

The Emergency Brake

Nationalising and Dismantling the
Fossil Fuel Industry in the Global North



The Emergency Brake: Nationalising and Dismantling the Fossil Fuel Industry in the Global North

About Climate Vanguard

Climate Vanguard is a youth-led think tank developing the radical transformations that stop Earth breakdown and build a just, habitable world.

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Please Cite As

Johnson, J. and Herfort, N. (2022). 'The Emergency Brake: Nationalising and Dismantling the Fossil Fuel Industry in the Global North,' *Climate Vanguard*: London.

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Executive Summary

Our planetary life support systems are crumbling. What is to be done?

Stopping climate breakdown requires an emergency response.¹ The first step is to rapidly phase out fossil fuels, which account for 89% of planet-heating emissions.

To phase out fossil fuel production, the fossil fuel industry must first be nationalised. Once under democratic public control, the industry can be rapidly dismantled according to a 1.5°C heating pathway.

Key messages:

1. 1.5°C heating is a red line for climate. Beyond 1.5°C, the risk of runaway climate breakdown soars.
2. Limiting heating to 1.5°C demands unprecedented transformation. We have no time to spare. According to principles of justice and capacity, countries in the global North must phase out fossil fuel production by 2034 at the latest. Countries in the global South must phase out fossil fuel production by 2044 at the latest.
3. The fossil fuel industry is structurally incapable of managing the transition. The industry is defined by a history of climate denial and greenwash. Although heating is already at 1.2°C, the 20 largest oil and gas companies are investing \$932 billion in new fossil fuel projects by 2030, rising to \$1.5 trillion by 2040. In 2022 alone, 64,500 new oil and gas drills will be drilled, a 19% year-on-year increase.
4. The state is the only actor with the institutional capacity to manage the required phase out. States have historically nationalised large parts of the economy to protect the public interest, especially in times of emergency. Never before has there been a greater public interest than rapidly phasing out fossil fuels and preserving a livable planet.

¹ Note: While we acknowledge the ecological crisis leading to the sixth mass extinction, in this report we focus on climate change as the most direct harm of fossil fuel combustion.

5. Nationalising and dismantling the fossil fuel industry is possible via two pathways: legislation and central bank quantitative easing (QE). In the case study of the United Kingdom (UK), fossil fuel production can be phased out through a Parliamentary Act or through a Bank of England QE program. These pathways will require the creation of novel government agencies, a rapid renewable rollout, degrowth of unnecessary energy consumption, a just transition for frontline communities and workers, and stewardship from a robust grassroots climate movement.
6. It would cost £296 billion to nationalise the fossil fuel industry in the UK.

Introduction

Thus far, mitigation measures have focused either on limiting fossil fuel demand or increasing the supply of renewables.² There has been almost no direct focus on abolishing fossil fuel production.

Unsurprisingly, attempts to stop climate breakdown without intervention in the industry responsible has done little to avert the crisis.

In step with others who have begun breaking the silence, this report outlines how the fossil fuel industry can be swiftly dismantled in line with a 1.5°C heating trajectory.³

The report structure is as follows.

Part 1: The Mandate

Part 1 outlines the mandate for nationalising and dismantling the fossil fuel industry.

First, we review the most up to date climate science to understand the risks of climate breakdown and our current heating trajectory. Next, we identify how quickly fossil fuels must be phased out if we are to limit global heating to the 1.5°C threshold. Finally, we outline why the state is the primary actor in managing a rapid fossil fuel phase out.

Part 2: The United Kingdom Case Study

Part 2 explores the process of nationalising and dismantling the fossil fuel industry. Drawing on the example of the United Kingdom (UK), the case study highlights the legal pathways for nationalisation, the cost of nationalisation, and the feasibility of a state-led fossil fuel phase out.

² Fergus Green and Richard Denniss, "Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies," *Climatic Change* 150 (March 12, 2018): 73-87.

³ Fergus Green and Ingrid Robeyns, "On the Merits and Limits of Nationalising the Fossil Fuel Industry," *Royal Institute of Philosophy Supplements* 91 (April 4, 2022): 53-80.

Mark Paul et al., "The Case for Nationalizing the Fossil Fuel Industry," *People's Policy Project* (June, 2020).

The Next System Project & Oil International, "The Case for Public Ownership of the Fossil Fuel Industry," *The Next System Project* (April 14, 2020).

Kate Aronoff, "A Moderate Proposal: Nationalize the Fossil Fuel Industry," *The New Republic* (March 17, 2020).

Not only does the case study show that governments *can* dismantle the fossil fuel industry now, but it also engages in scenario planning—something that has not yet been done in the context of a fossil fuel phase out.

The climate movement must be armed with an airtight strategy centred on emergency political-economic demands, an irresistible narrative of radical transformation, and mass mobilisation.

Many areas discussed in the report demand more attention and research, particularly when applied to country specific contexts. Overcoming the concentrated power of fossil capital demands meticulous planning and people power. To that end, this report lays out a blueprint for stopping climate breakdown and building the foundation of a just, habitable world

Part 1: The Mandate for Dismantling the Fossil Fuel Industry

We are in a Climate Emergency

As the summer of 2022 has shown, we are in the grip of an accelerating climate emergency. Horrific flooding in Pakistan, parched rivers in Europe, extreme drought in the United States, and crippling heat in China are all consequences of 1.2°C heating above pre-industrial levels.⁴

1.5°C heating is a threshold beyond which the threat of irreversible, runaway climate catastrophe soars.⁵

At 2°C, 19% of the global land surface will become inhospitable to human life, forcing 1.5 billion people to migrate.⁶ At 2.7°C, the heating trajectory if all nationally determined contributions are fulfilled, cascading crop failures in key breadbaskets are likely.⁷ Above 3°C, weeks-long “unprecedented super and ultra-extreme heatwave conditions” of 56°C higher will bake the Middle East and North Africa.⁸

Humanity has a 50% chance of temporarily transgressing 1.5°C in the next 5 years. 1.5°C is likely to be permanently crossed by 2032. 2°C by 2052.⁹ And 3.2°C heating is

⁴ Abid Hussain, “Pakistan declares national emergency as flood toll nears 1,000,” *Al Jazeera* (August 26, 2022).

Jon Henley, “Europe’s rivers run dry as scientists warn drought could be worst in 500 years,” *The Guardian* (August 13, 2022).

National Drought Mitigation Center, “U.S. Drought Monitor,” *National Drought Mitigation Center* (October 13, 2022).

Reuters, “China deploys cloud-seeding planes and cuts electricity use as record heatwave takes toll,” *The Guardian* (August 18, 2022).

⁵ David Armstrong McKay et al., “Exceeding 1.5°C global warming could trigger multiple climate tipping points,” *Science* 377, no. 6611 (September 9, 2022): 1-10.

⁶ Chi Xu et al., “Future of the human climate niche,” *PNAS* 117, no. 20 (May 4, 2020): 11350-11355.

⁷ Daniel Quiggin et al., “Climate change risk assessment 2021,” *Chatham House* (September, 2021).

⁸ George Zittis et al., “Business-as-usual will lead to super and ultra-extreme heatwaves in the Middle East and North Africa,” *NJP Climate and Atmospheric Sciences* 4, no. 20 (March 23, 2021): 1-9.

⁹ World Meteorological Organization, “WMO update: 50:50 chance of global temperature temporarily reaching 1.5°C threshold in next five years,” *World Meteorological Organization* (May 9, 2022).

expected by 2100.¹⁰ In short: we face an unlivable climate that will destroy the foundations of organised human life.

“In short: we face an unlivable climate that will destroy the foundations of organised human life.”

To prevent the worst impacts of climate breakdown, global heating must be limited to 1.5°C. Since fossil fuels are the main driver of climate change, accounting for 89% of annual emissions, the pressing question becomes, how fast do we need to phase out fossil fuels to limit heating to 1.5°C?¹¹

The Remaining Carbon Budget

The carbon budget is the total amount of CO₂ that can still be released into the atmosphere for a given probability of not exceeding a specific temperature threshold.¹² In other words, the carbon budget indicates how much more CO₂ the atmosphere can hold before a certain heating threshold is transgressed.

In 2021, the Intergovernmental Panel on Climate Change's Sixth Assessment Report (AR6) determined that the total remaining carbon budget for a 67% chance of limiting heating to 1.5°C was 400 Gigatonnes of CO₂ (GtCO₂).¹³ This amount indicates the total amount of CO₂ that can still be emitted from all emissions sources.

However, since this report focuses specifically on fossil fuels, we apply four adjustments and assumptions to the AR6 budget to calculate the remaining budget only for fossil fuels. As is shown in *Figure 1*, the fossil fuel carbon budget for a 67% chance of limiting warming to 1.5°C is 242.9 GtCO₂.

¹⁰ Note: The projections for the permanent crossing of 1.5°C and 2°C are median estimates based on SSP2-4.5, a flat emissions scenario that IEA estimates we are most likely to follow over the next two decades. The 3.2°C projection is a median estimate by the IPCC based on a business-as-usual extension of policies implemented at the end of 2020.

¹¹ P Friedlingstein et al., “Global Carbon Budget 2021,” *Global Carbon Project* (November 4, 2021).

¹² Dan Calverley and Kevin Anderson, “Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets,” *Tyndall Centre for Climate Change Research* (March 11, 2022).

¹³ Note: A 67% chance is the most stringent budget developed by the IPCC.

IPCC, “Climate Change 2021: The Physical Science Basis: Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change,” *IPCC* (2021).

Figure 1 only includes recent emissions and industry emissions because the two other assumptions had no impact on the final budget. Our first assumption is that emissions from land use, land use change and forestry (LULUCF) are net-zero between 2022-2100—closely tracking the median for the literature.¹⁴

We also do not use carbon dioxide removal (CDR) to expand the carbon budget. Scaling CDR to expand the budget poses grave ecological risks.¹⁵ It would also demand over a quarter of global energy production by 2100, undermining the shift to energy efficiency that is a cornerstone of decarbonisation.¹⁶ CDR should only be deployed to bring atmospheric CO₂ concentration back below 350 parts per million (ppm).¹⁷

Original budget from AR6	2020, 2021, 2022 (Jan-June) emissions (97.1 GtCO ₂)	Cement-related emissions (60 GtCO ₂)	Final Budget
400 GtCO ₂	302.9 GtCO ₂	242.9 GtCO ₂	242.9 GtCO ₂

FIGURE 1

The final carbon budget calculation.

¹⁴ Brian Walsh et al., “Pathways for Balancing CO₂ Emissions and Sinks,” *Nature Communications* 8, no. 1 (April 13, 2017): 14856.

¹⁵ Hickel, Jason. *Less is More How Degrowth Will Save The World* (London: Windmill Books, 2020).

¹⁶ Giulia Realmonte et al., “An Inter-Model Assessment of the Role of Direct Air Capture in Deep Mitigation Pathways,” *Nature Communications* 10, no. 1 (December, 2019): 3277.

¹⁷ Note: 350 ppm is the safe limit of atmospheric CO₂ concentration. We are currently at 420 ppm.

Phase Out Timeline

To establish the phase out timeline according to the carbon budget, it must be equitably distributed. Two key factors determine this process: justice and capacity.

The global North is responsible for 92% of emissions in excess of 350 ppm.¹⁸ Due to this immense climate debt, the global North has a responsibility to phase out fossil fuels earlier.

Countries in the global North also generally have a high “non-oil GDP/capita,” which means they derive a small amount of income from the production of fossil fuels relative to the entire size of the economy. For example, despite being the largest producer of fossil fuels in the world, the United States (US) derives just 8% of its GDP from oil and gas.¹⁹ Comparatively, Iraq derives 65% of its GDP from oil and gas production.²⁰ Remove fossil fuel production from Iraq and its economy would collapse; remove fossil fuel production from the US and its economy would still be one of the wealthiest in the world.²¹

After redistributing the carbon budget according to the principles of justice and capacity, *Figure 2* contains dates for countries of the global North and global South to phase out fossil fuels for a 67% chance of limiting warming to 1.5°C.²²

Figure 2 further breaks down the global North and global South into five subgroups. Only analysing the broad categories of global North and global South overlooks important variations in responsibility and capacity within each category. Following Calverley and Anderson (2022), sub-groupings were established through each country's non-oil GDP/capita—a metric also used to redistribute the carbon budget from groups 1 and 2 to groups 3, 4, and 5.

¹⁸ Jason Hickel, “Quantifying National Responsibility for Climate Breakdown: An Equality-Based Attribution Approach for Carbon Dioxide Emissions in Excess of the Planetary Boundary,” *The Lancet Planetary Health* 4, no. 9 (September 1, 2020): 399–404.

¹⁹ Dan Calverley and Kevin Anderson, “Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets,” *Tyndall Centre for Climate Change Research* (March 11, 2022).

²⁰ *Ibid.*

²¹ Note: The most disruptive part of dismantling the fossil fuel industry is not the lost income from fossil fuel production itself but is the loss of the economy's primary fuel source. This statement is made recognising that alternative energy sources are available to fill the energy gap. More attention is paid to this point in Part 2.

²² Note: We define global North as Annex I countries with some adjustments made based on fossil fuel production and non-oil GDP/capita (see full list in *Figure 2*).

Phase out dates are determined by the non-oil GDP/capita for the top 88 countries for fossil fuel production, which account for 99.97% of global production.²³ Non-oil GDP/capita is a direct measure of capacity and includes some account for justice because high producing, non-dependent countries are also the most responsible for climate breakdown. However, a full account of justice also demands reparations from the most responsible to the most affected.

Phase out dates make one thing clear: the fossil fuel industry must be dismantled as quickly as possible. This report focuses on dismantling the fossil fuel industry in the global North because it is historically responsible for the majority of emissions.²⁴ With that being said, dismantling the fossil fuel industry in the global North is a global policy. Such a transformation is in the interest of all people, all life on Earth, and it is only the start of a decarbonisation transformation that must take place in every country.

“Phase out dates make one thing clear: the fossil fuel industry must be dismantled as quickly as possible.”

With the need for a rapid phase out established, the key questions remaining are, who will manage the transition to a low-carbon world, and how will they manage it?

First, we will consider the question of *who*, and once identified, Part 2 discusses *how*.

²³ Dan Calverley and Kevin Anderson, “Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets,” *Tyndall Centre for Climate Change Research* (March 11, 2022).

²⁴ Jason Hickel and Aljosa Slamersak, “Existing Climate Mitigation Scenarios Perpetuate Colonial Inequalities,” *The Lancet Planetary Health* 6, no. 7 (July 1, 2022): 628–31.

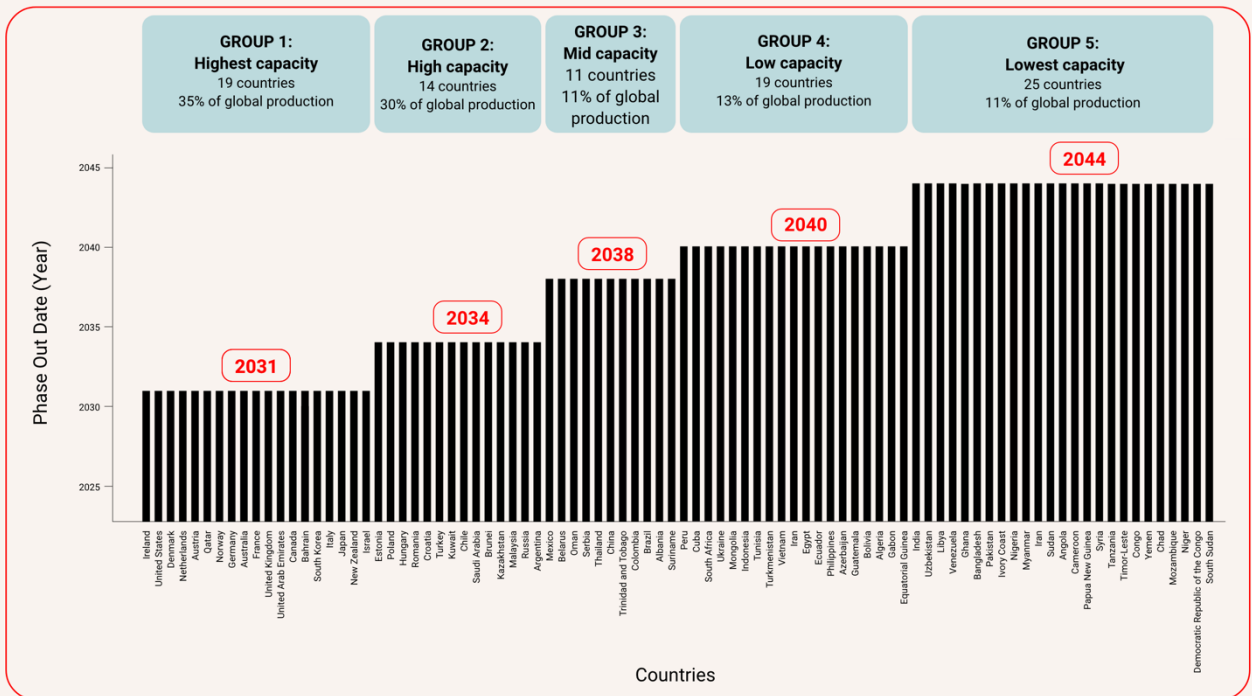


FIGURE 2

Fossil fuel phase out dates after distributing carbon budget according to the principles of justice and capacity. These dates assume a “middle of the road,” linear phase out pathway. If, in the short term, emissions are cut faster than the assumed pathway, the phase out date would be extended. Similarly, if the emission reduction rate lags behind, the necessary phase out date would come sooner.

Emergency State Action

Phasing out fossil fuels requires emergency state action. Not only can the fossil fuel industry not be trusted, but it is constitutionally incapable of managing the zero-carbon energy transition. Before discussing the necessity for emergency state action, we outline the fossil fuel industry's history of denial, sustained greenwashing, plans for expansion, and the imperatives of fossil capitalism.

Fossil Fuel Industry Denial

The history of fossil fuel industry denial is deep, extensive, and crucially, incontrovertible.

As is shown in *Figure 3*, the earliest evidence indicates that the fossil fuel industry has known about climate change since the 1950s. At the “Energy and Man Symposium” in 1959, which was organised by an industry lobbying group known as the American Petroleum Institute (API), the famous nuclear physicist Edward Teller warned 300 oil industry representatives of a “greenhouse effect” that results from the combustion of fossil fuels. Teller warned that a 10% increase in CO₂ would be enough to “melt the ice caps and submerge New York.”²⁵

From 1959 onwards, industry scientists presented more and more infallible evidence that fossil fuel emissions were heating the atmosphere.²⁶ In 1998, the API developed the *Global Climate Science Communications Action Plan*, a \$5 million project that outlined the fossil fuel industry's climate denial master strategy.²⁷ Published a full 39 years after Edward Teller made the fossil fuel industry first aware of climate change, the strategy sought to recruit climate scientists to cast doubt on the existence of global warming and make climate scepticism “part of the conventional wisdom.”²⁸

²⁵ Benjamin Franta, “On Its 100th Birthday in 1959, Edward Teller Warned the Oil Industry about Global Warming,” *The Guardian* (January 1, 2018).

²⁶ Benjamin Franta, “Early Oil Industry Disinformation on Global Warming,” *Environmental Politics* 30, no. 4 (June 7, 2021): 663–68.

²⁷ *Ibid.*

²⁸ American Petroleum Institute, “API Global Climate Science Communications Plan 1998,” *Document Cloud* (April 3, 1998).

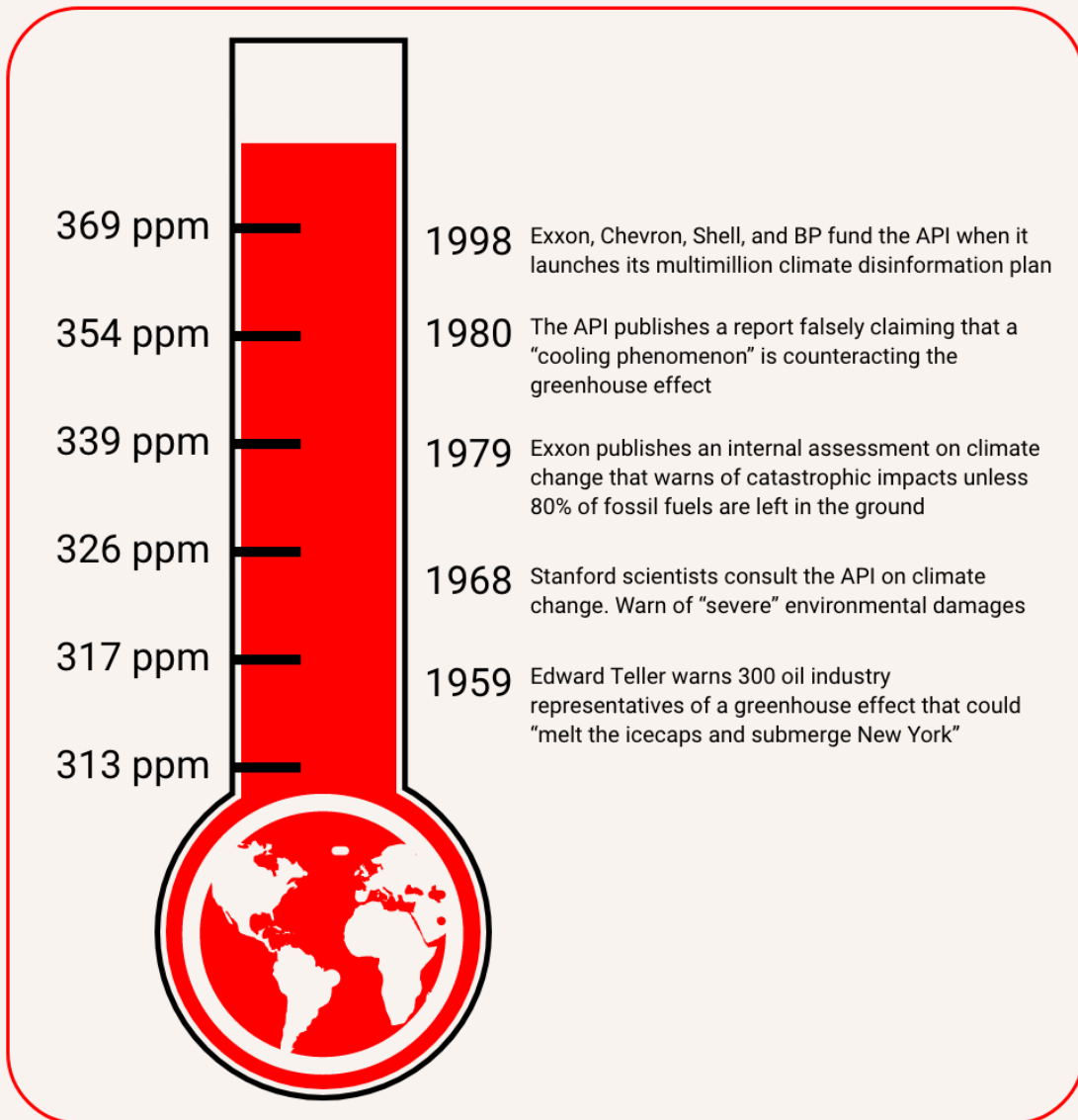


FIGURE 3

The fossil fuel industry's decades long denial campaign.

Fossil Fuel Industry Greenwashing

After decades of outright denial, the fossil fuel industry now accepts the reality of climate change. Fossil fuel companies have even issued net-zero pledges.²⁹

However, net-zero targets are restricted towards operational emissions, ignoring the emissions of the actual combustion of the fossil fuels they sell (95-98% of emissions from oil and gas happen when they burn, not during extraction) and overwhelmingly rely on unproven CDR technologies.³⁰

Moreover, the vast majority of investments continue to be funnelled into fossil fuel development. From 2010-2018, the 24 biggest publicly-traded fossil fuel companies spent only \$2 billion on renewable energy, accounting for just 1.3% of their capital expenditure.³¹ And yet, the majority of fossil fuel advertisements promote “green climate friendly solutions.”³²

True to its history, the fossil fuel industry’s sustainable facelift is nothing more than a manipulative denial campaign meant to shore up its imperilled social licence.

Fossil Fuel Industry Expansion

The fossil fuel industry is undergoing a dramatic expansion. The 20 largest oil and gas companies are investing \$932 billion in new fossil fuel projects by 2030, swelling

²⁹ Shell, “Our Climate Target,” *Shell* (Accessed October 25, 2022).

BP, “BP sets ambition for net zero by 2050, fundamentally changing organisation to deliver,” *BP* (February 12, 2022).

ExxonMobil, “ExxonMobil announces ambition for net zero greenhouse gas emissions by 2050,” *ExxonMobil* (January 18, 2022).

Chevron, “Chevron sets net zero aspiration and new GHG intensity target,” *Chevron* (October 11, 2021).

Total Energies, “Carbon Net Zero Plans,” *Total Energies* (Accessed October 25, 2022).

³⁰ Andreas Malm and the Zetkin Collective, *White Skin, Black Fuel: On the Danger of Fossil Fascism* (London: Verso, 2021).

Note: For example, BP, Conoco-Phillips, Chevron, and Exxon-Mobil only include operational emissions or emissions intensity in their net-zero targets and rely on CDR technologies.

Carbon Tracker Initiative, “Oil Major’s Net-Zero Plans Still Far From Paris Targets,” *Carbon Tracker Initiative* (May 27, 2021).

³¹ Luke Fletcher et al., “Beyond the Cycle, Which Oil and Gas Companies are Ready for The Low-Carbon Transition?,” *Carbon Disclosure Project* (November, 2018).

³² Greenpeace, “Words Vs Actions, The Truth Behind Fossil Fuel Advertising,” *Greenpeace* (October 3, 2021).

to \$1.5 trillion by 2040.³³ Some of these projects include “carbon bombs”—fossil fuel projects that emit at least 1 GtCO₂ over their lifetimes. Of the 195 planned carbon bombs, 60% are already pumping. The 12 largest oil and gas companies are estimated to spend \$103 million per day until 2030 on the development of these super fossil projects.³⁴

Bar early retirement, existing fossil fuel infrastructure is estimated to lock-in heating greater than 1.5°C.³⁵ Additional fossil fuel investment, including carbon bombs, will obliterate the remaining budget for 1.5°C.³⁶ This is similarly confirmed by the International Energy Agency (IEA), which has stated that there can be no new fossil fuel projects from 2021 onwards if the world is to limit global heating to 1.5°C.³⁷ In 2022 alone, 64,500 new oil and gas drills will be drilled, a 19% year-on-year increase.³⁸

Fossil Capitalism

The fossil fuel industry, like all other corporations, are captive to the capitalist imperatives of exploitation, profit, and growth. But fossil fuels play a special role in capitalism. They *power* capitalist production and *enable* perpetual growth. This is known as “fossil capitalism,” an “economy of self-sustaining growth predicated on the growing consumption of fossil fuels.”³⁹

Considering how essential fossil fuels are to capitalism, the production of fossil fuels is incredibly lucrative. Since 1970, the fossil fuel industry has made \$52 trillion

³³ Global Witness, “IPCC Clarion Call Puts Spotlight On Fossil Fuel Industry's Hypocrisy,” *Global Witness* (April 12, 2022).

³⁴ Damian Carrington and Matthew Taylor, “Revealed: The ‘Carbon Bombs’ Set to Trigger Catastrophic Climate Breakdown,” *The Guardian* (May 11, 2022).

³⁵ Dan Tong et al., “Committed Emissions from Existing Energy Infrastructure Jeopardize 1.5 °C Climate Target,” *Nature* 572, no. 7769 (August, 2019): 373–77.

³⁶ Damian Carrington and Matthew Taylor, “Revealed: The ‘Carbon Bombs’ Set to Trigger Catastrophic Climate Breakdown,” *The Guardian* (May 11, 2022).

Dan Welsby et al., “Unextractable Fossil Fuels in a 1.5 °C World,” *Nature* 597, no. 7875 (September, 2021): 230–34.

³⁷ International Energy Agency, “Net Zero by 2050 - A Roadmap for the Global Energy Sector,” *International Energy Agency* (May, 2021).

³⁸ Rystad Energy, “118,500 Oil & Gas Wells To Be Drilled Worldwide Through 2022,” *Oil Price* (March 23, 2021).

³⁹ Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming* (London: Verso, 2016).

in “pure profit,” amounting to \$2.8 billion per day.⁴⁰ 86% of these profits are derived from economic rent, unearned income generated after the cost of production.⁴¹ This “rentier” dynamic is enabled by the monopolisation of oil supply, which allows for supply restriction and price gouging.

Limiting heating to 1.5°C would require the fossil fuel industry to reject \$100 trillion in revenues.⁴² It is inconceivable that the fossil fuel industry would voluntarily do this. It would require an act of economic suicide virtually impossible under a capitalist system whose *raison d'être* is profit.

“...the fossil fuel industry will do anything for profit, even if it means lying about climate science, delaying life-saving action, and torching the planet. Quite simply, they are willing to forfeit the Earth. And if we let them, we will lose everything.”

As we have shown, the fossil fuel industry will do anything for profit, even if it means lying about climate science, delaying life-saving action, and torching the planet. Quite simply, they are willing to forfeit the Earth. And if we let them, we will lose everything.

Nationalisation

There are two benefits of nationalisation.

1. Democracy

Nationalisation can free democracy from the talons of fossil capital. Shell, BP, ExxonMobil, Chevron, and Total spend approximately \$200 million on lobbying each year.⁴³ To quote Green and Robeyns, “perhaps no other industry in modern history

⁴⁰ Damian Carrington, “Revealed: Oil Sector’s ‘Staggering’ \$3bn-a-Day Profits for Last 50 Years,” *The Guardian* (July 21, 2022).

⁴¹ *Ibid.*

⁴² *Ibid.*

⁴³ Niall McCarthy, “Oil And Gas Giants Spend Millions Lobbying To Block Climate Change Policies,” *Forbes* (March 25, 2019).

has more profoundly corrupted government decision-making and distorted the informational basis for democratic accountability.”⁴⁴

Importantly, nationalisation alone is not enough to reclaim democracy from the undue influence of fossil fuels. It could simply result in the transfer of control from corporate executives to centralised political leadership who have shown a similar drive to maximise fossil fuel production in the shape of yearly billion-dollar subsidies.⁴⁵

Once under state control it is critical that the management of the energy industry, particularly the renewable rollout, is democratically controlled. More attention is given to this point in Part 2.

Restoring public control over energy is a necessary step to weeding out the disproportionate influence of capital on the political process. When it comes to the energy sector, the case for strengthened democracy is particularly forceful since further extraction of fossil fuels will have an existential impact on all people. If the public cannot have a say over an industry that holds the keys to life itself, then what does democracy mean?⁴⁶

2. Just Transition

History has shown that the burdens of capitalist transitions are shouldered by workers and the most economically vulnerable.⁴⁷ The fossil fuel industry is hardly exempt.

In recent years, as the industry has undergone disruption from COVID-19 and the “fracking revolution,” large numbers of fossil fuel companies have filed for bankruptcy. In the process, many have laid off workers without notice,⁴⁸ dodged

⁴⁴ Fergus Green and Ingrid Robeyns, “On the Merits and Limits of Nationalising the Fossil Fuel Industry,” *Royal Institute of Philosophy Supplements* 91 (May, 2022): 53–80.

⁴⁵ Kate Abnett, “Fossil fuel subsidies to face tighter EU scrutiny,” *Reuters* (January 31, 2022).

Johannes Urpelainen and Elisha George, “Reforming Global Fossil Fuel Subsidies: How the United States Can Restart International Cooperation,” *Brookings* (July 14, 2021).

⁴⁶ Note: The case for strengthened democracy only holds true for democratic countries. For example, Saudi Aramco is primarily state-owned, but this has no bearing on democracy in Saudi Arabia.

⁴⁷ Mark Paul et al., “Out of Time, The Case for Nationalising the Fossil Fuel Industry,” *People’s Policy Project* (June, 2020).

⁴⁸ Michael Sainato, “Laid off and Owed Pay: The Kentucky Miners Blocking Coal Trains,” *The Guardian* (September 18, 2019).

obligations to pay out healthcare and pensions,⁴⁹ and neglected their responsibility to clean up abandoned wells leaking toxins into neighbouring towns.⁵⁰

A just transition recognises that workers in polluting industries and communities dependent on fossil fuel income are not to blame for our current crisis. They must be supported in a fair and equitable manner as the industry is dismantled.

In democratic hands, the state can cover incomes and extend the option for retraining into a low-carbon economy, whether it be renewable energy, home insulation, restoring ecosystems, or paid care work. Only a state-managed phase out can deliver a just transition for workers and dependent communities.

History of Nationalisation

During moments of impending catastrophe, the state has often nationalised key industries, or even large parts of the domestic economy in order to act in the interest of its citizens.

This historical precedent shows up in even the most capitalist countries, which ostensibly champion the free market and spurn the thought of government intervention.⁵¹ For example, during WWI, the U.S. nationalised the railroads, telephone companies, and arms manufacturers to ensure stable wartime production.⁵² During WWII, Franklin D. Roosevelt used his wartime powers to “seize” 60 privately-owned companies.⁵³ The state took control over sectors of the economy to protect its citizens in times of emergency.

The emergency we now face is far greater than WWI or WWII. As Bill McKibben writes, it may be best to conceive of climate breakdown as “World War III,” one whose “first victims” are “those who have done the least to cause the crisis.” But make no mistake, “it’s a world war aimed at all of us.”⁵⁴

⁴⁹ David Hillman et al., “Hot Topics in Coal Company Bankruptcy,” *Schulte Roth & Zabel* (Accessed October 18, 2022).

⁵⁰ Kate Aronoff, “Green Jobs Can Be Just as Good as Fossil Fuel Jobs,” *The New Republic* (July 21, 2020).

⁵¹ Thomas Hanna, “Nationalization Is as American as Apple Pie,” *Jacobin* (November 4, 2019).

⁵² Thomas Hanna, “Nationalization Is as American as Apple Pie,” *Jacobin* (November 4, 2019).

⁵³ John Ohly, *Industrialists in Olive Drab* (Washington D.C: Center of Military History United States Army, 2000).

⁵⁴ Bill McKibben, “A World at War,” *The New Republic* (August 15, 2016).

The Emergency Brake

With 1.5°C fast approaching, our emergency brake is the immediate nationalisation of the fossil fuel industry in the global North, bringing all privately-owned fossil fuel assets into the hands of the people.

This transformation is possible, it has been executed countless times before during emergencies, and it must be done again.

Once nationalised, the fossil fuel industry in the global North needs to be rapidly dismantled by 2031 and 2034 for groups 1 and 2 respectively. By these dates, all remaining fossil reserves must be left in the ground and fossil fuel *consumption* must be gradually phased out.

These are not policy recommendations. This is a survival plan.

Part 2: Nationalising and Dismantling the Fossil Fuel Industry in the United Kingdom

To show what nationalising and dismantling the fossil fuel industry in the global North might look like, we outline how it could be done in the UK. We use the UK as a case study for three reasons.

First, the UK's economy is relatively non-dependent on fossil fuel production. While it is the twenty first largest producer of oil and gas in the world, its non-oil GDP/capita is \$48,020—the eleventh highest in the world.⁵⁵

Second, from 1850 to 2021, the UK was the world's eighth largest emitter.⁵⁶ Climate justice demands that the UK be a first-mover in the rapid phase out of fossil fuels.

Finally, the UK is the birthplace of fossil capitalism.⁵⁷ Uprooting fossil capitalism in its country of origin carries particular symbolic weight.

The Historical Precedent

From 1946 to 1951, 20% of the UK economy was nationalised to ensure coordinated production of key industries during post-war reconstruction.⁵⁸ The Bank of England, transport (rail and canal), energy, electricity, telecommunications, civil aviation, iron, and steel were all brought under democratic public ownership and management. These industries were nationalised through legislation that “gave the government the power to value an industry, to compensate its previous owners and to transfer control to a board which would then own and run the industry”.⁵⁹

⁵⁵ Dan Calverley and Kevin Anderson, “Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets,” *Tyndall Centre for Climate Change Research* (March 11, 2022).

⁵⁶ Simon Evans, “Analysis: Which Countries Are Historically Responsible for Climate Change?,” *Carbon Brief* (October 5, 2021).

Note: This does not include the British Empire which would significantly increase this ranking.

⁵⁷ Andreas Malm and the Zetkin Collective, *White Skin, Black Fuel: On the Danger of Fossil Fascism* (London: Verso, 2021).

⁵⁸ Mary Murphy, “Nationalization of British Industry,” *The Canadian Journal of Economics and Political Science* 18, no. 2 (1952): 146–62.

⁵⁹ Chris Rhodes et al., “Public Ownership of Industries and Services,” *House of Commons Library* (May 31, 2018).

The coal and gas industries were both included in the post-war nationalisation programme. First, the 1946 Coal Industry Nationalisation Act transferred complete ownership of 800 coal companies to a newly established National Coal Board to oversee the industry.⁶⁰ Owners were compensated with government bonds for the full value of the industry's assets, costing the government £164 million (equivalent to £4.35 billion today).⁶¹

Later, the Gas Act of 1948 repeated a similar process. Control of 1,064 private gas corporations was transferred to a publicly-managed Gas Council, composed of twelve Area Gas Boards that owned and operated regional gas production, distribution, and sales.⁶² Nationalising the gas industry cost the government approximately £200 million (equivalent to £5.3 billion today).⁶³ It was not until the neoliberal governments of the late 20th century that these industries were once again privatised, gas in 1986 and coal in 1994.⁶⁴

The post-war nationalisation programme was a massive feat. In total, the process took over 700 hours of Parliamentary time and cost the government 25% of annual GDP.⁶⁵ Not only do the post-war nationalisations prove the government's capacity to take on bold, ambitious policy, but it also highlights a precedent of public ownership within the fossil fuel industry.

“Never before has there been a greater public interest than that of protecting a livable world.”

When the Labour Party outlined its post-war nationalisation plan, their 1945 electoral document stated that nationalisation would be carried out “to further the nation's needs and not to prejudice national interests by restrictive anti-social monopoly or

⁶⁰ *Ibid.*

⁶¹ Mary Murphy, “Nationalization of British Industry,” *The Canadian Journal of Economics and Political Science* 18, no. 2 (1952): 146–62.

⁶² “Gas Act 1948,” *Legislation.gov* (Accessed October 19, 2022).

⁶³ “Gas Stockholders (Compensation),” *UK Parliament* (December 1949).

⁶⁴ Britannica, “National Coal Board,” *Encyclopaedia Britannica* (January 24, 2017).

“Gas Act 1986,” *Legislation.gov* (Accessed October 19, 2022).

⁶⁵ Chris Rhodes et al., “Public Ownership of Industries and Services,” *House of Commons Library* (May 31, 2018).

cartel agreements, caring for their own capital structures and profits at the cost of a lower standard of living for all”.⁶⁶

Nationalisation to end an industry threatening the habitability of our planet falls very much in line with this historical precedent. Never before has there been a greater public interest than that of protecting a livable world.

Two Nationalisation Pathways

We now outline two pathways through which public control of the UK fossil fuel industry could be accomplished.

Pathway #1: Legislation

The first available pathway to nationalise the fossil fuel industry in the UK is an Act of Parliament we call the *Fossil Capital Abolition Act*.

The structure of the *Fossil Capital Abolition Act* includes four core elements, each taken from the basic structure of the legislation that nationalised 20% of the UK economy in the 1940s-50s.

1. It establishes a new body responsible for holding and managing the acquired assets
2. It outlines the body’s powers and structure
3. It identifies the set of assets to be nationalised, and the date when they are transferred to the new authority
4. It details the type and amount of compensation to previous owners

Our proposed *Fossil Capital Abolition Act* framework is as follows.

1. The New Governing Body

We suggest that the *Fossil Capital Abolition Act* establish a Fossil Abolition Agency (FAA)—a body responsible for holding the newly acquired fossil assets and winding down the industry according to the established timeline (see *Figure 4*).⁶⁷ The FAA would be similar to the Boards that were established to manage nationalised

⁶⁶ Mary Murphy, “Nationalization of British Industry,” *The Canadian Journal of Economics and Political Science* 18, no. 2 (1952): 146–62.

⁶⁷ Note: Fossil assets are defined as fossil fuel infrastructure, such as pipelines, rigs, platforms, refineries, and storage warehouses.

industries in the post-war period. While other governing body types, like state-owned enterprises and municipal cooperatives, suit different nationalisation objectives, a central agency is most amenable to public ownership and management of an entire industry.

2. The Fossil Abolition Agency's Powers and Structure

The FAA would be entirely responsible for phasing out UK fossil fuel production. All UK based fossil assets would be placed under the FAA's control, whose powers would include plugging existing wells and coordinating production to match the designated phase out pathway. FAA personnel would include scientists, engineers, and fossil fuel workers with expert industry knowledge.

An emergency state response that abolishes the fossil fuel industry would necessitate an entire set of reconfigured government institutions. We propose that the FAA sit within a reimagined Energy Department, responsible for the wider energy transition and a rapid renewable rollout.⁶⁸ The FAA would also work in close coordination with a Just Transition Agency—another body within the Energy Department responsible for things like workforce retraining and supporting fossil dependent communities throughout the energy transition (see *Figure 4*).

While the FAA would be accountable to Parliament, its centralised structure does not exhibit the same level of direct democracy of municipal cooperatives, or the degree of local control that the regional Area Gas Boards had. As previously mentioned, a centralised structure is essential when nationalising an entire industry.

However, democracy remains a core pillar of the energy transition. The transition cannot be held captive by the same concentrated class interests that have defined fossil capital for decades. We propose that democracy should be embedded in the energy transition by having communities and workers lead the Just Transition Agency, and by prioritising local, public energy ownership in the renewable rollout. Exploring the specifics of these democratic dynamics is essential, but beyond the scope of this report.⁶⁹

⁶⁸ Note: The Energy Department is reimagined from the current Business, Energy, and Industrial Strategy Department (BEIS). However, it would be restructured to separate the responsibility for energy into a single department as it was prior to 2016 under the Department of Energy and Climate Change.

⁶⁹ Note: For more on this, see:

Madeleine Wahlund and Jenny Palm, "The Role of Energy Democracy and Energy Citizenship for Participatory Energy Transitions: A Comprehensive Review," *Energy Research & Social Science* 87 (May 1, 2022): 102482.

3. Fossil Assets and Transfer Date

The *Fossil Capital Abolition Act* would transfer ownership of all UK fossil assets to the FAA. This includes fossil assets held both by the 45 UK-headquartered and the 44 foreign oil and gas companies.

The Act would identify the earliest possible date to transfer asset ownership to the FAA. In the case of previous nationalisations, there has been as little as two weeks separating a nationalisation Act passed in Parliament and the full transfer of assets to state ownership (e.g. the 1946 Bank of England nationalisation). We suggest that the *Fossil Capital Abolition Act* adopt a similar timeline.

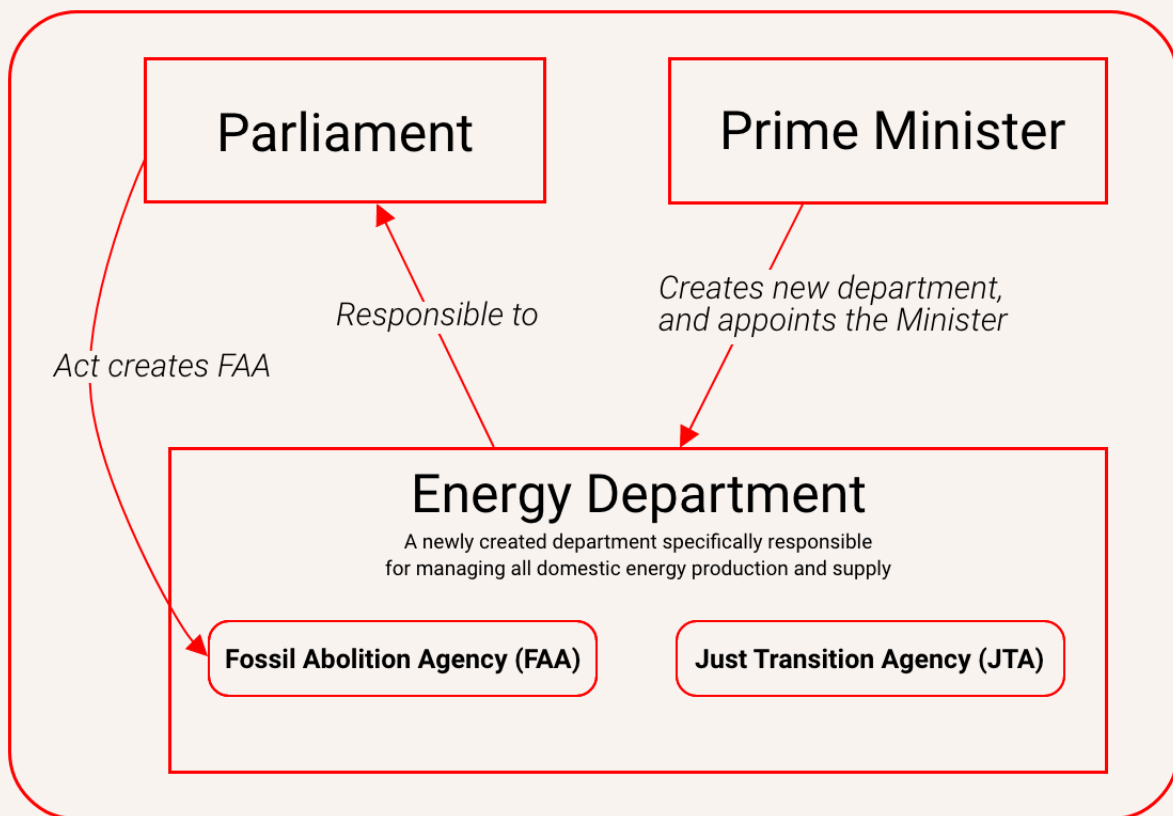


FIGURE 4

The institutional architecture of a UK fossil fuel phase out includes a reimagined Energy Department that houses the Fossil Abolition Agency (FAA) and the Just Transition Agency (JTA).

Renata Leonhardt et al., "Advancing Local Energy Transitions: A Global Review of Government Instruments Supporting Community Energy," *Energy Research & Social Science* 83 (January 1, 2022): 102350.

Breffní Lennon et al., "Community Acceptability and the Energy Transition: A Citizens' Perspective," *Energy, Sustainability and Society* 9, no. 1 (September 9, 2019): 35.

4. Compensation

Our research reveals that the market value of the UK fossil fuel industry is £296 billion (see the *Appendix* for the full calculation). This includes all oil and gas companies that operate in the North Sea,⁷⁰ including both UK-headquartered and foreign companies.⁷¹

The value of publicly-listed UK oil and gas companies is based on their market capitalisation on the London Stock Exchange. The value of private UK oil and gas companies was calculated by subtracting liabilities from assets (asset-based market valuation) from the most recent accounts filed in the Companies House database. Foreign companies were also valued by subtracting liabilities from assets in Company House account filings. However, care was taken to identify the subsidiary of the foreign company specifically responsible for the production of fossil fuels in the UK, rather than the entire company and the value of its global operations.

“Our research reveals that the market value of the UK fossil fuel industry is £296 billion.”

In past nationalisations, it has been customary for the government to not only purchase assets but also the debt (liabilities) of companies.⁷² The cumulative debt of all oil and gas companies operating in the North Sea is £500 billion, 79% of which is held by Shell (£213 billion) and BP (£183 billion). We propose that debt is purchased by the government and restructured to be paid off over the long-term, limiting the immediate cost.

Counter to past nationalisations that have compensated shareholders in full, we propose that only UK pension funds who have fossil equity holdings should receive compensation.⁷³ All other private fossil fuel shareholders receive zero compensation. The logic is simple: people consciously investing in planetary destruction should receive nothing in return. While this argument can be extended to the people

⁷⁰ Note: Only companies producing oil and gas in the North Sea were included because 98% of UK oil and gas production occurs offshore in the continental shelf.

⁷¹ Jackson Hoffar and Adrienne Buller, “Who Owns the North Sea?,” *Common Wealth* (Accessed October 19, 2022).

⁷² Clifford Chance, “UK Nationalisation: The Law and the Cost – 2019 Update,” *Clifford Chance* (2019).

⁷³ *Ibid.*

managing pension funds, ordinary people should not be punished for investment decisions often made without their consent.

We use pension funds as a proxy for those least responsible and most vulnerable to lost fossil fuel investments. Non-pension private investors are generally the richest individuals who can afford a personal loss on their planet-wrecking investments. In a study of the ownership distribution among global fossil fuel assets, Semieniuk et al. found that in the case of a rapid fossil fuel phase out in the US, the wealthiest 10% of households would hold 82% of stranded assets—a loss amounting to only 0.4% of their net worth. Semieniuk et al. find that the US and the UK have very similar fossil fuel ownership structures, making this estimate highly applicable to the UK context as well.⁷⁴

A recent report found that UK pension funds invest £128 billion in the top 200 fossil fuel companies.⁷⁵ We use this as a proxy for the cost of compensating pension funds, although we are mindful that pension funds also invest in financial firms that invest in fossil fuel companies affected by nationalisation, suggesting that the cost may be higher. Implementing the pension compensation scheme will also require meticulous democratic planning that traces asset ownership and parses between eligible and ineligible claimants.

Combining pension funds and debt acquisition, the total compensation for the legislative pathway is £628 billion. Pension fund compensation (£128 billion) would be paid upfront while debt (£500 billion) would be paid off progressively. £628 billion (of which only £128 billion would be paid upfront) is equivalent to 28% of the UK's annual GDP. For comparison, the post-war nationalisations that took place in the span of just a few years cost the government 25% of annual GDP.

It should be noted the dilemma of fossil fuel shareholder compensation can be one that the public decides on. Through the facilitation of the Just Transition Agency, a democratic decision can be made on the compensation question. Our proposal is one of many possible options.

⁷⁴ Gregor Semieniuk et al., "Stranded Fossil-Fuel Assets Translate to Major Losses for Investors in Advanced Economies," *Nature Climate Change* 12, no. 6 (June 2022): 532–38.

⁷⁵ UK Divest, "Polluted Pensions? Clearing the Air Around UK Pensions and Fossil Fuels," *UK Divest* (Accessed October 19, 2022).

Realising a *Fossil Capital Abolition Act*

Passing an Act in Parliament follows the process shown in *Figure 5*. First, the Secretary of the reconfigured Energy Department (likely supported by other relevant ministers) would need to propose a Bill that details a fossil fuel nationalisation strategy.

Usually, developing a bill of this size demands a huge amount of time and work. The 1977 aerospace and shipbuilding nationalisation took nine months of internal deliberation before Labour presented a Bill to Parliament.⁷⁶ In this case, we assume the urgency of the moment propels cooperation forwards and a *Fossil Capital Abolition Bill* is delivered to Parliament in just a few months.

“Passing a Bill that dismantles an industry intimately connected to modern capitalism and ruling class interests would be the most radical transformation ever approved by the British Parliament.”

Next, the Bill must be agreed on by the House of Lords and the House of Commons. Again, in the case of the 1977 shipbuilding and aerospace nationalisation, it took three years between when the pledge was first included in the Labour manifesto and when it was finally passed into law.⁷⁷

To have any chance of a *Fossil Capital Abolition Bill* becoming law, public support for the Bill needs to be overwhelming. A unified call to dismantle the fossil fuel industry must be so deafening and powerful that MPs and Lords feel either human compulsion or extreme pressure to support the Bill. A public narrative that connects the immediate impacts of climate breakdown to the fossil fuel industry would likely be shaped and driven by a powerful, charismatic, grassroots climate movement.

⁷⁶ Clifford Chance, “UK Nationalisation: The Law and the Cost – 2019 Update,” *Clifford Chance* (2019).

⁷⁷ *Ibid.*

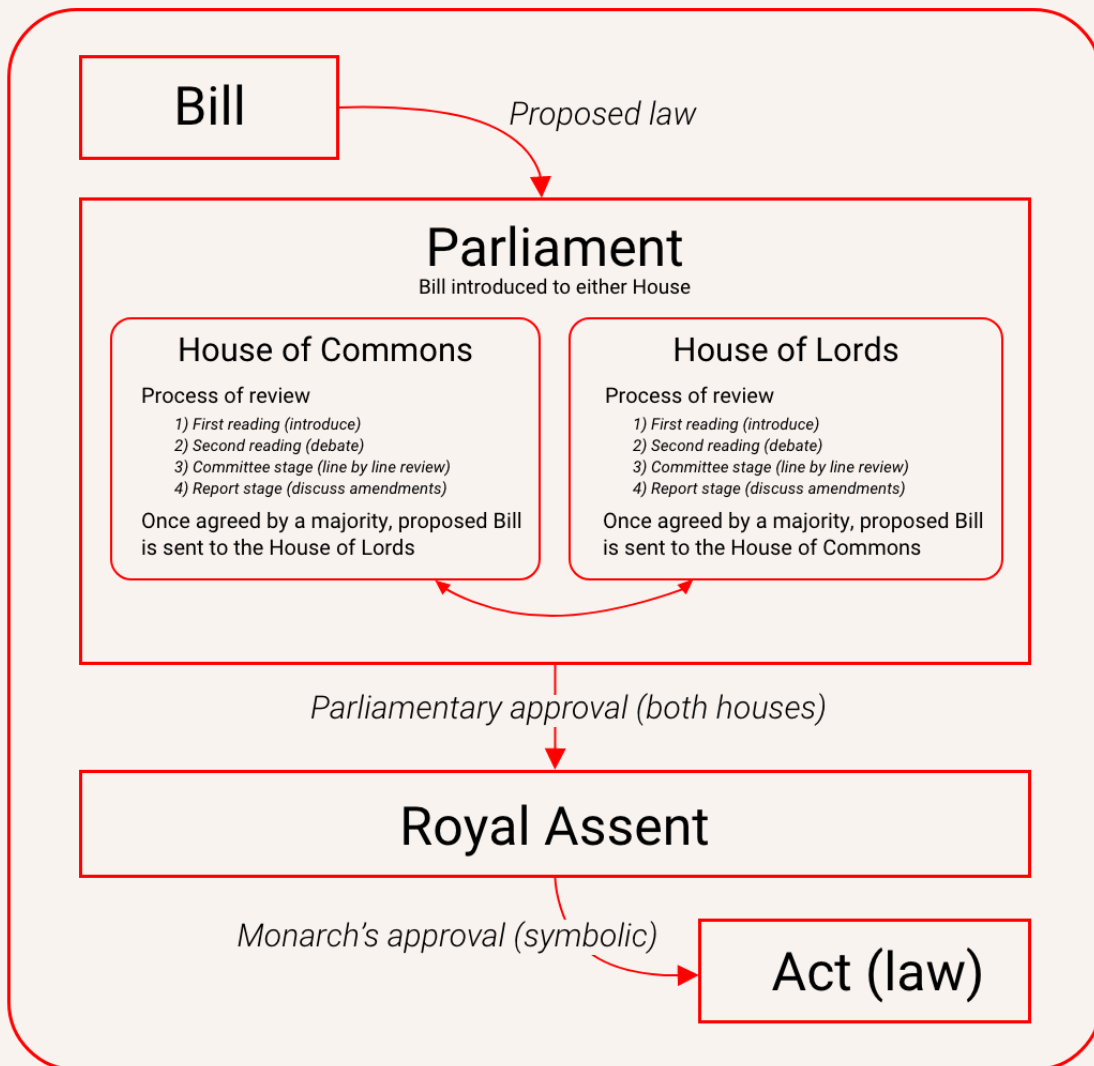


FIGURE 5

The Parliamentary process of passing the Fossil Abolition Act.

Pathway #2: Bank of England Quantitative Easing

Passing a Bill that dismantles an industry intimately connected to modern capitalism and ruling class interests would be the most radical transformation ever approved by the British Parliament. It is possible that a *Fossil Capital Abolition Bill* would not gather enough votes to pass.

However, another legal pathway to nationalising and dismantling the fossil fuel industry is available. While it does not hold the same historical precedent, the second legal pathway towards nationalising and dismantling the fossil fuel industry is through the UK's central bank, the Bank of England (BoE).

The Bank of England's Mandate

The BoE's mandate is to "promote the good of the people of the United Kingdom by maintaining monetary and financial stability." The BoE recognises that climate breakdown threatens its ability to uphold this mandate, specifically in the form of two primary climate risks.⁷⁸

1. Transition Risks

In dynamic capitalist economies, the obsolescence of a product or entire industry is common. In the usual swings of capitalism, old "sunset" products (or entire industries) are replaced with newer "sunrise" products. This presents little financial risk, since the financial system is "buoyed" by the profit potential of new sunrise products.⁷⁹

However, in the case of replacing fossil fuels with renewables, the *rate of change* would be so great that it eclipses the usual sunset-sunrise dynamic. Global action sufficient to limit heating to 2°C would lead to losses on fossil fuel investments in excess of \$1.4 trillion over a 15-year profit horizon, \$212 billion (15%) of which would

⁷⁸ Bank of England, "Climate Change," *Bank of England* (Accessed October 19, 2022).

⁷⁹ Gregor Semieniuk et al., "Stranded Fossil-Fuel Assets Translate to Major Losses for Investors in Advanced Economies," *Nature Climate Change* 12, no. 6 (June 2022): 532–38.

be owned by financial firms in the UK.⁸⁰ On a 1.5°C timescale, losses would be even greater.

This is known as asset stranding, the “process of collapsing expectation of future profits from invested capital as a result of disruptive policy and/or technological change.”⁸¹

Sudden government action to phase out fossil fuels represents a major transition risk, as the BoE itself has warned.⁸² In their stress-test of the UK financial system’s resilience to climate change, the BoE shows how a “late action scenario” would lead to asset stranding, unemployment, reduced economic output, and inflation. GDP would decline by 8%, rivalling the COVID-19 recession.⁸³

The BoE contends that a threat of a fossil finance crash can only be avoided through early policy action that *gradually* manages the transition off of fossil fuels. Early action, however, is the opposite of UK climate policy. A recent report from the UK Climate Change Committee, an independent government body that monitors the UK’s climate progress, found that there were “major policy failures” and “scant evidence of delivery” on the UK government’s legally binding net-zero by 2050 target.⁸⁴ Even worse, the UK government is planning to approve 40 new oil and gas licences by 2025 and a potential coal mine in Cumbria.⁸⁵

⁸⁰ Note: This study mapped the equity risk ownership of the existing 43,439 oil and gas production assets. It found that 50.1% of ultimate losses from fossil fuel stranded assets are traced back to the global North. The UK owns such a large proportion of losses because of its status as a fossil fuel finance giant. As Carbon Tracker notes, the fossil fuel emissions embedded in the London Stock Exchange are equal to 47 Gt CO₂, roughly thirty times the emissions embedded in the UK’s fossil fuel reserves (1.5 Gt) and 17% of the total remaining fossil fuel carbon budget for 1.5°C.

⁸¹ Gregor Semieniuk et al., “Stranded Fossil-Fuel Assets Translate to Major Losses for Investors in Advanced Economies,” *Nature Climate Change* 12, no. 6 (June 2022): 532–38.

⁸² Bank of England, “Key Elements of the 2021 Biennial Exploratory Scenario: Financial Risks from Climate Change,” *Bank of England* (June 8, 2021).

⁸³ *Ibid.*

⁸⁴ Committee on Climate Change, “2022 Progress Report to Parliament,” *Committee on Climate Change* (June 29, 2022).

⁸⁵ Friends of the Earth and New Economics Foundation, “40 UK Coal, Oil and Gas Projects Seeking Approval by 2025,” *Friends of the Earth* (October 28, 2021).

BBC, “Cumbria Coal Mine: Would it Threaten the UK’s Climate Targets?,” *BBC* (June 8, 2022).

With future government action and rising fossil fuel investment on a clear collision course, the BoE has a responsibility to force early action, ensure a smooth transition, and avoid a financial crisis.

2. Physical Risks

Humanity is on track for over 3°C heating by the end of the century.⁸⁶

The BoE acknowledges the threat of catastrophic climate change in its “no additional action scenario.” This scenario imagines global average temperature rising to 3.3°C, leading to “severe and irreversible” impacts. GDP would plummet by 13% by mid-century due to a combination of falling labour productivity, damaged capital infrastructure, supply chain disruption, and falling trade volumes, all of which would be terminal and likely to worsen.⁸⁷

The risks of our present temperature trajectory would extinguish any opportunity for the BoE to uphold its mandate.

Fossil Fuel Industry Nationalisation through Quantitative Easing

Due to transition risks and physical risks, it is well within the BoE’s mandate to act on climate breakdown,⁸⁸ specifically by purchasing full fossil equity⁸⁹ in publicly-listed and private fossil fuel companies.⁹⁰

However, the BoE is unlikely to do this on its own accord, since its political autonomy is based on a conservative range of technocratic actions. As such, nationalising the fossil fuel industry through the BoE is only feasible under explicit political direction.

⁸⁶ IPCC, “Climate Change 2022: Mitigation of Climate Change: Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change,” *IPCC* (2022).

Note: The IPCC estimates that the trajectory set by policies implemented by the end of 2020 will result in 3.2°C heating by the end of the century. However, if 3°C is crossed, earth feedback systems may lead to a cascade of impacts that would make it impossible to limit warming to this level.

⁸⁷ Bank of England, “Key Elements of the 2021 Biennial Exploratory Scenario: Financial Risks from Climate Change,” *Bank of England* (June 8, 2021).

⁸⁸ Note: This has been reinforced by the Treasury, which has asserted in its remit letters to the Financial Policy Committee, Prudential Regulation Authority, and Monetary Policy Committee that the BoE should discharge its functions in support of the net-zero transition.

⁸⁹ Note: As opposed to fossil assets, fossil equity is the value of stocks in publicly-listed and private fossil fuel companies. We assume that fossil equity is a proxy value for the fossil assets themselves.

⁹⁰ This includes companies that are headquartered in the UK as well as foreign companies that operate in the UK. In the case of the latter, the amount of equity purchased would be equivalent to the firm’s UK portfolio.

The Treasury, directed by the Prime Minister, can order the BoE to purchase fossil equity in both publicly-listed and private fossil fuel companies. Crucially, this process does not require parliamentary approval.

The Bank of England Emergency Clause

The Bank of England Act (1946) is clear that the Treasury has power to give directions to the BoE in all areas “except in relation to monetary policy.”⁹¹

However, the Bank of England Act (1998) states that “the Treasury, after consultation with the Governor of the Bank, may by order give the Bank directions with respect to monetary policy if they are satisfied that the directions are required in the *public interest* and by *extreme economic circumstances*.”⁹² In other words, the BoE’s autonomy over monetary policy can be frozen in times of national emergency. Triggering this BoE emergency clause would enable the Treasury, and by extension, the government, to order the BoE to purchase all fossil equity in the UK.

Emergency Quantitative Easing

Once triggered by government direction, fossil equity purchases would be administered by the BoE Monetary Policy Committee through quantitative easing (QE). QE is when a central bank buys government bonds and corporate bonds.⁹³ It was first administered during the Great Financial Crisis, when near-zero interest rates were ineffective at stimulating the economy. In the UK, between 2009 and 2021, the BoE used QE to buy £895 billion worth of bonds.⁹⁴

Traditionally, any bonds that are purchased by the BoE have been administered through the Asset Purchase Facility (APF), which was established as a subsidiary of the BoE when its QE program began in 2009. The APF both purchases and stores bonds. Income, however, that accrues from purchased bonds (in the form of interest payments) is transferred to the Treasury.⁹⁵

⁹¹ “Bank of England Act 1946,” *Legislation.gov* (Accessed October 19, 2022).

⁹² “Bank of England Act 1998,” *Legislation.gov* (Accessed October 19, 2022).

⁹³ Note: A corporate bond is a debt security issued by a corporation for the purpose of raising capital. Quantitative easing can also be used for directly acquiring publicly-listed stocks and private equity.

⁹⁴ Bank of England, “What is Quantitative Easing?,” *Bank of England* (Accessed October 19, 2022).

Note: Of the £895 billion in total bond purchases, £875 billion were in government bonds and £20 billion in corporate bonds.

⁹⁵ Bank of England, “QE at the Bank of England: A Perspective on its Functioning and Effectiveness,” *Bank of England* (Accessed October 19, 2022).

We propose that the BoE creates a separate Fossil Equity Purchase Facility (FEPF) to facilitate the purchase of fossil equity in all publicly-listed and private fossil fuel companies. Once all equity has been acquired, the FEPF would transfer assets to the FAA, which would oversee the liquidation of fossil equity according to decreasing annual quotas of fossil fuel production. This process is depicted in *Figure 6*.

Notably, the Prime Minister can create new government departments without the consent of Parliament. This means that the FAA, as well as the Energy Department under which it sits, can be legally created through the direction of the Prime Minister. This further indicates that nationalisation and dismantling through the BoE is entirely possible without Parliamentary legislation.⁹⁶

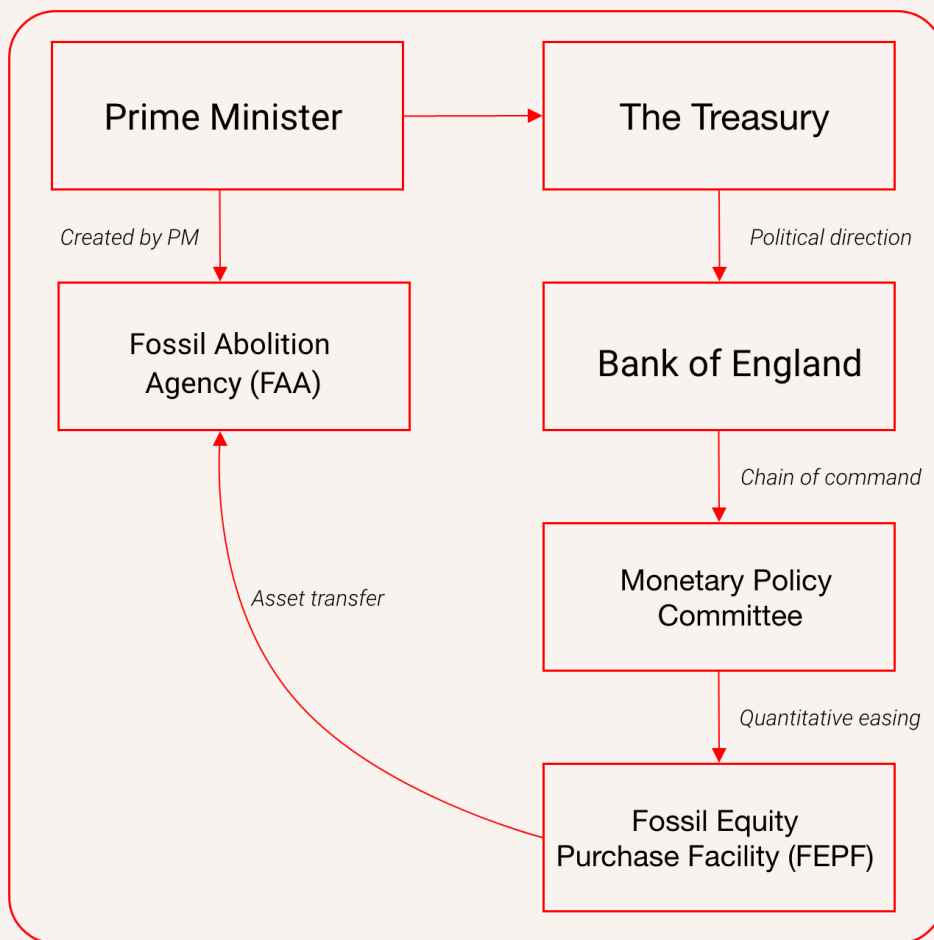


FIGURE 6

The institutional process of emergency quantitative easing.

Note: Since 2009, the APF has generated £126 billion (as of February 2022) in income from purchased bonds

⁹⁶ Tim Durrant and Gemma Tetlow, "Creating and Dismantling Government Departments: How to Handle Machinery of Government Changes," *Institute for Government* (2019).

Compensation

Nationalising the fossil fuel industry through QE would cost £296 billion. This represents the full market value of the fossil fuel industry, including UK-headquartered companies and foreign companies. The nature of this nationalisation pathway dictates that full compensation is delivered to all shareholders.

By taking ownership of the fossil fuel industry, the government (on behalf of the FAA) also takes de facto ownership of the £500 billion in cumulative debts. As was proposed in the legislation pathway, this debt would be paid off over the long term.

Additionally, using QE to rapidly purchase the fossil fuel industry would likely cause inflationary pressure. Remedial action may involve taking money out of the economy, ideally through a wealth tax that reduces the purchasing power of the ultra-wealthy, or price controls on consumer goods.

What About Transition Risks?

Nationalising the fossil fuel industry outside of the Parliamentary process would be qualified as late action transition risk by the BoE.⁹⁷

The BoE assumes that sudden state action is constrained to market-oriented policies such as carbon taxes, cap-and-trade schemes, green subsidies, and climate regulations.⁹⁸ The BoE is correct that sudden implementation of these policies would lead to financial instability.

However, the BoE excludes the potential for a shift in ownership, as we have suggested. Nationalisation through emergency state management directly mitigates the risks of a financial crisis, as all losses would be absorbed by the public sector. Moreover, the plummeting value of fossil equity would be of little concern to the government, since nationalisation is not an end in and of itself but rather a means to the end of dismantling the fossil fuel industry.

⁹⁷ Bank of England, "Key Elements of the 2021 Biennial Exploratory Scenario: Financial Risks from Climate Change," Bank of England (June 8, 2021).

⁹⁸ *Ibid.*

Political Context: The *Acceleration Scenario*

At present, the political conditions to nationalise and dismantle the fossil fuel industry do not exist. Such a transformation will not take place in 2022. However, we outline the two nationalisation pathways with the assumption that the political landscape can, and likely will, rapidly change in the coming years. This assumption is based on two factors.

First, climate breakdown is accelerating. The past 8 years have been the hottest on record.⁹⁹ Following this trend, there is a 93% likelihood that at least one year between 2022 and 2026 will become the single globally hottest year on record.¹⁰⁰ There is also a 50% chance that global heating will temporarily cross the 1.5°C threshold in the next five years.¹⁰¹

However, as the summer of 2022 showed, no government on Earth seems prepared to deal with the consequences of an overheated planet. The UK, for one, has been battered by extreme heat, drought, and water shortages—all at 1.2°C global heating. As climate breakdown accelerates in the coming years, some form of emergency state action is likely.¹⁰²

The second factor that will change the political landscape in the coming years is the increasingly robust climate movement. In the UK, groups like Just Stop Oil and Extinction Rebellion are already demanding the government phase out fossil fuels through nonviolent direct action.¹⁰³

These groups have proven their capability to catalyse change. For example, in 2019, Extinction Rebellion successfully pushed the UK government to declare a state of climate emergency.¹⁰⁴ Meanwhile, 58% of UK adults support Just Stop Oil's demand

⁹⁹ NASA, "2021 Tied for 6th Warmest Year in Continued Trend, NASA Analysis Shows," *NASA* (January 13, 2021).

¹⁰⁰ World Meteorological Organisation, "WMO Update: 50:50 Chance of Global Temperature Temporarily Reaching 1.5°C Threshold in Next Five Years," *World Meteorological Organisation* (May 9, 2022).

¹⁰¹ *Ibid.*

¹⁰² Met Office, "Record Breaking Temperature for the UK," *Met Office* (July 19 2022).

Helena Horton, "Drought Declared Across Eight Areas of England," *The Guardian* (August 19, 2022).

Helena Horton, "Source of River Thames Dries Out 'For First Time' During Drought," *The Guardian* (August 4, 2022).

¹⁰³ Note: Just Stop Oil is a coalition of groups demanding that the government commits to ending all new licences and consents for the exploration, development and production of fossil fuels. Extinction Rebellion is demanding the government end fossil fuels.

¹⁰⁴ BBC, "UK Parliament Declares Climate Change Emergency," *BBC* (May 1, 2019).

and the number of people willing to engage in some form of climate action increased from 8.7% to 11.3% over a 3-week period of Just Stop Oil actions, equivalent to approximately 1.7 million adults in the UK.¹⁰⁵

As the dissonance between climate impacts and a lack of commensurate action grows, the climate movement will also grow, backed by even greater public support.

Together, these two factors create a new political landscape we call the *Acceleration Scenario*. It presumes that spiralling climate breakdown and rising social pressure create the enabling conditions for an emergency state response.

While we have outlined two pathways for nationalising the fossil fuel industry in the *Acceleration Scenario*, it is important to note that either pathway is far from the inevitable emergency response. At least two other options loom large: geoengineering and fossil fascism. As a note of caution, we briefly explore these before turning full attention to the process of dismantling the fossil fuel industry once the *Acceleration Scenario* is activated.

1. Geoengineering

Geoengineering is an umbrella term that includes both CO₂ removal and solar geoengineering.¹⁰⁶ Of particular concern is sulphur aerosol injection, a type of solar geoengineering that pumps sulphur aerosol particles into the stratospheric layer of the atmosphere. Once injected, these particles reflect a greater portion of incoming solar insolation (around 1-2%), thereby cooling the Earth.¹⁰⁷

Mapped onto the *Acceleration Scenario*, there is an acute risk that leaders respond to the crunch of socio-environmental breakdown by pulling the solar geoengineering lever. While solar geoengineering has the capacity to “instantly reduce planetary fever,” it also may lead to catastrophic impacts on precipitation, floods, and drought patterns across the Earth.¹⁰⁸ Moreover, if sulphur aerosol injection is started and then

¹⁰⁵ Social Change Lab, “Just Stop Oil protests might be encouraging more climate action, survey reveals,” *Social Change Lab* (April 28, 2022).

¹⁰⁶ Holly Jean Buck, *After Geoengineering: Climate Tragedy, Repair, and Restoration* (London: Verso, 2019).

¹⁰⁷ *Ibid.*

¹⁰⁸ Andreas Malm, *Corona, Climate, Chronic Emergency: War Communism in the 21st Century* (London: Verso, 2020).

Samantha Ibbott, “Solar geoengineering not a ‘sensible rescue plan’, say scientists,” *Imperial College London* (February 15, 2021).

abruptly halted, the cumulative heating that had been masked by solar geoengineering would all of a sudden beat down on Earth, like opening a “globe-sized oven door.”¹⁰⁹ This “termination shock” would cook the planet.¹¹⁰

Solar radiation management is the opposite of radical transformation. It addresses the morbid symptoms of climate breakdown while leaving the roots untouched. It is the “pseudo-solution that sneaks up on us like a thief in the night.”¹¹¹

2. Fossil Fascism

The prospect of a fascist emergency response in the *Acceleration Scenario* is also a considerable threat.

Andreas Malm and the Zetkin Collective identify key conditions that have enabled the rise of fascism throughout history. The first ingredient is an overwhelming crisis where traditional solutions are insufficient. As they write, fascism is “not for ordinary times,” people would not find it attractive “had they not felt the ground disappearing beneath their feet.” A second condition is that sections of the ruling class feel so desperate, so fearful of the instability, that they call on the fascist far-right to relieve the crisis.¹¹²

The *Acceleration Scenario* is a political context highly susceptible to fascist tendencies. The scenario is precisely defined by a fever pitch of crisis for the ruling class that greatly increases the allure of a far-right response.

Whether in the form of green nationalism or outright denial, the climate “solutions” offered by the far-right leave fossil fuel production firmly intact and do nothing to avoid climate collapse.¹¹³

Geoengineering and fossil fascism are two catastrophic options waiting in the wings of the *Acceleration Scenario*. The climate movement must take careful note of this

¹⁰⁹ Elizabeth Kolbert, *Under a White Sky: The Nature of the Future* (Dublin: The Bodley Head, 2021).

¹¹⁰ Luke Kemp et al., “Climate Endgame: Exploring Catastrophic Climate Change Scenarios,” *Proceedings of the National Academy of Sciences* 119, no. 34 (August 23, 2022): 2108146119.

¹¹¹ Andreas Malm, *Corona, Climate, Chronic Emergency: War Communism in the 21st Century* (London: Verso, 2020).

¹¹² Andreas Malm and the Zetkin Collective, *White Skin, Black Fuel: On the Danger of Fossil Fascism* (London: Verso, 2021).

¹¹³ *Ibid.*

reality and guide the emergency response toward the third option, a rapid fossil fuel phase out.

Mapping the Energy Transition

Once the fossil fuel industry is nationalised, production must be phased out on the 1.5°C consistent timeline. To replace fossil fuels, renewables must be mass produced and policies introduced to exponentially increase energy efficiency and lower excess commodity consumption

Acceleration Scenario Activated

We assume that in two and a half years (the beginning of 2025), the *Acceleration Scenario* reaches a tipping point leading to fossil fuel nationalisation in the UK. The next general election would be in December 2024, presenting a political opportunity that falls squarely within the projected 5-year window of a brief transgression of 1.5°C heating.¹¹⁴

If there is enough support in Parliament, we assume that a *Fossil Capital Abolition Act* is both passed and the fossil fuel industry is nationalised within a year. While past nationalisations like the 1977 *Aircraft and Shipbuilding Industries Act* took four years from start to finish, a state on wartime climate footing would expedite the affair. If legislation gets derailed in the process and the BoE pathway is greenlit, we similarly assume that the industry will be nationalised by the end of 2025.

That would make our baseline year for dismantling fossil fuel production the beginning of 2026.

Dismantling

1. Domestic Production

We assume that from now until nationalisation, there are no significant changes in UK fossil fuel production. The government's own predictions show that domestic fossil fuel production will decline in the coming years.¹¹⁵ However, the rate of decline is slower than the rate assumed in the 2031 phase out pathway. Overshooting the

¹¹⁴ World Meteorological Organisation, "WMO Update: 50:50 Chance of Global Temperature Temporarily Reaching 1.5°C Threshold in Next Five Years," *World Meteorological Organisation* (May 9, 2022).

¹¹⁵ North Sea Transition Authority, "Updated OGA Projections of UK Oil and Gas Production and Expenditure," *North Sea Transition Authority* (September 2021).

phase out pathway by almost 70 million metric tons of CO₂ between 2022-2026 brings the phase out date forward to late-2029.

Once nationalised, the first step is to stop new fossil fuel exploration and phase out domestic production in the remaining three and half years. To manage this phase out, the FAA would implement declining production quotas for oil and gas. Assuming a linear decline, the fossil fuel production quota would decrease by 35 million metric tons of CO₂ annually. The full trajectory of this phase out pathway is shown in *Figure 7*.

2. Fossil Fuel Embargo

Declining domestic production will need to be coordinated with a fossil fuel embargo that ramps down fossil fuel imports. In 2021, the UK imported 77% of oil and 60% of gas for domestic consumption.¹¹⁶ The UK government assumes that this high import dependency will only increase over the coming years, making an embargo a key aspect of the fossil fuel phase out.¹¹⁷

Ideally, the FAA would implement declining quotas for the import of oil and gas so that by 2029 all imports would be terminated, erecting a de facto embargo on oil and gas. However, the feasibility of a 2029 oil and gas embargo is contingent on the extent to which renewables can be rolled out and by how much total energy consumption can be decreased.

¹¹⁶ Note: This only includes the production of crude oil and natural gas liquids (NGL), not refined petroleum products that are directly imported. Of the 49 million metric tonnes of crude oil and NGL that the UK produced in 2021, 78% was exported. Only 10.7 million metric tonnes were sent to refineries for industrial application.

Department for Business, Energy & Industrial Strategy, "Digest of UK Energy Statistics Annual data for UK, 2021," *Department for Business, Energy & Industrial Strategy* (July 28, 2022).

¹¹⁷ North Sea Transition Authority, "UKCS Oil and Gas Production Projections," *North Sea Transition Authority* (Accessed 19 October, 2022).

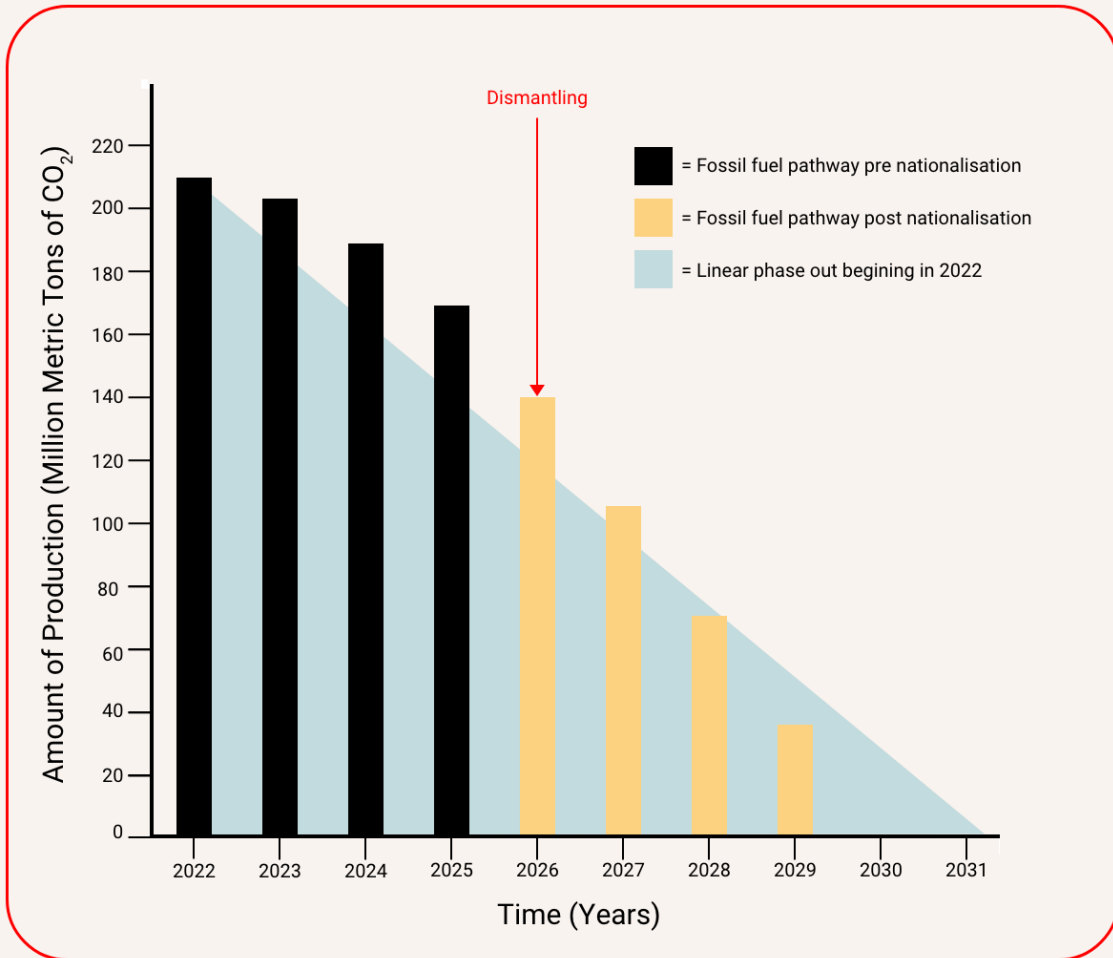


FIGURE 7

The fossil fuel phase out pathway for the UK. After overshooting the 2022 linear phase out pathway by 76 million metric tons CO₂ between mid-2022 and the end of 2025, fossil fuel emissions decrease by 35 million metric tons per year from 2026 onwards.

3. Renewable Rollout in a Degrowth Framework

The phase out of fossil fuels is heavily reliant on two other features of a full zero-carbon energy transition: a rapid renewable rollout and degrowth of excess commodity consumption.

Renewable energy is ripe for a rapid uptake and the UK is highly capable of a large-scale renewable program.¹¹⁸ In less than a decade, the cost of solar has fallen by 85%, onshore wind by 56%, and offshore wind by 48%.¹¹⁹ Not only is renewable energy the cheapest, but it is also the fastest energy source that can be developed.¹²⁰ Solar and wind farms usually take less than two years to become operational, as compared to four years for gas fired power plants (excluding pipeline construction) and 20 years for nuclear power stations.¹²¹

In addition, the renewable rollout needs to happen in the context of a degrowth framework. Degrowth is “a planned reduction of energy and resource throughput designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being.”¹²² Instead of blindly growing the economy regardless of impact, degrowth demands a careful consideration of those industries that are necessary to human wellbeing and those industries that inflict harm on people and planet.

Degrowth drastically accelerates the energy transition. Renewable energy will service 100% of energy demand much faster if total energy demand is reduced rather than

¹¹⁸ Hera Neofytou et al., “Sustainable Energy Transition Readiness: A Multicriteria Assessment Index,” *Renewable and Sustainable Energy Reviews* 131 (October 1, 2020): 109988.

Note: The renewable rollout must be coupled with a full electrification of the economy. Most efforts on this front are needed in the transport and domestic sector.

Imperial College London, “Accelerated Electrification and the GB Energy System,” *The Climate Change Committee* (April, 2019).

¹¹⁹ Jillian Ambrose, “Most New Wind and Solar Projects Will Be Cheaper than Coal, Report Finds,” *The Guardian* (June 23, 2021).

¹²⁰ International Renewable Energy Agency, “Majority of New Renewables Undercut Cheapest Fossil Fuel Cost,” *International Renewable Energy Agency* (22 June, 2021).

¹²¹ Susan Tierney and Lori Bird, “Setting the Record Straight About Renewable Energy,” *World Resource Institute* (May 12, 2020).

Nick Shykinov et al., “Importance of Advanced Planning of Manufacturing for Nuclear Industry,” *Management and Production Engineering Review* 7, no. 2 (June, 2016): 42-49.

¹²² Jason Hickel, “What Does Degrowth Mean? A Few Points of Clarification,” *Globalizations* 18, no. 7 (October 3, 2021): 1105-11.

increased. Degrowth offers a lifeline when considering that the climate crisis is characterised by a desperately small and shrinking timeline.

Degrowth also ensures that the energy transition itself does not exacerbate broader ecological collapse. Solar cells, wind turbines, and batteries all require the extraction of metals and rare earth minerals. Estimates suggest that servicing current global energy demand with renewables would require 4.8 billion tons of iron, 162 million tons of aluminium, 50 million tons of lead, and 34 million tons of copper.¹²³ Given that mining is already a driver of biodiversity loss, deforestation, and water contamination, extractivism at this scale would significantly exacerbate ecological breakdown.¹²⁴

The renewable rollout and degrowth framework are both integral to the zero-carbon energy transition. Exploring the topics here is beyond the scope of this report but each will be given full attention in subsequent Climate Vanguard reports.

¹²³ Hickel, Jason. *Less is More How Degrowth Will Save The World* (London: Windmill Books, 2020).

¹²⁴ Note: Many of the key resources for renewables are located in parts of Asia, Africa, and Latin America. Through the energy transition, the global South will become the target of a new rush for resources, threatening the reproduction of neo-colonial relationships. A drastic increase in extractivism must not only be avoided for ecological reasons but also for the wellbeing of people and local communities who are often pushed to the side and treated as expendable at sites of extraction. See Hickel (2020).

Limitations

1. Litigation

One impediment to nationalisation are investor-state dispute settlements. In the legislation pathway, we advocate that non-pension shareholders receive zero compensation. Customary international law, however, requires that shareholders of nationalised firms are compensated with fair market value.¹²⁵ This law is subject to some interpretation since “fair market value” need not be *full* market value, however in every previous case of UK nationalisation, full market value has been compensated.¹²⁶

Those with the strongest recourse are foreign investors protected under relevant investor treaties, notably bilateral investment treaties (BITs) and the Energy Charter Treaty (ECT). These treaties include much stronger language around compensation. The UK’s model BIT (the basis for most of its BITs) states, “such compensation shall amount to the genuine value of the investment expropriated.”¹²⁷ Combining BITs, and the ECT, the UK is liable to shareholders in most of the European Union, China, Hong Kong, Singapore, India, among others. These represent an important portion of investment in the UK fossil fuel industry.

Not only do these treaties open the UK up to litigation for discounted compensation, but they also include provisions that protect investors against lost future profits. In August 2022, UK oil company Rockhopper won a payout of \$245 million after the Italian government banned oil exploration within a 12-mile limit of the Italian coast. Protected under the ECT, Rockhopper took the Italian government to court on the basis of lost profits it had hoped to make in the future.¹²⁸ Even if full compensation was delivered, nationalising the UK fossil fuel industry would open the government up to a wave of litigation.

The logical solution would be to simply withdraw from the treaties, however BITs and the ECT each protect investors for twenty years following treaty termination.¹²⁹ The

¹²⁵ Clifford Chance, “UK Nationalisation: The Law and the Cost—2019 Update,” *Clifford Chance*, (2019).

¹²⁶ *Ibid.*

¹²⁷ *Ibid.*

¹²⁸ Arthur Neslen, “Oil Firm Rockhopper Wins £210m Payout After Being Banned from Drilling,” *The Guardian* (August 24, 2022).

¹²⁹ Clifford Chance, “UK Nationalisation: The Law and the Cost – 2019 Update,” *Clifford Chance* (2019).

bundle of litigation that will accompany the nationalisation and dismantling of the fossil fuel industry is certainly an impediment that should be accounted for and foreseen.

Ultimately, this is a matter of political consequentialism. There is no justifiable reason to respect a neoliberal assemblage of international laws whose very function is to protect private financial gain and to perpetuate neo-colonial patterns of economic domination.¹³⁰ Moreover, the maintenance of these international laws will come at the violation of others that enshrine basic human rights, all of which will be torn to shreds in a planet on fire. If we are to break laws, let it be the ones that protect capital at the expense of life.

2. Global Impact

Many UK-based fossil fuel corporations have a transnational footprint. For example, the two biggest ones, BP and Shell, each operate in over 70 countries. This means that there is an entire fleet of local workers and dependent communities around the world that rely on fossil income from UK-based firms.¹³¹ If the UK government is responsible for delivering a just transition to dependent workers and communities domestically, they must equally be responsible for all those in the international fossil web of the companies being dismantled.

Support could come in the form of a comprehensive reparations package that accounts for disproportionate liability for planetary damages. Debt cancellation and green grants would break the vicious cycle that has forced the global South to extract fossil fuels to service neo-colonial debts.¹³²

3. Dismantling in Non-Democratic Countries

In this report, we used the UK to describe how fossil fuel production in the global North can be ramped down. While the avenues for dismantling the fossil fuel industry are largely similar for other countries of the global North, there are some that have dramatically different political structures.

¹³⁰ Quinn Slobodian, *Globalists: The End of Empire and the Birth of Neoliberalism* (Boston: Harvard University Press, 2016).

¹³¹ Note: This is true despite the fact that most profit is syphoned off to shareholders in the global North and executives in headquarter offices.

¹³² Noah Herfort, "Breaking the Cycle: Why Europe Must Back Climate Reparations," *Green European Journal* (December 16, 2021).

There are eight countries in our list categorised as the ‘global North’ which have limited democracy or authoritarian political regimes.¹³³ In all of these cases, fossil fuel companies are already state owned.

For these countries, the democratic pressure we rely upon to trigger a policy of nationalisation and dismantling isn’t available. Additionally, a renewable rollout would likely not be structured according to local ownership as we have suggested.

While this report highlights that such a transformation is possible, each of these limitations should be carefully considered in further research and planning.

¹³³ Note: Qatar, United Arab Emirates, Bahrain, Kuwait, Saudi Arabia, Brunei, Russia, and Malaysia.

Conclusion: A Call to Action

Our life support systems are nearing total collapse. The forces of devastation are accelerating. And those at the wheel are conducting the catastrophe. On and on we race towards a point of terminal disaster. What is to be done?

Answering this question demands a radical analysis of the root causes. Only addressing the morbid symptoms of climate breakdown will do nothing but fuel the fire. We need to extinguish it. Rapidly.

In this study, we have made plain the arsonists of our planetary inferno: the fossil fuel industry. They knew. They lied. And today they are feeding the fossil furnaces at an extraordinary rate. More extraction. More combustion. More carbon. More death. This is the profit potion of fossil capital. It has been called the elixir of humanity. In reality, it is anything but. It is planetary poison. We must cut the flow. Cap the wells. Retire the rigs. Fill the mines. Snuff the oxygen. Douse the fires. We must dismantle.

The only actor capable of this survival measure is a state on emergency climate footing. It has the capacity to rapidly phase out fossil fuels, rollout renewables, and provide a just transition for workers and frontline communities. The transition must start in the global North, who have not just colonised territories and peoples, but the atmosphere itself.

But states in the global North will not pull the emergency brake on their own accord. They are an organ of fossil capitalist domination. Emancipating the state from its fossilised shackles requires a revolutionary, internationalist movement.

The youth climate movement, together with global allies, must shift strategies from polite appeals to power to one focused on radical political-economic demands that are both implementable now and transcendent towards a post-capitalist system. This report shows how on such demand—dismantling the fossil fuel industry—is both possible and necessary.

To give life to a concrete program of radical transformation we also need support from the climate research community. Scientists, social practitioners, energy modellers, and economists must join the intellectual vanguard in service of those with the agency, will, and desire to force change.

The Emergency Brake

In his unpublished *Arcades*, philosopher Walter Benjamin questioned whether “revolutions are the locomotives of world history,” as Karl Marx had suggested, or whether “revolutions are not the train ride, but the human race pulling the emergency brake.”

“Humanity is on a runaway train towards climate collapse, one conducted by the fossil fuel industry and propelled forward by the rapacious accumulation of capital. It is our duty to pull the emergency brake and bring the project of fossil fuelled extinction to a screeching halt.”

Few quotes better describe our current situation. Humanity is on a runaway train towards climate collapse, one conducted by the fossil fuel industry and propelled forward by the rapacious accumulation of capital. It is our duty to pull the emergency brake and bring the project of fossil fuelled extinction to a screeching halt.

It will not be easy. It will require profound commitment and resilience. But, together, united, it is possible. We can pull the emergency brake and build a system of planetary flourishing and human wellbeing. As Daniel Bensaïd said, “any doubt bears on the possibility of succeeding, not the necessity of trying.” Try we must. There is everything to save.

Appendix

Cost of nationalisation calculations [here](#).