

## Human Greed Versus Human Needs: Decarbonization of the Global Economy

Beyond Free Market

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# 6

## HUMAN GREED VERSUS HUMAN NEEDS

### Decarbonization of the global economy

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#### Introduction

From a human development perspective, people in the developed world, and increasingly the developing world, owe a lot of our modern lifestyle, technologies, and conveniences to the carbon emissions, spewed out of smoke stacks, tail pipes, etc. that are emblematic of 20<sup>th</sup> century industrialization and the economic system that has come to dominate the majority of the world. However, for all the benefits industrialization and capitalism have ushered in, many ills have manifested along with their evolution: sweeping and increasing economic inequality within countries (Knoop 2020), exploitative labour practices (Hannah and Peter 2014; Kaur 2010; Skrivankova 2010), creation of a new generation of elite capitalists (i.e. billionaires) (Petras 2008), and environmental degradation and destruction, to name a few. It is an inconvenient truth that the very systems our species (*Homo sapiens*) has invented have brought such rapid human progress yet are also now a threat to democratized human development, and to the future of humanity itself. Presently, there is no larger threat, not only to our survival but to non-human life as well, than climate change, for which our role in causing it is scientifically indisputable (Santer et al. 2019).

Like a scene from a murder mystery show, where the audience is asked to find who to blame for the crime, we can easily find the culprits responsible for the ‘crime’ of global warming and climate change: 90 companies are responsible for two-thirds of the world’s carbon emissions from 1854–2010—half of this amount has been since 1984 and half have been emitted by the fossil fuel and cement production industry since 1986 (Heede 2014; Goldenberg 2013). When juxtaposed with the anticipated consequences of climate change impacts, such an analysis understandably warrant calls for decarbonizing our energy, transportation, and construction industries through increased adoption of renewable

energy, deployment of low-carbon public transportation infrastructure, low-carbon building materials, and electric vehicles. At the same time, it must be asked: what ends have these carbon emissions been serving? At the core, the bulk of society's carbon emissions serve to power (both in a literal and figurative sense) our globalized, capitalist economic system. Factories and office buildings require a stable supply of energy to run. Workers need to fill their cars with gasoline so they can commute to work. Trains and buses that shuttle commuters from suburbs to cities require reliable supplies of diesel. In other words, our carbon emissions are intimately tied to the way our society has chosen to construct and organize its economic system, one which requires sustained and ever-increasing growth.

To avoid surpassing an increase of 1.5°C in global temperatures above pre-industrial levels, we have ten years (as of this writing) to ensure global carbon emissions decline by around 45%. Moreover, by 2050, we must reach net zero emissions. This is the sobering conclusion of the Intergovernmental Panel on Climate Change (IPCC) *Special Report on Global Warming of 1.5°C* (IPCC 2018). The urgency and challenge are brought to the fore when you consider that some researchers conclude less than 2°C of warming by 2100 is unlikely (Rafferty et al. 2017). Not to mention that analysis shows fossil fuel use has been *increasing*, not decreasing, and will continue to do so, particularly among the non-OECD countries (whose residents understandably desire a higher quality of life like their counterparts in OECD countries) (Never et al. 2020). Despite such daunting prospects, it is clear the challenge that human civilization faces, and what the IPCC states in its report unequivocally: we must decarbonize the global economy immediately to avoid the most catastrophic impacts from 'runaway' climate change. Despite the urgency and all the conferences, symposia, and committees formed over the last two decades (and more), meaningful progress has occurred at snail's pace. Current measures, while commendable, only inch us forward at a time when we need to *leap* forward.

There are two sides of the 'decarbonization coin' (so to speak). One is the technical, which includes fundamentally changing our energy sources, the materials we use in making things, and implementing techniques of carbon removal. We have a strong grasp of what is needed on a technical level, and indeed, many researchers note that all the technologies and strategies that we would need to deploy to reduce carbon emissions are already here and supplying 100% of our energy using hydroelectric, solar, and wind is achievable (Delucchi and Jacobson 2011a; Delucchi and Jacobson 2011b). Meanwhile, another group of researchers, those behind Project Drawdown, have developed a list of the most impactful strategies to implement and adopt to have the largest impact on carbon emissions, and all of these are things we can do today, right now (Makower 2017). There is no need to wait for nuclear fission or some of other miraculous technology to be invented and adopted. Having said that, while addressing climate change is in large part a technical problem (from a purely problem solving or engineering

perspective), it exists within a globalized society, made up of 7.6 billion social actors. As such, climate change does not exist in a vacuum but instead is deeply interwoven and embedded within socio-economic and socio-political systems. This brings us to the other side of the decarbonization coin—the social—which includes societal norms, values, institutions, and culture (to name few). Coverage on climate change and decarbonization is largely made up of contributions by natural scientists and economists, and while they have made important contributions by investigating the intersection of the environment and the economy, the social dimension has seen less development and focus. If we have any chance of success at decarbonization, we must integrate social science perspectives within discussions around climate change and the drive to decarbonize, which acknowledge that we live our lives within structures of power (visible and not) and consider areas such as poverty, equity, (social) justice, inequality, gender, and social transformation.

As such, this chapter looks at the social side of the decarbonization coin through the adoption of the concept of basic human needs (Doyal and Gough 1984)—the ‘human needs’ in the title—and calls for a shift in framing the relationship between economy and society and its activities according to basic human needs. This is prefaced with a section of our current economic system which subsumes, and arguably compromises, human needs for the goal of increased profits and growth (the ‘human greed’). The chapter starts with the latter which represents present conditions and then moves on to the former. The chapter concludes by suggesting a way forward by reimagining the relationship between the economy, the environment, and the social through principles focused on basic human needs that respect planetary boundaries.

## Human greed

Over the past century, the prevailing paradigm shaping the architecture of the economic system has been neoclassical economics, and over the past few decades, this has transformed for many countries (e.g. the United States and the United Kingdom being key leaders) into a particular form—neoliberalism (Saad-Filho and Johnston 2005). Underlying these are certain key elements, under the banner of capitalism, broadly organized into two general areas: production and consumption. Historically, these elements have functioned on a microlevel in villages and communities, evolving into forms such as bartering (i.e. offering goods or services in exchange for those needed by the other person). The widespread adoption of money and currencies, elements central to the capitalist system, reshaped the model around production and consumption because people were no longer exchanging goods and services based on ‘use-value’ (i.e. the material uses of the object and the human needs it fulfills) but ‘exchange value’ (i.e. two commodities are exchanged on the ‘open market’ by being compared to a third item that acts as a ‘universal equivalent’—money). In other words, one of the outcomes of capitalism is that it puts primacy on exchange value, and the drive

to accumulate it, and subordinates use-values, i.e. human needs. Fundamentally, the most crucial element is the *private* ownership of the means of production and its operation for profit. This results in private firms controlling the means of production, not those producing it, and being owners of the enterprise (the ‘capitalists’). Another element that is important for a ‘free market’ is well-defined property rights.

However, there are activities related to the means of production whose property rights are not well-defined, collectively called externalities in the economics parlance, which are costs involved in production but which are not borne by the firms doing the production, but instead third parties (typically without their consent). In the context of this chapter, the most relevant (negative) externality is carbon emissions (and related to this, pollution from burning of fossil fuels more generally). Historically, economics has tended to do a poor job of factoring in these negative externalities within their models or analysis, and some firms chalked them up (crudely) as ‘the cost of doing business’. Yet, climate change and its ensuing impacts in the coming decades makes such a perspective outdated, out of touch with reality, and arguably, irresponsible. In short, externalities matter and fossil-fuel related emissions (carbon, methane, nitric oxides, sulphur, etc.) are some of the most egregious. When you consider that more than 70 percent of global emissions come from just 100 companies, those at the helm, the CEOs, have a disproportionate influence on such negative externalities as they plan the activities of their companies. Indeed, there is an argument to be made that billionaires, through their position as leaders of these companies are complicit in causing and exacerbating climate change (Darby 2018).

For the past century, fossil fuel companies have been getting away with not being responsible for the negative externalities their activities created. The experience of adopting market-based mechanisms to encourage responsibility and to address such externalities do not encourage much faith in free-market principles saving us from climate catastrophe. Recent analysis has shown even the most aggressive carbon tariffs (or ‘taxes’), i.e. \$100 USD per ton of CO<sub>2</sub> will have limited impacts on the fossil fuel industry (Barron 2018). Besides such conclusions, we can also see proof of the inadequacy of market-based instruments to facilitate decarbonization by considering that increasing adoption of carbon tariffs across countries has had modest impact on carbon emissions. Moreover, energy companies have little incentive to shift from a business as usual scenario because to do so is expensive, at least in the short term, which is the time window by which most corporations are assessed: profit and revenue per quarter, growth per year, CEO’s yearly bonuses. Even on a longer time horizon of decades, fossil fuel companies’ complacency is emboldened by trends that show fossil fuel demand and use will only *increase* due to demand rapidly urbanizing Global South, as demand tapers or reduces in advanced economies (IEA 2020). For example, world energy consumption is expected to rise by 50% between 2018 and 2050, with almost all of this growth expected in non-OECD countries, and with Asia accounting for most of the increase in energy use (EIA 2019).

## Human needs

The concept of human needs as put forward by Doyal and Gough (1984) defines *basic individual (human) needs* as elementary goals that have to be achieved before an individual can achieve any other goal, regardless of their culture, creed, religion, etc. As the authors describe, basic human needs are made up of two categories, survival/health and autonomy/learning. Survival entails all individuals having of their physical requirements being met, e.g. food, water, while also having sense of their identity and autonomy to carry out actions, i.e. autonomy or agency. Thus, both survival and autonomy are necessary to carry out the achievement of other goals. Moreover, health, both physical and mental health, constitute the most basic human need, and one which must be satisfied before any others (Doyal and Gough 1984).

Outside of the individual, and in recognizing the importance of socialization to our species, there are also basic societal needs that must be achieved so that individuals can satisfy their basic needs: production, reproduction, culture/communication, and political authority (Doyal and Gough 1984). Indeed, individual needs and societal needs are interrelated and depend one another. Crucially, this framework of basic needs is prefaced by the need for human *liberation*, i.e. the goal of maximizing individual or collective *choice* in meeting basic needs. Arguably, our current economic system of capitalism does not lend a large portion of the human population much choice in how they meet their basic needs. For example, a woman from a poor household in rural Lesotho is compelled to leave the home and work in a garment factory to support her family's meagre income so that their basic human needs can be met (Baylies and Wright 1993). In other instances, poor small-scale fishers are 'forced' to continue fishing despite declining incomes because of limited alternative options to support their livelihoods (Asif 2020).

At the same time, there are defined ecological boundaries that place a limit on economic production which must be reconciled with the need to have sufficient material resources to support the satisfaction of basic human needs for all. From this perspective, there is an impetus to employ strategies that protect and conserve the environment given our reliance on the natural earth systems for our survival. In other words, it is not only a matter of natural resources being available, but a question of how and why we use them. From this, the concept of 'ecological needs' (Doyal and Gough 1984) helps to explain the oppositional forces of human greed and human need, which considers the global, natural constraints within which all actions to achieve basic individual needs must function.

The logic embedded within free market principles and capitalism requires ever-increasing economic growth. What does this mean on a practical, everyday level? Such a system is fundamentally antithetical to providing for basic human needs because the profit motive supplants everything else. To most individuals who are deeply fearful of the consequences of a warmer world and what this means for their children's and grandchildren's future, such trends do not lend an optimistic

perspective. We must shift our focus within decarbonization's goal to centre on expanding the possibilities for everyone to achieve their basic human needs.

In reconciling human needs and human greed, it becomes clear that there will have to be significant and profound constraints placed on vested interest groups that are furthering human greed at the cost of human needs. The following section outlines where things stand, the challenges we face, and possibilities of a more sustainable future.

## Discussion

The climate change space has been imbued with the narrative portraying climate change as a foe that must be fought 'against' in a kind of battle that we must win. This can be seen quite literally, in fact, with phrases such as 'the fight against climate change' (see Anderson and Nevins 2016; Bortscheller 2009; Hickey, Rieder and Earl 2016; Hunt 2009). However, once we start thinking about the social side of the decarbonization coin, it forces us to refocus the question from 'what are we fighting against?' to 'what are we fighting *for*?'. Thinking from the social side of decarbonization demands us to think and act differently, and most importantly, it requires us to change our value system—from one where our institutions are not driven solely by economic growth and profit-earning and where we are not driven by (and to) (over) consumption.

The essence of this is summed up well by Weizsäcker and Wijkman (2017), the two co-presidents of the Club of Rome (the same group that published in 1972 the controversial, albeit ground breaking, *The Limits to Growth* which warned of global collapse from a business as usual pathway) in their recent volume on the intersection of the economy and a sustainable future:

“Values represent the quintessence of human wisdom acquired over centuries. And in the new system that's developing, they must embody the fundamental principles for sustainable accomplishment, whether individual or social. These must be even more than the inspiring ideals that supply the energy needed to fulfil human aspirations. Values are a form of knowledge and a powerful determinant of human evolution. They are psychological skills that have profound *practical* importance. Education must be founded on values that promote sustainability and general well-being for all. A move toward inculcating sustainable values would amount to a paradigm change in our current society's value system. It would consider as its aim the greater well-being of both human and the natural systems on which they depend, rather than a valuation for more production and consumption. Conscious emphasis will be placed on values that are truly universal, as well as on respect for cultural differences. At the grass-roots level, the movement towards sustainability can build on deep local values. Values can create transformational leadership, leadership in thought that leads to action.” (Weizsäcker and Wijkman 2017, p. 198)

A fundamental challenge in the context of climate change and a kind of ‘catch-22’ of achieving decarbonization is that values do not change overnight, they take time—something that we do not have an abundance of given our ten year window. Adding to this, one of the consequences of ‘human greed’—the continued push to profit off of fossil fuels as long as possible—that will pose an exceptional challenge to decarbonization of the global economy is ‘carbon lock-in’. The term relates to the nature of fossil-fuel infrastructure which generally is designed to last several decades. Thus, as countries build such infrastructure, they are in a sense guaranteeing or are ‘locked’ to emitting a certain amount carbon for the medium-term. As Seto et al. (2016) explain, there are three main types of carbon lock-in that will stifle progress towards decarbonization: i) infrastructural and technological lock-in—e.g. street layouts, land use patterns, buildings, long-lived fossil fuel distribution and consumption infrastructure; ii) governance, institutional, and decision-making associated with energy production and consumption, which influences energy supply and demand; and iii) behaviour, habits, and norms related to demand for energy-related services. For industrialized countries, their long-standing reliance on fossil fuels to provide energy presents an opportunity to transition away from carbon lock-in because as their energy infrastructure ages, there is a window to adopt sustainable energy systems. The larger challenge in addressing carbon lock-in will be for industrializing countries who are rapidly building infrastructure that rely on fossil fuels instead of systems that employ renewable energy sources.

Dismayingly, the development of carbon-intensive infrastructure is *increasing*, not decreasing. This boom in fossil fuel infrastructure creation has been facilitated by the passing of key pieces of legislation which loosens regulations on the fossil fuel industry. For example, in the United States, the Energy Policy Act of 2005 not only provided tax incentives and loan guarantees to companies for energy production but also exempted the fluids used for natural gas production and hydraulic fracking from protections under the Clean Air Act, Clean Water Act, Safe Drinking Water Act, and the Comprehensive Environmental Response, Compensation, and Liability Act<sup>2</sup>. Combined with the lifting of the 40-year ban on exporting domestic fossil fuel production, this has all but guaranteed carbon lock-in and hampers the path to decarbonization. It is important to point out here that much of this boom in carbon-intensive infrastructure and production is designed for export, primarily to be used in plastics production—not energy. Since 2010, fossil fuel companies have spent \$180 billion on new ‘cracking’ facilities (cracking is a petrochemistry technique to break down crude oil into various useable components, including petrochemicals for plastics) (Taylor 2017). The production of petrochemicals is expected to increase from 16% of oil demand in 2020 to 20% by 2040, and a sizeable amount of this is to supply the raw materials needed to make plastics (McKay 2019). Such trends will result in further carbon lock-in for the next several decades, which is the expected lifespan of the kinds of infrastructure being built.

Amidst these observations, something must change for decarbonization of the global economy to become a possibility. Unfortunately, we cannot simply expect change from our governments, we must *demand* it. After all, if history is to be used as a harbinger, many achievements and milestones in social justice (because, to be sure, climate change is as much, if not even more, of a social justice issue than a technical issue) and progress were achieved directly because of grassroots, citizen action-led movements. For example, the women's suffrage movement which paved the way for women's rights to vote in the mid-19<sup>th</sup> century. National and international organizations, namely the International Women Suffrage Alliance, were formed to coordinate efforts around the world to achieve this objective (Sneider 2010). These organizations developed extensive political campaigns which were crucial in obtaining the necessary legislation and constitutional amendments to achieve women's suffrage. In other cases, progress was made despite special interest (read: profit maximizing) organizations resisting change and because we collectively decided that there must be change. Child labour was commonplace in coal mines in the 17<sup>th</sup> to 18<sup>th</sup> century during the industrial revolution with children as young as four years old being put to work in dangerous conditions for pennies a day. The public was largely unaware of this until a serious accident (thunderstorms led to a stream overflowing into a ventilation shaft, killing 26 children) revealed the extent of child labour used in the mines (Simkin 2020). Public pressure alongside pressure from Queen Victoria led to establishing of the Royal Commission of Inquiry into Children's Employment and the release of a report which caused widespread public outrage. Despite this, three-quarters of petitions to Parliament were against the proposed regulation outlawing child labour. Unsurprisingly, upwards of 86 percent of these petitions came from districts with a high concentration of child labour and where employers feared that this new law would lead to less profits (Kirby 2003). This historical example reiterates the point made earlier, namely that capitalism and the lust for profits by individuals and organizations obfuscates the importance of meeting basic human needs.

## Conclusion

Some encouraging news is that achieving energy solely from water, wind, and the sun is possible and analysis by Delucchi and Jacobson (2011b) shows that the cost of doing so is similar to the current cost of generating energy from fossil fuel (using figures from 2007 in the United States). The authors emphasize, and reiterating the point made in this chapter, that the barriers to do so are largely social and political, not technological, or economic. Perhaps the most inspiring case of humans working together in solidarity to prevent an environmental catastrophe is the signing of the Montreal Protocol in 1987 and its ratification by 196 countries. Officially known as the Montreal Protocol on Substances That Deplete the Ozone Layer, it paved the way for phasing out of ozone-depleting substances, known as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs)

from industrial use (e.g. refrigerants), that scientists discovered were breaking down the ozone layer in the upper atmosphere, a critical invisible sheath that protects earth from the most harmful ultraviolet radiation. In doing so, 1.5 million cases of skin cancer, 330,000 cancer deaths, and 129 million cases of cataracts were prevented, by some estimates (Cardoni 2010). Moreover, the Montreal Protocol also played a key role in climate change by preventing 11 billion tons of CO<sub>2</sub> from entering the atmosphere (the CFCs and HCFCs act as even more powerful heat-trapping molecules than CO<sub>2</sub>).

In taking stock of some past achievements, we must ask ourselves: which way should we reengineer our economic and social systems to meet the basic human needs of 7.6 billion humans? As I put forward in this chapter, the primacy of ensuring basic humans needs should be the underlying principle that guides all future policies within governments and organizations if we want to have any chance of not putting a permanent burden of coping with the impacts of climate change onto the future generations of humans, all of whom would have played no part leading into their existence. Going forward, we must remind ourselves of our past and those specific instances where we overcame pressing social and environmental challenges. The way this was achieved is that we united, we cared, we did more than just vote every four years—we formed coalitions, cooperatives, encouraged activism, raised awareness, and demanded change from our institutions and politicians, who serve us. We have done it before. And we can do it again.

## Notes

- 1 It must be noted that an important requirement to achieve this involves not only reducing carbon emissions but also *removing* carbon dioxide currently in the atmosphere because of the time lag of carbon emissions, i.e. the climate impacts of carbon dioxide emitted takes some time (about a decade on average) to manifest given the way the global climate and various earth systems function, which increases with the size of emissions (see Zickfeld and Herrington 2015)
- 2 The Energy Policy Act also contains more environmentally progressive measures such as tax credits for wind and other alternative energy producers, tax breaks for those making energy conservation improvements to their homes, protects the Great Lakes from fossil fuel exploration, among others.

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