

Some reflections on sustainability: A truly long-term vision

There were several phases of the transformation. The first was necessarily rooted in the remnants of the industrial revolution, as the last thing that the intensive capital formation and accumulation characteristic of that period had to do was build out and deploy the wind solar and biomass technology fast enough. Nothing else could have mobilized so much innovation and expansion so rapidly, as double digit growth had to be maintained for decades to achieve the total rebuilding of not only the energy but also building infrastructure. Yet it was not until toward the end of that period that the overall energy efficiency of that technology reached a level that began to make sense for the kind of truly long-term infrastructure we now take for granted. This in-turn could only become possible once the debt based money system had transitioned to a new kind of financial model that made it more desirable to seek the longest possible store of value in (what was formerly called “renewable”) energy technology and super efficient buildings.

The world we have now increasingly resembles a garden with more and more subtle technological interventions. As the social game rules that used to be called economics shifted, it became increasingly clear that at least a third of our previous activity had been involved largely with keeping track of how to enforce the disparity necessary to create and accumulate capital necessary for the industrial revolution. Once that phase had completed its appropriate purpose in achieving scientific knowledge and technological capacity, much of it was no longer relevant and simply fell away in several rounds of what seemed like upheaval at the time, but have left humanity far happier and more secure.

As the longevity of solar panels have steadily grown at the same time as efficiency, and much of our previous frenetic activity has dropped, populations are gradually moving back toward a smaller stable plateau, we are now at the point where we can foresee enough energy capacity for future generations for 1000 years, with replacement coming from largely automated industrial systems operating in a state of zero impact on the biosphere and human health.

Meanwhile, the phase when the carbon content of the atmosphere was rebalanced by creating liquid fuels and charcoal fertilizers has left virtually all of our agricultural land more productive than it was at the dawn of human civilization. Most food production is carried out by a combination of gardening that people have integrated back into their preferred community lifestyle, or through the use of highly automated equipment that manages the planting tending and harvesting of grain, fiber and other high volume products. In colder climates, huge passively heated structures that enclose warmer micro climates inside them allow people to essentially hunt and gather inside these local community commons gardens. These also serve as the playground, school and community for children and elders as well as the rest of the community, as many of the functions that were for a brief period in the latter 20th century regarded as sources of employment and therefore cost centers that nearly bankrupted the system, are now once again part of an informal web of community life, mediated by trade credits and timedollars, but outside of any formal economic system.

Indeed, much of our time that used to be taken up in employment has now shifted back to this informal sector, as once energy security was in place, and our structures were built to last for hundreds of years with no energy inputs, and food became more integrated into the fabric of local life along with children’s education and elder care, there wasn’t really that much reason to need a job.

There are still transportation and technology at issue, but much of what was once called business travel has disappeared along with the daily commute, taking with it most of the energy we thought we had to have. As the local and regional transit systems have gradually grown back and cars have become super light weight, and for one or two people super compact, while robotic

Some reflections on sustainability: A truly long-term vision

delivery has become ubiquitous. Some heavy transport, especially trains, trucks and large scale agriculture still runs on diesel, or diesel electric, most light weight individual transit is electric or hydrogen powered.

Medicine is also a critical area, though here the workload has diminished as we have pulled the environmental toxins out of circulation and dropped the stress of debt-based money and the 9-5 work week. Those who serve in medicine do so out of love and the challenge of serving humanity in that capacity, just as many other people serving in what had once been professional jobs do. In a similar manner, people often do serve on community work projects doing a tour of duty doing physical work on a short-term basis.

It is the need for Jobs that has vanished along with the debt based money. People still work and there are still goods and services exchanged, but it is now possible to stop, or at least to slow down a great deal without feeling like one is being sucked backwards into oblivion. With more than enough housing now in place for a steadily declining population, and an energy infrastructure that has already been paid for and will serve our great great grandchildren, we are increasingly stewarding the world for them. Many people choose to spend most of their time gardening and taking care of children. These tasks are especially popular among some of our elders, but it is sometimes hard to know who is taking care of whom.

Information and communication technology achieved a plateau where there seemed to be a diminishing return in remaking the physical material in the absence of the requirements of monopoly capitalism and we have gone over to making exceedingly clean and durable matter, while the programming and software does continue to evolve in a massive open meritocracy where people continue to evolve the Intersocialnet out of the inherent satisfaction of the creativity and pride in their social status that they derive from the activity itself.

Indeed, in all of the sciences, much of engineering and especially medicine this is the predominant motivation for people who devote part of their time, and often their lives to these pursuits.

To get here we did necessarily pass through a period where the relative value of labor compared to energy and natural resources declined precipitously, but it was only after that period wherein much of what had been the rich world dropped to a much lower quantity of material consumption and people noticed that what had been called the standard of living actually had an inverse relationship to their sense of satisfaction and wellbeing. In the face of the crisis that followed both people in both the rich and poor countries discovered that nobody had appropriate technology and in the face of both peak oil and global warming were forced to launch a crash program to not only massively build out renewable energy, but also to increase efficiency and transform agriculture in the face of impending famine.

While this was initially carried out under the prevailing system of private investment and capital, when the international debt based economic system went into free fall brought on by rapidly rising energy prices and ensuing loss of confidence in national currencies, several adaptations emerged. First the larger corporations fled to commodity-backed trade credits, and these have remained the mechanism by which large scale infrastructure and long distance transactions are still carried out. Second, local economies deployed mutual credit systems that allowed local merchants and individuals to trade goods and services. In many cases these allowed localities to pull themselves out of depression in a matter of months, and these quickly became interoperable on the global network. But none of that was enough to deal with the challenge of rapidly deteriorating climate chaos. The depression and energy shortage simply eliminated a huge

Some reflections on sustainability: A truly long-term vision

amount of captivity, which helped a great deal and totally rearranged all of the previous projections that had been made about global energy requirements, but the final key to the transition was the energy backed bond. Both local and regional governments and private parties deployed renewable energy infrastructure and issued low interest bonds against them. Because the trade credits in use for global trade carried an effectively negative interest rate, and the debt based money had collapsed, this was the only safe haven for a store of value and these bonds allowed those issuing them to further accumulate more capital to build more renewable energy infrastructure.

These bonds paid interest denominated in units of energy, as once the fiat currencies collapsed that was the only thing left that people trusted, other than commodities or each other's labor, and commodity credits lose value over time due to storage costs. So everyone put their savings into solar, wind and biofuels capacity. As a result, now, years later, everyone who did owns a steady energy income. Over time the longevity of the cells and wind machines has been pushed up to the point where now people can pass that energy independence on to future generations. This established renewable energy as the basis for the economy, but now one where the interest rate is low and everyone has a real capacity to pay it without requiring that someone else can't.

Travel as opposed to commuting, has increased, but slowed down. Air travel is still available, but far less common, trains have proliferated and become very comfortable. As has a new kind of lighter than air craft that flies in ground effect over large bodies of water or at relatively low altitude over land.