



Figure 47.2. Left: fossil fuel emissions in 2018. Right: cumulative 1751-2018 emissions.

## Dear Prime Minister: The Science

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[Guardian](#) and [BBC](#) reports on my [letter](#) to Prime Minister Johnson focused on the Cumbria coal mine. That's important: a new coal mine indicates a business-almost-as-usual attitude.

The other purpose of my letter – the main purpose – was a suggestion for how PM Johnson could make a global difference. I'm sorry that I didn't include the full Fig. 47.2 from Sophie's Planet. The right side shows that the UK is responsible for about 5 percent of global warming, but the left side shows that current UK emissions are now less than 1 percent of global emissions. It's right that the UK reduce its emissions, but that alone has little effect on future climate.

Science informs us that fossil fuels will still be used on a large scale globally, if their price does not include their costs to society – costs of air pollution, water pollution and climate change. An economy is most efficient if prices are honest. [Economists agree](#) that we should collect a rising fee from fossil fuel companies and distribute the money uniformly to the public. Prosperity increases, innovation is stimulated, infrastructure is renewed; this [fee & dividend](#) enhances other policies aimed at reducing emissions. Fee & dividend is anti-regressive (progressive). [Students](#) understand that without such a rising carbon price, global warming will not be stopped.

We need a nation to demonstrate that policy. The UK could do it, if Johnson would advocate for it – it would be wonderful to see the UK parliamentary democracy debate the matter. There is no point to debate it in the US Congress, where so many members are well-oiled, coal-fired and full of gas. Instead, President Biden could impose it by having the EPA collect a pollution fee – the Supreme Court ruled that EPA has the responsibility to regulate pollution.

There is one other basic requirement for solving the global warming problem, which is also discussed in Chapter 47: technology development. Fee & dividend will spur technology

development – indeed, that is the most efficient way to achieve it. However, we also need government policies that pave the way and international agreements that pave the way.

The global carbon budget has been effectively used up already. We need to at least get back to a global temperature of the mid-twentieth century – if not a bit cooler – to shut off amplifying feedbacks such as tundra meltdown and ice sheet disintegration.

The West burned up the carbon budget (right side of the figure), but continuing emissions are mainly from emerging economies and the United States. China, the U.S. and India now produce just over half of global emissions. Technological cooperation among these nations could allow coal to be phased out rapidly. China and India would like to replace dirty coal-fired power – the largest source of CO<sub>2</sub> emissions – with nuclear power, but they will only do it with modern, passively-safe technology. It is apparent – from the amount of material (steel, concrete, etc.) required to build a nuclear power plant – that nuclear power has the potential to be cheaper than fossil fuels. Advanced generation nuclear power is a remarkably good bargain, if one considers the millions of lives saved by replacing coal and the economic costs avoided via reduced global warming. If we do not develop it, we will be using gas (and coal in China and India) as the complement to intermittent renewable energies.

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