

## ***Invisible Ships and Boiling Frogs:***

### ***The end of industrial affluence***

By Karl North  
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It is said that when the ships of the Old World first approached the New World, they were sometimes invisible to the indigenous people of the Americas because the latter could not imagine such a thing as a fleet of large sailing ships, and simply did not believe their eyes.

In the same way, when a large enough change looms in our future, we tend to dismiss calls to pay attention as the talk of eccentrics or screwballs. If the magnitude of the change is beyond our historical experience, we simply cannot imagine it.

The end of the industrial era as we know it is one such change. This essay is an attempt at persuasion – that the ships of change really are on the horizon.

*The energy sources that underpin industrial civilization will become permanently scarcer over the next decades, and the material consumption we have become used to over the last two centuries will decline accordingly as a degree of deindustrialization occurs.*

The impulse to dismiss such statements is understandable considering the implied magnitude of change in our lives. As a rule the mass media avoid the subject. Thus, the general public is woefully uninformed. Yet much of the information that makes the case for this claim is hard science published by scientists who are among the leaders in their fields, experts who have not had the necessary access to the public to make their case. So let me summarize some of their key findings.

The story starts with the well-documented fact that many of the raw materials that have been essential to construct and run industrial civilization – everything from dishwashers to space shuttles – are finite. When they are depleted, they are gone forever, unless we recycle them, which in the main we have not done.

The central raw material is the high quality energy in the fossil fuels: coal, gas, and especially oil. No energy substitute can come close to providing the net energy achieved after the mining and processing of fossil fuels. Moreover, the reason these energy sources are central is that they have fueled the massive access and accelerating depletion of all other essential raw materials. This accelerated extraction of the planet's finite resources is unprecedented in human history.

Because of depletion and declining quality that becomes more energy expensive to produce, fossil fuels and other strategic raw materials are becoming scarce, causing a permanent upward trend in the cost of keeping the modern economy going, much less

growing. Powerful, technologically developed nations like the US have been somewhat shielded from the effects of this scarcity, and have continued business as usual until recently.

This brings us to the second part of the story. Increasingly in recent decades, powerful interests in the US have been exporting our industrial and agricultural production to other parts of the world where it can exploit cheap labor. It's a sort of deindustrialization but we still get the goods, which keeps us quiet.. And the US has used its power to go farther and farther afield to extract raw materials from other countries. To put it mildly, other peoples have never been happy with this arrangement, but US economic and military power has maintained the system until now.

This is about to change. The annual cost of our global military machine, adding in costs hidden from congressional budgets, is a trillion dollars. The US cannot afford this, so we get other countries to lend us the money by buying Treasury bonds. Countries like China and Saudi Arabia, from which we buy oil and cheap goods, own a lot of dollars because we have little to sell them in return. Until now most of these foreign dollar holders have been willing to use their dollars to buy treasury bonds, thus financing our ballooning government debt, itself due in large part to the cost of our trillion dollar a year military machine. As the long-term nonviability of the US economy became obvious to lenders, they are finding other ways of disposing of their dollar reserves rather than finance our debt, a trend that eventually will crash the value of the dollar. This alone will shrink our economy drastically. Combined with the inevitable decline in access to cheap energy and other strategic raw materials, the effect will be momentous.

This brings us to the third part of the story. In addition to sabotaging our economy by exporting production, our financial class has caused long-term damage to our economy another way. In the name of keeping it afloat, it has kept a faltering economy going by encouraging people and businesses to go increasingly into debt to purchase more stuff. It does this because in the domestic economy it can make more money from interest on debt than from profit on the production of real wealth. The current residential and commercial real estate melt down is only part of a larger resulting debt bubble. As it gradually and inevitably deflates it will end a two-decade-long artificial prop to economic growth.

There is a fourth part of the story, the damage to forest, fisheries, soils, aquifers and other parts of the natural resource base that underpin modern prosperity. Those chickens are now coming home to roost as well. As the subject is finally getting some media attention, I will not dwell on it here. To raise concern, hopefully it will be sufficient to quote scientist Lester Brown, who has devoted many years to informing the public of the erosion of earth's carrying capacity:

“A team of scientists led by Mathis Wackernagel concluded in a 2002 study published by the U.S. National Academy of Sciences that humanity's collective demands first surpassed the earth's regenerative capacity around 1980. Today, global demands on natural systems exceed their sustainable yield capacity by an estimated 25 percent. This means we are meeting current demands by consuming the earth's natural assets, setting the stage for decline and collapse.”

To summarize:

1. The global depletion of finite resources and the extent of damage to renewable ones has proceeded to a point where the cost of producing many of the goods that are essential to keep industrial civilization running will soon become prohibitive.
2. Plagued by debt that our financial class has created by off-shoring US productive capacity and replacing it with a fictional economy of credit, we can no longer afford the military cost of the imperial domination that sustains our plunder of other nation's resources and cheap labor. These nations are taking back control over their wealth, which will end the prosperity we have enjoyed for so long at their expense.

Coincidentally or not, these trends have reached critical mass, a point where their negative consequences for our society and what is left of its industrial base begin to appear with increasing frequency. It should be clear from the nature and longevity of these trends that we are not talking about a simple dip in the business cycle, but something more permanent.

Why is the US public so unaware of this gathering crisis? There is the consistent pattern of disinformation from government and media, and there is the frog-boiled-alive effect.

It is said that if you heat a frog in water slowly enough, it doesn't realize what's happening until it's been boiled alive. Though the trends described above are coming to a tipping point now, they have been accumulating for decades, slowly enough to be under the radar of most of us. We are like the frog in the slowly heating water. The number of work hours to maintain a family income and the debt serfdom to pay for higher education have been rising slowly enough over recent decades to become routine. Few people see the implications of the decades-long rise in the price of raw materials, the growing imbalance in our international trade, or of an accelerating national debt that has made the US government technically bankrupt ever since debt accumulation began in earnest in the Second World War. Few have noticed that countries we have exploited to prop up our prosperity, seeing the ultimate decline of a United States being bled dry in unwinnable wars, are not only declaring economic independence but also actually exerting economic sovereignty. This is another development that will contribute to our industrial decline.

So what is to be done? First, we must educate ourselves about this new state of affairs, which is unprecedented in the last 200 years. Second, we must confront the situation with a positive effort to retrench our economy by relocalizing the production of its most essential goods and services. Primary among these is food production. Across the industrial world efforts are afoot to envision the kind of relocalized agriculture that could be sustainable through the coming decades of descent to a lower energy economy.

As a concerned farmer/educator my contribution to this visioning process is involvement in [TCLocal](#), a project begun in nearby Tompkins County, New York to envision the

changes necessary to relocalize many aspects of county economy and life in response to a future of dramatically lower access to energy and strategic raw materials, declining US power and the ensuing partial deindustrialization of our economy.

My first contribution to TCLocal is a [vision of relocalization](#) of food production that addresses several needs that I see. We need to understand that a sustainable food system will require not only counties and regions to regain self-sufficiency in food production, but to design much more input self-sufficiency into farms themselves as well. We will also need dramatic changes in local land use, bringing agriculture back into urban areas and reorganizing land use in the agrarian hinterland of upstate New York towns like Ithaca and communities everywhere.

These changes will require the political will to exert local community sovereignty over more of the decisions that affect our lives. Whole nations are proclaiming food sovereignty; so should our rural communities here.

Industrialization, backed by a fabricated “natural law” of freedom of private capital, has allowed urban centers of power to despoil rural places and destroy agrarian communities, first in their immediate hinterlands – places like upstate New York – then in distant banana republics.

The inevitable deindustrialization to come will give our rural communities and smaller cities the chance to regain control: reclaim commerce from the big box chains, take back land use decisions from local real estate mafias allied with industrial capital, and free our farmers from the economic serfdom and ecological distortions imposed by agribusiness multinationals. But to do this we must decolonize our minds, cleansing them of the laissez-faire, everyone-for-himself, devil-take-the-hindmost cultural values that have so well served industrial elites. We must rediscover agrarian, communitarian values.

It is in keeping with these goals that I undertook a series of papers that explore a preliminary vision of a relocalized food system for Tompkins County. My effort is part of an ongoing TCLocal project to write articles, many already published at the same [site](#), that address all aspects and areas of relocalization that our group expects are needed now and in the future. We encourage your interest and input in the hopes of building an ongoing productive exchange of ideas with similarly concerned citizens. We hope such cooperative efforts will facilitate the transition of our upstate communities to a healthier, more sustainable society.