

Storms of My Grandchildren's Opa

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I refer not to Sandy, although it too was our storm¹ -- and my [recent op-ed in the Guardian](#) reminds people of the implications of Sandy for public policies.

I refer rather to a little tempest following an [article in the San Francisco Chronicle](#), which described my remarks at the Commonwealth Club on 4 December. My criticism of ineffectual cap-and-trade-with-offsets was not a condemnation of the total California climate law, and I noted that California has done much better than the U.S. as a whole in limiting emissions. Indeed, my point was that the fate of the planet, and our children's lives, depends on people in places such as California and parts of Europe, people who have an inkling of the climate threat that we are up against, supporting an approach that will actually work.

"Actually work" means an approach with the potential to phase out most fossil fuels fast enough to leave most coal and unconventional fossil fuel (tar sands, tar shale, fracked gas) in the ground.

Background: Unhelpful Prognostications

Prognostications asserting "we are already committed to X°C global warming; if we don't agree on international goals for emission reductions we will soon be committed to Y°C, where $Y > X$ " are not very helpful. They have about as much effect on decision-makers as a fart in a hurricane.

X and Y keep changing, but X°C is already so large that we would pass tipping points sufficient to guarantee an unfolding disastrous path to a different planet, one with a bleak future for young people and other life on the planet. And never mind that an international approach based on caps, goals and promises is worth about as much as the paper the Kyoto Protocol was printed on.

Presented with such a prognostication you might say: Hey, wait a minute, we don't need a complex unworkable cap approach or a carbon tax. We need a simple honest flat across-the-board fee on the carbon content of fossil fuels, collected from fossil fuel companies at the domestic mine or port of entry, the fee gradually rising over time, the funds distributed 100 percent to the public, equal amounts to all legal residents, not one dime to the government, no enlargement of government. Such a "fee-and-dividend" system would cause fossil fuel CO₂ emissions to rapidly decline, most coal and unconventional fossil fuels would be left in the ground. For example, economic modeling for the U.S. shows that a \$10/tonCO₂ fee, rising \$10 each year, would reduce emissions 30 percent after a decade -- more that a factor of 10 greater than the oil carried by the proposed Keystone XL pipeline, rendering that pipeline superfluous.

¹ It was a bit eerie. When the power went out (not restored for almost a week) we were in pitch dark except for candles and a battery powered lantern. Soon we heard thunderous noise as the railings around our second floor flat roof (deck) were blown off and crashed to the ground. The next morning we found four large trees blown over, one of them leaning against the house -- their root systems pulled out of ground that was too soggy to hold them. Similarly, because of the soft rain-soaked ground, large sections of the stockade fence separating our property from the road were blown down, as were sections of the fence around the horse pasture. Windows in the barn were blown out, but the solar panels were unharmed. Storm power and damage supposedly vary with the cube of wind speed, so amping up of the winds by the unusually warm coastal waters probably had a big effect. We live in eastern Pennsylvania and are thus buffered from Atlantic storms by New Jersey, but this was a marginal hurricane imbedded in a frontal storm that can affect a huge area. These kind of storms, as described in Storms of My Grandchildren, will become far stronger if we allow Greenland to begin to melt fast enough to cool the North Atlantic Ocean.

Business and Jobs

Business leaders, such as Jim Rogers of Duke Power, say that what they need is knowledge of the carbon price and a general sense of how it will change. If we give them that, our captains-of-industry can be a huge part of the solution.

We have tremendous potential for innovation that will be spurred once there is a rising carbon price. New products, more jobs. As the carbon price rises, tipping points will be reached where low-carbon or no-carbon alternatives phase in rapidly, leaving fossil fuels in the ground.

Of course, many other actions are needed. We need energy R&D. We need building standards, we should not produce electronic goods that draw energy even when not in use, etc. Such things will be easier to achieve, and partly self-enforced, by an underlying steadily rising carbon price.

Politics

I gave a talk to international labor leaders. When I noted that fee-and-dividend would let the market place, rather than government bureaucrats, make decisions, one of them said "that's libertarian!" So it is, with a small l.

After I gave a talk at one of Grover Norquist's meetings (on-the-record portion), one participant said "that's income redistribution!" Yes, fee-and-dividend is populist. Low-income people can gain by limiting their emissions. People with multiple houses, or who fly around the world a lot, will pay more in increased prices than they obtain in the dividend -- but they can afford that.

Fee-and-dividend is democratic - treating everybody equally - as well as libertarian and populist.

Wait a minute, you say, collecting a fee from fossil fuel companies, making fossil fuels pay their honest cost to society, is not realistic. There are a lot of people making money off fossil fuels or planning to make money off the pipeline. American politicians are well-oiled and coal-fired, we can't get such a plan through the government.

Presidential Leadership

Unrealistic? What if President Obama, when he was first elected and had 70 percent approval, had chosen to have fireside chats, informing the public that a rising carbon price was needed for national security, energy independence, economic stimulation, and preserving a good life for young people and our fellow species on the planet? With 60 percent of the people getting more in their dividends than they pay in increased prices, he would have been a populist President. He could have taken the matter to the public. His party controlled the House and Senate.

President Obama chose not to do that in his first term. He gave minimal support to a cap-and-trade-with-offsets proposition, which would have made little actual reduction in U.S. emissions and was ineffectual globally. Unless he faces up squarely and effectively to the greatest practical and moral issue of the 21st century, he forfeits his chance to be a great president.

International Implementation

Cap-and-trade-with-offsets is the Kyoto Protocol approach, in which countries are begged to join and set emissions targets. When they fail to meet their target, they withdraw from the Protocol.

China will not accept a cap on their emissions. Why should they? The U.S. is responsible for 27% of the fossil fuel CO₂ in the air today. China's responsibility is just approaching 10%. However, their population is more than three times that of the U.S., so they have used only 10% of a fair cap. By the time they reach that cap, we will all be doomed.

Why would China put a fee on carbon? Lots of reasons. They do not want to develop the addiction that plagues the U.S. They have heavy air and water pollution from fossil fuels, which is very costly and has the public upset. They are among the most vulnerable nations to climate change, including sea level rise. China has a long history and is capable of taking a long view. The fact that the worst climate impacts will be visited on future generations will not likely cause China to "discount" future climate effects and heap consequences on the young.

Only a few nations need agree on a carbon fee. They will place a border duty on products from countries that do not have an equivalent carbon fee. They can also rebate to their manufacturers the carbon fee covering the fraction of their production that is exported to nations without the carbon fee. This approach provides a tremendous incentive for other nations to adopt a similar domestic carbon fee, so they can collect it themselves rather than lose it as a border duty.

Border tariff adjustments are not unique to fee-and-dividend. However, the flat cross-the-board fee on carbon, a reasonably well-defined number, makes international implementation simpler, as revealed via objective comparison's in Shi-Ling Hsu's book "The Case for a Carbon Tax".

Criticisms of Fee-and-Dividend

A common criticism is that low income people will waste the dividend, e.g., buying powerball tickets. I come from a low income family, my father a tenant farmer educated to 8th grade, with seven children. We would not have wasted the money. Nor would most low income families. Of course a minority of people will waste the money. You can't legislate against foolishness. But note that even in such cases the money will soon be back in the economy.

The second criticism of fee-and-dividend is that it is better to tax fossil fuels and let the government invest the money in clean energies. Uh, you mean the government can make the best decisions about winning technologies? That should be an easy call.

We already have a situation in which even advanced nuclear power development is being financed privately, e.g., by Bill Gates. Quietly, despite the failure of our government to require fossil fuels to have an honest price, very exciting advances are being made in many technologies, even, believe it or not, carbon capture. These technologies, including energy efficiency, will spread like wildfire once a rising carbon fee begins to be collected and distributed, so that fossil fuels begin to pay their true costs and the public has the funds at their disposal.

Government has a role in R&D (e.g., the excellent ARPA-E program) and assuring that new technologies are safe, but those departments already exist, funded by existing taxes.

Nor should the fee be used to pay down the national debt. The public is not stupid. If the money is thrown into government coffers, regardless of how its use is described, the public will know it is being used to support big government. The only way the public will allow a continually rising price on carbon is if the money goes to them, so that they can deal with increasing fossil fuel prices. The rallying cry should be "100 percent or fight!"

Governors and Mayors

I am sorry if my remarks at the Commonwealth Club (reported out of context) were interpreted as criticism of people who have worked hard to reduce fossil fuel emissions. My remarks were not intended that way, nor were they interpreted as such by the Governor. I acknowledged the success of California in limiting their emissions relative to that of other states, and I made it clear that my remarks were about ineffectual policies, not people.

In addition to several governors, a number of mayors, perhaps most notably Republican Mayor Bloomberg in New York City, have been vocal about climate change and effective in reducing emissions. Helped by a flagging national economy, this has reduced United States emissions a few percent, which is a significant improvement compared with continued emissions growth.

However, the science has made crystal clear that these efforts and policies are not enough. We must pursue policies that can lead to global emissions reductions and a phase-out of reliance on fossil fuels, such that most remaining coal and unconventional fossil fuels are left in the ground.

Cap-and-Trade vs. Carbon Fee

A crucial point is that we need policies that reduce emissions as rapidly as practical. Cap-and-trade, even if it were applied across-the-board on all fossil fuels at the source (it is not) and even if applied across the nation (it will not be; can you imagine the Texas Governor's response if the California Governor called and asked him to follow suit?), would provide no prospect of the rapid reduction of global emissions needed to cause most fossil fuels to be left in the ground.

Why not? Cap-and-trade, to the extent it reduces emissions some places, reduces demand for fossil fuels, lowers their global price, thus encouraging their use elsewhere. At best, this slightly slows the burning of fossil fuels, which is little help. Fossil fuel CO₂ emissions stay in the ocean-atmosphere system for millennia. Most fossil fuel carbon must be left in the ground.

In contrast, a carbon fee can more readily be made universal [cf. discussion above and Hsu's "Case for a Carbon Tax"]. If the funds are distributed 100% to the public, the public will allow the fee to rise to high levels, in contrast to the relatively ineffectual carbon price characterizing cap-and-trade or a pure carbon tax. Resulting reduction in fossil fuel use under a rising carbon fee causes demand to drop, and the net price that producers receive falls (because the fee portion goes to the public). This causes rapid loss of market for costly fuels (tar sands, tar shale). Most coal, as the carbon fee rises, also will be left in the ground or used only with carbon capture.

Summary

An honest, gradually rising, price on carbon, making fossil fuels pay their costs to society, including externalities, makes economic sense and is needed for rapid phase-down of fossil fuels. Other things are needed, but the base requirement is an across-the-board universal carbon fee.

Scientists should not accept fossil fuel scenarios foisted on us by compliant government agencies. Instead, we should help define carbon emission scenarios that avoid growing regional climate extremes and climate tipping points that can cause disintegration of ice sheets and large-scale extermination of species. Those government agencies, virtual arms of the fossil fuel industry, have a bad record in projecting energy requirements. Even in the U.S., with little effort to control energy use growth during the past few decades, reality forces energy agencies to continually revise downward their projections (cf. Fig. 3 in "Storms of My Grandchildren").

We must stanch a pervasive defeatism that is about. Humanity is not a bunch of lemmings marching unstoppably toward a cliff. There is such a thing as free will. It seems that many people have slipped into an unhelpful resignation, ultimately leading to a way of thinking that accepts fossil fuel industry propaganda.

People please wake up! For the sake of young people, future generations, and other life on our planet, don't settle for what some "experts" say is the best we can do. In fact, we can move on to clean energies and energy efficiency, but only if we are wise enough to put an honest rising price on carbon emissions. It is equally clear, I submit, that the public will only allow an adequate rising price on carbon if the system is simple and transparent with the proceeds distributed to the public. That will provide the public with the resources required to make the needed changes as we move to cleaner energies and a bright future that preserves the planet and life that we know.