The Next Tango in Paris

Contributed by Albert Bates
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"Sweden has decided to decommission all its nuclear plants but has yet to propose a similar program to phase out its wind turbines."

"Carbon-neutral is so 20th century. We really need to get beyond zero. That is what ecovillages can offer."

We were just concluding a conference call for Global Ecovillage Network delegates in the run-up to the UN climate summit one month from now in Paris when we said that. The discussion had turned to what our message should be. There is a very good program initiated by ten European ecovillages, called the Fossil-Fuel Free Community Challenge. It is very ambitious, and tracks what Sweden, already carbon-neutral, has recently pledged.

It is one thing to gradually wean yourself from fossil energy by increments, such as by putting a tax on carbon at the source, as Al Gore tried unsuccessfully to do in 1992, or to strip the fossil industry of its obscene subsidies, as Bill McKibben urges. It is quite another to go cold turkey.

Costa Rica met its entire national power demand using renewable energy for 75 consecutive days this year, but that was only electricity, and anyway, it was Costa Rica. On a spectacularly windy day this past July, Denmark generated 140% of its electrical power from wind alone.

A recent study by Mark Jacobson, David Blittersdorf, and Tom Murphy, originally published by Energy XChange September 28, 2015, shows it is quite possible to switch the whole world to renewables right now, at no net cost.

To get off carbon, Sweden will have to close its nuclear plants, which have a huge carbon footprint, about 16 kg CO_2e per MWh despite what technophiles James Hansen, George Monbiot or James Lovelock may tell you after having drunk the Atomic Kool Aid. Wind power, by contrast, generates 10 kg per MWh. Sweden has decided to decommission all its nuclear plants, but has yet to propose a similar program to phase out wind turbines.

Personally we have no problem endorsing a massive switch to renewables and the sooner the better, but one also needs to place a caveat under that about it not exactly replacing fossil fuels. Nor will it salvage consumer culture.

If one were to think of it in terms of megajoules of energy, we were living off a current account of sunlight up until about 200 years ago, when we discovered that earth had been frugally putting aside a billion-year pension account all this time. That was supposed to help the planet go nova when the Sun runs out of hydrogen. What did we do? We started withdrawing, gradually at first, then faster, and now as fast as we possibly can. We have withdrawn a little more than half of that inheritance now, mainly the easy to reach part. We can't withdraw the remainder because (a) it costs more than we can afford to spend; and (b) it would fry the planet. So we are slowly coming to the realization that we may have to return to our former mainstay, the current income account; you know, the sunlight.

The savings account was a very rich endowment, though. Eating through 500 million years of fossil sunlight in 200 years enabled each of us to have hundreds of energy slaves at our beck and call. As Richard Heinberg says, a cup of gasoline can take a 2-ton truck over a mountain. How many horses would have to be fed how much grain to accomplish the same task? How many hours of wind generators charging batteries? Heinberg points out:

Making pig iron—the main ingredient in steel—requires blast furnaces. Making cement requires 100-meter-long kilns that operate at 1500 degrees C. In principle it is possible to produce high heat for these purposes with electricity or giant solar collectors, but nobody does it that way now because it would be much more expensive than burning coal or natural gas. Crucially, current manufacturing processes for building solar panels and wind turbines also depend upon high-temperature industrial processes fueled by oil, coal, and natural gas. Again, alternative ways of producing this heat are feasible in principle—but the result would probably be significantly higher-cost solar and wind power. And there are no demonstration projects to show us just how easy or hard this would be.

Zero carbon power, or zero fossil fuels, while a wonderful goal, and one put out by Greenpeace USA and 350.org, will entail more sacrifice than many people, including even the Swedes, understand. For one thing, the energy return on invested energy (EROIE) is less than 4:1 for wind, which is marginal and produces only electricity, unless you are pumping water. Biofuels are 1:1.4, or negative return. Corn ethanol costs more Btu — and horsepower — to make than it can provide when combusted. Contrast fossil fuels at historical returns of 100:1 to 40:1 (although falling off the precipice now as we spend more to obtain less).

Electrification of all sectors — heating, cooling, industrial processes, and transportation — would be implicit to an all-renewable economy. But we would need to reduce total energy use by approximately 70 percent, maybe more, to make that switch. Efficiency improvements could potentially take us part way but not all the way.

If there is one thing ecovillages should be good at, it should be making crisis mitigation fun. We weary of the hair shirt approach to mitigating climate change. We can cut consumption and party too. But then Europe, particularly the Scandinavian countries, have a "set an impossible goal and lead by example" culture when it comes to climate negotiations. Not only have they not gotten any other countries to go along, but their own populations have balked at the austerity required, throwing out progressive governments and replacing them with conservatives, who are anything but conservers, Ponzi'ing up bigger mountains of debt and fattening the larders of banksters with the proceeds of liquidated public assets.

Sure, we have some great fossil-fuel free islands in Denmark and a bicycle autobahn in Germany, but honestly, how many businessmen do you know that would garage the BMW in favor of a 15-speed Hase Spezialräder for that meeting in Bonn, especially in winter?

The alternative we have proposed is to net sequester – go beyond zero – at the home, village and regional scale. The tools we have for accomplishing this are many – carbon farming, eco-agroforestry, biomass energy with carbon capture, and biochar in everything from clothing to buildings.

As we have posted previously, these simple changes can switch civilization from its current trajectory – one that ensures near term human extinction (“NTHE”) — to something we have been calling Civilization 2.0, which returns the planet to something approximating the comfortable Holocene in which we evolved, within a reasonable time. The time variable is the unknown here, because it is unlikely that COP-21, with its low ambition, will do much to speed the necessary conversion.

Will it be possible to live in the high style of consumer culture in our Civilization 2.0? No chance. But we can continue living, and have quite abundant, happy lives, and that is no small deal. The alternative really is NTHE.

George Monbiot writes:

Governments ignore issues when the media ignores them. And the media ignores them because … well there's a question with a thousand answers, many of which involve power. But one reason is the complete failure of perspective in a deskilled industry dominated by corporate press releases, photo ops and fashion shoots, where everyone seems to be waiting for everyone else to take a lead. The media makes a collective non-decision to treat this catastrophe as a non-issue, and we all carry on as if it's not happening.

At the climate summit in Paris in December, the media, trapped within the intergovernmental bubble of abstract diplomacy and manufactured drama, will cover the negotiations almost without reference to what is happening elsewhere. The talks will be removed to a realm with which we have no moral contact. And, when the circus moves on, the silence will resume. Is there any other industry that serves its customers so badly?

Rob Hopkins writes:

Change happens in interesting ways. For example, recently, a community campaign where I live challenged a large local charitable landowner's land use decisions, in particular its decision to submit large swathes of land for development. The community campaign questioned the link between the organisation's stated values and its actions. Looking back in hindsight, it's interesting to see how the change unfolded, and how there is no one single Great Change Moment to point to. But at the moment when the then CEO of the organisation was brazening it out, telling everyone how the organisation was listening and responding when it was clear that he really wasn't, actually the ground had been eaten away from under him, and it was empty words, and a month later he had stood down. Events were moving, the world around him was changing, he had been left behind.

Similarly the GDR, East Germany, looked to be robust, powerful and permanent in the days before the Berlin Wall came down. In reality, we now know, it was holed below the waterline, undermined by the number of young people defecting to the West, corruption, rigged elections and much more. But until the Wall came down, you'd never have known. So how can we know, in the moment, which point in time we might point to as the moment when the change actually happened?

While Paris looks likely to not be that Great Change Moment, perhaps it is we who need to take a different approach here. Our role in Paris, or during that time, in my opinion, is not to see this event as a Great Change Moment, rather as just yet another important step in the ongoing – and of course massively urgent - building of a new, low carbon world. Instead, we should focus, during that time, on celebrating what is already happening. And there is much to celebrate.

We travel to these fetes and hang out our wares so that passersby can notice and lodge our new meme somewhere in the back of their collective brain. When things get bad enough, the meme can move from niche to mainstream. It is already all ready.

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This essay appeared on Oct. 31, 2015 on Albert Bates' website peaksurfer.blogspot and is re-posted with his permission.