



Shared pretenses for collective inaction: the economic growth imperative, COVID-19, and climate change

Diana Stuart, Brian Petersen & Ryan Gunderson

To cite this article: Diana Stuart, Brian Petersen & Ryan Gunderson (2021): Shared pretenses for collective inaction: the economic growth imperative, COVID-19, and climate change, Globalizations, DOI: [10.1080/14747731.2021.1943897](https://doi.org/10.1080/14747731.2021.1943897)

To link to this article: <https://doi.org/10.1080/14747731.2021.1943897>



Published online: 06 Jul 2021.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)



Shared pretenses for collective inaction: the economic growth imperative, COVID-19, and climate change

Diana Stuart ^a, Brian Petersen ^b and Ryan Gunderson ^c

^aProgram in Sustainable Communities, School of Earth and Sustainability, Northern Arizona University, Flagstaff, AZ, USA; ^bDepartment of Geography, Planning and Recreation, Program in Sustainable Communities, Northern Arizona University, Flagstaff, AZ, USA; ^cDepartment of Sociology and Gerontology, Miami University, Oxford, OH, USA

ABSTRACT

This paper examines how the economic growth imperative not only drives climate change and created the conditions for the development and spread of the COVID-19 pandemic but is also the context for climate change inaction and ineffective responses to the pandemic. Focusing on the United States, the paper identifies pretenses for collective inaction on COVID-19 that are similar in content to familiar justifications for delay in climate action: (1) denialism, (2) individualism, and (3) techno-optimism. These justifications must be identified as strategies to maintain the status-quo and benefit the wealthy few while allowing avoidable human suffering and loss. Adequately addressing climate change and future pandemics requires overcoming these false narratives and transitioning to social conditions that are resilient, healthy, and sustainable – specifically conditions where social and ecological well-being are prioritized over economic growth for the sake of profit maximization.

KEYWORDS

Climate change; COVID-19; economic growth; inaction; capitalism

Introduction

This manuscript examines similarities between the fractured and ineffective responses to COVID-19 in the United States (US) and the causes of climate ‘inaction’ or ‘delay.’ Responses to the pandemic, especially in the US, brings into clear sight the ongoing prioritization of *economic growth* before well-being, or profit before people and the environment. Economic growth refers to increasing levels of production, consumption, and wealth accumulation associated with increasing Gross Domestic Product (GDP). The ‘growth imperative’ refers to the prioritization of economic growth and a rejection of policies that slow growth, a priority built on the structural dynamics of capitalism. According to the growth imperative, growth is always good and must always be maintained. We focus on the US as an ideal case study. While all forms of capitalism require constant growth if they are to avoid the negative social impacts of unplanned recessions, as argued below, the form of neoliberal capitalism dominant in the US is especially prone to subordinating social and ecological wellbeing to economic growth and to ‘fixat[e] on high GDP-growth-rates’ (Ott, 2018, p. 7). This social context has had important implications for climate politics, including climate denial (see below). We argue this same social context provided an ideal breeding ground for COVID-19 inaction and justifications for delay.

Focusing on the US, where the growth imperative remains especially hegemonic, we examine how this imperative influenced the development and spread of COVID-19, drives climate change and, importantly here, steers policy responses to both. While other nations also consider impacts on economic growth in policy-making, the US context reveals what kinds of social outcomes emerge when the growth imperative remains a clear priority. In addition, in the US there remains a strong resistance to government intervention or ‘big government,’ even when intervention is necessary to minimize the impacts of a global pandemic as well as the climate crisis. We also focus much of our discussion on the Trump administration, whose blatant prioritization of wealth accumulation over climate stability and public health make this a compelling case to illuminate the justifications used to maintain the growth imperative.

With a focus on the US context, we identify three overlapping ‘pretenses for inaction’ between the slow and ineffective response to the pandemic and climate inaction: denialism, individualism, and techno-optimism. While we focus on discursive justifications for COVID-19 and climate inaction, we also shed light on the underlying social drivers of inaction through an analysis of how the growth imperative is built into the capitalist system. Societies find themselves in a paradoxical gridlock: the structural necessity to constantly expand growth is creating and maintaining forces that could undermine the prerequisites for growth and long-term human survival. The normative argument is that prioritizing growth hinders us from effectively addressing both climate change and a global pandemic.

The dual threats of COVID-19 and climate change bring a number of important questions to the fore (Cohen, 2020; Manzanedo & Manning, 2020; Newell & Dale, 2020; Robertson, 2020; Rosenbloom & Markard, 2020; Ruiju et al., 2020; Sarkis et al., 2020; Spash, 2020b; Yun, 2020). What impacts will the pandemic have on climate change responses and carbon emissions? What can we learn from responses to the COVID-19 pandemic for addressing climate change? Will COVID-19 serve as a climate crisis wake-up call, as a harbinger to transition to a more sustainable society? Although both global threats are ‘invisible,’ there is a marked difference between COVID-19 being widely regarded as an immediate threat that requires urgent, global action, while climate change is often (misleadingly) framed as a merely future-oriented risk and responses lack priority and urgency (Ruiju et al., 2020). While both crises pose serious threats to global populations, especially those who are already marginalized, the impacts of the climate crisis will be far greater and time to effectively and justly address climate change is running out (Markard & Rosenbloom, 2020).

While the COVID-19 crisis and the climate crisis are different along many lines (Fuentes et al., 2020), there are lessons we can learn through examining these crises together. First, their origin stories reveal a pattern of human domination over nature in a socioeconomic system that requires continually increasing material and energy throughput. Further, justifications for climate inaction and COVID-19 inaction overlap along at least three lines: (1) the denial of science, (2) a focus on inadequate individualized solutions, and (3) support for techno-fixes without social reforms. In both cases, these justifications were and continue to be used to support decisions that prioritize economic growth over human lives. This strategy protects the interests of the wealthy few, who benefit the most from a growth-oriented capitalist system (Oxfam, 2018), at the expense of those who are already most vulnerable and social and ecological well-being in general. We examine the similarities between these crises and why solutions that maintain the economic growth imperative will result in more loss and suffering that could be avoided. Identifying and overcoming false narratives (Wright, 2010) is a critical step to create the social conditions necessary to minimize the impacts of global warming and future pandemics.

The growth imperative, climate change, and the COVID-19 pandemic

To understand the inadequate responses to climate and COVID-19 crises, we must understand the role of the economic growth imperative. Here we use the term ‘growth imperative’ to refer to the structural necessity of capitalism to constantly increase production and consumption in order to accumulate capital. Before it was institutionalized as economic theory or policy goal, the growth imperative was already an underlying necessity of capitalist societies, ‘rooted in capitalism’s core competitive logic – the drive for profit and capital accumulation’ (Antonio, 2013, p. 20). Capital has a structural necessity to self-expand and is, thus, growth dependent. As Speth (2008, p. 59) states, ‘the capitalist economy, to the degree that it is successful, is inherently an exponential growth economy.’ Along with competition, where firms must constantly reinvest profits to decrease costs and increase output, capitalist growth dependency is also driven by a pattern of lending, debt, investments in mass production infrastructure, and the necessary advertising to get consumers to purchase mass produced and excess goods (Blackwater, 2015).

Although it is now naturalized and common-sense that ‘growth is good,’ it was not until around the end of the Second World War that the growth imperative was institutionalized as an explicit aim of economic and social policy and became an organizing normative goal of economics (see Antonio, 2009; Schnaiberg, 1980). Ironically, GDP was used to measure productive capacity for the war effort and even the measurements creator, Simon Kuznets, stated it was not an appropriate indicator to assess well-being (Semuels, 2016). Yet, increasing annual GDP was widely adopted as a global economic and policy goal. That means every year more and more goods are produced and services offered. While some argue we need this growth to provide for a growing population, we are producing more and more per capita: global material production has quadrupled since 1970, growing twice as fast as the human population (Circle Economy, 2020).

During the mid-twentieth century ‘Golden Age’ of capitalism, growth was regulated and escalated by Keynesian welfare state policies. Following the financial crises and stagflation in the 1970s (Harvey, 2005), neoliberalism arose as an alternative growth regime, pushing tax cuts, austerity, and ‘free markets’ as new growth engines (Antonio, 2013). Despite the marked differences between Keynesian capitalism and neoliberal capitalism, both are bound to what Hamilton (2004) calls a ‘growth fetish.’ Mainstream economics views ‘increasing affluence ... as essentially equivalent to human well-being’ (Dietz, 2015, p. 125).

Concerns with the ecological and social impacts of the growth imperative have mounted for decades. Ecological objections to the growth imperative were a cornerstone of early ecological economists (e.g. Daly, 1973; Georgescu-Roegen, 1971). Because economic growth requires increases in material and energy throughput, an economic system that is growth dependent is not ecologically sustainable (Schnaiberg, 1980). Economic growth is associated with increases in carbon emissions, national ecological footprints, and other environmental pressures, and an absolute decoupling of environmental impacts from economic growth at the rate necessary to avoid surpassing global warming targets is infeasible (for reviews, see Hickel & Kallis, 2020; Parrique et al., 2019; Schor & Jorgenson, 2019). Without evidence that decoupling at the rate necessary is possible, a reliance on the idea of green growth remains a risky gamble with vast moral implications (Stuart et al., 2020a).

Prioritizing economic growth has also been criticized on social grounds. Growth has failed to improve happiness after a relatively low level of development or alleviate global poverty, and has resulted in staggering levels of inequality (Hickel, 2017). The financial gains from GDP growth largely go to the wealthiest: in 2018 the world’s richest 1% received 82% of global wealth (Oxfam,

2018). A growing number of economists, including Joseph Stiglitz (2009, 2019), continue to argue that GDP growth should be abandoned as a social goal (see Dietz, 2015). One of the social problems created by growth-dependency is vulnerability to negative growth: the inability of growth-dependent societies to resiliently respond to reductions in growth. In the growth-dependent society of global capitalism, ‘nearly everyone ... [is] dependent on growth whether it be through employment, financial investments, small business ownership, job security, retirement and health benefits, or life-style’ (Antonio, 2009, p. 4; see Schnaiberg, 1980). In this context, reductions in growth (recessions and depressions) bring about social crises and harm. As detailed below, this second problem is especially clear in the case of the COVID-19 pandemic: ‘[t]he pandemic lockdowns serve to underscore once again that when economic growth comes to a halt, this economic system immediately enters a state of crisis’ (Koch & Buch-Hansen, 2020).

The causes of the climate crisis and the COVID-19 pandemic cannot be understood outside of this political-economic context. Both crises can be traced to humans altering nature, including biophysical cycles, land use, and interactions with other species. The extraction and combustion of fossil fuels to support an energy-intensive and expanding economy, as well as high-carbon lifestyles (Urry, 2011), has resulted in a dramatic alteration of the carbon cycle (Intergovernmental Panel on Climate Change [IPCC], 2018). As some projections indicate 4°C of warming by 2100, depending on political choices made now, this crisis poses an existential threat. Leading scientists state that we cannot stay within climate targets without *rapid and radical* changes in *all* aspects of society (IPCC, 2018). Others have specifically pointed to economic growth as a major driver of both climate change and biodiversity loss. The alliance of world scientists (Ripple et al., 2020) state that: ‘[o]ur goals need to shift from GDP growth and the pursuit of affluence toward sustaining ecosystems and improving human well-being.’ Similarly, Steffen et al. (2018, pp. 5–6) state that we need to change ‘[t]he present dominant socioeconomic system ... based on high-carbon economic growth and exploitative resource use.’ Others empirically illustrate that it is unlikely to impossible to keep global warming within 2°C in a growing economy (e.g. Hickel & Kallis, 2020; Parrique et al., 2019).

Like climate change, the COVID-19 pandemic is an outcome of human-nature interactions conditioned by a growth-dependent capitalist economy (Bhattacharya & Dale, 2020; Dale, 2020; Modonesi, 2020; Pazaitis et al., 2020; Spash, 2020b). While disease outbreaks preceded and will proceed capitalism, the causes and spread of the COVID-19 pandemic has a specific political-economic context. In terms of cause, zoonotic diseases proliferate in the current era, conditioned by the ‘expansion of corporate agri-systems, encroachment of humans on habitats, and the commodification of wildlife – all integral to current growth economies’ (Pazaitis et al., 2020, p. 614). The disease likely emerged from interactions with wildlife in Wuhan, China, and experts explain how these interactions resulted from climate change and habitat loss bringing humans and wildlife closer together as well as the transport of exotic mammals for human consumption (Dale, 2020). Further, the rapid pace by which the virus spread globally is unthinkable without an economically globalized world (Pazaitis et al., 2020). These altered socio-ecological relationships resulted in millions of deaths, and more pandemics will likely emerge as these altered relationships continue. In short, neither climate change nor COVID-19 are ‘natural’ (Dale, 2020), as both were caused by humans and the priorities that continue to drive humans to reshape the biophysical world. For both climate change and the COVID-19 pandemic, the underlying driver of these altered biophysical relationships is profit-oriented resource use, to support an ever-accelerating production-consumption engine.

Along with the causes of the dual crises, the growth imperative also shapes social responses to climate change and the COVID-19 pandemic. In capitalist societies, ‘the economy’ is a

semi-autonomous system that dominates real human subjects and ecosystems for the abstract aim of capital accumulation. In these conditions, ‘the bottom line’ dominates trade-offs in sustainability discourse (Clark et al., 2018) as well as the pandemic (Bhattacharya & Dale, 2020; Spash, 2020b). The growth imperative not only drives us deeper into multiple crises, it also undermines the effectiveness of potential solutions. COVID-19 could have been addressed much more rapidly and effectively if governments were willing to quickly prioritize health and well-being. Similarly, we could have ended fossil-fuel use years ago and transformed our social systems to address climate change and prioritize social and ecological well-being. Each case reveals that much is lost when economic growth is prioritized.

While evidence illustrating the incompatibility of economic growth and climate change mitigation mount, the same trade-offs are clearer and easier to see through the faster-paced impacts of the COVID-19 pandemic. As Spash (2020b, p. 2) explains,

[t]he coronavirus pandemic of 2020 provides a dramatic example of how modern economic systems are precariously structured to achieve financial returns. ... [T]he primary capital accumulating motive, encapsulated in the economic growth imperative, means an inability of the system to pause even for a week, let alone a month or two, without economic and social crisis.

Debates early on focused on whether responses should prioritize the economy or public health. With lockdowns, we could avoid infection, but the production-consumption engine would dramatically slow down. In a society in which all livelihoods, through wages or profits, depend on the constant accumulation of capital, lockdowns without social safety nets prove disastrous for many. In the US, conservatives pushed for, and continue to push for, re-opening the economy before public health officials recommended. For example, representative Hollingsworth, the 12th wealthiest member of Congress, openly stated that the government should prioritize the economy and the American ‘way of life’ over minimizing the ‘loss of life.’ Hollingsworth was not alone in this view, as many states with conservative governors reopened early, with rising cases quickly following. Despite having the greatest number of cases and deaths globally, in late 2020 President Trump claimed positively that compared to other nations the US had ‘experienced the smallest economic contraction,’ explaining that ‘a national lockdown costs \$50 billion a day ... this administration will not be going to a lockdown’ (Trump Whitehouse Archives, 2020a).

President Trump and Republican governors’ positions on lockdown and protective measures went against public opinion. In spring 2020, a *USA Today* poll showed that 72% of Americans believed we should prioritize public health, saving lives, and fighting Covid-19 over economic concerns (Shannon, 2020). Still, no national programme or plan to protect lives was implemented in the US during the Trump administration. At the same time, some politicians, pharmaceuticals companies, financiers, and others view the pandemic as a ‘great investment opportunity,’ as put by the US Secretary of the Treasury, Steve Mnuchin (Carr, 2020).

The US was not the only country debating whether to prioritize the economy *or* public health. Despite diverse state responses to COVID-19, one consistency across the world is the push ‘to accumulate with minimal sacrifice to profit’ (Bhattacharya & Dale, 2020). In an international comparison of policy tools used by governments to respond to the pandemic, Capano et al. (2020, p. 295) found that ‘the most commonly deployed government tools were economic in nature and the single most prevalent government responses in the dataset focused not on public health, per se, but rather on tax policy treatments to offset economic damage.’ A ‘herd immunity’ strategy was considered by multiple countries at various times during the pandemic. As explained by Spash (2020b), the UK government considered a herd immunity strategy early on yet abandoned

the idea when fatality rates were much higher than previously believed. Still, protective measures and testing was delayed in the UK. Sweden adopted an approach that kept businesses and schools open while encouraging protective measures. This resulted in a surge in cases and deaths compared to other Scandinavian countries, while failing to achieve herd immunity (Henley, 2020). While national responses to the pandemic greatly varied, these few examples illustrate that US leaders were not the only ones greatly concerned about economic growth. We focus here on the US, but acknowledge the more diverse global context.

The US, despite its immense resources, became the centre of global attention in 2020 as COVID-19 rates spiked dramatically. A herd immunity approach was discussed by US leaders as way to get the economy running at full speed, although Trump's hands-off approach was already resulting in the most cases worldwide. With 33 million cases and counting, the US is a particularly tragic example: delay, lack of testing, and lack of protective measures have resulted in an estimated 587, 245 deaths as of May 19, 2021 – *more than any other nation* and twice as many deaths as in India (John Hopkins Coronavirus Resource Center, 2021).

This section examined how the growth imperative drives carbon emissions and climate inaction as well as shaped the emergence of, and responses to, the COVID-19 pandemic. The following section expands this analysis by identifying overlapping justifications for ineffective responses to climate change and the COVID-19 pandemic, which we term 'pretenses for collective inaction.' As explained above, the push to 'save the economy' is an underlying pretense for collective inaction. The three shared pretenses for collective inaction detailed below – denial, individualism, and techno-optimism – are all derivative of the growth imperative necessitated by capital accumulation. Each justification is used to protect the growth imperative and those who continue to benefit the most from it. To illustrate these justifications, we draw from a diversity of publications from newspapers, magazines, Whitehouse Archives, and scholarly literature. The literature search specific to the COVID-19 pandemic was conducted in early 2021, thus most examples are specific to 2020. Examples were identified specifically because they illustrate the pretenses for collective inaction.

Shared pretenses for collective inaction

This section identifies three overlapping pretenses for inaction in climate politics and COVID-19 responses. Many countries ignored the World Health Organization's (WHO's) recommendation that countries prepare for the pandemic on February 11th, 2020 (Horta-Barba et al., 2020). However, there are stark differences between governments in policy responses and success in controlling the spread (Capano et al., 2020). We focus on the response in the US, which, along with Sweden, illustrated a 'less successful' policy response (Capano et al., 2020). Similarly, the US is one of the only countries to, until recently, pull out of the Paris Agreement and has relatively high levels of climate denialism. More broadly, the US offers an ideal case study for reasons explained in the introduction, namely the dominance of neoliberal ideology.

In comparison to explanations for climate inaction, which are increasingly refined in the social sciences (e.g. Blühdorn, 2007; Brulle & Norgaard, 2019; Ollinaho, 2016; Stoner & Melathopoulos, 2015), explanations for COVID-19 inaction are sparser. Some culprits for COVID-19 inaction include a 'massive, generalized bystander effect' at a global level (Horta-Barba et al., 2020, p. 915) and, specific to the US, federalism (Rocco et al., 2020), anti-rationality (Meeker, 2020), a lack of science literacy (Miller, 2020), and, as discussed below, individualism (Bazzi et al., 2020; Eichengreen, 2020). Here we shine light on overlapping justifications and pretenses for a lack of collective action to address climate change and the pandemic. In other words, we examine

justifications for *not* implementing collective actions in response to both crises. Three shared pretenses for inaction are explored: denialism, individualism, and techno-optimism. As explained below, these three pretenses for inaction have been central to climate delay and were then echoed in justifications for failures to collectively address COVID-19. Denialism, individualism, and techno-optimism are pervasive, at least in part, because they overlook and leave untouched the system that not only drives climate change and the COVID-19 pandemic, but also its need to subordinate ecological well-being and public health to the growth imperative.

Denial as a shared pretense for collective inaction

Denialism is the first and clearest pretense for collective inaction common in climate politics and responses to COVID-19. Climate change denial and misinformation campaigns have been widely acknowledged, as well as their effectiveness in delaying climate policy (e.g. see Dunlap & Brulle, 2015). The clearest form of denial involves the outright rejection that anthropogenic climate change as a phenomenon exists. This outright denial was propagated widely by a well-organized and well-funded denial campaign. The fossil-fuel funded endeavour manufactured controversy about climate science, confused the public, and helped to thwart the ratification of the Kyoto Protocol. Tactics used included the use of fake experts, cherry-picking data, misrepresentation, logical fallacies, and conspiracy creation.

Another major form of denial is climate skepticism, which questions the credibility of science and the evidence supporting the need to act on climate change (Giddens, 2009). These typically involve economic or technical reasons to refute the science indicating that climate mitigation efforts are necessary and justifiable. Relatedly, neo-skepticism acknowledges the scientific basis for the climate crisis but denies the need to act in aggressive, proactive ways (Stern et al., 2016). Lastly, we see the rise of ‘ideological denial’ (Petersen et al., 2019): even people who acknowledge the climate crisis sometimes misdiagnose the drivers and promote inadequate and partial solutions that maintain the status quo. Mann (2021) identifies a shift from explicit, literal climate denialism to subtler forms of deflection like blaming individual consumers for emissions and promoting ‘non-solution solutions’ such as geoengineering. These trends are one of the threads connecting explicit denialism to individualism and techno-optimism as pretenses for inaction, discussed below.

With the election of President Trump in the US, there was a revival and surge in outright climate denial, denial that many believed had been largely put to rest by a ‘unanimous’ scientific consensus (Worland, 2017). Trump selected climate deniers and fossil fuel executives for key positions and maintained his position of dismissing climate change – having formerly called it a ‘hoax’ – while his administration dismantled climate initiatives in federal agencies (Worland, 2017) and withdrew the US from the Paris Agreement, claiming that it ‘handicaps the US economy’ and staying on would ‘undermine our economy’ (Trump White House Archives, 2017). The Trump administration has been widely cited for accelerating global warming and causing long-lasting and irreversible environmental harm (Popovich et al., 2021).

There are also different forms of COVID-19 denial, ranging from ‘explicit’ denial (e.g. calling COVID-19 a ‘hoax,’ as did former President Donald Trump) to ‘implicit’ denial (e.g. reopening ‘the economy’ before containing an outbreak) (Falkenbach & Greer, 2020). When the COVID-19 virus first emerged in Wuhan, China, there was a delayed response due to denial and suppression of information. In late December 2019, a Wuhan doctor shared that a SARS-like illness had been diagnosed among patients from a seafood market. This doctor and others who gave warnings were silenced by authorities and accused of spreading rumours. Reporters later revealed that this

suppression was likely done to protect plans for an important government meeting of provincial leaders in Wuhan in mid-January 2020. When a team found evidence that the virus was transmittable from human to human, their findings were suppressed to avoid any panic that might disrupt the meeting. The government maintained that there were no new cases. Yet, by January 20th hundreds were infected. As the virus spread internationally, other governments and health agencies also denied the severity of the outbreak, spread misinformation, and chose to prioritize other goals before public health. The World Health Organization (WHO) was criticized for initially sharing the Chinese propaganda that the virus could not be spread through human-to-human transmission. The WHO also delayed calling the virus a pandemic until March, after there were cases in hundreds of countries. In trying to understand this misinformation and delay, political analysts highlighted the powerful donors who support the WHO and the political and economic pressures the organization faces.

In the US, the Trump administration downplayed and minimized the pandemic, spread blatant misinformation, and withheld resources for testing. Even the US Center for Disease Control (CDC) made false claims that COVID-19 could not be spread by asymptomatic individuals and that asymptomatic individuals should not be tested (Hauck, 2020). As with climate change, a nationally organized response to COVID-19 in the US was absent. Instead, public health experts and scientists were ignored and even attacked in order to prioritize economic concerns. At one point, the White House ordered hospitals to stop sending COVID-19 data to the CDC (Roston, 2020). *Time* magazine, called Trump a 'super-spreader of COVID misinformation' as he refused to wear a mask, told citizens not to be concerned about the pandemic, and stated that only weak people die from it (Bergengruen & Hennigan, 2020). Social media also played a significant role in amplifying the spread of misinformation.

Climate change denialism is most prevalent among conservatives (Dunlap et al., 2016). Similarly, COVID-19 denial is more common among conservatives and perpetuated by right-wing 'populist' politicians and governments (Falkenbach & Greer, 2020). Agius et al. (2020) argue that climate denial and COVID-19 denial are both marked by a nationalist and 'gendered' dimension. They are common among right-wing populists because the latter ideology is a reaction to an anxiety that one's security and identity are under threat ('ontological insecurity'). It is important to note that, in a growth-dependent economy, lockdowns and COVID-19-related unemployment without welfare provisions are, in fact, a threat to one's 'ontological security.' The lockdown protests can only be understood in this political-economic context (Burgis, 2020) in the same way that opposition to climate policy that does not have extensive job replacement provisions is understandable among those who work in carbon-intensive industries.

In both cases, there is a pattern of suppressing, ignoring, or refuting any science that might suggest solutions to protect people that happen to threaten economic growth and profits for powerful vested interests. A parallel 'attack on science' in the case of climate change and the pandemic was discussed in the media and among scientists, as very similar strategies were used by the administration to suppress information and dismiss or discredit scientists (Roston, 2020). With both COVID-19 and the climate crisis we see denial, delay, misinformation, and resistance to taking protective actions that would negatively impact economic growth. This pattern will continue to result in the avoidable loss of human lives.

Individualism as a shared pretense for collective inaction

Individualism is a second pretense for collective inaction shared by those who oppose collective climate action as well as those who opposed collective COVID-19 measures. Despite evidence to

the contrary, it remains widely believed that if one ‘does one’s part’ by, for example, driving a hybrid car, reducing air travel, eating vegan, using energy efficient appliances, and ‘buying green,’ one can stave off climate change. Addressing climate change is often said to be a matter of making lifestyle adjustments and buying green products so that individuals can influence what companies produce. As a stand-alone strategy, green consumption will not be effective at the rate and scale necessary.

Even if everyone did everything possibly to reduce individual emissions it would represent a fraction of the necessary reductions. In a widely cited study, Dietz et al. (2009) found that changes in individual and household energy use could reduce carbon emissions by more than seven percent in the US. Households are responsible for about 31% of US carbon dioxide emissions, equivalent to about 8% of global emissions (Dietz et al., 2009). Beyond reducing household energy use, individuals can adopt a range of other practices to reduce carbon emissions. Researchers estimate that a shift to ‘green consumption’ (choosing lower-impact products) in European countries could reduce carbon emissions by 25% (Moran et al., 2020). In a 2018 report, the Center for Behavior and the Environment estimates that the widespread adoption of 30 different behavioural changes could mitigate from 19 to 36% of global carbon emissions between 2020 and 2050 (CBE, 2018). The same report also states that about two-thirds of all global carbon emissions are linked to either direct or indirect consumption. Based on any of these estimates, the majority of global emissions remain outside of individuals’ ability to influence.

It takes more than individual lifestyle changes to transform material and energy production as well as transportation infrastructure and options. For example, the reduction in global carbon emissions due to the COVID-19 pandemic lockdown was around 17% (Harvey, 2020). While some framed this reduction in a positive light, stressing that individual changes can really add up, scientists explained that ‘at the same time, 83% of global emissions are left, which shows how difficult it is to reduce emissions with changes in behaviour ... Just behavioural change is not enough’ (Harvey, 2020). Further, corporations, industry, and governments continue to shape individuals’ options and choices pushing them to consume more and more unnecessary goods (Stuart et al., 2020b). While there are good reasons to seek out a low-carbon lifestyle (e.g. virtue ethics, increasing awareness, and demonstrating low-carbon living), a significant contribution to mitigation would require a collective commitment to many lifestyle changes. However, the danger lies in believing these efforts alone are enough to limit warming.

Especially in the US, national responses to COVID-19 also remained in line with individualism, resulting in the greatest number of cases and deaths globally (as of May 19 2021) despite being 4 percent of the world population. Without a nationally coordinated response, the Trump administration left handling the pandemic up to state governors. Some governors in conservative states either did not implement safety measures, delayed safety measures, or as in the case of states like Texas restrictions were lifted well before health officials recommended. In Texas, Governor Abbot lifted mask mandates and reopened all businesses, with health experts claiming it was far too soon (Allen & Boyette, 2021). In some states, not only were state mask mandates ended prematurely but any local mask mandates were banned.

Eichengreen (2020, p. 372) quotes an online article from the Idaho Freedom Foundation that encapsulates a widespread individualistic attitude toward the pandemic in the US: ‘The decision to wear a mask should be yours alone.’ It quickly became clear that if ‘back to normal is up to you,’ without government intervention, the pandemic would have greater impacts and last much longer. In the absence of any national policy, state-level policies were inconsistent: some states and cities imposed stay-at-home restrictions and mandates to wear masks, while others did not.

Bazzi et al. (2020) demonstrate that county-level variation is partially explained by duration of experience with the frontier conditions (total frontier experience) (TFE). Longer TFE is associated with lower rates of face mask use in public and weaker local government responses (e.g. emergency declarations and stay-at-home orders). TFE is associated with ‘rugged individualism,’ a combination of individualism and anti-government interventionism.

Focusing on voluntary actions and prioritizing personal freedoms before collective well-being continues to inhibit and undermine effective solutions to social and ecological crises. For many people, especially in the US, neoliberal ideology continues to make government efforts to protect citizens seem like unwanted interference and an infringement on individual rights (Harvey, 2005). The dual crises we currently face cannot be effectively addressed without large-scale coordinated actions. Klein (2014) argues that the need to address the climate crisis emerged at the worst possible historic moment: a time dominated by neoliberal ideology. However, the inability to address these crises is more than a matter of bad timing. We would likely have more protective measures in place without neoliberalism, yet the economic growth imperative would still undermine the most effective and just paths forward.

Techno-optimism as a shared pretense for collective inaction

Techno-optimism is a third pretense for collective inaction common in climate politics and pandemic responses. By techno-optimism we mean a belief or faith in technological development will solve all or most serious environmental and public health threats, even without social changes. In the cases of climate change and the COVID-19 pandemic, the widespread faith that a techno-fix can allow us to maintain the status quo and the economic growth imperative has hindered social changes that could reduce harm.

An August 2020 piece in *The Washington Post* explained that due to the dual threats of climate change and COVID-19, more people are looking to colonize Mars (Tharoor, 2020). In other words, as the Earth becomes increasingly unlivable, we should use technology to find a way out. While colonizing Mars may be an extreme example, it is rooted in a more widespread belief that technological breakthroughs will solve problems, silver bullets that eliminate the need for social change (Foster et al., 2010; Gunderson et al., 2019). Technological solutions are central to climate change mitigation strategies. One prominent form of techno-optimism in climate politics is focusing on alternative energy sources and improvements in efficiency to address climate change. What this focus fails to recognize is that improvements in efficiency tend to result in increased energy consumption and in many cases the partial or full negation of energy savings (see York & McGee, 2016). In addition, most discussions about 100% renewable energy fail to acknowledge differences in the energy return on energy invested, making it very unlikely that renewables can support current levels of energy consumption (Hall et al., 2014). Even with new technologies, effectively limiting warming requires reducing total energy consumption. Technologies will certainly be essential to minimize the impacts of climate change, yet their potential remains constrained by increasing levels of production and consumption.

A second common form of techno-optimism is much riskier. More attention, funding, and resources are being devoted to developing both solar and carbon geoengineering strategies. The most popular solar geoengineering strategy, sulfuric aerosol injection, is touted as cheap and easy but research shows it could result in drought, famine, war, and rapid warming if aerosol deposition is ever terminated (e.g. Ferraro et al., 2014; Robock, 2008; Weisenstein et al., 2015). Carbon geoengineering approaches involve removing carbon dioxide from the atmosphere, yet

expectations are far ahead of actual developments. Reliance on geoengineering approaches remains risky and unreliable, yet they are increasingly included in climate models and are also supported by the fossil fuel industry, conservative politicians, and corporations (Gunderson et al., 2019; Hamilton, 2014). It is possible that solar and carbon geoengineering will be employed in the future, as mitigation efforts remain weak and vested interests would substantially benefit from keeping the production-consumption engine accelerating. These vested interests prefer solutions that allow for economic growth and even the further extraction and use of fossil fuels (Hamilton, 2014; Kruger, 2017). The ‘Promethean’ proponents of geoengineering, for example, ‘are inclined to see it [climate engineering] as a way of defending the established order so that expansion can continue uninterrupted’ (Hamilton, 2013, p. 208). In addition, some firms hope their patented geoengineering technologies will bring in vast profits.

In the case of COVID-19, there was a similar emphasis on finding a techno-fix to the problem: the race to find a vaccine, or as Trump explained, ‘protect our people from the horrible China virus’ (Trump Whitehouse Archives, 2020b). Obviously, developing a vaccine is a much more viable ‘silver bullet’ than any technological climate change mitigation strategy. There is a stark dissimilarity between ‘waiting for a vaccine’ and ‘waiting for ‘clean coal’ through carbon capture and storage,’ for example, different in terms of feasibility, effectiveness, and wait-time. However, the emphasis on vaccines over social changes is still instructive as it was not only pursued to save lives but to also justify inaction and ramping up the production-consumption engine. ‘Operation Warp Speed’ in the US involved giving billions of dollars to biotech firms to fund accelerated vaccine development and trials. Trump’s private-sector approach resulted in competition between state and federal governments and higher costs. Firms like Moderna have seen their stocks soar and are poised to make billions through intellectual property rights for their vaccine. Initial efforts to distribute the vaccine were delayed due to inconsistent state action and insufficient staff to administer them (Robbins et al., 2020). The profit motive and patents, particularly in the context of global trade agreements and developing countries, create bottlenecks and could lead to insufficient distribution this year and beyond (Labonte & Johri, 2020). Given these problems, some health experts are calling for a ban on patents, especially international patents governed by the World Trade Organization (Douceff, 2021).

Another dimension of techno-optimism revealed prior to vaccine launches, is the longing for a silver bullet to avoid social changes and economic downturn. In the US, former President Trump pitched a number of fixes to address COVID-19, including bleach, sunlight, convalescent plasma treatment, and taking anti-malaria medication. For example, when asked if anti-malaria drug hydroxychloroquine is effective, President Trump responded: ‘Many doctors think it is extremely successful – the hydroxychloroquine ... I happen to believe in it. I would take it’ (Trump Whitehouse Archives, 2020b). However, the science did not support this belief (Marchione, 2020). These ‘fixes’ were also touted on social-media further misleading the public. The search for a quick-fix was paramount to Trump’s re-election campaign, as ‘promising’ solutions continued to be proposed and subsequently debunked.

More importantly, even an effective solution to this particular pandemic fails to address the threat of future pandemics. For many infectious disease experts, the COVID-19 pandemic was not a surprise. Health experts have been warning for decades that a pandemic was highly likely to occur and more disease outbreaks will occur as humans increasingly transform the biosphere. Many also believe that much more severe pandemics will follow COVID-19, especially as climate change reshapes biophysical relationships and increases disease transmission, and the intensification of animal agriculture increases the likelihood of zoonoses (Humane Society International,

2020). Therefore, even an effective vaccine to *this* pandemic, is unlikely to be a long-term solution. Experts state that to avoid future pandemics we need to stop dramatically altering the climate and other biophysical relationships. As Pazaitis et al. (2020, p. 619) put it: ‘Most probably the current threat will soon abate, while effective treatment and vaccines will soon be available. However, we should not feel complacent and refrain from considering the embedded problems that made our societies vulnerable in the first place.’

Faith in techno-fixes represents an ongoing pretense for collective inaction – specifically a denial that bigger social changes are necessary. Given that these techno-fixes are unlikely to offer long-term, safe, or reliable solutions (and serve to benefit the wealthy *few*), larger social changes need to be considered – social changes that could significantly improve quality of life and well-being for *all*.

Conclusion: the need for a new system

The economic growth imperative not only drives climate change and created the conditions for the development and spread of the COVID-19 pandemic but is also the context for climate change inaction and ineffective responses to the pandemic. Pretenses for collective inaction on COVID-19 are similar in content to justifications for delay in climate action: (1) denialism, (2) individualism, and (3) techno-optimism. These justifications for inaction are used to protect the same vested interests who benefit most from maintaining the economic growth imperative at the expense of the global majority. These pretenses must be widely identified as strategies to maintain the status quo and refuted. Adequately addressing climate change and future pandemics requires transitioning to social conditions that are resilient, healthy, and sustainable – leaving behind economic growth as a priority.

The growth imperative is an often-unquestioned goal of policy, as ever-increasing levels of production and consumption are necessary to accumulate capital and keep GDP increasing. Yet as prioritizing growth hinders us from effectively addressing both climate change and a global pandemic, it is time to confront these priorities. Examining the negative ecological and social costs of growth requires rethinking the structural conditions of capitalist societies (Antonio, 2009; Foster, 2011; Spash, 2020a).

The COVID-19 pandemic presents an opportunity to transition to a more sustainable society, or at least envision what a more sustainable society would look like in practice (Cohen, 2020; Rosenbloom & Markard, 2020; Sarkis et al., 2020; Yun, 2020). Even some of the behavioural changes adopted during the crisis, such as the increase in virtual meetings and conferences, should become long-term sustainability strategies (Sarkis et al., 2020). The pressing question is how to install a ‘post-Covid “green recovery”’ (Gills & Morgan, 2020, p. 11) that can reduce emissions while increasing well-being without relying on economic growth, and is more resistant to shocks. What would a ‘Green New Deal without growth’ look like (Mastini et al., 2021)? In order to prioritize life and well-being, we need structural change. This means changes that go beyond modest reforms or simple tweaks to markets and prices. It means redesigning how our economy and society function to ensure more positive outcomes. For example, a Dutch manifesto signed by 170 academics prioritizes five policy strategies to accomplish these goals:

1. ‘a move away from “development” focused on aggregate GDP growth’;
2. ‘an economic framework focused on redistribution’;
3. ‘transformation towards regenerative agriculture’;
4. ‘reduction of consumption and travel’;
5. ‘debt cancellation.’ (Feola, 2020)

The dual crises of climate change and the COVID-19 pandemic increasingly reveal the absurdity and immorality of our current system. Yet, Gareth Dale (2020) rightly points out that ‘[t]he perils of COVID-19 are trivial in comparison with those of climate breakdown and biodiversity loss.’ While they share the same root driver – profit-driven transformation of the environment – the losses and suffering associated with climate change will be much greater and will also trigger new waves of novel diseases and pandemics. A widely circulated cartoon on social media illustrated this comparison through a depiction of three waves crashing upon humanity: a small wave labelled COVID-19, a second larger wave following it labelled climate change, and an even larger wave behind them both (dwarfing the others) labelled biodiversity collapse. COVID-19 has exposed important realities and trade-offs that will apply to mitigating the climate and biodiversity crises: delay only causes more harm, lack of national or global scale governance responses will cost lives, and (as illustrated clearly through the US) when leaders prioritize economic growth much more lives are unnecessarily lost. If world leaders *were* to learn from the pandemic, they would act quickly to curb carbon emissions and habitat destruction, create national and globally coordinated policies, and replace the outdated and misguided prioritization of GDP growth with the prioritization of well-being.

However, as Dale (2020) explains, both the pandemic and the climate crisis ‘illustrate a troubling tendency to the downplaying of dangers where their amelioration would rub against corporate interests.’ Current power relations inhibit us from most effectively and justly addressing these crises and must be confronted. It is far past time to create a new economy where people and well-being matter (Spash, 2020b). It is critical that false pretenses are identified and refuted, opening up opportunities to demand this transformation and create the social conditions to most effectively and justly address global crises.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Diana Stuart, Ph.D. is an Associate Professor in the Sustainable Communities Program in the School of Earth Sciences and Environmental Sustainability at Northern Arizona University. Her research examines environmental and social issues in industrial agriculture and how to transition to a more sustainable food system. Her work has explored ways to increase wild biodiversity, reduce fertilizer pollution and greenhouse gas emissions, and support animal welfare.

Brian Petersen, Ph.D. is an Associate Professor in the Department of Geography, Planning and Recreation at Northern Arizona University. His research and published work focuses on climate change adaptation and landscape level conservation. His work draws on both social and natural science perspectives to interrogate contemporary natural resource and environmental challenges.

Ryan Gunderson, Ph.D. is an Assistant Professor of Sociology and Social Justice Studies in the Department of Sociology and Gerontology at Miami University. His current research projects concern the potential effectiveness of proposed solutions to environmental problems; the social dimensions and environmental impacts of technology; and the renewal of classical and mid-twentieth century sociological theory.

ORCID

Diana Stuart  <http://orcid.org/0000-0003-1479-2208>

Brian Petersen  <http://orcid.org/0000-0003-4208-441X>

Ryan Gunderson  <http://orcid.org/0000-0002-3837-0723>

References

- Agius, C., Rosamond, A. B., & Kinnvall, C. (2020). Populism, ontological insecurity and gendered nationalism: Masculinity, climate denial and Covid-19. *Politics, Religion & Ideology*, 21(4), 432–450. <https://doi.org/10.1080/21567689.2020.1851871>
- Allen, K., & Boyette, C. (2021, March 10). As Texas governor lifts state mask mandate, here's what we know. *CNN News*. www.cnn.com/2021/03/10/us/texas-mask-order-what-we-know/index.html
- Antonio, R. J. (2009). Climate change, the resource crunch, and the global growth imperative. *Current Perspectives in Social Theory*, 26, 3–73. [https://doi.org/10.1108/S0278-1204\(2009\)0000026004](https://doi.org/10.1108/S0278-1204(2009)0000026004)
- Antonio, R. J. (2013). Plundering the commons: The growth imperative in neoliberal times. *The Sociological Review*, 61(2_suppl), 18–42. <https://doi.org/10.1111/1467-954X.12098>
- Bazzi, S., Fiszbein, M., & Gebresilasie, M. (2020). *Rugged individualism and collective (in) action during the COVID-19 pandemic* (No. w27776). National Bureau of Economic Research.
- Bergengruen, V., & Hennigan, W. J. (2020, October 6). You're gonna beat it.' How Donald Trump's COVID-19 battle has only fueled misinformation. *Time Magazine*. <https://time.com/5896709/trump-covid-campaign/>
- Bhattacharya, T., & Dale, G. (2020). Covid capitalism: General tendencies, possible 'leaps'. *Spectre Journal*, 23. <https://spectrejournal.com/covid-capitalism/>
- Blackwater, B. (2015). Rediscovering Rosa Luxemburg. *Renewal*.
- Blühdorn, I. (2007). Sustaining the unsustainable: Symbolic politics and the politics of simulation. *Environmental Politics*, 16(2), 251–275. <https://doi.org/10.1080/09644010701211759>
- Brulle, R. J., & Norgaard, K. M. (2019). Avoiding cultural trauma: Climate change and social inertia. *Environmental Politics*, 28(5), 886–908. <https://doi.org/10.1080/09644016.2018.1562138>
- Burgis, B. (2020). The left can't just dismiss the lockdown protests. *Jacobin*. <https://jacobinmag.com/2020/04/coronavirus-pandemic-lockdown-protests-ubi/>
- Capano, G., Howlett, M., Jarvis, D. S., Ramesh, M., & Goyal, N. (2020). Mobilizing policy (in)capacity to fight COVID-19: Understanding variations in state responses. *Policy and Society*, 39(3), 285–308. <https://doi.org/10.1080/14494035.2020.1787628>
- Carr, P. R. (2020). If everything has changed, why such a focus on bailing out capitalism? The somber reality underpinning Covid-19. *Postdigital Science and Education*, 2(3), 569–575. <https://doi.org/10.1007/s42438-020-00115-6>
- Center for Behavior and the Environment. (2018). *Climate change needs behavior change*. <https://www.rare.org/wp-content/uploads/2019/02/2018-CCNBC-Report.pdf>
- Circle Economy. (2020). <https://www.circularity-gap.world/2020>
- Clark, B., Auerbach, D., & Longo, S. (2018). The bottom line: Capital's production of social inequalities and environmental degradation. *Journal of Environmental Studies and Sciences*, 8, 562–569. <https://doi.org/10.1007/s13412-018-0505-6>
- Cohen, M. J. (2020). Does the COVID-19 outbreak mark the onset of a sustainable consumption transition? *Sustainability*, 16, 1–3. <https://doi.org/10.1080/15487733.2020.1740472>
- Dale, G. (2020). Karl Polanyi, the new deal, and the green new deal. *Environmental Values*. Advance online publication. <https://doi.org/10.3197/096327120X16033868459485>
- Daly, H. (1973). *Toward a steady-state economy*. Freeman.
- Dietz, T. (2015). Prolegomenon to a structural human ecology of human well-being. *Sociology of Development*, 1(1), 123–148. <https://doi.org/10.1525/sod.2015.1.1.123>
- Dietz, T., Gardner, G. T., Gilligan, J., Stern, P. C., & Vandenbergh, M. P. (2009). Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions. *Proceedings of the National Academy of Sciences*, 106(44), 18452–18456. <https://doi.org/10.1073/pnas.0908738106>
- Douclev, M. (2021). What will it take to end the COVID-19 pandemic? NPR. <https://www.npr.org/sections/goatsandsoda/2021/01/05/953653373/some-experts-say-temporary-halt-on-drug-patents-is-needed-to-stop-pandemic-world>
- Dunlap, R. E., & Brulle, R. J. (Eds.). (2015). *Climate change and society: Sociological perspectives*. Oxford University Press.
- Dunlap, R. E., McCright, A. M., & Yarosh, J. H. (2016). The political divide on climate change: Partisan polarization widens in the US. *Environment: Science and Policy for Sustainable Development*, 58(5), 4–23. <https://doi.org/10.1080/00139157.2016.1208995>

- Eichengreen, B. (2020). Individualism, polarization and recovery from the COVID-19 crisis. *Intereconomics*, 55(6), 371–374. <https://doi.org/10.1007/s10272-020-0928-7>
- Falkenbach, M., & Greer, S. L. (2020). Denial and distraction: How the populist radical right responds to COVID-19; comment on “a scoping review of PRR parties’ influence on welfare policy and its implication for population health in Europe”. *International Journal of Health Policy and Management*, <https://doi.org/10.34172/ijhpm.2020.141>
- Feola, G. (2020). Manifesto for post-neoliberal development: Five policy strategies for the Netherlands after the Covid-19 crisis. Ontgroei. <https://ontgroei.degrowth.net/manifesto-for-post-neoliberal-development-five-policy-strategies-for-the-netherlands-after-the-covid-19-crisis/>
- Ferraro, A. J., Highwood, E. J., & Charlton-Perez, A. J. (2014). Weakened tropical circulation and reduced precipitation in response to geoengineering. *Environmental Research Letters*, 9(1), 014001. <https://doi.org/10.1088/1748-9326/9/1/014001>
- Foster, J. B. (2011). Capitalism and degrowth: An impossibility theorem. *Monthly Review*, 62(8), 26–33. https://doi.org/10.14452/MR-062-08-2011-01_2
- Foster, J. B., Clark, B., & York, R. (2010). *The ecological rift: Capitalism’s war on the earth*. Monthly Review Press.
- Fuentes, R., Galeotti, M., Lanza, A., & Manzano, B. (2020). COVID-19 and climate change: A tale of two global problems. *Sustainability*, 12(20), 8560. <https://doi.org/10.3390/su12208560>
- Georgescu-Roegen, N. (1971). *The entropy law and the economic process*. Harvard University Press.
- Giddens, A. (2009). *Politics of climate change*. Polity.
- Gills, B., & Morgan, J. (2020). Economics and climate emergency. *Globalizations*. Advance online publication. <https://doi.org/10.1080/14747731.2020.1841527>
- Gunderson, R., Stuart, D., & Petersen, B. (2019). The political economy of geoengineering as plan B: Technological rationality, moral hazard, and new technology. *New Political Economy*, 24(5), 696–715. <https://doi.org/10.1080/13563467.2018.1501356>
- Hall, C. A., Lambert, J. G., & Balogh, S. B. (2014). EROI of different fuels and the implications for society. *Energy Policy*, 64, 141–152. <https://doi.org/10.1016/j.enpol.2013.05.049>
- Hamilton, C. (2004). *Growth fetish*. Pluto Press.
- Hamilton, C. (2013). *Earthmasters: The dawn of the age of climate engineering*. Yale University Press.
- Hamilton, C. (2014). Geoengineering and the politics of science. *Bulletin of the Atomic Scientists*, 70(3), 17–26. <https://doi.org/10.1177/0096340214531173>
- Harvey, D. (2005). *A brief history of neoliberalism*. Oxford University Press.
- Harvey, F. (2020, May 19). Lockdown triggers dramatic fall in global carbon emissions. *The Guardian*. <https://www.theguardian.com/environment/2020/may/19/lockdowns-trigger-dramatic-fall-global-carbon-emissions>
- Hauck, G. (2020, September 18). CDC now recommends all people exposed to COVID-19 get tested, reversing earlier controversial guidance. *USA Today*. <https://www.usatoday.com/story/news/health/2020/09/18/covid-testing-cdc-reverses-guidelines-asymptomatic-spread/5827365002/>
- Henley, J. (2020, November 12). Swedish surge in Covid cases dashes immunity hopes. *The Guardian*. <https://www.theguardian.com/world/2020/nov/12/covid-infections-in-sweden-surge-dashing-hopes-of-herd-immunity>
- Hickel, J. (2017). *The divide: A brief guide to global inequality and its solutions*. Random House.
- Hickel, J., & Kallis, G. (2020). Is Green growth possible? *New Political Economy*, 25(4), 469–486. <https://doi.org/10.1080/13563467.2019.1598964>
- Horta-Barba, A., Kulisevsky, J., & Marín-Lahoz, J. (2020). Is COVID-19 expansion a consequence of a group inaction. *J Med Public Health*, 1(1), 1006.
- Humane Society International. (2020). The connection between animal agriculture, viral zoonoses, and global pandemics. <https://www.hsi.org/wp-content/uploads/2020/10/Animal-agriculture-viral-disease-and-pandemics.pdf>
- IPCC. (2018). Summary for policymakers. In V. Masson-Delmotte, P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (Eds.), *Global warming of 1.5°C. An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of*

- climate change, sustainable development, and efforts to eradicate poverty (p. 3–24). World Meteorological Organization.
- John Hopkins Coronavirus Resource Center. (2021). Retrieved May 19, 2021, from <https://coronavirus.jhu.edu/map.html>
- Klein, N. (2014). *This changes everything: Capitalism vs. the climate*. Simon and Schuster.
- Koch, M., & Buch-Hansen, H. (2020). In search of a political economy of the postgrowth era. *Globalizations*, 1–11. <https://doi.org/10.1080/14747731.2020.1807837>
- Kruger, T. (2017). Conflicts over carbon capture and storage in international climate governance. *Energy Policy*, 100, 58–67. <https://doi.org/10.1016/j.enpol.2016.09.059>
- Labonte, R., & Johri, M. (2020). COVID-19 drug and vaccine patents are putting profit before people. *The Conversation*. Retrieved January 26, 2021, from <https://theconversation.com/covid-19-drug-and-vaccine-patents-are-putting-profit-before-people-149270>
- Mann, M. E. (2021). *The new climate war: The fight to take back the planet*. Public Affairs.
- Manzanedo, R. D., & Manning, P. (2020). COVID-19: Lessons for the climate change emergency. *Science of the Total Environment*, 742, 140563. <https://doi.org/10.1016/j.scitotenv.2020.140563>
- Marchione, M. (2020, June 3). Malaria drug fails to prevent COVID-19 in a rigorous study. *AP News*. <https://apnews.com/article/malaria-donald-trump-us-news-ap-top-news-virus-outbreak-acdfd2d1fda245315a164225d15d360c>
- Markard, J., & Rosenbloom, D. (2020). A tale of two crises: COVID-19 and climate. *Sustainability: Science, Practice and Policy*, 16(1), 53–60. <https://doi.org/10.1080/15487733.2020.1765679>
- Mastini, R., Kallis, G., & Hickel, J. (2021). A green new deal without growth? *Ecological Economics*, 179, 106832. <https://doi.org/10.1016/j.ecolecon.2020.106832>
- Meeker, J. K. (2020). *The ironic resistance of anti-quarantine protesters. COVID-19: Volume II: Social consequences and cultural adaptations*. Routledge.
- Miller, B. L. (2020). Science denial and COVID conspiracy theories: Potential neurological mechanisms and possible responses. *JAMA*, 324(22), 2255–2256. <https://doi.org/10.1001/jama.2020.21332>
- Modonesi, C. (2020). The environmental roots of zoonotic diseases: From SARS-CoV-2 to cancer viruses. A review. *Visions for Sustainability*, 14, 54–65. <https://doi.org/10.13135/2384-8677/5319>
- Moran, D., Wood, R., Hertwich, E., Mattson, K., Rodriguez, J. F., Schanes, K., & Barrett, J. (2020). Quantifying the potential for consumer-oriented policy to reduce European and foreign carbon emissions. *Climate Policy*, 20(Sup 1), S28–S38. <https://doi.org/10.1080/14693062.2018.1551186>
- Newell, R., & Dale, A. (2020). COVID-19 and climate change: An integrated perspective. *Cities & Health*, <https://doi.org/10.1080/23748834.2020.1778844>
- Ollinaho, O. I. (2016). Environmental destruction as (objectively) uneventful and (subjectively) irrelevant. *Environmental Sociology*, 2(1), 53–63. <https://doi.org/10.1080/23251042.2015.1114207>
- Ott, C. K. (2018). On the political economy of solar radiation management. *Frontiers in Environmental Science*, 1–13. <https://doi.org/10.3389/fenvs.2018.00043>
- Oxfam. (2018). <https://www.oxfam.org/en/press-releases/richest-1-percent-bagged-82-percent-wealth-created-last-year-poorest-half-humanity>
- Parrique, T., Barth, J., Briens, F., Kerschner, C., Kraus-Polk, A., Kuokkanen, A., & Spangenberg, J. H. (2019). Decoupling debunked: Evidence and arguments against green growth as a sole strategy for sustainability. European Environmental Bureau.
- Pazaitis, A., Kostakis, V., Kallis, G., & Troullaki, K. (2020). Should we look for a hero to save us from the coronavirus? The commons as an alternative trajectory for social change. *tripleC*, 18(2), 613–621. <https://doi.org/10.31269/triplec.v18i2.1203>
- Petersen, B., Stuart, D., & Gunderson, R. (2019). Reconceptualizing climate change denial: Ideological denialism misdiagnoses climate change and limits effective action. *Human Ecology Review*, 25(2), 117–141. <https://doi.org/10.22459/HER.25.02.2019.08>
- Popovich, N., Albeck-Ripka, L. and Pierre-Louis, K. (2021, January 20). The Trump administration rolled back more than 100 environmental rules. Here's the full list. *New York Times*. <https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks-list.html>
- Ripple, W. J., Wolf, C., Newsome, T. M., Barnard, P., & Moomaw, W. R. (2020). World scientists' warning of a climate emergency. *BioScience*, 70(1), 8–12. <https://academic.oup.com/bioscience/article/70/1/8/5610806?searchresult=1>

- Robbins, R., Robles, F., & Arango, T. (2020, December 31). Here's why distribution of the vaccine is taking longer than expected. *The New York Times*.
- Robertson, R. (2020). Humanity for itself? Reflections on climate change and the Covid-19 pandemic. *Globalizations*, 1–9. <https://doi.org/10.1080/14747731.2020.1842684>
- Robock, A. (2008). 20 reasons why geoengineering may be a bad idea. *Bulletin of the Atomic Scientists*, 64(2), 14–59. <https://doi.org/10.1080/00963402.2008.11461140>
- Rocco, P., Béland, D., & Waddan, A. (2020). Stuck in neutral? Federalism, policy instruments, and counter-cyclical responses to COVID-19 in the United States. *Policy and Society*, 39(3), 458–477. <https://doi.org/10.1080/14494035.2020.1783793>
- Rosenbloom, D., & Markard, J. (2020). A COVID-19 recovery for climate. *Science*, 368(6490), 447. <https://doi.org/10.1126/science.abc4887>
- Roston, E. (2020, July 20). Science is collateral damage across the Trump administration. *Bloomberg News*. <https://www.bloomberg.com/news/articles/2020-07-20/science-is-collateral-damage-across-the-trump-administration>
- Ruiu, M. L., Ragnedda, M., & Ruiu, G. (2020). Similarities and differences in managing the Covid-19 crisis and climate change risk. *Journal of Knowledge Management*, 24(10), 2597–2614. <https://doi.org/10.1108/JKM-06-2020-0492>
- Sarkis, J., Cohen, M. J., Dewick, P., & Schröder, P. (2020). A brave new world: Lessons from the COVID-19 pandemic for transitioning to sustainable supply and production. *Resources, Conservation and Recycling*, 159, 104894. <https://doi.org/10.1016/j.resconrec.2020.104894>
- Schnaiberg, A. (1980). *The environment: From surplus to scarcity*. Oxford University Press.
- Schor, J. B., & Jorgenson, A. K. (2019). Is it too late for growth? *Review of Radical Political Economics*, 51(2), 320–329. <https://doi.org/10.1177/0486613419831109>
- Semuels, A. (2016, November 4). Does the economy really need to keep growing quite so much? *The Atlantic*. <https://www.theatlantic.com/business/archive/2016/11/economic-growth/506423/>
- Shannon, J. (2020, April 3). Americans support drastic efforts to stop coronavirus, expect crisis to last for months in Public Agenda/USA TODAY/Ipsos poll. *USA Today*. <https://www.usatoday.com/in-depth/news/nation/2020/04/03/coronavirus-poll-americans-saving-lives-economy-public-agenda/5098766002/>
- Spash, C. L. (2020a). Apologists for growth: Passive revolutionaries in a passive revolution. *Globalizations*. Advance online publication. <https://doi.org/10.1080/14747731.2020.1824864>
- Spash, C. L. (2020b). 'The economy' as if people mattered: Revisiting critiques of economic growth in a time of crisis. *Globalizations*. Advance online publication. <https://doi.org/10.1080/14747731.2020.1761612>
- Speth, J. G. (2008). *The bridge at the end of the world: Capitalism, the environment, and crossing from crisis to sustainability*. Yale University Press.
- Steffen, W., Rockström, J., Richardson, K., Lenton, T. M., Folke, C., Liverman, D., Summerhayes, C. P., Barnosky, A. D., Cornell, S. E., Crucifix, M., Donges, J. F., Fetzer, I., Lade, S. J., Scheffer, M., Winkelmann, R., & Schellnhuber, H. J. (2018). Trajectories of the earth system in the anthropocene. *Proceedings of the National Academy of Sciences*, 115(33), 8252–8259. <https://doi.org/10.1073/pnas.1810141115>
- Stern, P. C., Perkins, J. H., Sparks, R. E., & Knox, R. A. (2016). The challenge of climate-change neoskepticism. *Science*, 353(6300), 653–654. <https://doi.org/10.1126/science.aaf6675>
- Stiglitz, J. E. (2009, September 12). The great GDP swindle. *The Guardian*. <https://www.theguardian.com/commentisfree/2009/sep/13/economics-economic-growth-and-recession-global-economy>
- Stiglitz, J. E. (2019, November 24). It's time to retire metrics like GDP. They don't measure everything that matters. *The Guardian*. <https://www.theguardian.com/commentisfree/2019/nov/24/metrics-gdp-economic-performance-social-progress>
- Stoner, A. M., & Melathopoulos, A. (2015). *Freedom in the anthropocene: Twentieth-century helplessness in the face of climate change*. Palgrave Macmillan.
- Stuart, D., Gunderson, R., & Petersen, B. (2020a). *The degrowth alternative: A path to address our environmental crisis?* Routledge.
- Stuart, D., Gunderson, R., & Petersen, B. (2020b). Overconsumption as ideology: Implications for addressing global climate change. *Nature and Culture*, 15(2), 199–223. <https://doi.org/10.3167/nc.2020.150205>
- Tharoor, I. (2020, July 28). As crises rock earth, humans look to mars. *The Washington Post*. <https://www.washingtonpost.com/world/2020/07/29/crises-rock-earth-humans-look-mars/>

- Trump White House Archives. (2017, June 1). Statement by President Trump on the Paris climate accord. <https://trumpwhitehouse.archives.gov/briefings-statements/statement-president-trump-paris-climate-accord/>
- Trump White House Archives. (2020a, November 13). Remarks by President Trump during an update on operation warp speed, <https://trumpwhitehouse.archives.gov/briefings-statements/remarks-president-trump-update-operation-warp-speed/>
- Trump White House Archives. (2020b, July 28). Remarks by President Trump in press briefing, <https://trumpwhitehouse.archives.gov/briefings-statements/remarks-president-trump-press-briefing-july-28-2020/>
- Urry, J. (2011). *Climate change & society*. Polity.
- Weisenstein, D. K., Keith, D. W., & Dykema, J. A. (2015). Solar geoengineering using solid aerosol in the stratosphere. *Atmospheric Chemistry and Physics*, 15(20), 11835–11859. <https://doi.org/10.5194/acp-15-11835-2015>
- Worland, J. (2017, April 12). Climate change deniers have President Trump's ear. But now they want results. *Time Magazine*. <https://time.com/4712153/climate-change-deniers-donald-trump-epa-global-warming/>
- Wright, E. O. (2010). *Envisioning real utopias* (Vol. 98). Verso.
- York, R., & McGee, J. A. (2016). Understanding the Jevons paradox. *Environmental Sociology*, 2(1), 77–87. <https://doi.org/10.1080/23251042.2015.1106060>
- Yun, S.-J. (2020, October 16). *Lessons of COVID-10: Toward metamorphosis to deal with climate change* [Paper presentation]. 2020 Pusan National University Graduate School of Climate Change International Conference, Busan, South Korea.