# **Oil: A capitalist love story** Kieran Allen

Crude oil is extracted from the ground or the seafloor and is the product of millions of years of 'fossilised sunshine'. It is made up of different kinds of hydrocarbon molecules which vary in composition according to the different regions in which they are found. These differences are important in the refining process as they allow producers to segment crude oil into hydrocarbon fractions. The refined products range from petroleum gases which include propane and butane; to light-ends, which include petrol and aviation fuels; middle distillates which include kerosene and diesel; and heavy ends which include base oil and bitumen. All in all, a wide range of petroleum-based products that underpin a huge number of capitalist commodities.1

According to the International Energy Agency (IEA), about 15% of global oil is used for purposes other than energy or transport.<sup>2</sup> From the 1950s, many of the natural products that were used in production – such as wood, wool and rubber- were displaced by synthetics. The petrochemical industry arose to supply a new array of commodities based on plastics and synthetic fibres. Think only of the clothing you wear and check the labels.

The sheer ubiquity of oil, ironically, helps to render it invisible. We barely think about it unless we are filling a car with petrol or looking for home heating oil in the winter. But alongside the living labour of the working classes, it forms the lifeblood of modern capitalism. When you hear discussions about oil, they often have a fetishistic character. Marx used this term to describe a way of thinking in which the characteristics of 'inanimate things' appear to have real powers to dominate our lives.

So, oil becomes something exclusively natural but also something immensely powerful – a scarce resource with powers to shape our lives and create conflicts over its control. Against this approach, Marx argued for dialectical thinking whereby any 'thing' is viewed from the set of social relations that actually give it, its power. The American Marxist, Matt Huber, has been to the fore in pioneering this way of analysing the role of oil in modern society. Instead of seeing it as an exclusively natural product with magical powers, he has analysed the shifting social relationships which have bestowed these powers on it overtime.<sup>3</sup>

His starting point is that oil must be extracted and refined by workers before it can be of any use to anyone. It does not arrive in cars or homes by itself but is the product of human labour harnessed by the drive for capitalist profit. This latter point is extremely important. Refineries, for example, produce carcinogens for both workers and local communities. In the infamous 'Cancer Alley', which stretches along the Mississippi River from Baton Rouge to New Orleans, there are over 200 petrochemical plants and refineries. The many poor people who live beside them have higher rates of cancer as a consequence, but this is deemed a price worth paying for the oil executives who live far away from the pollution they create.

One of the worst failings of some in the environmental movement is to blot these workers and communities out of the picture and to think only of how enlightened people can live without dependence on oil. In reality, oil workers and the communities which live nearby must be part of any solution which imagines a world beyond oil dependency. In one the most celebrated books on the political economy of oil, Timothy Mitchell argues that oil workers do not play the same role in pushing for political change as coal miners in the past.<sup>4</sup> This, however, is an overly mechanical argument. It is true that refineries are sometimes automated and require fewer workers, thus diminishing the capacity of workers to organize. But where oil workers are concentrated together, they often play a hugely progressive role. Oil workers played a pivotal role in the Iranian revolution of 1978-9 which deposed the Shah for example. Oil workers in Baku in the Caucuses participated in the Russian Revolution. And one of the most militant strikes in Ireland in the late 1960s was the oil tanker drivers.

## Peak oil

A popular example of fetishistic thinking is the theory of 'peak oil'. On March 7, 1956, geologist M. King Hubbert presented a research paper which claimed that 'on the basis of the present estimates of the ultimate reserves of world petroleum and natural gas, it appears that the culmination of world production of these products should occur within a half a century.'5 Hubbert justified this claim by asserting that peak oil would occur around the year 2000, when the world would be producing 12.5 billion barrels of oil annually - thereafter it was predicted to decline. Hence peak oil would inevitably be reached. King Hubbert was the chief

consultant on general geology for Shell Oil and his 'end of oil' paper was presented to the Texas meeting of the American Petroleum Institute.<sup>6</sup> That alone should have cast some suspicion on his thesis, especially as some oil companies began to use this talk of scarcity as a way of increasing prices. The problem with the theory, however, went far beyond the affiliations of its author. By viewing oil exclusively as a 'thing' divorced from the social relations which gave it power, King Hubbert had assumed that there were strictly defined limits of reserves. Yet oil discovery and production have always been driven by an endless search for profit. And what determined that profit was not simply the difficulties associated with extraction in the 1950's, but the price the commodity could command on global markets into the future. What was 'unfeasible' an 'uneconomic' in one decade, became feasible and economic when technologies improved, making vast new reserves 'economically available'. Indeed, the problem turned out not to be too little oil but too much of it – at least from the perspective of climate change and global warming. King Hubbert also abstracted from the geo-politics of oil which have always been important.

In 1973, for example, an oil embargo was launched by Arab states in opposition to Western support for Israel which triggered a global recession. At that stage, the Middle East was producing much of America's oil and gas, but by 2018, the US had not only become energy independent, but it had also surpassed Saudi Arabia by producing 11 million barrels of crude oil per day. What caused this change? At one level we can point to new technologies pioneered in America. New techniques meant that 30% of crude oil extraction now comes from offshore facilities. In the past, there appeared no possibility of extracting oil from shale rock, but hydraulic fracturing made this possible. Similarly, the use of steam injection techniques allowed for the extraction of bitumen from oil sands. These techniques have a very detrimental effect on the environment and on human health but in a capitalist economy, driven by a relentless pursuit of profit, this is not a factor that causes undue concern. Fracking, for example, combines the use of toxic chemicals with huge amounts of water. It releases methane, a greenhouse gas that traps 25 times more heat than carbon dioxide. But when we speak of 'new technologies' we are only skimming the surface. Technologies require investment in both research and development. Whether or not a corporation decides to invest depends on the expected level of return. Invention does not normally result from the caprice of individual genius and even in those cases of accidental discovery

there is no guarantee that it becomes an applied technology if there is no prospect of profit. The basic technology of fracking has been around for some time. The first hydraulic fracturing experiment was conducted in 1947 in Kansas by a company called Stanolind. However, it was only when oil prices rose after the OPEC embargo of 1973, that it became commercially viable to develop the technique. In other words, when the possibility of higher profits arose, new technologies were developed, regardless of their effects on the environment.

This example should alert us to another aspect of the social relations that surround oil. As it is such a vital commodity for the functioning of modern capitalism, the corporations which produce oil and gas grow into massive oligopolies. From the 1930s to the 1970s, seven oil companies dominated oil production globally. Known as the Seven Sisters, these were the Anglo-Iranian Oil Company (now BP), Shell Oil, Standard Oil of California, Gulf Oil and Texaco (all three now part of Chevron), Standard Oil New Jersey and Standard Oil New York (ExxonMobil).7 These companies owned nearly all the oil in the Middle East. They colluded with each other to avoid price cutting and formed jointly owned companies to cement their co-operation. Crucially, they forged a close relationship with their respective states, principally

Britain and the US. When the Iranian government, led by Mohammad Mossadegh, nationalised the Iranian oil fields in 1953, the two countries worked together to help launch a coup against him. The moderate nationalist was replaced by Mohammad Reza Pahlavi who negotiated the Consortium Agreement of 1954 which gave split ownership of Iranian oil production between Iran and the western companies.

#### Geo-political power manoeuvres

Here we see an important dynamic within capitalism that was identified by the Russian Bolshevik, Nikolai Bukharin. While capitalism may start out as a 'free market' where the state functions as a 'nightwatchman' patrolling its perimeter and protecting the rights of property, it does not remain static. Capital accumulates and as it does so, it centralises and concentrates into major corporations in oligopolistic markets. The growth of oligopolies also means that capitalist competition shifts from price competition to an interlocking of large corporations with their respective states. The states with the biggest armies and geo-political influence can also help foster the biggest corporations. These states and their respective corporations then divide the world between them, establishing spheres

of influence where they get all manner of economic advantages. As one of the biggest sectors within global capitalism, oil illustrates this tendency most clearly.

However, while Bukharin pointed to the growing dependence of big capital with the state, he could not have foreseen the degree of state regulation and state ownership of oil itself. The weakening of American imperialism after its defeat in Vietnam alongside the longer-term decline of Britain and France as imperial powers created the space for 'resource nationalism'. This refers to how countries formed state companies to take over the ownership of oil. Today multinational oil companies produce just 10% of the world's oil and gas reserves. State-owned companies now control more than 75% of all crude oil production.8 However state ownership does not mean that capitalist control over oil has been weakened. Capitalism is defined primarily as a system of competitive accumulation via profit and state-owned companies operate in the same context. Capitalist dynamics are evident in the state-owned oil companies in a host of ways. Firstly, they only return a small proportion of their earnings to the public purse. An IMF survey in 2015, found that the average state-owned company returned only 17% of its gross earnings to their respective states.9 Secondly, they are often quite secretive in their operations.

This reflects the fact that their primary purpose is not to benefit citizens but to function like any other capitalist company. Saudi Aramco, for example, is the biggest oil company in the world, but reveals very little about its internal financial arrangements. Third, the state-owned oil companies engage in extensive borrowing, and this brings them into an entanglement with the financial markets. Since the Paris agreement on climate change, 60 banks have poured \$5.5 trillion into fossil fuels.<sup>10</sup> The banks know the difference between rhetoric and reality and show no interest in stopping climate change. Even if oil executives were socially conscious, the banks impose a logic of accumulation on these companies. Interestingly, the banks do not differentiate between state owned and private oil companies. In fact, they regard state owned as probably a safer bet for debt recovery as states can call on the public finances.

The shift to majority state owned oil companies has not lessened capitalist competition but taken it to a new level. This is evident in both price regulation and the use of military muscle to gain economic advantage. Conversely, the possession of oil has conferred greater military advantages on states which in turn enables their corporations to gain more leverage. There has, thus, been a long historical pattern of state manoeuvring over oil. Somewhat

schematically, Helen Johnson has claimed that Britain's rise as an industrial power owed much to its possession of coal reserves. However, with the shift to oil fuelled ships and submarines, the advantage fell to America as the biggest oil producer in the world in the early twentieth century.<sup>11</sup> After WW1 was over, the British Foreign secretary pronounced that the 'Allied cause had floated to victory upon a wave of oil' and that 80 percent of that oil was provided by the United Sates.<sup>12</sup> By this he meant that Germany had failed to gain control of the oil reserves of the Ottoman Empire despite the role of Deutsche Bank in funding the construction of its railways. Nevertheless, the Allied victory opened the way for the dominance of American imperialism over its allies. The first step was US insistence that British and French debt for oil should be paid in dollars. The British Ambassador to the US wrote a memo where he claimed that the US would 'look for the opportunity to treat us as a vassal state, as long as the debt was not paid'.13

The British and French response to this threat was to make a new push into the Middle East to gain their own control over its oil reserves. After victory in WW1, Britain received a League of Nations mandate to administer Iraq and Palestine; secured its sphere of influence in Iran and gained control of the Persian Gulf. For a period, it looked like it had found an alternative outlet for oil that was not dependent on the US. However, the US regained its supremacy over its older imperial rivals through two key events. First, Standard Oil of California won an exclusive contract for oil exploration in Saudi Arabia, which cut out the British and the French. The alliance of oil money, guns and Wahhabism was born. Second, the final denouement came when the US rescued Britain and France from their disastrous war against Nasser's Egypt in 1956 because he had dared to nationalise the Suez Canal. As Johnson points out, these developments meant that 'The age of oil would not allow for European power or a European continental empire'.14

American dominance, however, was not permanently secured, because the dynamics of capitalism lead to a profound unevenness that uproots past economic supremacy. It is a system built on insecurity for both large corporations and states, as the rise of China and the collapse of Lehman Brothers will easily attest. Faced with the prospect of OPEC sanctions in 1973, the US President, Jimmy Carter, took measures to secure US dominance of energy supplies over the longer term. First, he encouraged fracking as a means of making the US energy independent. Then, he proclaimed in 1980 that the US would use military power to defend its interests in

the Persian Gulf. As the years went by, this morphed into a US strategy to gain a choke hold over the oil supplies of its economic rivals, culminating most dramatically in the Gulf Wars. The Chinese leadership were more than aware of this project and defined it as their 'Malacca dilemma'. By this, they meant that the US could block Chinese oil imports through the narrow waters of the Strait of Malacca which connects the Indian and Pacific oceans. It drove them to reach an agreement with Moscow to build an Eastern Siberian-Pacific Ocean pipeline and to seek more land-based oil supplies. US efforts at creating a chokehold were thus somewhat subverted, but they are only one element of the wider US strategy.

Its other aim has been to cut European dependence on Russian oil and gas and substitute it with a dependence on US companies or at the very least, non-Russian or Iranian companies. With the breakup of the USSR, there was a race to gain control of the energy reserves in the Caspian Sea. One result today has been the eventual construction of the Trans Caspian Gas Pipeline which brings supplies from Turkmenistan and Kazakhstan to European Union member countries, circumventing both Russia and Iran. The Atlantic Council, which 'galvanises support for US leadership in the world', is quite explicit about its aim, stating it is "a strategic project for the United States, Europe, and the Caspian and South Caucasus states. It will counterbalance Chinese and Russian influence in the Caspian Sea region".<sup>15</sup>

One aspect of the Ukrainian war which rarely gets public attention is how the US is using it to finally achieve its ambition to cut Europe off from Russian gas and oil supplies. This had been a long-standing bone of contention between the US and its European allies.

In 1970, Germany concluded its first major agreement with Russia to supply its energy needs. By 2020, Russia was supplying 30% of Germany's oil and half of its natural gas.<sup>16</sup> Yet the war in Ukraine has changed all that. Under US pressure, Germany began weaning itself off Russian energy supplies. The blowing up of the Nord Stream pipeline seems to have completed a process that had been undertaken voluntarily by the Germans when they moved against Russian supplies. The promise that Germany and Europe more generally will now be supplied with US fracked gas via LNG terminals must be regarded as one of the crowning achievements of US foreign policy.

The hegemony that the US has gained over its European allies may or may not last as there are no guarantees in a highly

unstable world. Ironically, however, there is one area where it does not have a full grip: its long term 'friendship' with Saudi Arabia (SA). The US treats SA like a client state, but it is not able to fully control this subimperialist power. Saudi Arabia has pressed on with its invasion of Yemen and then when it ran into difficulties reached a détente with its arch enemy, Iran, in a deal brokered by the Chinese. This is by no means the first time it has failed to do the bidding of the US. Back in 2016, the Saudis' formed a new relationship with Russia by creating OPEC+, a cartel to keep oil prices high. Their motivation was their hostility to the new energy independence of the US.

All of these complex manoeuvres demonstrate two things. First, we live in a highly unstable world where the big imperialist powers seek to carve out 'spheres of influence' through the interaction of military prowess and state power more generally. They seek to intimidate, blackmail, and threaten each other's future. Yet none has complete control. The fable of a unipolar world, where there is an end to history, that was proclaimed after the fall of the USSR, is no longer repeated. Instead, we find former client states develop their own ambitions and pursue them without the agreement of their hegemons. Far from this 'diversity' leading to a more peaceful world, it has created a highly unstable and dangerous world.

Second, there is still a struggle over oil and future oil supplies. It remains the primary natural resource that is central to the generation of profit and military power. Competition for oil is so intense that states will devise plans to re-route pipelines away from land controlled by their rivals. Moreover, the large oil multi-nationals rank among the biggest companies in global capitalism, with Exxon and Shell in the top ten and forming close relationships with their respective states. In the US, Trump nominated ExxonMobil CEO, Rex Tillerson, as Secretary of State and Biden holds regular meetings with the oil executives. Even where oil companies are state run, they function like their private counterparts, driven by an insane need to accumulate for accumulation's sake. In other words, oil remains the life blood of the global capitalist system. While the prospect, therefore, of a fossil free capitalism is a theoretical possibility, the chances of it occurring are virtually nil.

## **Fossil Capitalism**

In 1988, James Hansen, a NASA climate scientist first gave evidence to the US Senate about climate change caused by human activity. The same year, the United Nations established the first Inter-Governmental Panel on Climate Change (IPCC). It issued its first report two years later and in 1992 the earth summit in Rio agreed that humanity faced a major problem with carbon emissions. Yet despite some minor fluctuations the trend to increased emissions -and higher temperatures -has continued, as the chart below indicates.



#### Chart 1: Global Carbon Emissions 1980-2020

If there were clear warnings about the link between fossil fuels and climate change, the question arises why have carbon emissions accelerated? An important part of the answer lies in the activities of the fossil fuel companies themselves. *Scientific American* has reported that Exxon was aware of climate change as early as 1977, eleven years before the issue was made public.<sup>17</sup> Yet, having learnt about it through cutting edge research, they spent decades refusing to publicly acknowledge their findings.

Instead, the oil industry spent huge sums on campaigns to amplify climate change denial and on lobbying US Federal Authorities for continuing subsidies. In 2023, for example, the combined spending of the oil and gas industries on lobbying amounted to \$124 million.<sup>18</sup> Exxon and other companies created the Global Climate Coalition to oppose mandatory reductions in carbon emissions, arguing that the science was still uncertain. The American Petroleum Institute spent \$5 million on a plan to 'Identify, recruit, and train a team of five independent scientists to participate in media outreach. These will be individuals who do not have a long history of visibility and/or participation in the climate change debate'.<sup>19</sup> Like the tobacco companies the aim was to create doubt in the minds of the public.

However, outright denial was no longer possible when it became obvious that climate change was occurring. As a result, the tactics of the oil companies have changed. They now pretend to favour a shift to more sustainable energy, but continue as before, making big investments in oil exploration. Organised double speak has become their main modus operandi. They are spending millions to appear 'green' while acting in contradiction to their claims. An analysis by the website Influencemap of 3,421 items of communication by BP, Chevron, ExxonMobil, Shell, and TotalEnergies found that in 60% of them there was at least one green claim.<sup>20</sup> Yet twenty of the biggest oil and gas companies are projected to spend €857 billion on new oil and gas fields by 2030. This could grow to a staggering €1.4 trillion by 2040, says research from Global Witness and Oil Change International.<sup>21</sup>

Moreover, this expansion is being fully supported by the very states that make official promises about shifting to renewables. Energypolicytracker.org has found that a staggering \$470.97 billion was committed to supporting fossil fuel energy by G20 governments during 2020-21.<sup>22</sup> Behind the sheer cynicism of the oil company executives, there are important structural reasons for the continued expansion of oil – despite the rhetoric about renewables.

First, capitalism is built on profit and the oil companies are some of the most profitable. In 2022, the five Big Oil companies reported combined profits of \$196.3 billion, more than the economic output of most countries. In a system whereby capital in all its forms engages in a frantic search for higher margins, or, more precisely, profit rates, investment funds will hardly pass up an opportunity to use big oil to expand their portfolios. Second, let's assume, as most scientists do, that 60% of oil and gas reserves will have to remain unused if we are to limit global warming to 1.5 degrees above preindustrial levels. This will give rise to the problem of 'stranded assets'. This refers to the process of collapsing expectations of future profits from invested capital. Oil exploration platforms, refineries, pipelines into which billions have already been poured would need to be written down. It is estimated that global energy is currently supplied from 43,439 oil and gas production assets.<sup>23</sup>

As many of these would be rendered useless, there would be disruption on a scale that few capitalists or their governments, could bear. One group of researchers has estimated that the present value of future lost profits in the upstream oil and gas sector would exceed US\$1 trillion.<sup>24</sup> But that is only probable future profits. What of the capital write down that would also be required? Most of the investors in these oil facilities come from the richest OECD countries so one can only imagine how they will resist.

Third, the oil sector is part of an integrated network of investments in global capitalism. It does not stand alone but is tied by a thousand economic threads to other sectors. Banks, insurance funds, pension funds all invest in oil companies to gain higher returns. If we take Exxon as an example, we find that 60% of its shares are owned by institutional investors. These include notorious vulture funds which scour the world for higher rates of return. Included here are Vanguard Group, Blackrock, Fidelity Management, JP Morgan, among others. If oil companies are forced to walk away from stranded assets, there will be a ripple effect throughout the system of finance. And that is a disruption they will simply not tolerate.

#### Saving life on the planet

We, therefore, conclude that it is not possible to stop global warming and continue with the capitalist system. All attempts to guilt-trip individuals by claiming that their by-choice habits have caused global warming has not made any difference. Many people have made real efforts to change their lifestyle but do so in a framework that prioritises private cars over public transport and global agri-food over local produce. Individual action will not be effective and nor has efforts to 'incentivise' corporations through the cap and trade system. This neoliberal measure puts a price on pollution and gives corporations a limited number of free slots. Should they require more, they purchase them from other companies who have not

used theirs. This doesn't outlaw emissions; it puts a price on them and in reality, this has become another opportunity for massive fraud and speculation. Thus, one analysis shows that carbon emissions from California's oil and gas industry rose by 3.5% since its cap and trade system began.<sup>25</sup>

The largest cap and trade market of the EU has only had a marginal effect on a limited range of sectors and meanwhile total emissions keep on rising. Rather than these piecemeal efforts, we really do have to think about system change. But here we face a problem caused by decades of neoliberal propaganda. This militates against thinking carefully about system change as it encourages a deep form of fatalism summed up in Thatcher's phrase, There Is No Alternative'. For many the maxim of Mark Fisher that 'it's easier to imagine the end of the world than the end of capitalism' rings true.<sup>26</sup>

However, where the 'end of the world' becomes a real possibility, it is necessary to think of alternatives to capitalism. This means that the radical left must not only fight against the many injustices of the system but be able to offer real alternatives to it. Too often this project is lost amidst immediate battles. Talk of alternative futures is either left vague or wrapped up in utopian rhetoric, but there was a double meaning in Thomas Moore's original term 'utopia'; it signified both a 'good place' and 'no place'. In other words, a type of perfection that was unrealisable. Against this, an alternative to capitalism means starting from the foundation of today rather than designing a new blueprint from scratch. It means addressing the issue of climate change from the materials we could now possess and can control.

The first step towards a sustainable future would involve taking the energy companies into public ownership and repurposing them away from shareholder value. As long as the main motive for producing energy is profit and dividends for shareholders who have no links to the real world of production, there will always be a disregard for the environment.

Even when they speak 'green' the economic pressure to generate a higher rate of return will always trump the rhetoric. Public ownership would mean the problem of 'externalities' is eliminated. Economists use this term to refer to a pattern whereby private firms do not count as costs, damages they do to surrounding areas. Thus, an oil refinery does not factor in the cost of the increased cancer it creates in its narrow economic calculations. And oil

companies certainly do not count the real cost of global warming. By taking energy companies into public ownership a clear strategy can be developed to switch from a reliance on fossil fuels. This will mean a considerable write down of past investments, but some elements of technology can be salvaged for a transition to renewables. If the motive is not profit but the public welfare, the equation of what is economic and what is not is changed. However, even if there is public ownership of large corporations and workers' self-management, the tyranny of 'market forces' would still need to be broken.

This God-like anonymous power, which dominates the lives of modern humanity, is a code word for the alienation of our collective labour. The very term 'the markets will decide' implies a noconfidence vote in the capacities of the human species to decide things democratically. It assumes that the coordination of economic activity must operate behind our backs, through blind laws of an 'invisible hand' over which we have no control. As an alternative, Marx and Engels advocated that 'the social anarchy of production gives way to social regulation of production upon a definite plan, according to the needs of the community and of each individual'. In other words, for a democratically planned

economy. But how can this happen? Support for the free market is instilled into every child in the Western world. The free market is supposed to bring choice, democracy and efficiency and is seen as the only way to run a modern economy. It has become the paradigm that frames our understanding of economics and of public policy more generally. Challenging this paradigm means 'thinking outside the box', but that immediately leaves one open to the charge of being utopian or 'unrealistic'. Nevertheless, if we suspend this contrived scepticism about big alternatives, then planning has a number of advantages over market forces.

First, it creates greater democratic control over investment and allows people collectively to set goals for an economy that reflects human values. With planning, information on the best technology that could cut carbon emission would be shared. Dependency on fossils fuels would be reduced in a coordinated way and investment in sustainable forms of energy developed. The treadmill system of everincreasing throughputs of energy and raw materials to stay ahead of rivals would end.

Second, planning reduces the uncertainty that arises in economic decision-making. Two kinds of uncertainty can be distinguished: one is primary uncertainty arising from unforeseen events such as the eruption of a volcano or a host of unknowable events; the second is market uncertainty which occurs because atomised decision-makers do not know what intermediary suppliers, rivals and people who consume their goods are doing. Planning cannot eliminate the first, but it can substantially reduce the second, by allowing coordination between different economic units that are affected by each other's decisions.

Third, planning reduces waste that is caused by defensive strategies undertaken by large corporations to override market uncertainty. The 'too big to fail ethos' of giant corporations means they spend an increasing proportion of their revenue on unproductive expenditures designed to protect their market share. Car companies pay high sums to distribution networks to stock their brand; arms manufacturers pay huge bribes to state officials to buy their lethal products; vast sums flow into derivative markets that were originally designed to 'hedge' against unforeseen market changes. Technology is designed not just for efficiency but as a mechanism to lock in customers.

Most importantly, a democratically managed economy provides us with the only sure way of reversing climate change. It de-commodifies key areas of our lives such as transport and energy production. Instead of the hyper individualism of the car, it prioritises free public transport. Instead of retrofitting homes becoming yet another opportunity for different firms to compete for profit, it allows for mass retrofitting of whole streets and communities by non for-profit enterprises. Instead of scientific discovery being colonised by corporations, it opens research to all, regardless of a profit motive. Instead of commercial secrecy around what is the best technology to reduce green-house gases or carbon, it makes discoveries freely available to all.

And when it comes to oil, a planned economy can allow for a transition away from dependency. Plastics, which are a derivative of oil, cannot be eliminated overnight as they are so deeply embedded in manufacturing processes.

However, their use can be scaled down through a real strategy of re-cycling that is more likely in a co-ordinated economy. Alternative products such as wood can be developed in a sustainable way that can reduce reliance on plastic. As most oil is still used for heat and transportation, a democratically planned economy can help reduce our reliance. High speed train lines and integrated rail and sail routes can reduce our use of aviation. Free public transport and greater bicycle use can reduce the need for cars in cities. Freight can be carried by a developed rail system rather than by trucks. Heat can be generated offshore and through the latest solar technologies. This will not be easy and there will be many setbacks. There will not be an overnight dramatic transition. However, by taking democratic control of our economy, we have a chance to steer it in a direction which prioritises our relationship with the rest of nature. This provides the only sure way of saving life on the planet.



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<sup>2</sup> Fatih Birol. 2021. *Key World Energy Statistics*. International Energy Agency. p 29.

<sup>3</sup> M. T Huber. 2011. 'Oil, Life and the Fetishism of Geopolitics' in *Capitalism, Nature and Socialism* Vol. 22 No. 3 pp. 32-48.

<sup>4</sup> Timothy Mitchell. 2013. *Carbon Democracy: Political Power in the Age of Oil*, London, Verso.

<sup>5</sup> Gregory Palast 2006. 'No Peaking: The Hubbert Humbug'. *Guerrilla News Network*.

<sup>6</sup>ibid.

<sup>7</sup> Anthony Sampson. 1975. *The Seven Sisters; The Great Oil Companies and the World they Made.* London: Viking Press.

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<sup>9</sup> David Manley and Patrick R. P. Heller. 2019. *Hidden Giants*. Its time for more transparency in the management and governance of national oil companies. IMF Paper.

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<sup>11</sup> Helen Thompson. 2022. *Disorder. Hard Times in the 21st Century*. Oxford. Oxford University Press. <sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

<sup>15</sup> The Atlantic Council. 2020. US foreign Policy and Euro-Caspian Energy Policy: The Time is now to build the Trans Caspian Pipeline, June 12, 2020.

<sup>16</sup>Patrick Wintour. 2022. We were all wrong'. How Germany Got Hooked on Russian Energy. *Guardian* 2 June 2022.

<sup>17</sup> Shannon Hall. 2015. 'Exxon knew about climate change 40 years ago'. *Scientific American*, 26 <sup>13</sup> October 2015.

<sup>18</sup> Incy Sakyi and Jimmy Cloutier. 2023. Oil and gas industry spent \$124.4 million on federal lobbying amid record profits in 2022', *Open Secrets* 22 February 2023.

<sup>19</sup> Greenpeace. No Date. 'Exxon climate denial history: a Timeline' Greenpeace.org/USA.

<sup>20</sup>Lauren Kent. 2022. Big oil companies are spending millions to appear 'green.' *CNN Business*, 8 September 2022.

<sup>21</sup> Robert Frost. 'Fossil fuel firms set to spend more than €800bn on new oil and gas fields by 2030'. *Euronews.green*, 13 April 2022.

<sup>22</sup> This information can be found on the Euro policy tracker website @https:// www.energypolicytracker.org/region/g20/

<sup>23</sup> Gregor **S**emieniuk, Philip P. Holden, Jean-Francois Mercure *et al.* 2022. Stranded fossil-fuel assets translate to major losses for investors in advanced economies. *Nature Climate Change.* 12, pp. 532–538.

<sup>24</sup> ibid

<sup>25</sup> Lisa Song. 2019. 'Cap and Trade Is Supposed to Solve Climate Change, but Oil and Gas Company Emissions Are Up' *ProPublica* November 15, 2019.

<sup>26</sup> Mark Fisher. 2012. Capitalism Realism: Is there no Alternative. London, Zero Books.