Growth, climate change, and the critique of neoclassical reason

New possibilities for economic sociology

Matthew Soener

The outlook on climate change is bleak. Warming effects from greenhouse gases mean rising sea levels, increased storms, droughts, wildfires, and other stresses to the Earth system. This means risks to our food supply, further species loss, and threats to coastal populations. Indirectly it means sociopolitical pressures in an already fragile context. Society's most vulnerable are already primary targets. And, if Covid-19 isn't grim enough, the combination of surface-level temperature increases combined with human-animal contact from deforestation and industrial farming will spawn more "zoonotic" infectious diseases.

One upshot of all this bad news is that public opinion is catching up with these realities. There has been a substantial increase in the last decade in the number of Americans either "concerned" or "alarmed" about climate change (Leiserowitz et al. 2020). European Union citizens are almost all in agreement that climate change is a serious problem, according to *Eurobarometer*.

As sociologists, however, we know that beliefs do not map onto action. Part of that owes to complex cultural processes outlined in Kari Norgaard's *Living in Denial* (2011). We would rather not think about it, *even*, as Norgaard expertly shows, for those of us who *are* concerned. Plus, translating beliefs into action requires that we all agree on what to do. Those same surveys show strong support for investment in renewable energy. This is entirely sensible. How we get there, though, is a question of politics. And where there is a question of politics, markets are just around the corner.

Possible climate solutions include pro-market "green growth," Keynesian-influenced "Green New Deal" programs, reviving mid-twentieth-century centralized planning, and "degrowth" movements, to name a few. Each of these has different sets of interests at stake. Each, moreover, is guided by underlying social, political, and economic theories. In this regard, economic sociology can help contribute to this discussion which, if I didn't scare you enough in the first paragraph, is urgent business.

Judging by a few leading outlets and organizations, however, economic sociology has so far not been attentive to climate change in my opinion. Aside from a recent "state-of-the-art" series focused on energy transitions (see Wood et al. 2020), *Socio-Economic Review* has not published an article about climate change that I know of. *Politics & Society*, by my count, has only two. The Society for the Advancement of Socio-Economics (SASE) does not have an environmental or climate network. For a much more in-depth analysis of climate change in economic sociology, see the interesting contribution by Ian Gray and Stephanie Barral in this issue.

To be clear, this is *not* a rebuke of these journals, SASE, or economic sociology as a whole. Emerging issues take time to be incorporated. It took a decade or two for environmental sociology to emerge from the margins in American sociology, for example (Scott and Johnson 2017). I have no doubt that a lot of good work on climate change will be coming out in economic sociology soon (this newsletter series clearly speaks to that fact).

This is good news because economic sociology has a valuable perspective to contribute to climate change – one that contrasts with how the issue is typically understood. For example, when human contributions to climate change are brought up in the policy arena, NGOs, and in academia, it is typically framed in the language of neoclassical economics. Jessica Dempsey studied these kinds of spaces and observed that many well-meaning people proposed solutions to ecological problems based entirely on market logics

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like individual "utility maximizing" behavior and econometric modeling (2016). What these discussions are missing are things from the economic sociology toolkit: institutionalized business interests, the construction of markets, social inequalities, technocracy, morality, and culture. Stated differently, economic sociology for me is ultimately a critique of neoclassical economic thinking. Since a lot of climate change discussion is based in this framework, there is ample room for economic sociologists to push back against this narrative.

My own interest in this area centers on the question of economic growth. The Intergovernmental Panel on Climate Change (IPCC) – the most authoritative body of climate scientists – clearly states in their last assessment report that growth is one of the most important drivers of greenhouse gas emissions (IPCC 2014). The reason is simple: a continuously growing economy requires continual consumption of resources like fossil fuels. This vicious cycle leads to higher emissions. In *camera obscura*, this conclusion is equally clear from the economic slowdown due to Covid-19. Researchers from the Global Carbon Budget found that, compared with 2019 levels, global CO_2 emissions fell 7 percent in 2020 (Le Quéré et al. 2021).

Given this relationship, or "coupling," between growth and climate change, as well as the centrality of growth in neoclassical economics, I use this essay to elaborate on how growth drives climate change, how neoclassical ideas are embedded within this, and how economic sociology can intervene in this discussion. I also discuss my own research into these questions which tries to unpack growth by looking at its social drivers in the capital accumulation process (Soener 2019; Soener 2021). This gives us a clearer sense of the core (or, if you like, socially "embedded") drivers of emissions. It also gives us a clearer and socially just mitigation roadmap. I end this essay by discussing a few possibilities for a growth/climate change research agenda through three key theorists: Karl Marx, Max Weber, and Karl Polanyi.

One reason growth has not received adequate attention within economic sociology might have something to do with the field's intellectual heritage. The "New Economic Sociology" of the 1980s and 1990s was a response to *individualized* economic theories about market action. Hence, the perspective leans more on the micro-level and around markets (as opposed to capitalism, which, as we shall see, is my starting point). Growth, on the other hand, is a very macroscopic topic. Does this put growth and other macro topics out of reach for economic sociologists? For some, yes. Jennifer Bair, for example, argues that micro-level market interactions might resemble the world economic sociologists describe, but at the macro-level (e.g., transacting across global supply chains) actors are more rational (2008).

Putting aside the specifics of Bair's paper, her argument reveals something important about economic sociology: the field pays a lot of attention to micro-level behavior. Scaling that up can be difficult. However, I suggest that we can get traction on macro-level problems if we focus less on individual market action and more on critiquing neoclassical *concepts* such as growth. Growth is central not only to neoclassical but to classical economic thought as well. Thomas Malthus and Adam Smith held that growth delivers the greatest happiness with the least harm to society. This kind of utilitarian logic shapes climate discussion. During the Kyoto Protocol negotiations in 1997, for example, parties weighed the advantages and disadvantages of growth and development with emissions. In other words, the same kind of cost/benefit rationality ascribed to *homo economicus* is embedded in economic concepts.

This can be a useful starting point for economic sociologists who want to interrogate growth. We are well-positioned not only to examine the cultural construction of this mindset historically but also to ask sociological questions regarding the workings of growth. For example, how does ideology justify growth? What social processes drive it? Who benefits and who loses?

Asking these kinds of questions in the context of climate change can clarify mechanisms and make the problem less overwhelming. To understand why, consider the neoclassical alternative. In this theoretical tradition, everyone is implicated in growth more or less equally. Just as champions of liberal universalism see political citizens equally capable of exercising political action, market fundamentalists see economic citizens equally capable of exercising market action. With proper legal and political frameworks in place, individuals are free to participate in market exchanges. Absent from this neoclassical framework are forms of social power such as ownership and social processes like production and reproduction. What is left are atomized individuals whose *aggregate* behavior, through spending, working, saving, investing, and also just existing (i.e., demography), shapes outcomes like growth. Thus, if the growth rate for a country increases, dragging emissions up with it, it is an aggregate reflection of the many individual choices made within that economic unit.

Interestingly, there is an alignment between this depiction and what many environmentalists call the "Anthropocene." The Anthropocene is both a proposed geological periodization for our human-dominated epoch and a social theory term for humanities' *collective* effect on the planet. The exact timing of this

era is hotly debated, but recent trends could not be clearer. Global consumption of everything from fertilizer to meat since 1945 has risen to unimaginable heights. Humans, especially humans in the Global North, are pushing planetary boundaries because we all consume so much stuff. This explanation shares a neoclassical economic vision of human nature – a Promethean spirit of insatiable appetites (a metaphor, it should be said, that owes more to the writings of Malthus than classical Greeks who placed a premium on moderation). So, while we can point the finger at growth, in neoclassical thinking, that finger is pointing at us. *We* choose to take long-distance flights to give a 15-minute presentation at an academic conference (hey, I'm including myself in this too). The degree to which we want to contribute or alleviate climate change therefore is one of personal preferences or policies that can constrain our Promethean impulses. This is why someone like Milton Friedman favored carbon taxes. It would shift market incentives and therefore outcomes.

These ideas feed into empirical debates about the connection between growth and emissions. The terms of this debate are not on whether growth drives emissions – there is little doubt it does – but whether growth can be *decoupled* from emissions. That is, can we enjoy the benefits of economic growth while minimizing harmful emissions? Some economists and sociologists build on modernization theory to propose this elegant outcome. Emissions rise with development but eventually fall as citizens and politicians – thanks to the market – invest in energy-efficient infrastructure, price carbon, and shift consumption preferences to "greener" products. Leading institutions like the World Bank and the OECD are key endorsers of these "green growth" strategies. This overlaps with related environmental investment strategies championed in many corporate annual reports, by asset management firms like BlackRock, and even oil/gas majors who misleadingly fashion themselves as partners in the renewable energy transition (see for example Kenner and Heede Forthcoming).

While some countries have made progress in decoupling emissions from growth through renewable energy investment, for now, the rosy green growth outcome is more myth than empirical reality. Environmental sociologists give at least two reasons to help explain why. First, the phenomena of "Jevons Paradox," named after the nineteenth-century economist William Stanley Jevons. He observed that gains in efficiency lower prices and therefore increase consumption. For example, cars today are far more efficient than they were a generation ago. But they are cheaper to produce, resulting in more production. Emissions from the higher number of cars offset their efficiency savings. Second, emissions have fallen in the rich world – where they are much higher – in large part because these countries offshore production, which offshores their emissions. In this sense, global trade obscures the reality of emissions.

Environmental sociologists have given us a critical perspective on growth. To the decoupling debate they add sociological emphases that might otherwise be missing. For example, Jevons Paradox goes a step beyond just efficiency gains – a central concern for mainstream economics – to consider the role of production and consumption. When doing so, we see that efficiency savings are only half of the picture. Equally important is a focus on power. Against a neoclassical framework of equalized buyers and sellers in a market, those environmental sociologists who document unequal trade effects can do so because they theorize the economy as a highly unequal field. Transnational corporations set terms over supply chains, business groups can lobby for trade terms, and core states have neo-imperial and historical colonial advantages over subordinate states. These imbalances shape natural resource flows and emissions levels.

We can therefore begin to see how economic sociologists can contribute to environmental and climate issues. Like environmental sociologists, we can take up questions that challenge neoclassical convention. My own training in this area taught me that economic life is shaped by significant power imbalances, and I wanted to apply this insight to the kind of literature I've discussed on growth. Indeed, this kind of insight could go beyond existing ideas about growth which do not consider the social inequalities generated within it. For example, there is a large literature in environmental sociology on the "treadmill of production" (e.g., Gould, Pellow and Schnaiberg 2015). The term reflects the ceaseless motion of growth rates and, with it, rates of resource consumption and waste. As the term suggests, "production" is the key force, particularly private sector production. But this is obscured in this literature because it relies on measures of gross domestic product (GDP). GDP collapses production and consumption together. It also collapses households, business, and the public sector. Of course, GDP is a useful variable. We have to consider our collective output. But GDP won't tell us about relative social power and distribution.

Social scientists are beginning to see more clearly how social power and distribution are connected to emissions. For example, Lucas Chancel finds that in the United States "the poorest 50 percent emit about thirteen metric tons of CO_2e [CO_2 equivalent] per year and the wealthiest 1 percent emit at least 150 metric tons" (2020, p. 96). The rise of a "fossil economy" was also institutionalized around unequal relations. An-

dreas Malm brilliantly reexamines the Industrial Revolution in his book *Fossil Capital* (2016). He shows that the transition from waterpower to coal-powered steam during the late seventeenth and early eighteenth centuries was not due to efficiency concerns. Rather, coal gave English factory owners key advantages over workers, such as geographic mobility and extending the working day. Indeed, there is a long historical arch to inequality and ecological resources. The quest for profit led to colonial plundering for resources and the violent land-clearing strategies needed to make lucrative slave plantations in the New World. Hence, fossil fuel and other natural resource consumption is implicated in the formation not only of capitalist growth but of a racialized world order through imperialism.

More recently, this connection is visible from the "neoliberal" restructuring that followed the decline in profitability during the 1970s. Downward pressure on wages from deunionization has led to inequality which is itself associated with higher emissions (conversely, union density has been shown to reduce emissions). Overaccumulation, another response to this problem, has required more material resources. Perhaps most importantly, offshoring production to reduce labor costs has exacerbated emissions from long-distance trade and flexible production's high rate of resource use and consumption.

Since inequality is a relevant factor in emissions and because growth indicators obscure this fact, I wanted to study emissions predictors by unpacking growth. The most theoretically sound way to do this is to focus on *capital accumulation*. In the Marxist tradition, accumulation is both a social relation and the central driver of growth. This is based on unequal ownership of property as capitalists exploit labor to generate profit. Competitive pressure, moreover, compels capitalists to generate increasingly higher rates of profit over time in order to reinvest these proceeds. This is why capitalist growth is inherently unequal and also why it requires continual resource inputs. Indeed, as the preceding historical examples show, the profit rate also depends on natural resource exploitation. Manufactured and agricultural goods as well as service technology are built from raw and chemical inputs alike. A competitive and expansionary economy means more land use changes (itself a major emission driver and, let's also never forget, a driver of zoonotic infections like coronavirus). These outputs also need energy throughput to set it all in motion, including everything from cloud servers to container ships. Since fossil fuels constitute 85 percent of energy consumption worldwide, we can be sure that this accumulation cycle is generating greenhouse gases throughout.

To put this idea to a simple empirical test, I estimated greenhouse gas emissions by the rate of exploitation and the rate of profit (2019). I did this both at the industry and national level with a sample of OECD states. While my study could not directly capture important aspects like offshoring or assess long-term changes, I nonetheless found a significant statistical relationship in certain industries and the total economy overall. My findings contribute to the literature on economic growth and emissions. I point to more specific processes within growth: profitability and exploitation. Seen in this way, the problem of climate change is not just an economy based on endless growth, but *unequal social relations* inscribed within the growth paradigm.

My findings have important implications for thinking about mitigation strategies. For example, drilling down more closely into the social drivers of growth can add important nuance in debates about growth and climate change. As I've discussed elsewhere (2021), the emphasis on growth has led to two divergent climate strategies: "green growth" and "degrowth." The intense debate surrounding both can be helpful for situating the "big picture" in the long term. But for an immediate mitigation plan, I don't think it is helpful to pigeonhole the debate into either green growth – which opponents accuse of preserving the status quo – or degrowth – which opponents accuse of being unrealistic and strategically vague. In the short term, we should instead focus on inequalities in the workplace, points of trade, and sites of resource extraction. Alleviating social and ecological inequalities at the source is, in my opinion, a more concrete and socially just way of addressing the growth economy as compared with these two alternatives, i.e., either hoping "green" markets will take care of it down the road or taking risks through forcing gross output to fall.

These findings also shift the perspective away from an agglomeration of individual market preferences and incentives to power imbalances. *Pace* neoclassical economics, the distribution of emissions is not evenly spread out from consumption. Not at all. Those who own and control the world's resources have far more influence in the way they are distributed. By contrast, unorganized individual households and workers have little or no say over the production process.

In fact, against all of these perspectives on growth, this is *the* central issue. It is because these inequalities are a product of the same competitive market logic that drives an expansionary economy in the name of profit. Moreover, the inequalities produced in the market economy reflect unequal vulnerability to climate change. Mitigation strategies should be oriented around these inequalities. Carbon emissions and unequal economic growth are two sides of the same coin.

Solutions should therefore marry *decarbonization* with *decommodification*. That is, social policies that foster renewable energy, public transportation, sustainable agriculture, and "green" infrastructure and technology should also decommodify natural resources. Proposals like the Green New Deal aim for these ends while simultaneously improving wages, employment, and protecting the often racialized "frontline" communities most vulnerable from environmental hazards and climate change. Going further, decommodifying labor would more decisively address economic inequalities. Collective and democratic forms of ownership may not be an environmental panacea, to be sure, but they provide far more accountability over resource use than we have now. It would also mean more consideration of who benefits from energy use, including the health and environment of a community.

To conclude, I want to briefly discuss some ways economic sociology can contribute to this discussion through the lens of three core theorists.

Karl Marx: Marx provides a helpful analysis for situating social conflicts with growth. These ideas can be used to further refine the competing interests and divisions underneath growth and emissions. My analysis on profitability and exploitation only scratches the surface.

We have to also understand the myriad forms of segmentation and divisions among workers and other constituencies. Capitalism produces social conflicts over resources and energy both between and within classes (e.g., fossil fuel versus renewable energy workers; smallholder versus industrialized farmers). Moreover, social and geographic divisions are the bases of exploitive profit-making. Racial/ethnic and gendered segmentation in the workplace and outsourcing unpaid work to women in the home are integral to capitalist profitability. So too are underdeveloped areas in the Global South and peripheralized areas – overwhelmingly adjacent to poor and nonwhite residents – all over the world where waste and pollution are deposited. Incorporating these dynamics can fill out the way accumulation and emissions work and bolster a climate justice narrative.

Max Weber: Weber ended *The Protestant Ethic and the Spirit of Capitalism* by saying a rationalized *geist* would not end until "the last ton of fossilized coal is burnt." While Weber may not have appreciated just how environmentally prophetic this phrase was in 1905, he had many brilliant insights on modernity's ecological impact (Foster and Holleman 2012). This can be fertile ground for economic sociologists who want to engage with his wide-ranging thought. I would draw special attention to what he alludes to in that line from the *Protestant Ethic*.

Growth depends not only on labor and natural resources but on a rationalized culture. Technical expertise is crucial here, whether it comes from economists, business schools, central banks, or other commonly studied areas within economic sociology. This has climate implications. For example, Tim Mitchell's *Carbon Democracy* – though more Foucauldian than Weberian – traces how fossil fuel politics shaped the construction of "the economy" through national accounts data (2011). When oil became cheaply abundant after World War II, it became ideologically possible for economists, politicians, and planners to imagine an economy based on endless growth. Historical questions like these can be important for further research, and so can more contemporary topics. There has been a lot of technical work among scientists and "ecological economists" on sustainability and growth. Economic sociology can surely contextualize this kind of research and hopefully address its shortcomings.

Karl Polanyi: Polanyi's insights into market societies and their contradictions can be extended to climate change. His ideas about the "double movement," for example, have been used by some scholars to theorize social responses to ecological changes. Additionally, Polanyi offers critical insight into the many market "fixes" cropping up in recent years, such as carbon markets. Of note, Gareth Dale has written extensively on Polanyi and excavated numerous "green" connections. For example, Dale argues that Polanyi prefigured ideas on degrowth. His critique of economic thinking can be directly extended to contemporary green growth ideas. For instance, Dale has connected Polanyi's ambivalence about the New Deal to proposed Green New Deal plans today (2020).

Finally, I would also underscore Polanyi's contention that markets commodify labor, money, and *land*. Land use changes are a very important driver of climate change. Modern-day enclosures entail deforestation, industrial farming, and intensify resource extraction. Polanyi would probably not have been surprised at the kind of cultural degradation and social alienation experienced by the recently dispossessed when land is commodified in the twenty-first century.

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