Climate Change and Capitalism

Author(s): Jonathan T. Park

Source: *Consilience*, 2015, No. 14 (2015), pp. 189-206

Published by: Columbia University

Stable URL: https://www.jstor.org/stable/26188749

REFERENCES
Linked references are available on JSTOR for this article:
https://www.jstor.org/stable/26188749?seq=1&cid=pdf-reference#references_tab_contents
You may need to log in to JSTOR to access the linked references.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at https://about.jstor.org/terms

This content is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0). To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/.

is collaborating with JSTOR to digitize, preserve and extend access to *Consilience*

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

Consilience: The Journal of Sustainable Development
Vol. 14, Iss. 2 (2015), Pp.189–206

Climate Change and Capitalism

Jonathan T. Park
University of Utah
jonathant.park88@gmail.com

Abstract

Capitalism was designed as a mechanism for efficiently allocating scarce resources, encouraging human ingenuity, and improving the quality of life for those willing and able to participate in the system. This economic model has been prodigiously effective at enabling people to convert natural resources into fungible commodities and monetary wealth. By transmuting vast amounts of natural resources into marketable products, capitalism has generated an unparalleled degree of wealth and prosperity. In theory, the production of wealth and the collective quality of life can be constantly enhanced under this economic model. Although wealth accumulation has hitherto entailed the unsustainable depletion of natural resources, capitalism maintains that when a commercially viable resource is exhausted, the market will produce an alternative. Thus, capitalism is supposedly an indefatigable method for perpetually generating more wealth and greater social prosperity.

While capitalism has produced a plethora of socioeconomic benefits over its relatively brief history, it has also instigated unforeseen and undesirable consequences. With every product having a byproduct, our ability to extract and consume an immense bounty of natural resources has generated a correspondingly monstrous amount of waste in the form of physical garbage, atmospheric pollution, and other forms of environmental degradation. Global climate change has been the most severe consequence of our society's excessive atmospheric pollution.

We now know that our primary method of generating energy – burning fossil fuels – releases carbon dioxide and other greenhouse gases into the atmosphere, heating up the planet and severely altering the climate system. Anthropogenic climate change poses an imminent threat to the planet's life-sustaining ecological systems, and it represents one of humanity's most difficult challenges to date. If humanity is to overcome this problem, we will need to place strict, explicit limitations on the amount of atmospheric pollution that can be emitted globally.

Since pollution is a direct consequence of consumption, we must also limit the amount of resources we use. Any viable solution to climate change will therefore require a global agreement to drastically inhibit the extraction, production, and consumption of natural resources. Yet, the capitalist system as it currently stands is neither designed for nor capable of consciously inhibiting its own propensity for unsustainable growth. The basic assumptions under which neoliberal capitalism operates renders it incapable of correcting climate change.

Author's Note

As a student of environmental sustainability science, I am fascinated, and admittedly frightened, by the complex issue of climate change. The climatic challenge captivates me because it is inseparably linked to all aspects of our lives, and has far reaching implications for every sphere of human society, yet it seems that most people view it as an esoteric, abstract conundrum that is many degrees removed from daily life. It is a problem that looms ominously over us, threatening to irrevocably alter our natural and socially constructed systems. Still, very few people are willing to admit that if we do not halt the unsustainable consumption

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

habits that have landed us in this predicament, nature will do it for us. To me, we are at a momentous crossroad where we must decide whether to act by consciously reducing our fossil fuel emissions and changing the way we evaluate our natural resources, or to be acted upon and suffer the vengeance of the natural world. The dominant capitalist economic model appears inherently incapable of reconciling the discrepancy between our appraisal of natural resources and their actual value. It did not take very long after I began studying climate change and other prevalent environmental issues that I came to recognize the need for an economic paradigm shift that would enable us to more accurately assess the value of our natural world. This paper is my personal exploration of the failures of capitalism insofar as it impacts climate change, and a small window into how we might best begin the process of re-evaluating our relationship with (and our perception of) nature.

Keywords: Climate change, global warming, capitalism, economics, revolution.

1. The Reality of Climate Change

The Intergovernmental Panel on Climate Change (IPCC), established in 1988, has been instrumental in cultivating a consensus on and fostering an international forum for assessing the science of climate change (Helm, 2008). Composed of the world's top scientists, the IPCC produces regular assessments on the state of climate knowledge, forecasts future changes, and offers emission reduction policy recommendations to the United Nations. The panel's findings have indicated that if the planet were to warm by more than two degrees Celsius above pre-industrial levels, the world would experience a plethora of disastrous environmental consequences. Sea levels would rise by a meter or more, swallowing up coastal and low-lying island populations. Intense wildfires would rage around the world, consuming large swaths of the planet's remaining forests. Some regions would experience heavy rain and flooding, while others would suffer protracted periods of severe drought. Extreme weather events, such as tornados and hurricanes, would become more common (World Resources Institute, 2014).

If we were to exceed the two degrees Celsius warming threshold, we would effectively usher in a new epoch of climatic chaos. The environmental conditions under which life on Earth has evolved and acclimated to over hundreds of thousands of years would change radically. The current, observable rate of change in the climate system, marked by oceanic warming, snow and ice melt, sea level rise, and atmospheric greenhouse gas concentrations, is historically anomalous.

Skeptics are quick to argue that the climate is, and always has been, in a state of constant change (Lindzen, 2009). While this is undeniably true, ice core evidence of atmospheric composition over the past 420,000 years reveals that the ongoing rate and degree of change far surpasses any and all historical precedents (Petit, et al., 1999, p. 430). When the earth's climate has undergone significant warming in the past, it has occurred gradually, over tens of thousands of years, giving the planet and its myriad of inhabitants time to adapt. Yet, even the relatively slow climatic transitions of the past have brought about mass extinctions of plant and animal life. The extraordinarily rapid transformation that the climate is currently undergoing is outpacing many species' evolutionary ability to adapt. If global warming continues to accelerate unabated, the web of life – of which people are an inseparable element –

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

that has evolved to exist within a very specific set of environmental conditions might be unfit for survival in the near future. Considering this unsettling reality, it is clear that we must take immediate action to curtail and, if possible, halt climate-disrupting greenhouse gas emissions.

1.1 Global Carbon Budget

In order to track humanity's steady advance towards the brink of climate chaos, the IPCC devised a "global carbon budget." The global carbon budget is a measure of how many more tons of carbon humans can collectively emit before we eclipse the 2 degrees Celsius warming threshold. The international community of climate scientists has determined that our budget is around one trillion tons, or 1,000 Petagrams of carbon (PgC), above pre-industrial levels for a "reasonable chance" of not exceeding 2 degrees Celsius. This figure does not account for the effects of additional greenhouse gases, such as nitrous oxides and methane, on the climate system, and thus it is a very conservative estimate of how much more pollution we can safely emit. Even so, our carbon budget has already dwindled to about 500 gigatons, and the most recent IPCC report estimates that, if we continue on our current emissions trajectory, we could max out our budget by as early as 2045 (Kirtman, et al., 2013, p. 981).

In the Summary for Policymakers section of the IPCC's latest report, the authors warn that "continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions" (Stocker, et al., 2013, p. 19). Human-produced greenhouse gas emissions clearly pose an imminent and serious threat to the stability of our climate system. If we are to limbo under the 2 degrees Celsius warming threshold and avoid the most devastating consequences of climate change, we will have to make swift, stringent alterations to our consumption habits.

1.2 Promises of Capitalism

Capitalism is premised on the law of supply and demand. This law assumes that every consumer rationally evaluates each purchase that they make using a cost-benefit analysis. If the benefits of purchasing an item outweigh the costs, then the consumer will buy the item; otherwise, they will not. The logical corollary to this assumption is that more consumption will always be more beneficial to society. Furthermore, it is presupposed that consumers drive the demand for products, and suppliers will only produce at the equilibrium quantity dependent on consumer demand. Thus, in theory, capitalism is the most efficient method of allocating resources. The theory maintains that we will not convert resources into products unless those products are going to benefit society more than they will cost society.

The implicit assumption built into the logic of capitalism is that economic growth is directly correlated with social prosperity. As the economic system expands exponentially, society will consequentially improve at an exponential rate, for society is theoretically better off for having more wealth than not, irrespective of how that wealth is allocated. The finite nature of resources is not a concern because when any

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

given resource becomes scarce, the market will naturally produce an alternative. This is founded on the idea that if there is a great enough demand for a product, price signals will mobilize firms to meet that demand. Even when the resources required to make the product are exhausted, the demand for the product will still exist, therefore encouraging firms to innovate, and inevitably spurring the discovery of an alternative resource or product to satisfy the unmet demand. The promise of an inexhaustible well of human ingenuity, capable of overcoming any conceivable scarcity of socially-desirable resources, ensures that capitalist economies will, theoretically, never need to shrink or slow down.

2. Problems with the Capitalist Model

2.1 Assumptions Regarding Cost/Benefit Analysis

The theory of capitalism is much tidier than its actual application. In practice, capitalism is not functioning as it is supposed to.

One of the primary problems is that no one conducts a true cost-benefit analysis for each purchase that they make. Consider the purchase of gasoline, for example. According to supply and demand, consumers will carefully weigh the true costs and benefits of their purchase before buying so much as a single gallon of gas. The consumer would thus have to contemplate where and how the gasoline was produced, where it will go after it is used, and what the consequences of using it will be. They would consider that burning one gallon of gas will emit 19.64 pounds of carbon into the atmosphere (EIA, 2014), and that we can collectively burn around 500 gigatons of carbon before the climate will be dangerously and irrevocably altered (Quick, 2014). The rational consumer would then divide 19.64 pounds by 825 gigatons to find the precise percentage of the carbon budget that is being eaten away by each gallon of gas they buy. Next, the consumer would convert that percentage into a dollar amount that would incorporate the value of a stable climate, including biodiversity, life-supporting natural systems and services, and natural resources. After factoring everything mentioned and the myriad of other consequences into the cost of a gallon of gasoline, the consumer would weigh that cost against the benefits of the same gallon of gas.

If the benefits outweigh the costs, and the cost is less than the asking price, then the consumer will make the purchase. No one who has ever bought a gallon of gas, or anything else for that matter, has ever done an accurate, consummate cost-benefit analysis. It is simply not possible because there are way too many factors to consider, but also because there is no accepted way to assign a dollar value to our climate system and the services it provides. Meanwhile, it is also difficult to assign a dollar value to the cost of climate change, which the market has not integrated into the price of gas at the pump. The fundamental problem, however, is that without a healthy atmosphere and self-regulating climate, we would not be able to survive, and money would be worthless. Yet capitalism in its current form assumes everything, including natural capital, has a monetary value and is interchangeable. This is the heart of the problem; by evaluating the world in terms of dollars, we confound market price with actual value. When making this distinction between cost and price, the theory of capitalism begins to crumble. Consumer purchases, even those based

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

on cost-benefit analyses, are not always more beneficial to society than they are costly.

When we consider the cost-benefit methodology at a higher level than the individual consumer, the consequences of miscalculation can be devastating. Consider this anecdotal evidence of the potentially disastrous social ramifications of decisions that hinge on the outcome of fallible cost-benefit analyses:

> "Several years ago, states were in the middle of their litigation against tobacco companies, seeking to recoup the medical expenditures they had incurred as a result of smoking. At that time, W. Kip Viscusi - a professor of law and economics at Harvard and the primary source of the current $ 6.3 million estimate for the value of a statistical life - undertook research concluding that states, in fact, saved money as the result of smoking by their citizens. Why? Because they died early! They thus saved their states the trouble and expense of providing nursing home care and other services associated with an aging population. Viscusi didn't stop there. So great, under Viscusi's assumptions, were the financial benefits to the states of their citizens' premature deaths that, he suggested, "cigarette smoking should be subsidized rather than taxed" (Ackerman & Heinzerling, 2002, p. 1).

This summary is disturbing because it explains the outcome of a completely conventional method for evaluating the social costs and benefits of a proposed policy. Some may argue that, economically speaking, having a statistical value of life is necessary for making informed policy decisions, and that it is not unwarranted given that people do not value life infinitely in their everyday decisions (e.g. choosing not to wear a seatbelt). However, ethical considerations cannot be discarded, as lackluster efforts to tackle climate change indicate is the case with the current system.

When we consider the efficacy of cost-benefit analyses in the context of environmental policy, its shortcomings become dramatically more apparent. As articulated by Ackerman and Heinzerling, "To weigh the benefits of regulation against the costs, we need to know the monetary value of preventing the extinction of species, preserving many different ecosystems, avoiding all manner of serious health impacts, and even saving human lives. Without such numbers, cost-benefit analysis cannot be conducted" (2002, p. 6). Not only do cost-benefit analyses concerning environmental regulation require the monetary evaluation of current human and nonhuman life, but they must also consider posterity. To illustrate that capitalism is ill-equipped to accurately evaluate the true worth of our environment as a whole, and the climate system in particular, consider Australia's unsuccessful attempt to implement a carbon tax.

On July 1, 2012, Australia became the first country to adopt an explicit, national carbon tax, and on July 17, 2014, Australia became the first country to repeal a national carbon tax. When the tax was implemented in 2012, it was intended to initiate a transition to non-fossil fuel based energy sources and inspire investments in clean, renewable energy. An initial tax of $23 per ton of carbon emissions, which rose to $24.15 in 2013, was levied against Australia's foremost 500 polluters. The targeted group of polluters, primarily comprised of energy and industrial companies, only constituted .02% of the nation's 3 million businesses. When Australia's carbon tax experiment met its demise in 2014, it had effectively reduced emissions from the power generation sector by 1-2%. As for the anticipated surge of clean energy

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

investments that was supposed to result from the tax, it never materialized. Investments in large-scale clean energy projects in the first six months of 2014 were the lowest that they had been since 2001 (Levitan, 2014).

When Tony Abbott was elected Prime Minister of Australia, the fate of the carbon tax was essentially sealed. Mr. Abbott was elected on the promise that he would repeal the tax, which he deemed "useless" and "destructive." Business leaders, especially those in Australia's gigantic coal industry, were vocal about their opposition to the tax from its inception, claiming that it would destroy jobs and cause electricity prices to soar. There was a slight rise in electricity rates over the time that the tax was in place, though some have argued that it was the result of excessive spending by energy companies, who were pouring money into unnecessary electricity infrastructure projects. In spite of the equivocal effects that Australia's carbon tax had on electricity consumers, during his campaign Mr. Abbott claimed that repealing the tax would save consumers roughly $520 (U.S.) a year. While the Prime Minister has acknowledged that climate change is a serious issue, he maintains that solutions, such as a carbon tax, should not "clobber the economy" (Baird, 2014).

Australia's attempt at implementing an effective carbon tax that would lower emissions failed because the economic cost outweighed the perceived environmental benefits. According to the Institute for Energy Research, the lofty economic costs of the carbon tax included: the loss of 80 jobs, a 16-19% increase in electricity rates, and a net loss of $4.38 billion to the Australian government (Robson, 2013, p. 9). The IER, which receives the majority of its funding from energy companies (Harkinson, 2009) and whose CEO doesn't believe in anthropogenic climate change, is by no means unbiased, and their numbers are highly inflated compared to other economic analyses. For instance, the *Financial Review* estimated that the tax only contributed to a 6% hike in electricity rates, and that it actually generated a net income for the government (Minchin, Hopkin, 2014). Regardless, it does not really matter who was right, or what the exact economic costs were, because we have no way of accurately assessing the environmental benefits. Within the confines of capitalism, it is more difficult to appraise the legitimate value of a stable climate than it is to determine the true cost of a gallon of gasoline.

The value of Australia's carbon tax was weighed in terms of new clean energy investments, jobs, and estimated carbon dioxide emission reductions. Ironically, the only category that offered any direct indication of how effective the carbon tax was at mitigating climate change – emissions reduction – is also the only category that cannot be expressed in a dollar amount. It is also the one category that appeared to improve, if only slightly, from the tax. This further demonstrates the limits of cost-benefit analysis in effective public policymaking.

Carbon dioxide emissions from Australia's energy sector, which account for roughly 75% of the national total, dropped by 1-2% while the tax was in place. According to the Union of Concerned Scientists, Australia is responsible for less than 1% of global carbon dioxide emissions, which means that its economy-clobbering carbon tax reduced global atmospheric carbon dioxide pollution by about a hundredth of a percent. When viewed through the lens of neoliberal capitalism, which serves as the foundation of Australia's mixed-market economy, which is also heavily reliant on the energy sector, the costs of mitigating climate change will almost always outweigh the benefits.

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

The problem is not necessarily inherent to the idea of carbon taxation itself, but rather with the broader economic perspective that the tax is placed in. Regardless of whether the IER's assessment that carbon taxation cost Australia roughly $4 billion dollars is more accurate than the Financial Review's estimate of roughly $6 billion is, there was nevertheless a staggering amount of money changing hands. Regardless of how one looks at it, the carbon tax and the associative movement of that money only accomplished a .01% decline in global carbon dioxide emissions.

In the context of neoliberal capitalism and cost-benefit analysis, mitigation is a horrible investment because it does not offer a precise, quantifiable return. As evidenced in Australia, when we demand that any possible solution to climate change yield economic benefits, or at the very least, not come with any discernible economic costs, we doom ourselves to failure. Economic growth is a function of population, technology, and resource consumption, and climate change abatement ultimately requires a dramatic reduction in the consumption of resources. Thus, these two goals – economic growth and environmental sustainability – are at irreconcilable odds. As long as we allow national and global climate change mitigation efforts to be dictated by the capitalist dogma that the economic reward of any endeavor must outweigh the costs, we will be utterly incapable of preventing or avoiding the catastrophic consequences of climate change. Leaders, policy makers, and humanity as a whole will have to accept the fact that there is simply no way to put a price tag on our planet, or its life-sustaining climate system. Any and all attempts to do so will inevitably prove to be insufficient and ultimately immoral.

Though capitalism itself may not be inherently immoral, it does have the inclination to promote behaviors of dubious moral quality. Take, for example, the assertion that limitless resource consumption is a virtuous pursuit, which will always produce greater social prosperity. This premise of capitalism might very well hold true if the world operated in the way that capitalist idealists assume it does. Capitalist theory dictates that society need not worry about fossil fuel depletion, or that of any finite resource, because the invisible hand of the market will inevitably conjure up a viable alternative. If this assumption were true and there existed an inexhaustible well of alternative resources and products, then the rate of resource consumption might possibly correlate with increased social well-being. However, that is simply not the reality of our situation. We live in a world of finite resources and, as incredible as the power of human innovation has proven itself to be, even ingenuity has its limits. The notion that any desirable resource can be replaced if the incentive is great enough is a fallacious justification for indiscriminate consumption. There is simply no way to replace clean air, potable water, or a stable, hospitable climate, nor can it be assumed that man-made capital would be distributed equitably. There is an old Native American proverb that exemplifies this moral critique of capitalist theory as it applies to climate change. The saying goes: "We do not inherit the Earth from our ancestors, we borrow it from our children." It is wrong to impoverish and pollute the planet's life sustaining natural resources and services, on the delusory assumption that future generations will develop "alternatives" to the naturally occurring prerequisites for survival. So long as we continue to propagate life, we have the moral obligation to ensure that our children are born into a world that is capable of facilitating and sustaining their existence.

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

2.2 Broken Supply and Demand Mechanism

In addition to the problematic assumptions underlying cost-benefit analysis, capitalism is not working in practice as it is said to work in theory because the law of supply and demand is not functioning as it is supposed to be. In theory, the demand for goods and services is driven by rational cost-benefit analysis. A major reason why capitalism is said to produce perennially positive social consequences is because the theory assumes that people will not buy things that they do not want or need, and that suppliers will not produce things that people will not buy. Thus, each purchase represents the satisfaction of a true social want or need, which is conceivably benefiting both the consumer and the producer, and is therefore producing a net positive benefit for society as a whole. The problem is that people buy things that they do not want or need all the time. Marketing and advertising schemes are designed to convince people that they need or want things that they would not need or want otherwise. Every single day, suppliers are constantly trying to convince consumers to buy their products. Consequently, the dynamics between supply and demand are much more multifaceted than they seem on the surface.

Ideally, companies in a capitalist system should not have to wage multi-billion dollar ad campaigns to generate demand for their products, as their products would be in response to an existing demand; the script for the law of supply and demand is essentially flipped. Suppliers are generating a demand for products, rather than consumers. This is problematic because it means our scarce natural resources are being converted into cash for the mere sake of generating wealth for the supplier, and not in order to provide people with the things that they actually need and want. By exchanging natural capital for monetary wealth without producing any tangible, social benefits, we are squandering natural resources and generating an inordinate, unnecessary amount of waste. Therefore, capitalism, which contains markets such as advertising synthetically spawn demand for products that could otherwise not be as desirable, is not necessarily an efficient means of allocating resources. Additionally, economic growth within this manifestation of capitalism does not directly translate into social prosperity. This is important because it reveals a gaping fissure in the capitalistic logic of indefinite growth. If perpetual economic growth does not result in perpetual social prosperity, it needs to slow down, or stop altogether, because it is still exhausting finite resources which might otherwise be employed, or preserved, to yield actual positive social benefits.

2.3 Capitalism's Approach to Climate Change

Whether or not we are able to remain within the confines of our carbon budget will be the first test of our capacity to ultimately correct climate change. If we can inhibit the amount of carbon that we emit by limiting the amount of fossil fuels that we burn at such a pace and to such a degree that we avoid incurring irreversible, environmentally detrimental consequences, then we may yet pass the test. There are a myriad of different routes we might take to achieve this goal, but the purpose of this essay is to critique the capitalist course, so that is the one we will consider.

This critique is partially theoretical as no nations have "purely" capitalist economies—most are mixed economies, which are characterized by varying degrees

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

of government intervention in the market, and a blend of publicly- and privately-owned industries. However, every nation that participates in global trade, which essentially includes every nation on earth, plays by neoliberal capitalist-dictated rules. A major consequence of globalization has been the expansion free trade. So-called developed countries have successfully sought to incorporate "lesser developed countries" into a global trade network designed to foster greater economic growth, as defined by neoclassical economic metrics. GDP, the contemporary, universal marker of a nation's success and prosperity, is the measure of all finished goods and services produced. The fastest way to grow GDP, and thus international prestige and perceived prosperity, is to exchange natural resources for monetary wealth in the form of goods. Developed nations have become wealthy by converting most of their resources into currency, and thus the supplies of natural resources in developed nations are generally much smaller, and more expensive, to extract, than those of lesser developed nations. This is one of the great ironies of capitalist economies: the more resources a nation uses, the more that nation grows. The more that nation grows, the less resources the nation has. The less resources the nation has, the less that nation can grow, but the bigger the nation is, the more resources the nation must consume in order to keep growing. This is why capitalism is so closely related to globalization. So the free market is constantly expanding, assisted by the removal of governmental barriers to natural resources extraction, and paving the way for transnational corporations to continue meeting the ever-growing global demand for their products.

It's a vicious, self-perpetuating cycle that will eventually exhaust all of the world's natural capital if it continues unabated. In the global economic system, every nation is subject to this capitalistic cycle because every nation seeks to improve its perceived prosperity, global prestige, and cumulative wealth, as measured by GDP. So although most countries technically practice mixed-market economics, the ideals of capitalism, such as the priority it places on unrelenting economic growth and resource consumption, as well as the edict of supply and demand, permeate and influence practically every national economy. Thus, a critique of capitalist theory is relevant to assessing the capacity for national and global economies to intentionally reduce resource consumption in order to deal with climate change.

Matthew Kahn, a Professor of Economics in the Environment and Public Affairs Department at UCLA, authored the book *Climatopolis: How Our Cities Will Thrive in the Hotter Future.* In this book, Kahn articulates the free-market capitalism solution to the problem of climate change (Kahn, 2012). He argues that unfettered capitalism is the key to simultaneously improving the quality of our environment and lifting the global population out of poverty. His argument is based on the idea that, as we consume more resources and accumulate more wealth, we expect a higher quality of goods and a higher quality of life in general. Because consumers in a capitalist society are rational actors who comprehensively contemplate the consequences of their purchasing decisions, they will increasingly demand products that foster greater social and environmental prosperity. Kahn hypothesizes that, as capitalism proliferates, and generates greater wealth for more people, the demand for higher quality products, and a higher quality environment, will likewise expand.

Capitalism assumes that supply follows demand, and thus as the demand for products that are conducive to a healthy environment grows, suppliers will abandon environmentally-degrading products and processes and adopt ones that are

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

environmentally friendly in order to meet the new demand. In this way, capitalism will naturally phase-out dirty fuels, wasteful practices, and low-quality goods that erroneously consume scarce resources, before permanent damage is done to the environment.

Not only does Kahn argue that free-market capitalism is the best approach to mitigating climate change, he also asserts that it is the best system for adapting to climate change, because wealthier regions tend to weather the storm much more effectively than poorer regions. When extreme weather events occur, wealthier areas are less impacted and rebound much faster than poorer areas. Additionally, when environmental disasters impact a region, capitalist economies are capable of sending price signals to the market that disincentivze people from living in these hazardous areas. For example, insurance companies raise their rates for people living in risk-prone neighborhoods. This discourages habitation of these neighborhoods, and so when disaster strikes, less damage is incurred. On the contrary, when the market is not allowed to operate uninhibited and the government steps in to repair or protect private property, it encourages more people to live in these areas because they feel more artificially secure. Government intervention creates the illusion of protection, but it is economic wealth, in Kahn's opinion, that actually shields us from Mother Nature's violent outbursts. Kahn's view, which is the archetypical capitalist perspective, maintains that the role of government should be limited to providing information regarding natural disasters to the public, such as hurricane and flood warnings. The government need not coerce people to react to these warnings, because if individuals have access to the information, they will respond appropriately. Kahn's viewpoint is relieving and palatable. It invokes that characteristically capitalist optimism towards human ingenuity. It promises, as all persuasive capitalist arguments do, that if we just continue to consume resources to our heart's content, we will create a future that is superior to the present in every conceivable way.

2.4 Counterargument to Capitalist-Centric Solutions to Climate Change

There are several glaring defects in Kahn's capitalism inspired logic. Though some of these issues have already been introduced, they will be reiterated and expanded upon here in direct response to the arguments presented in support of capitalism as the solution to climate change.

Firstly, Kahn assumes that consumers are rational, well-informed actors who possess a consummate understanding of, or at least a genuine desire to understand, the causes and consequences of climate change, and who will model their behavior accordingly. However, the empirical evidence suggests that an astonishingly significant segment of the American population is ignorant of, and reluctant to become informed on, the reality of climate change.

A 2013 survey, titled *Climate Change in the American Mind,* revealed that 23% of Americans are certain that climate change is not happening, while 14% do not know whether it is happening or not. (Leiserowitz, et al., 2013, p. 5) If Kahn's presumption that capitalism fosters greater understanding and appreciation of the environment were true, we would expect to see a decline in the percentage of the population who are unaware and unconcerned with climate change. *Climate Change in the American*

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

Mind indicates a burgeoning trend in the opposite direction. The survey found that the percentage of Americans who do not believe in climate change, 23%, is swelling rapidly, even as the number of people who are uncertain about climate change shrinks. Among those who do believe in climate change and global warming, less than half believe that is caused by human activities, and that number is declining (Leiserowitz, et al., 2013, p. 5). If people do not believe in global warming, or do not believe that their actions are affecting the climate, they will have absolutely no reason to reduce their consumption of fossil fuels and other products that diminish the quality of our environment.

This illuminating information is indicative of a growing degree of society-wide ignorance towards the science of climate change, which is counterintuitive considering that the international scientific community reached a consensus on this subject nearly two decades ago. If American consumers were the rational actors that Kahn and other avid proponents of capitalism considered them to be, their beliefs and behaviors would reflect the scientific consensus on climate change. They would realize that understanding the facts is in their best economic interest, and would therefore seek out the truth, modeling their consumption habits accordingly. Kahn's assessment relies almost entirely on the notion that consumers behave this way, but the evidence reveals, most assuredly, that they do not. The primary reason for this stems from the perverted nature of supply and demand, and the resultant dissemination of misinformation.

As mentioned previously, many suppliers generate a synthetic demand for their products via marketing and advertising schemes. This fact is inherent to the very essence of advertising. Advertising is the process of convincing people to buy a product that they might not buy otherwise. Major ad campaigns almost universally attempt to connect their product to something that is much more desirable. For example, the new Coke cans and bottles have common names written on them, and Coke commercials explicitly suggest that buying and sharing their products will animate new platonic and romantic relationships. These campaigns attach their product to a fundamental human desire for love and social connection. This aggressive marketing tactic of associating low-quality, resource-intensive products with actual human needs and wants manipulates consumers to purchase a product based on unrealistic promises of satisfying a psychological longing, rather than on the product's actual utility. Potent examples of this phenomenon can be found nearly everywhere in modern, capitalist societies.

By compelling people to buy products through playing on their unrelated, often intangible desires, advertisers distort the actual demand for social goods. When people are buying products that are mere representations of the things that they actually need or want, suppliers are not really responding to the needs and wants of society, and thus economic growth is failing to facilitate improved social prosperity. Additionally, people's consumption habits come to be based on illusory promises, unattainable expectations, and irrational associations rather than their substantive self-interests.

The information- and expectation-distorting nature of advertising helps to explain why consumers are growing increasingly uneducated on the subject of climate change. Although it is in every individual's best interest to consume fewer resources, specifically fossil fuels, so as not to contribute as much to the escalation of climate change, the vast majority of information that we are bombarded with on a

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

daily basis is disseminated by companies and industries that have a compelling economic interest to convince us to constantly consume more. Consider the way in which the law of supply and demand determines the value of products, and, by extension, natural resources. The number of people who want to buy a product and its availability determine its price and value. When demand is growing and supply shrinking, the price goes up, making the product more valuable. In theory, this characteristic of capitalism is what inspires people to invent or discover an alternative to the scarce product or resource. However, there is no built-in market mechanism to prevent the complete depletion of any given resource. It is simply assumed that, if the absolute expenditure of a given resource would cause adverse social consequences, people would realize this through the process of conducting their cost-benefit analyses and through price signals, and they would cease to consume and demand said resource. However, it has already been established that consumers do not behave as quintessential rational actors, and that the cost-benefit analysis is incapable of assessing the true value of natural resources.

What all of this means with regard to climate change is that our economic system is designed to use up more fossil fuels than our environment is designed to handle. The known total of the Earth's extractable supply of fossil fuels is around 2,750 gigatons, of which 745 gigatons are owned by fossil fuel companies (Quick, 2014). The proliferation of neoliberal capitalism and industrialization, coupled with population growth, is cultivating an ever-growing demand for fossil fuels that shows no signs of abating. Recent data from the U.S. Energy Information Administration, displayed in Figure 1, shows the current and projected trends in global fossil fuel consumption.

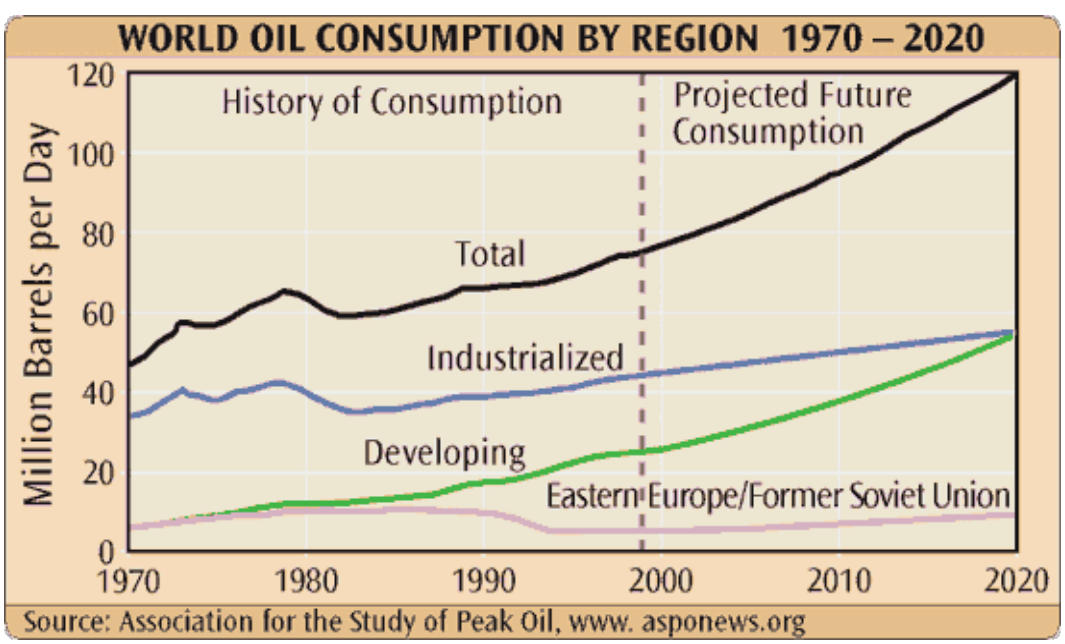

Figure 1: (Source: The Global Education Project, 2014)

As we can see in Figure 1, there is no indication that the market is responding to the undeniably dire social need to consume fewer fossil fuels. What we see is quite the opposite. The market is signaling a need for the increased extraction,

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

production, and consumption of fossil fuels. The global demand for fossil fuels is a function of the global population, and both categories are experiencing consistent annual growth. Thus, as population grows, the subsequent demand for fossil fuels grows, diminishing the total supply and jacking up the market value. Inevitably, the fewer fossil fuels that are available, the more valuable they become. The irony is that, the more economically valuable fossil fuels become as a consequence of increased demand and reduced supply, the more imperative it will become for us not to consume them. Unfortunately, that fact is unbeknownst to the free-market, and to the majority of its participants.

This paper is not intended to vilify the fossil fuel industry or any other industry; it is merely a critique of the capitalist system that has cultivated the unproductive incentives for these industries to behave as they do. The systematic incentivization to indefinitely exhaust scarce resources, which are assumed to be replaceable upon depletion, inevitably ensures that unfettered capitalism will push us to the brink of climate chaos and beyond.

The final major logical pitfall of the free-market, capitalist approach to resolving and adapting to climate change is the assertion that environmental regulation is unnecessary, and even counterproductive. Proponents of a free-market resolution to climate change insist that the government's role should be limited to providing the public with informative warnings regarding imminent natural disasters (Kahn, 2012). They maintain that the government should not meddle with the free-market by imposing limitations on the production or consumption of fossil fuels and all other resources. Proponents also purport that government policies intended to buffer the effects of climate change, such as the provision of recovery funds for the victims of natural disasters, encourage people to subject themselves to inevitable environmental hazards, as they come to expect that the government will protect them from future natural disasters.

Government is critically important for providing the public with accurate information on present and future environmental hazards. On this point, there is no disagreement. However, the role of government should be not confined to this singular aim. National governments and international governance entities such as the United Nations are in a unique position to enlighten people on the science of climate change. In fact, it was the United Nations that spurred the establishment of the international scientific consensus on climate change via the IPCC. Government and corporate entities are among the few organizations that possess the resources necessary to effectively compile and disseminate information on a national and global scale. Additionally, these entities enjoy a high level of social influence, necessary for convincing people of the veracity of their claims. As previously mentioned, most corporations who are in a position to enlighten the public on climate change, specifically those in the fossil fuel and energy industries, have a powerful economic incentive to persuade consumers that climate change is not occurring, or that it is not a product of human action. These corporations frequently employ their influence to stir specious uncertainty into the mix of public perception of climate change, and thus protect their assets.

While corporate influence no doubt permeates the political sphere, government is relatively less biased in climatic matters, and has an entrenched

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

interest, and a social responsibility, to provide people with the real facts of climate change, and to set a course for remediation. The greatest strides that have been made towards environmental protection and the abatement of global warming have been initiated by government entities. One of the best examples of this can be found in the national Clean Air Act, passed in 1970. Since 1980, this act has reduced sulfur dioxide and nitrogen dioxide, both of which are harmful airborne pollutants, by 71% and 46%, respectively (Union of Concerned Scientists, 2013). The CAA has also forced commercial chlorofluorocarbons, which deteriorate the ozone layer, to be phased out, thus facilitating a recovery of ozone molecules in the upper atmosphere.

If we were to allow the free-market to provide us with information that is relevant to environmental protection and climate change without government interference, we would be highly susceptible to adopting viewpoints that are skewed by economic interests. Government involvement and regulation is necessary for preserving the environment, as well as mitigating and adapting to climate change.

3. Conclusion

The heart of our pressing environmental woes is that capitalism is incapable of accurately assessing and conveying the true value of natural resources. Within our economic paradigm, it is irrational and undesirable not to extract and consume the total global supply of fossil fuels because they are considered more valuable as a commodity than as a benign, unemployed resource. Yet, in our environmental reality, burning even a quarter of the available supply of fossil fuels would severely endanger the survival of life on Earth as we know it, and thus we should strive to develop clean, reliable, and renewable energy sources as soon as possible. It is a global issue that will require global cooperation and coordination to resolve. It will require sacrifices, and large scale changes to our social order. The honest truth is that it will require a revolution. Not a violent, impassioned uprising, but rather a cool, well-reasoned and intentional economic enlightenment. Capitalism was born from a desire for liberty and prosperity. It freed people from the bonds of feudal oppression and enabled us to lay a claim to our own destinies. Capitalism represents mankind's incredible ability to adapt to and overcome problems. With this tool we have subdued the earth, and we have bent it to our will. But if we continue to employ this powerful economic utensil, the comfortable world that we have shaped for ourselves will snap under the strain. While we cannot deny our own tremendous talent for overcoming obstacles and devising alternative solutions when forced to do so, we also cannot ignore the wise words of Albert Einstein, who said: "We cannot solve our problems with the same thinking we used to create them." We live in a world that is much different from the one that gave rise to capitalism. We are faced with a much different set of problems than were the founders of the modern economic system. They sought freedom to explore the world, to connect it through intricate trade networks, to profit from its natural richness, and to protect those profits. They were immensely successful, and the capitalist model has handsomely improved the condition of humankind in innumerable ways. However, the solutions of the past have produced the problems of the present, and in order to address them we will have to look at the world through a new lens. We will have to design a method of assigning value to the world that is capable of preserving that value long into the

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

future. Yet thinking alone cannot solve our climate conundrum; solutions will require action. As a start, we must rapidly phase out fossil fuels and transition to a renewable-energy based system. We will need to place immediate, globally-enforceable restraints on the production and consumption of fossil fuels, among other resources. We will definitely need to abandon our apparent obsession with making money, because resolving climate change will not be a profitable venture. But it will be truly invaluable, and somehow, some way, we will do it. The course that we must pursue to overcome this prodigious planetary problem cannot be the same course that led us to where we are today. The way to a brilliant, sustainable new future certainly exists, but it does not lie down the beaten path of capitalism that we currently tread.

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

Bibliography

Baker, B. (2014, July 17). Australia Becomes First Nation to Repeal Carbon Tax. Retrieved March 6, 2015, from http://ecowatch.com/2014/07/17/australia-carbon-tax/.

Baird, J. (2014, July 24). A Carbon Tax's Ignoble End. *The New York Times*. Retrieved March 6, 2015, from http://www.nytimes.com/2014/07/25/opinion/julia-baird-why-tony-abbott-axed-australias-carbon-tax.html?_r=1.

Bassiry, G. R., & Jones, M. (1993). Adam Smith and the ethics of contemporary capitalism. *Journal of Business Ethics*, *12*(8), 621-627.

Carbon Tax Explained. (2011, July 10). *The Sunday Morning Herald*. Retrieved March 6, 2015, from http://www.smh.com.au/environment/climate-change/carbon-tax-explained-20110709-1h7tg.html.

The Clean Air Act. (2013, June 9). Retrieved December 12, 2014, from http://www.ucsusa.org/global_warming/solutions/reduce-emissions/the-clean-air-act.html#.VIvWc0t0UfE.

Harkinson, J. (2009, December 4). No. 12: Institute for Energy Research (AKA American Energy Alliance). *Mother Jones*. Retrieved March 6, 2015, from http://www.motherjones.com/environment/2009/12/dirty-dozen-climate-change-denial-12-institute-energy-research.

Helm, D. (2008). Climate-change policy: Why has so little been achieved? *Oxford Review of Economic Policy, 24*(2), 211-238.

How much carbon dioxide is produced by burning gasoline and diesel fuel? (2014, April 25). Retrieved November 11, 2014, from http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11.

Kahn, M. [ReasonTV] (2012, July 5) *How Markets Will Beat Climate Change: Q&A With UCLA's Matthew Kahn* [Video file]. Retrieved from: https://www.youtube.com/watch?v=qWChDY4JzRw.

Kirtman, B., S.B. Power, J.A. Adedoyin, G.J. Boer, R. Bojariu, I. Camilloni, F.J. Doblas-Reyes, A.M. Fiore, M. Kimoto, G.A. Meehl, M. Prather, A. Sarr, C. Schär, R. Sutton, G.J. van Oldenborgh, G. Vecchi and H.J. Wang, (2013). Near-term Climate Change: Projections and Predictability. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*

Leiserowitz, A., Maibach, E., Roser-Renouf, C., Feinberg, G., Rosenthal, S., & Marlon, J. (2014). Climate change in the American mind: Americans' global warming beliefs and attitudes in November, 2013. Yale University and

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

George Mason University. New Haven, CT: Yale Project on Climate Change Communication., 3-34.

Levitan, D. (2014, July 18). Australia Repeals Carbon Tax as Renewable Energy Industry Stagnates. Retrieved March 6, 2015, from http://spectrum.ieee.org/energywise/energy/policy/australia-repeals-carbon-tax-threatens-stagnating-renewables-industry.

Lindzen, R. (2009, July 26). A Case Against Precipitous Climate Action. Retrieved December 8, 2014, from http://quadrant.org.au/opinion/doomed-planet/2009/07/resisting-climate-hysteria/.

Meinshausen, M., et al. (2009). Greenhouse-gas emission targets for limiting global warming to 2 C. *Nature*, *458*(7242), 1158-1162.

Minchin, L., & Hopkin, M. (2014, July 17). Carbon Tax Axed: How it Affects You, Australia, and Our Emissions. *The Conversation*. Retrieved March 6, 2015, from http://theconversation.com/carbon-tax-axed-how-it-affects-you-australia-and-our-emissions-28895.

Muller, R. (2013, June 3). Why We Need to Help the Chinese Frack. *CNBC*. Retrieved November 11, 2014, from http://www.cnbc.com/id/100784859#.

Peters, G. (2014, September 30). Global Carbon Budget 2014. Retrieved November 10, 2014, from http://www.slideshare.net/GlobalCarbonProject/global-carbon-budget-2014.

Petit, J. R., Jouzel, J., Raynaud, D., Barkov, N. I., Barnola, J. M., Basile, I., ... & Stievenard, M. (1999). Climate and atmospheric history of the past 420,000 years from the Vostok ice core, Antarctica. *Nature*, *399*(6735), 429-436.

Projection of Future Changes in Climate. (2007, February 28). Retrieved November 10, 2014.

Quick, M., & Hollowood, E. (2014, October 1). How much carbon dioxide is produced by burning gasoline and diesel fuel? Retrieved November 11, 2014, from http://www.informationisbeautiful.net/visualizations/how-many-gigatons-of-co2/.

Robson, A. (2013). Australia's Carbon Tax: An Economic Evaluation. *Institute For Energy Research,* 41-41. Retrieved March 6, 2015, from http://instituteforenergyresearch.org/wp-content/uploads/2013/09/IER_AustraliaCarbonTaxStudy.pdf.

Stocker, T.F., D. Qin, G.K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.) (2013). IPCC 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of*

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms

Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

Each Country's Share of CO2 Emissions. (2014, November 18). Retrieved March 6, 2015, from http://www.ucsusa.org/global_warming/science_and_impacts/science/each-countrys-share-of-___co2.html#.VPw-ykvobL9.

Understanding the IPCC Reports. (2014, March 1). Retrieved December 8, 2014, from http://www.wri.org/ipcc-infographics.

U.S. Population Growth Rate per Year. (2013, November 1). Retrieved November 11, 2014, from http://www.multpl.com/us-population-growth-rate/table/by-year.

World Reserves of Oil, Coal and Natural Gas. (2014, January 8). Retrieved December 12, 2014, from http://www.theglobaleducationproject.org/earth/energy-supply.php.

This content downloaded from
202.41.10.108 on Mon, 24 Mar 2025 13:04:59 UTC
All use subject to https://about.jstor.org/terms