

## **Review Essay: Climate Change Mitigation, Environmental Sustainability, and Social Parity: Green Capitalism or an Alternative World System?**

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**1. Kerry Higgs. *Collision Course. Endless Growth on a Finite Planet*. Cambridge, MA: MIT Press 2014. ISBN 9780262027731, Price \$29.95 (hardback). x+416 pages.**

**2. Nicholas Stern. *Why Are We Waiting? The Logic, Urgency, an Promise of Tackling Climate Change*. Cambridge, MA: MIT Press 2015. ISBN 9780262029186, Price \$27.95 (hardback). x+448 pages.**

**3. Gernot Wagner and Martin L Weitzman. *Climate Shock. The Economic Consequences of a Hotter Planet*. Princeton, NJ: Princeton University Press 2015. ISBN: 9780691159478, Price \$27.95 (hardback). x+264 pages.**

Over the first decade and a half of the twenty-first century, it has become increasingly apparent to many that we face two very broad crises: a socioeconomic one in which a few are becoming richer and richer while at least a billion people remain abjectly poor; and an ecological one, which includes anthropogenic climate change, in which natural resources are being depleted, the environment is being degraded, and the planet faces the possibility of a much warmer world than existed over the course of most of the Holocene. The three books under review in one way or other grapple with all of these issues, albeit through contrasting lenses. The first two are by economists and the third by a social scientist with a background in human geography and environmental studies. In terms of answering the question posed in the title of this essay, Nicholas Stern, the World Bank Chief Economist in 2000-2003, maintains that climate change can be contained largely through market mechanisms while allowing the global economy to grow, which in turn will allegedly contribute to an eradication of poverty. The other economists, Gernot Wagner and Martin L. Weitzman, focus largely on the deleterious economic consequences of climate change and possible approaches by which it can be mitigated within the parameters of the existing global economy. Kerry Higgs, our social scientist, argues that a global economy that is committed to continual

growth is both environmentally unsustainable and socially unjust but leaves it to others to figure out strategies for overcoming these monumental dilemmas.

*Why Are We Waiting?* is Nicholas Stern's third climate-change related book. The first, *The Stern Review*, first appeared as a British Treasury report in 2006 written with the assistance of a team based at the HM Treasury, and then as a book the following year. The book, along with Al Gore's film 'An Inconvenient Truth,' made 2006 a pivotal year in drawing world-wide attention to anthropogenic global warming or climate change. *The Stern Review* asserted that "climate change is a result of the greatest market failure the world has seen." In 2009, Stern published *Blueprint for a Safer Planet*, a more accessible book, in which he reiterated and expanded upon his earlier arguments. In his latest book, Stern maintains that the 2009 UN Copenhagen climate conference yielded for the most part disappointing outcomes, but did prompt both developed and developing countries to take more action, albeit still insufficient, on mitigating climate change as well as adapting to it. Like many climate scientists, he maintains that humanity faces the distinct possibility of a world that will be on the average 4°C warmer by 2100 than it was at the time of Industrial Revolution. Shortly before to the publication of *Why Are We Waiting?* Stern served as chair of the Economic Advisory Panel to the Global Commission on the Economy and Climate, which published *Better Growth, Better Climate: The New Climate Report* in September 2014. In the Introduction, he asserts that "growth, development, mitigation, and adaptation go hand in hand," and that the "portrayal of climate action as being in inexorable conflict with growth, poverty reduction, and radical improvements in human-being is false and diversionary" and that a "committed and measured low-carbon transition would likely trigger exciting an new wave of global investment, innovation, and prosperity" (p. xxvii).

In Chapter 1 (The science: it shapes the economics, ethics, politics, and possible prognoses), in asserting that “GHG [greenhouse gas] emissions and anthropogenic climate change start with people and end with people,” Stern fails to acknowledge that some people, in one way or the other, contribute more to these processes than others, and that these people tend to be the rich and affluent of both developed and, increasingly, developing countries. Despite all the efforts various players, including the United Nations, national governments, multi-national corporations, and others have taken to reduce greenhouse gas concentrations, the grim reality he reports is that greenhouse gas emissions increased one ppm CO<sub>2</sub>e per year during 1950-1970, two ppm CO<sub>2</sub>e per year during 1970 and 1990 and three ppm CO<sub>2</sub>e per year during the current period.

In chapter 2 (Building a new energy-industrial revolution), Stern asserts that “wise investments and existing technologies can generate both growth and strong emissions reductions” (p. 33). While he does not use the term, he is essentially a strong advocate of ecological modernization, which includes a shift to techno-fixes of various sorts (entailing not only a shift to solar and wind energy but also carbon capture and sequestration), increased energy efficiency, the electrification of motor vehicles, and “climate-smart agriculture,” including reforestation. While obviously a shift to renewable energy and improved energy efficiency would be part and parcel of climate change mitigation, the former is not a panacea and latter may actually contribute to an increase in production and consumption, something that has been recognized under the Jevons paradox or rebound effect, neither of which is mentioned in this book. Furthermore, even solar powered electric motor vehicles would contribute to growing traffic congestion and use of potential agricultural land to construct new roads. While Stern is cognizant of greenhouse gas emissions emanating from the use of

fossil fuels, he fails to address that fact that the planet has limited resources, including those needed to manufacture motor vehicles.

In chapter 3 (Policies for dynamic change and transition: lessons from economic history and economic theory), Stern asserts that greenhouse gas emissions as an economic externality can be corrected by relying upon carbon taxes, cap-and-trade schemes, as well international regulations. He argues that countries that are shifting slowly toward a low-carbon economy “should be subject to ‘border adjustment measures’ [which] would require importers of energy-intensive goods, where high-carbon or dirty energy is used, to pay an additional tax or to purchase emissions allowances at the border.” While this proposal may perhaps have merit, Stern gives no details how it could be administered. To his credit, in chapter 4 (How some economic analyses have distorted the issues) he admits that economic models tend to grossly underestimate risks emanating from climate change and also notes that climate models still omit or underplay impacts from various effects, such as thawing of the permafrost, the collapse of polar ice sheets, the release of seabed methane, ocean acidification, and the collapse of oceanic thermohaline circulation. .

In Chapter 5 (The ethics of intertemporal values and valuations) and chapter 6 (Broad approaches to moral and political philosophy: converging perspectives) Stern argues that economists need to turn to moral philosophy in order to grapple with the role of values and responsibility in the creation of climate policy. While he maintains that a growing global population contributes to increasing emissions and calls for measures to reduce population growth, such as education of girls and women, he fails to acknowledge the fact that wealth and poverty are flip-sides of the same coin in the existing global economy and that perhaps an

important strategy for reducing population growth would be reduce global poverty by redistributing the world's resources.

Chapter 7 (Development in climate action around the world) and chapter 8 (Building national and international action) provide an overview of various actions, including international ones such as the Kyoto Protocol and the Copenhagen Accord, the EU Emissions Trading Scheme, and national ones in various countries, including India, Brazil, South Korea, Ethiopia, Colombia, and Bangladesh. Stern characterizes the role played by global justice and climate activists as mixed, speaking highly of the Make Poverty History campaign but castigating the anti-corporate globalization protests at the World Trade Organization conference in 1999. In chapter 9 (Equity across peoples and nations), although Stern provides readers with data revealing the high GHG emissions per capita of Australia, the United States, Canada, and Saudi Arabia, dismisses the proposition that “there should be equal rights for each person to the atmospheric commons” (p. 288). Nowhere in his analysis is any suggestion that poverty could be eradicated by creating an even playing field in terms of distribution of resources. Ironically, in chapter 10 (Conclusion: how ideas change over time), Stern notes that various figures, ranging from Pope Francis to members of royal families to actors, celebrities, sports stars, business people, academics, teachers, young people, have a significant role to play in climate change action. Ironically, the carbon and ecological footprints of many of these figures contributes to the climate crisis, not to mention the grossly uneven distribution of global resources.

In their Preface to *Climate Shock*, Gernot Wagner and Martin L. Weitzman argue that climate change “will be one of most difficult challenges modern civilization has ever faced, and it will require the most sustained, well-managed, globally cooperative effort human species has

ever mounted” (p. ix). They argue in chapter 1 (911) that climate change is uniquely global, long-term, irreversible, and uncertain and may require large-scale geoengineering if humanity does not significantly decrease emissions by other means, such as taxes and trading schemes. In chapter 2 (44 – Bathtub) the authors note the International Energy Agency has estimated that without any significant reduction, total GHG emissions will hit 700 ppm by 2100, a trajectory that seems to be well in place given current commitment to on-going economic growth. Like Stern and most conventional economists, Wagner and Weitzman accept the growth paradigm as axiomatic, noting in chapter 3 (Fat tails) that:

At a 3 percent annual growth rate, global economic output will increase almost twenty-fold in a hundred years. Subtracting 10 percent, 30 percent, or even 50 percent for climate changes after a hundred years will still leave the world many times richer than it is today. Climate change, in short, may be bad, but even the worst seems to leave the world much better off so long as economic growth remains robust (p. 63).

However, the possibility of economic growth remaining robust in a four or worse six degree world is extremely remote. Wagner and Weitzman boldly assert that the “appropriate price on carbon is one that will make us comfortable to know that we will *never* get to anything close to 6°C (11°F) and certain eventual catastrophe” (p. 78).

In chapter 4 (In the opinion of 2 economists musing on mindful business), the authors assert that while humanity theoretically could experience scenarios worse than climate change, such as a large-scale nuclear attack, global pandemics, or the planet being struck by a massive asteroid, climate change has “firm historical precedence” (p. 89) in that it has repeatedly occurred, prior to humans occupied the planet.

In chapter 5 (Bailing out the planet), citing the Mount Pinatubo eruption in 1991 that injected some 20 million tons of sulphur dioxide into stratosphere and temporarily resulted in a reduction of the global temperature, Wagner and Weitzman observe that some climate scientists view geoengineering, whether it entails injecting sulphates into the atmosphere or creating artificial clouds, or other techniques, as an option for avoiding a climate catastrophe, despite numerous potential negative consequences. They admit geoengineering would treat the symptoms of climate change without eradicating its causes. In contrast to Stern, they recognize that all seven billion people on the planet, especially one billion high emitters “are committing sins of commission every single day” (p. 113). After laying out a few science fiction scenarios, they advocate more research on geoengineering allowing humanity to weigh the “trade-off between errors of commission (geoengineering gone awry) and errors of omission (run-away global warming without geoengineering)” (p. 126). In chapter 7 (What you can do), while eschewing a simplistic list of ten things that the individual can do to prevent global warming, the authors suggest that people divest from fossil fuels and invest in renewable energy technologies. In the Epilogue the authors share Stern’s view that “misguided market forces” created climate change, and like him advocate a form of climate capitalism that they maintain “with all of its innovative and entrepreneurial powers . . . is our only hope of steering clear of the looming climate shock” (p. 151).

In contrast to these two books, which wholeheartedly embrace the growth paradigm and variants of green capitalism, Kerry Higgs in *Collision Course* follows the spirit of the *The Limits to Growth* (Meadows *et al.* 1972), a report commissioned by the Club of Rome. In her Introduction, she maintains that like neo-classical economists “most Marxists and Keynesians share mainstream growth assumptions” (p. xxiii). While indeed this may be so, it is important to point out that over the course of the past 35 years or so, an eco-Marxian or eco-socialist

perspective has arisen that challenges the growth paradigm. In Chapter 1 (Economic growth: origins), Higgs maintains that fossil fuels allowed capitalism to “develop and deploy worldwide an economy capable of accumulating vast amounts of capital and a technology capable of godlike feats such as moving mountains and splitting atoms” (p. 7). However, in the process it created, as Marx himself recognized, a metabolic rift with nature. In chapter 2 (Economic growth: perceptions) Higgs observes that the notion of growth is basic to conventional economic theory, and has become axiomatic in global institutions, governments, and the mass media. Consequently, it is often touted as the solution to a variety of problems, including poverty, pollution, and debt. Conversely, Higgs maintains that a capitalist-driven “modernity may, in fact, be the key driver of ecologically unsustainable practices” (p. 27). As noted in chapter 3 (The limits to growth debate: precursors), Meadows *et al.* (1972) “warned that unimpeded economic growth would very likely collide with planetary limits within next 100 years” (p. 38), an assertion that met with widespread opposition from numerous quarters, (chapter 4 *The Limits to Growth* and its critics). Chapter 5 (Growth and consumerism) and chapter 6 (The rise of free market fundamentalism) discuss how the growth paradigm became absorbed by consumer culture and neoliberal economic theory.

Chapters 7 – 9, which focus on the association between the notion of “economic development” that took hold after World War II and the growth paradigm, are particularly interesting. According to Higgs, “By 1960, a whole new academic field of development economics had defined people’s well-being in terms of economic growth and the exploitation of resources” (p. 107). By and large, most development theorists overlooked the role that colonialism had played in undermining the indigenous economies of developing societies. The neoliberal agenda pushed by the World Bank and the International Monetary Fund and pursued relentlessly by multi-national corporations and governments around the world relies

on the “consumption of immense quantities of fossil fuels” and results in depletion of natural resources and the “escalation of greenhouse gas emissions” (p. 115). Around the world, economic growth has paved the way for increasing concentration of wealth among the rich minority in both developed and developing countries. Higgs asserts that contrary to conventional trickle-down economic theory, “extraordinary growth in China and, to a lesser extent, India and Brazil has not necessarily reached the extremely poor of these nations” (p. 124). While the UN and other institutions, including corporations, have embraced the notion of “sustainable development,” she views it as a dubious proposition as long as it is wedded to the growth paradigm. Furthermore, she maintains that while growth is supposed to eradicate extreme poverty, neoliberal economic theory does not address issues of social equity or wealth redistribution.

In Chapters 10-13, Higgs presents a meticulous and nuanced discussion of the debates among scientists, who came to accept the limits to growth perspective and recognize that many aspects of global capitalism are environmentally unsustainable, and corporate leaders, major industry associations, the World Trade Organization, mainstream economists, conservative think tanks, and many politicians who continue to vehemently resist these arguments. One manifestation of this conflict occurred in 2001 when ExxonMobil lobbyist Randy Randol pressured President George W. Bush to remove British scientist Robert Watson, then the chairperson of the Intergovernmental Panel on Climate Change (IPCC), from his position. Watson was denied a second term and replaced by Rajendra Pachauri, who while holding similar climate scientific views to Watson, claimed to be politically neutral. In contrast to “most of the CEOs who meet at Davos [for World Economic Forum conferences] and the politicians who frequent the G8 and G20 meetings” who share a strong commitment to economic growth and its alleged potential to solve a multiplicity of socio-economic and

environmental problems, Higgs maintains that the elite membership of the Club of Rome “could be characterized as intellectuals who saw beyond their narrow class interests and attempted, unsuccessfully, to change the course of industrial development” (p. 246). Italian industrialist Aurelio Peccei teamed up with up Scottish scientist Alexander King to form an exclusive assemblage of progressive intellectuals, businesspeople, and government bureaucrats who sought to grapple with the complexities of modernity, including unbridled economic growth.

In Chapter 14 (*The Limits to Growth* after forty years), Higgs reports that the limits to growth perspective did find favour to some degree in UN environmental agencies and even with certain politicians, including President Jimmy Carter and Canadian Premier Pierre Trudeau, and some ecological economists such as Herman Daly and Tim Jackson. Indeed, the MIT team went on to publish *Beyond the Limits* in 1992 and *Limits to Growth: The 30-Year Update* in 2004.

Nevertheless, Higgs argues in Chapter 15 (Conclusion: The planet and the pie) asserts that the “collision of economic expansion with finite planet, though moderated to varying degrees in particular instances, has continued to intensify” (p. 273). She calls for the restoration of democratic norms in plutocratic political systems, a “plan for the first world to reduce its material demands to allow space for the rest of the world to reach material security,” but leaves it to other to “invent solutions for these difficult problems” (p. 283).

Indeed, various scholars and social activists around the world have come to the recognition that the existing global economy or the capitalist world system has to be jettisoned in order to develop an alternative world system based upon social parity and justice, democratic

processes, environmental sustainability, and a safe climate. In contrast to Stern and Wagner and Weitzman, Higgs's suggests that humanity faces the imperative of moving beyond the growth paradigm. In my view, it is hard to see how we can expect the system that created the problems of social inequality, environmental degradation, and climate change to find meaningful solutions for them. Anthropologists are well aware that social systems, whether local, regional, or global, do not last forever. Global capitalism has been around for some 500 years but it has so many inherent contradictions that ultimately it must be transcended if humanity and life on the planet are going to survive in some sustainable fashion. Achieving such a world will not be easy, especially given the failures of earlier efforts to create more equitable and just social systems, particularly the Soviet Union and the People's Republic of China. Whereas the former collapsed in 1991, the latter has embraced the growth paradigm and much of the neoliberal agenda and has been transformed into what some scholars characterize as a variant of state capitalism. While global capitalism is a well-entrenched system with support from many sides, there are voices against this massive global system from many quarters, including the anti-corporate globalization, environmental, climate, labour, women's, and indigenous rights movements, as well as socialists, anarchists, and even left liberals and social democrats. Indeed, a distinct climate justice movement has crystalized over the past decade or so that has built upon warnings about the dangers of climate change emanating over the past 20-25 years from climate scientists, environmental groups, and indigenous groups, particularly those in the Arctic and South Pacific. Climate justice activists call for "system change, not climate change."

In the past, Marxian political economy has tended to give at best passing consideration to the limits to growth and the ecological crisis. Over the past three decades or so, various leftist groups have become more sensitive to the environmental travesties that have occurred in

developed and developing societies. Eco-socialism or eco-Marxism seeks to come to grips with the growth paradigm inherent in capitalism to which post-revolutionary societies also subscribed. The notion of “socialism for the twenty-first century” has emerged under the guise of the Bolivarian Revolution in Latin America and to some extent, with mixed and contradictory results to date, has embraced eco-socialist principles as a strategy for mitigating climate change and sustaining the planet. Ultimately, the bigger question is how humanity will move from the existing global economy – one committed to growth while claiming increasingly that it can decouple economic growth from environmental degradation and GHG emissions – to one that creates an even playing field in terms of access to natural resources and is based upon environmental sustainability.