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*MuseLetter #331 / September 2020 by Richard Heinberg*

## **What If Preventing Collapse Isn't Profitable?**

The notion that modern industrial civilization is fundamentally unsustainable and is therefore likely to collapse at some point is not a new one. Even before the *Limits to Growth* report of 1972, many ecologists were concerned that our continual expansion of population and consumption, based on the ever-increasing rate at which we burn finite supplies of fossil fuels, would eventually lead to crises of resource depletion and pollution (including climate change) as well as catastrophic loss of wild nature. Dystopian outcomes would inevitably follow.

This apprehension led environmentalists to strategize ways to avert collapse. The obvious solution was, in large measure, to persuade policy makers to curtail growth in population and consumption, while mandating a phase-out of fossil fuels. But convincing political and business leaders to do these things proved difficult-to-impossible.

The folks in charge used the following arguments to justify their refusal to act.

*Population Growth:* The choice of whether or not to reproduce is a basic human right, said the authorities. Seeking to interfere with that right also violates religious freedoms. Besides, population growth helps economic growth (see "Economic Growth," below).

*Economic Growth:* Policy makers insisted that we need a bigger economy, not a smaller one, to pay for environmental cleanup, more of which seems to be required all the time. Also, we need growth in order to pay back public and private debt, which has ballooned in recent years due to the expectation of future profits and tax revenues. Further, we must raise the living standards of people in poor countries, and poor people in rich countries, and the only way to do that is to expand trade and other economic activity.

*Fossil Fuels:* Yes, of course burning oil, coal, and natural gas is problematic in the long run, political and business leaders admitted. But until a cheaper energy source comes along, fossil fuels are necessary for economic growth (see "Economic Growth," above).

Together, these arguments were impenetrable—not because there weren't any better counterarguments, but because they reflected the short-term imperatives of the economic system itself. It's a system, after all, that has to

keep moving and growing to survive. So, for environmentalists, it was back to the drawing board.

After strategizing feverishly, they came up with what seemed like a winning formula. What if there could be “clean” energy sources cheaper than fossil fuels, and what if economic growth could be achieved without more resource extraction and waste dumping? In short, what if industry could profit by saving the planet? If this really turned out to be the case, two of the basic ecological contradictions of modern society (increasing rates of resource depletion and pollution) would disappear painlessly. Meanwhile, we could simply ignore the population issue and hope that it somehow takes care of itself as economic growth makes people more affluent and therefore likely to have fewer kids. Everybody wins!

And so, starting in the 1980s, big environmental organizations relied to an ever-greater extent on partnering with corporations and on hopes for technological solutions to the growth dilemma. Climate change would be defeated through the development of renewable energy. The looming problem of resource depletion would vanish as a result of more efficiency and recycling. Pollution would disappear with the proliferation of harmless, biodegradable, recyclable materials. Building solar panels, manufacturing “green” products, and recycling old stuff would be profitable and would create jobs. Economic growth would be decoupled from environmental harms of all kinds. Our collective human economic metabolism would continue to increase in scale, but in ways that didn’t threaten wildlife or future generations of humans. Problems solved!

To be fair, environmentalists have also lobbied for carbon taxes, various regulations, and government investment to jumpstart the shift to alternative technologies, and some environmentalists never got on board with the pro-growth propaganda. But usually the promise was front and center: with just an initial nudge, planet-saving would soon become a self-funding growth activity for industry.

And here we are today. The opportunities for green growth have snowballed to the point where they are now seemingly endless. New machines have been invented to suck carbon dioxide out of the atmosphere; these machines are expensive, and enormous numbers of them will be needed to make much of a difference with regard to climate change, so the profit potential is mind-numbing! Engineers have found ways of combining captured CO<sub>2</sub> with hydrogen released from water by the application of electricity; the results are synthetic fuels that could replace oil and natural gas in transportation and industry. Those “synfuels” promise to be expensive to produce, so get ready for a torrent of new commerce as fuel users gear up to pay for them! The same goes for electric cars, as hundreds of new models move from drawing boards to showrooms! Meanwhile, solar panels and wind turbines are getting cheaper, so there’s little to prevent renewable energy from crushing the fossil fuel industry once and for all! Make way for green profits and jobs galore!

And yet, during the last few decades, as all these supposedly profitable green solutions have sprouted, our actual environmental problems have gotten worse. The Earth has warmed by more than one degree Celsius above its temperature fifty years ago. Forests are burning as never before. Storms are becoming mega-storms. And the number of climate refugees is climbing fast.

Two-thirds of all wild animals have disappeared in this last half-century. The oceans appear to be dying from acidification, overfishing, and giant gyres of plastic pollution. Meanwhile, human population has doubled, from 4 billion in 1974 to nearly 8 billion today.

What's the hitch? Have environmentalists simply not tried hard enough to sell their no-pain marketing plan? Has insufficient government investment and regulation prevented the big green profit machine from revving up to speed? Or is there something fundamentally wrong with the eco-opportunity message?

It's easy to make the case that government has dragged its feet on regulations and incentives. But if green alternatives are really so profitable, why the reluctance to wholeheartedly support them? Yes, fossil fuel companies have deliberately thrown tacks in the roadway, questioning climate science while hoovering up government subsidies, and they have spent vast amounts both to lobby and contribute to the campaigns of elected leaders. But surely that's not the only impediment.

Consider renewable energy. Costs for solar panels and wind turbines have continually fallen, so these alternative energy sources should be Exhibit A for the green-growth argument. Unfortunately, however, the difficulties of a complete transition from fossil fuels to renewables cannot be boiled down to a question of cost per unit of electricity produced by solar versus coal. Renewables and fossil fuels are very different sources of energy, requiring different systems to manage and use them. Therefore, the transition will require a great deal of investment in infrastructure beyond panels and turbines themselves.

The intermittency of sunshine and wind imposes the need for energy storage technologies, for much greater redundancy of energy sources, for more robust transmission grids, and for infrastructure to turn electricity into fuels for technologies that will be hard to electrify (such as long-distance airplanes, big farm machinery, and high-heat industrial processes like cement making). All of these will be costly.

Take just the last of these—synfuels, of which considerable quantities may be needed, depending on how much aviation, shipping, intensive farming, and high-heat industry we want to maintain. We can make synfuels from free sunlight and wind, and CO<sub>2</sub> captured from the air. It would seem to be a no-brainer. But it turns out that the process is inefficient and expensive compared to doing the same work with oil or natural gas. While sunlight and wind are free, the machines we use to capture energy from them are not; they are built from nonrenewable materials, just like oil derricks and gas pipelines. Fossil fuels are, in a sense, free too. Sure, they need extraction, refining, transport, and burning, but nature has already done the work of concentrating and transforming millions of years' worth of ancient sunlight into substances that are relatively easy to store, transport, and use. Until these fuels start to get really scarce (which may happen sooner than a lot of people assume), fossil fuels will therefore continue to be cheaper, in many applications, than renewables.

Further, we already have the infrastructure required for finding, extracting, transporting, and using fossil fuels, whereas the production of synfuels would

require a great deal of new infrastructure—so much that it would amount to a replacement for much of our existing fossil fuel industry, which took many decades to build.

So, even if solar panels and wind turbines continue getting cheaper, there will still be systemic technological and economic hurdles—in addition to any political foot-dragging—hindering a full transition.

Ugh. That was supposed to be the cheap and easy part of the green-growth solution. Unfortunately, there are even more difficulties to be faced in attempting to maintain a growing economy and an expanding population while dramatically reducing environmental harms.

Some of those problems are summed up in the word externality. In economics lingo, an externality is the impact of an economic transaction that is not priced into that transaction. No one sets out to produce externalities, in the sense that no one pollutes just for the sake of polluting. Pollution is a byproduct of doing business, and industry typically assumes that society as a whole will either learn to live with the mess or pay to clean it up. Only rarely does industry foot the bill (that's what might be called internalizing the externality). Most of the time, industry profits, while nature bleeds and society pays.

Perhaps you've read [reports](#) that estimate the future costs of climate change. The numbers are staggering. Surely the prospect of such unprecedented financial losses over the coming decades will motivate today's industrialists to invest in green alternatives! Not necessarily. Publicly held corporations are required by law to make decisions that result in the highest value to their shareholders, not society as a whole. Next quarter's profits are therefore all-important. If climate change imposes unbearable costs on society at some point down the line, that's society's burden.

Another set of problems issues from our laws regarding private property. If a corporation buys land that happens to contain a major coal deposit, the corporation owns that coal and can mine and sell it. (In some cases, corporations can even buy rights to resources below land owned by others.) But no business made the coal, or the soil above it. Industrialists simply claim ownership by paying a fraction of real value, and then profit from the extraction of whatever valuable minerals may exist. Resource depletion is always our grandchildren's problem, never ours. And our grandchildren have no seat at the table.

In other words, whether the problem is related to pollution or depletion, the incentives and advantages are all on the side of industry and growth, never nature and conservation, unless government steps in with a regulation or two.

Yes, there are occasional profits to be made from green energy and products. For example, companies sometimes earn profits by making and selling solar panels, electric bikes, biodegradable laundry detergent, and hemp T-shirts (note: I'm setting aside, for now, the full life-cycle ecological footprints of these products when I characterize them as "green"). But until the fundamental incentives and legal structures that support our current industrial growth economy are overhauled, the lion's share of profits will continue to accrue to industries that extract and pollute. The reason these industries

extract and pollute is that most economic activity is directed toward consumption, and most consumption inevitably depletes resources and pollutes. That's why there's been no overall shift in society's direction.

So, what would actually be required to stop the bleeding?

First, we would have to abolish externalities. That would mean requiring industrialists to pay all the real costs of their activities—from mine to landfill. No more free pollution, including the free dumping of carbon dioxide into the atmosphere.

Then we would have to change laws related to the ownership of land. As American economist Henry George proposed back in the 1870s, and as Native Americans have always believed, land should be the common property of all people, and other species should have the right to habitat and survival. Workers should own the products of their labor, but no one should unilaterally own our common inheritance of nature's bounty.

If we did these two things, most profits would disappear. Yes, people could still exchange products and services, but windfalls from resource extraction and from industrial processes that entail waste dumping would vanish. Therefore, policy makers would have to reorganize political and economic systems so that profit was no longer as important; instead, the well-being of people and planet would be paramount.

Without industrial-scale profits, an enormous amount of debt would come due that could not be repaid with interest. In effect, that would mean the disappearance of mountains of money. Again, policy makers would have to retool the political-economic system so that money and debt play less of a role in people's daily lives.

There is a third and final realm in which action would be necessary. We would need to take the population question seriously. If population is growing, a shrinking economy becomes an ever-greater burden on each individual. But if population levels are declining, then economic degrowth imposes a smaller per-capita toll, and quality of life could improve as human numbers decline to a sustainable level.

The eventual result of taking these collective actions would likely be a happier society, but a smaller and slower one. Many people already yearn for a slower and happier way of life, and, ironically, under current industrial conditions they are forced to pay extra for simple, healthy food, clean air, and opportunities to feel creative and genuinely useful. The simplicity movement, the permaculture movement, the self-sufficiency movement, the maker movement, the tiny house movement, the sharing economy, and the back-to-the-land movement have all sought to cultivate and channel the understandable human urge to regain personal autonomy, re-weave social relationships, and reconnect with nature. There is advantage to be had in ending our assault on the planet; just not profit in the financial sense.

You see, the real downside of the green-profit narrative has been that it created the assumption in many people's minds that the solution to climate change and other environmental dilemmas is technical, and that policy makers and industrialists will implement it for us, so that the way we live doesn't need to change in any fundamental way. That's never been true. The

sooner we get that through our heads, the more time we will have to get used to living happily within limits—without nature imposing those limits in ways that aren't so pleasant.