding of local and county-wide democracy, and other negative social, environmental and agricultural impacts ...

See e.g. SGR’s reports: www.sgr.org.uk/projects/shale-gas-and-fracking-main-outputs