

Science shows the severe climate consequences of new fossil fuel extraction

August 3 2023, by Ed Hawkins



Credit: AI-generated image ([disclaimer](#))

The world has just suffered through its [warmest month ever recorded](#). Heatwaves have swept across [southern Europe, the US and China](#), breaking many temperature records in the process.

Climate scientists have been sounding the alarm [for decades](#) that this

type of event will become more frequent as the world continues to warm. The major culprit behind this is the burning of [fossil fuels](#). So it's extremely concerning that the UK government [has announced](#) its intention to grant hundreds of licenses for new North Sea oil and gas extraction.

Although burning fossil fuels to generate power and heat has enabled society to develop and flourish, we are now experiencing the unintended side effects. The [carbon dioxide](#) that has been added to the atmosphere is [leading to a rise](#) in global temperatures, causing heatwaves to become hotter and downpours more intense. The resulting large-scale disruption and suffering is becoming ever more visible.

This warming will continue, with worsening climatic consequences, until we reduce global carbon dioxide emissions to "net zero." After that, we will still have to live and suffer in a [warmer climate](#) for generations. The collective choices we make now will matter in the future.

The small-scale, but high-profile, [disruptions caused by Just Stop Oil protesters](#) in the UK are extremely frustrating for many. But their single demand—for no licenses for new UK coal, oil and gas projects—is consistent with the science underpinning the [international agreements](#) that the UK has signed.

Temperatures are rising

Since the 1860s, the [scientific community has understood](#) that adding more carbon dioxide to the atmosphere would warm the climate. And as long ago as 1938, the burning of fossil fuels was [linked](#) to the observed rise in both carbon dioxide levels and global temperatures. Fast forward to now and [global temperatures](#) are warmer, and increasing faster, than at any point in human civilization.

In response to the overwhelming scientific evidence, the UK and 193 other nations came together in 2015 to ratify the [Paris agreement on climate change](#). One of the agreed goals is to limit global warming to well below 2°C, and even aim for 1.5°C, compared to the pre-industrial era.

However, the latest [synthesis report](#) from the Intergovernmental Panel on Climate Change, which all governments explicitly endorsed, paints a stark reality. If we burn all of the fossil fuels that we currently have access to, then global warming will exceed 1.5°C and may reach 2°C.

To avoid breaching the limits set out by the Paris agreement, some of the coal, oil and gas that we can already extract must remain unburnt. New fossil fuel extraction projects will make it even harder to stop further global warming.

Build up renewable infrastructure

There are other options. The UK government's official advisers, the Climate Change Committee, have put forward a vision for UK power generation consistent with a net zero future. They [say that](#) the UK could provide all of its energy needs by 2050 through a combination of renewables, bioenergy, nuclear, hydrogen, storage and demand management, with some carbon capture and storage for fossil gas-based generation in the meantime.

If the UK followed the example of China and [rapidly increased](#) its investments in [renewable energy](#), then it could achieve energy security without causing additional global warming. China emits the [most carbon dioxide](#) of any country in the world. But it is installing more [renewable energy generation](#) than the rest of the world combined.

Rapidly reducing our reliance on fossil fuels, and not issuing new

licenses to extract oil and gas, is the most effective way of minimizing future climate-related disruptions. The sooner those with the power to shape our future recognize this, the better.

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