

# Climate of Failure

Environmentalists are just now waking up to the reality that if we're going to stop global warming, we're going to have to be a lot more politically savvy.

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BY ROGER PIELKE JR. | AUGUST 6, 2012



The heady days of early 2009, when advocates for global action on climate change anticipated world leaders gathering later that year around a conference table in Copenhagen to reach a global agreement, are but a distant memory. Today, with many of these same leaders focusing their attention on jumpstarting economic growth, environmental issues have taken a back seat. For environmentalists, it may seem that climate policy has dropped from the political agenda altogether.

They're right. The world's biggest emitters have reached a consensus of sorts, but not the one hoped for in Copenhagen. In the United States, President Barack Obama has borrowed his energy policy -- **"all of the above"** -- from the Republicans. Europe has

dithered on any further commitments to emissions reductions as governments have been completely consumed by the euro crisis. China and India have used the follow-on conferences to Copenhagen, held in Durban and Cancun, to decisively push international climate negotiations into the long weeds. Leaders' attention to climate policy is not coming back -- at least not in any form comparable to the plans being discussed just a few years ago.

Copenhagen will likely be remembered as the moment when advocates for action lost their innocence. For more than a decade, expectations had been raised for a grand global bargain to put a price on carbon that would compel a major reduction in greenhouse-gas emissions -- notably carbon dioxide -- over the coming decades. To understand why this bargain failed requires a basic understanding of where carbon dioxide comes from and how it is reduced. A very simple but powerful framework for such an understanding **was proposed** in the 1980s by Japanese scientist Yoichi Kaya. Kaya **explained** that future carbon dioxide emissions would be the product of four factors: population, economic activity, how we obtain our energy, and how we use that energy.

We can simplify these four factors even further. Population and income together are simply GDP, or aggregate economic activity, and the production and consumption of energy reflect the technologies of energy supply and demand. The resulting Kaya Identity -- as his equation has come to be called -- simply says:

$$\text{Emissions} = \text{GDP} \times \text{Technology}$$

With this simple equation before us, we can see the fundamental challenge to reducing emissions: A rising GDP, all else equal, leads to more emissions. But if there is one ideological commitment that unites nations and people around the world in the early 21st century, it is that GDP growth is non-negotiable. Right now, leaders on six different continents are focused on efforts to grow GDP, and with it jobs and wealth. They're not as worried about emissions.

If you spend any time in the midst of the climate debate, it won't be long before you will be

assailed by those who would like to argue that economic growth is unnecessary or even wrong, and stopping it is a key to reducing emissions. I hear these arguments mostly from wealthy liberal academics in posh university towns across the richer parts of the world. Noted environmental activist Bill McKibben, for example, frequently **makes the case** that "growth may be the one big habit we finally must break," and he is far from a lone voice. But of course, no candidate has ever secured political office on an anti-growth platform. One has to live in a thickly insulated bubble to think that stopping or reversing growth could ever be a feasible way to reduce emissions.

So what's the solution, then? The Kaya Identity tells us that instead of GDP, the focus must be on technology, and here the math is surprisingly simple. Stabilizing the level of carbon dioxide in the atmosphere would require more than 90 percent of the energy we consume to come from carbon-free sources like nuclear, wind, or solar. Policymakers often discuss reducing annual emissions by 80 percent from 1990 levels. But emissions today are already more than 45 percent higher than in 1990, so that higher level implies a need to cut by *more* than 90 percent from today's levels. Put another way, in round numbers, we could keep at most 10 percent of our current energy supply, and 90 percent or more would have to be replaced with a carbon-free alternative. Today, about 10 percent of the energy that we consume globally comes from carbon-free sources -- leaving a long way to go.

Frustratingly, this 90 percent threshold for carbon-free energy supply is largely independent of how much energy the world consumes. Every major projection of future energy consumption foresees growth in energy demand around the world, which makes sense when you consider that today 2 billion people or more lack basic access to energy. Energy demand is skyrocketing in China and India, and eventually will in Africa. But even letting your imagination go wild and envisioning a future world that consumes half of the energy we do today would still require that more than 80 percent of our energy supply be carbon-free. This isn't a statement about the feasibility or desirability of improved energy efficiency; it's just math.

Consider this: If the goal is to stabilize the amount of carbon dioxide in the atmosphere at

a low level by 2050 (in precise terms, at 450 parts per million or less), then the world would need to deploy a nuclear power plant worth of carbon free energy every day between now and 2050. For wind or solar, the figures are even more daunting.

For several decades, the dominant view among climate specialists was that imposing a high price on carbon emissions -- whether through a tax or a traded permit system -- would create the economic incentive necessary to stimulate the green energy innovation needed. Unfortunately, the track record of such schemes is not encouraging. Any policy that depends for its success on creating economic stress on consumers (or voters) to motivate massive change is a policy doomed to fail. Voters typically respond to higher energy prices by voting out of office any politician or party who is perceived to be working against their economic interests. Supporters of carbon pricing have no good answer for the politics.

Australia has tried to get around this problem by subsidizing its relatively low carbon tax with broader income-tax reform -- that is, the government is returning to consumers more money than is collected by the tax. But the policy still remains **wildly unpopular**, with 38 percent of the public feeling worse off under the tax and only 5 percent feeling better off one month after its introduction, despite consistent strong support for non-specific action on climate.

Or consider Germany, where the government, having expressed a desire to shut down nuclear and fossil-fuel power altogether, is quickly waking up to reality. German politicians have begun to realize that their present choices are more carbon-intensive fossil fuel, more nuclear, or letting the lights go out. The impotence of the European Emissions Trading Scheme, due to an excess of tradable permits resulting from the economic downturn, actually creates incentives for more coal -- in 2012, black coal consumption is **expected to increase** by 13.5 percent. The *Economist* **recently concluded** that for Germany, "Greenhouse-gas emissions are likely to be higher than they would have been [without the nuclear shutdown] for quite a while to come."

Efforts to secure a high carbon price to create incentives for change still have staunch

advocates in the environmental community, despite the little evidence that it can work. Advocates for carbon pricing typically argue that the costs are low or even nonexistent. The typical basis for such claims is an economic model that projects net costs over the better part of a century, with claims of low costs based on that aggregated, hypothetical sum. Such models, often laden with dodgy assumptions -- such as predictions of the magnitude and pace of future technological innovation in energy -- offer little solace to the politician who runs for election every two years and whose political fortunes hinge on the actual short-term costs.

The evidence that a high carbon tax is politically infeasible seems irrefutable, based on experience and common sense. Yet, even so, to try to push the debate forward, advocates constantly seek to demonstrate that climate change is taking place with high tangible costs, as if to try to rebalance the cost-benefit math. Such efforts to stoke alarm have no apparent limit, no matter how tenuous the science. For instance, even though scientists, including the Intergovernmental Panel on Climate Change (IPCC), have observed that the magnitude of drought in the central United States has actually decreased over the past century, there has been a rush to attribute the 2012 drought solely to human causes. Thomas Homer-Dixon, a Canadian economist, **cheered on** the drought and its devastation, writing "It sounds harsh, but in light of these realities, this year's U.S. drought is good news ... fears about imperiled food security may be our best hope for breaking through widespread climate-change denial and generating the political pressure to do something."

Science and nature provide enough varied data to paint anyone's political ink blot, ensuring that the debate over the weather sustains without end. In this debate ostensibly about the science, the opposing camps have created names for one other -- "alarmists" (who say the costs of inaction will be high) and "deniers" (who say that the costs of inaction will be low or even zero). The end result has been neither to win the debate nor secure a political mandate, but to politicize the science itself.

Even **Foreign Policy** has played this game. When in 2010 **I observed** that the Intergovernmental Panel on Climate Change had made a rather silly error in its report by

including a graph that could not be found in the scientific literature (and was erroneous to boot), **FP included me** in a line-up of alleged "climate deniers." Rather than seeking to get the science right, the magazine sought to enforce conformity of view. The good news is that the IPCC error has been widely recognized (even **by the IPCC author** who created the questionable graph) and the **FP** effort to discredit my views lives on only in the bowels of blogospheric debates over climate, dredged out occasionally by those relying on ad hominem attacks in the never-ending climate wars.

So what's the next step? For years -- decades, even -- science has shown convincingly that human activities have an impact on the planet. That impact includes but is not limited to carbon dioxide. We are indeed running risks with the future climate through the unmitigated release of carbon dioxide into the atmosphere, and none of the schemes attempted so far has made even a dent in the problem. While the climate wars will go on, characterized by a poisonous mix dodgy science, personal attacks, and partisan warfare, the good news is that progress can yet be made outside of this battle.

The key to securing action on climate change may be to break the problem into more manageable parts. This should involve recognizing that human-caused climate change involves more than just carbon dioxide. This is already happening. A coalition of activists and politicians, including numerous prominent scientists, have argued that there are practical reasons to focus attention on "**non-carbon forcings**" -- human influences on the climate system other than carbon dioxide emissions. The U.N. Environment Program argues that actions like reducing soot and methane could "save close to 2.5 million lives a year; avoid crop losses amounting to 32 million tons annually and deliver near-term climate protection of about half a degree Celsius by 2040."

Some of these opportunities are political. For instance, in the United States, Sen. James Inhofe (R-OK), a loud and theatrical opponent to most action related to climate, **supports** action on non-carbon forcings, particularly efforts to reduce the amount of particulates in the air. As he **explained to the Guardian** "Al Gore probably would be against automobile accidents and I am too. This has nothing to do with the CO<sub>2</sub> issue." The lesson here is that if Gore and Inhofe can find common political ground on one

important aspect of the issue, then there is plenty of hope for progress.

Other human influences on climate, such as those caused by chlorofluorocarbons, which are also known to impact the ozone layer, offer **other tantalizing opportunities** for progress while circumventing the most gridlocked parts of the debate. Similarly, the global demand for huge amounts of energy in coming decades provides a compelling rationale for energy technology innovation independent of the climate issue.

Of course, we can't ignore carbon dioxide. Carbon emissions will remain a vexing problem because they are so tightly bound to the production of most of the world's energy, which in turn supports the functioning of the global economy. But even here the situation may not be hopeless. America's recent boom in the production of shale gas illustrates the virtuousness of innovation: In the United States, shale gas has become widely available and inexpensive due to **technologies** developed by the government and private sector over decades and has displaced large amounts of coal in a remarkably short time, dramatically reducing carbon dioxide emissions in the process. According to the U.S. **Energy Information Agency**, carbon dioxide emissions in 2011 were lower than those of 1996, even though GDP increased by more than 40 percent after inflation.

Natural gas is not a long-term solution to the challenge of stabilizing carbon dioxide levels in the atmosphere, because it is still carbon intensive, but the rapidly declining U.S. emissions prove an essential policy point: Make clean(er) energy cheap, and dirty energy will be quickly displaced. To secure cheap energy alternatives requires innovation -- technological, but also institutional and social. Nuclear power offers the promise of large scale carbon-free energy, but is currently expensive and controversial. Carbon capture from coal and gas, large-scale wind, and solar each offer tantalizing possibilities, but remain technologically immature and expensive, especially when compared to gas. The innovation challenge is enormous, but so is the scale of the problem. A focus on innovation -- not on debates over climate science or a mythical high carbon price -- is where we'll make progress.

The vast complexity of the climate issue offers many avenues for action across a range of

different issues. What we need is the wisdom to have a constructive debate on climate policy options without all the vitriolic proxy battles. The anger and destructiveness seen from both sides of this debate will not be going away, of course, but constructive debate will move on to focus on goals that can actually be accomplished. To paraphrase the great columnist Walter Lippmann, politics is not about getting people to think alike, but about getting people who think differently to act alike. The climate issue will never be solved completely, but it's still possible for us to make things better or worse.

I'm all for doing better.

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