U.S.–MEXICO FUTURES FORUM

Headwinds for Climate Change Policy

by Christopher M. Jones

"The climate imperative is truly pressing… every single lesson on the climate science side is bad." Dan Kammen, a UC Berkeley professor of Energy and Public Policy, pulled no punches in his opening remarks as part of the Alternative Energy Panel at the 2009 U.S.–Mexico Futures Forum. Oceans, terrestrial ecosystems and the Arctic are experiencing rates of change that scientists had not previously predicted in any of the global climate models, he asserted. Kammen's fellow panelist, Bracken Hendricks of the Center for American Progress, elaborated on his grim prognosis, pointing to the human and economic costs of such rapid environmental change: "Two to four billion people going without access to reliable drinking water is not an environmental problem. It's a tremendous geopolitical security problem. It's a health problem. It's a devastating social and economic problem."

The panel, which also included Adrián Fernández Bremauntz, President of Mexico's National Ecology Institute, continued a discussion begun at the 2008 Futures Forum held in Mexico City. At that conference, Kammen documented the continuing rise in global carbon emissions despite the growing availability of cost-effective, low-carbon technologies. Worse still, he warned, when oil prices rise, vast reserves of even more environmentally damaging oil from tar sands and other unconventional sources will enter the global fuel mix unless policies explicitly require that the energy gap be filled with clean, renewable sources such as wind, solar and tidal energy. "It's going to be a policy battle, first and foremost," he said then. "And that's a sobering thought because, in this area, policy in the United States moves slowly."

Less than a year later, the tone of the conversation had shifted dramatically. This time, Kammen focused his comments on the "remarkable" changes in the political landscape and on a range of new opportunities arising to support a cleaner energy economy. The most notable change in the political landscape was, of course, the election of President Barack Obama. With a sizable portion of economic stimulus money being directed to clean energy and a climate change bill making its way through Congress, addressing climate change has moved up the political agenda.

Photo courtesy of the Mexican Federal Government.

President Calderón speaks at the opening of La Ventosa, a wind farm in Oaxaca.

Now, the greatest challenge is keeping up with the tremendous opportunities afforded by the stimulus funding, Kammen explained. "We are dramatically understaffed… the number of people who are expert and working on the diverse aspects of the low-carbon economy is dramatically smaller than the most minimum set you would want in these areas." With roughly one-eighth of stimulus funding being channeled into clean energy, "all federal energy offices, in the very short term, now have an infinite amount of money, in the sense that there is well more money available than they can spend."

The implication is that so-called shovel-ready clean energy projects can now be dramatically scaled-up. Kammen cited one example, a clever financing scheme first proposed in the city of Berkeley, which is designed to take the sting out of upfront costs for homeowners. Under the plan, cities borrow money at low rates, pay for energy retrofits and

solar installations on the homes of participating residents and then simply charge homeowners the loan amount over time by marginally increasing their property taxes, the amount of which is offset by lower monthly energy bills. In part due to such financing options, Kammen argued that solar could contribute upwards of 20 percent of U.S. electricity by 2025 or sooner. Coupled with a similar or greater amount of energy from wind, these two renewable energy sources alone could cut greenhouse gas emissions from electricity in half. Portugal already gets 42 percent of its electricity from wind during peak times, Kammen noted.

Building on this example, Bracken Hendricks pointed out that the benefits of the Berkeley model extend far beyond greenhouse gas reductions. With creative energy financing, "you're getting consumer savings. You're getting job creation. You're deploying clean energy technology. You're reducing carbon emissions, and you're creating all these spillover economic development benefits." In other words, "solving global warming is really an investment agenda" that can ultimately drive economic development in a virtuous cycle of positive feedback loops.

Reiterating a point by Kammen, Hendricks maintained that the transition to a clean energy economy is not just about creating green jobs; it's about creating jobs, plain and simple. It's about creating more vibrant and sustainable economies. "Fundamentally we're asking the wrong question if we ask how much does it cost to build a low-carbon economy." The important question is not whether we should invest in a clean energy future, but what, exactly, are we going to build. "How do we rewire the grid around renewable energy? How do we go block-by-block and household-by-household and retrofit for energy efficiency?" he asked.

If the debate in the United States is shifting to substance, the focus in Mexico is shifting to international diplomacy. Mexico has become the first developing country to voluntarily commit to greenhouse gas reduction, and it is now an active player in international climate change mitigation talks through the Kyoto Protocol process. A recent proposal by the Calderón administration would create a "green fund" for global development that would allow any country, regardless of its level of economic development, to borrow from and invest in the fund. As Hendricks noted, this changes the way we think about the issues in fundamental ways. Instead of framing the international climate debate in terms of the interests of rich vs. poor countries, the concept of a green fund creates a framework for international cooperation.

For panelist Adrián Fernández Bremauntz, Calderón's proposals don't go far enough. Mexico should accept a mandatory or binding greenhouse gas reduction commitment. "The time for sitting on the fence is over," he said. What is needed is a comprehensive climate strategy that creates an "optimal package" of interventions that is appropriate for Mexico's political, economic and social context. Unfortunately, the time for Mexico to create its own strategy is quickly running out. "We are moving at a very slow pace. The time will come that we will have to sign a policy that was designed by someone else," he warned.

Not surprisingly, a major challenge to designing effective climate policy in Mexico and other developing countries is a vast shortage of technical expertise. Echoing Kammen's previous point about human capital, Fernández added, "If the United States is understaffed, think about Mexico. We have scarce human capital in Mexico. That's Mexico. What about Central America?" In spite of these difficulties, Mexico and other developing countries should work quickly to create a set of climate policies and interventions that are within reach. This is critical if

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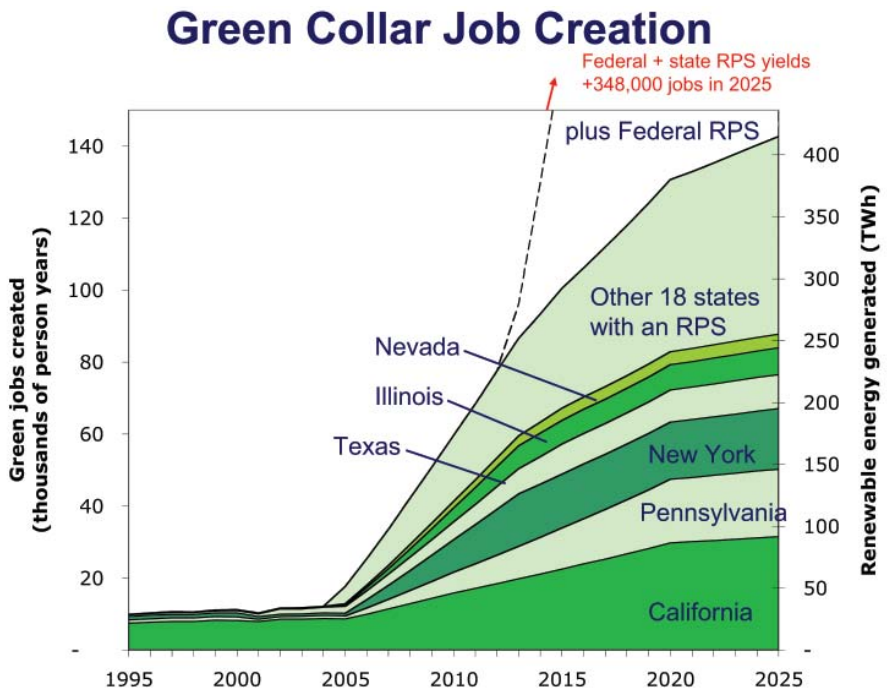

Projected green collar jobs created and power generated by state under renewable portfolio standard (RPS) regulations, which set requirements for the proportion of energy produced from renewable sources.
(Source: UC Berkeley Renewable and Appropriate Energy Laboratory/rael.berkeley.edu.)

appropriate reduction targets are to be set for individual countries.

For Mexico, Fernández proposed that target setting should be based on: 1) actions that can be taken at the country's own initiative; 2) actions that can be financed through subsidized international loans; and 3) actions that are possible if the upfront costs of moving to clean technology are paid for by countries with historic responsibility for global warming. If all these reductions are added up, Mexico could make a serious commitment to reducing carbon emissions. He estimated that "a 30 to 40 percent deviation from businesses as usual" was possible if there was an international commitment to helping Mexico reduce emissions.

The question-and-answer session highlighted the gap between the political will to take a leadership position in climate change negotiations that exists at high levels of Mexico's government and the lack of widespread popular concern about the issue. Rafael Fernández de Castro, Presidential Advisor on International Affairs and Competitiveness, noted, "I don't see that President Calderón is gaining anything politically for being responsible, environmentally speaking." With security and development at the top of the Mexican agenda, addressing climate change is simply not an attractive political platform.

Isaac Katz, a professor of Economics at ITAM, pointed to additional institutional barriers. "Building a wind farm in Mexico is quite impossible," he maintained. The most attractive sites are on *ejidos* (communal lands) and, therefore, approval has to go through the Ministry of Land Reform. Mexico's petroleum monopoly, Pemex, presents another important obstacle. As a strategy intended to fight poverty, Pemex keeps energy prices artificially low, thereby undercutting incentives to conserve. Furthermore, as Fernández noted, the county's energy strategy mandates that electricity be produced by the cheapest possible means, which leads to the use of highly polluting domestic fuel oil. In short, changing institutions takes time, and time is of the essence if the most damaging effects of climate change are to be averted.

Several participants lamented the amount of time already wasted. UC Berkeley economist J. Bradford Delong noted that 16 years had elapsed since President Clinton dropped the "Btu tax" — a proposal to tax the heat content of fuels — in 1993. In his view, decades of delay have placed a future with a 2°C rise in temperature out of reach. Barring some miracle, "we face a 5°C global warming future over the next 70 to 150 years," he warned. Both Hendricks and Kammen were surprisingly upbeat in the face of these comments.

"While I accept the premise that it's tragic that we lost that time, it's also irrelevant," Hendricks contended. "Because if we do nothing, we end up with that future. That future is unacceptable. How are we going to get busy, tomorrow, to build this?" he challenged. Kammen concurred, adding, "it's remarkable… how quickly these technologies have changed when there actually was a focus on them."

The need to bring the developing world on board was also a common area of concern, and a prescient one, as developments at the recent UN Climate Change Conference in Copenhagen attest. At the Forum, Kammen argued that despite the fact that "it's a logical negotiating position for China and India and many other countries to say, 'Global warming was created largely by the North, therefore it's your problem,'" China, at least, has made significant investments in clean technology.

In spite of the differences between the developed and the developing world, Fernández maintained that "there's agreement on what needs to be done." The problem lies in how the burden is

going to be shared. Katz built on this idea, arguing that a significant stumbling block will be how to compensate the losers. "The senators from the Midwest are really opposing any energy bill that will cause a reduction in GDP production," he noted. "If we take that to the world as a whole, developing countries are less willing to reduce carbon emissions because they are poor. The relative cost for them is higher than for the U.S." There needs to be a mechanism to compensate those who will experience a drop in production if they are asked to reduce emissions, he asserted.

To wrap up, the panelists were asked to summarize the single, most important point they wanted the participants to take away from the session. Professor Kammen's answer was succinct. "The one most important idea is pricing carbon. Period. No footnotes, no nothing. If we don't price carbon, even to some degree, we will never send a consistent signal to business, and we won't reward companies that find a way to innovate and go to that lower carbon future... Putting a price on carbon that is too low is better than no price on carbon." Until we do that, he concluded, "everything else we're doing is a holding pattern, cobbling things together."

In the months since the Futures Forum, the Copenhagen Climate Change Conference has come and gone to surprisingly small effect, and the cap-and-trade bill has stalled in Congress. While the cobbling together continues at the sub-state level, global policy remains in a holding pattern, with developed and developing countries facing off in a high-stakes game of chicken. It remains to be seen whether the dynamism of new policies and new technologies will be enough to stabilize the climate in the absence of a binding international treaty.

The Alternative Energy Panel was a session of the U.S.–Mexico Futures Forum held at UC Berkeley on August 23-25, 2009. The presenters included Daniel M. Kammen, 1935 Distinguished Professor of Energy at UC Berkeley; Bracken Hendricks, Senior Fellow at the Center for American Progress; and Adrián Fernández Bremauntz, President of Mexico's National Ecology Institute.

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President Barack Obama speaks with world leaders at the United Nations Climate Change Conference in Copenhagen, Denmark.

Photo courtesy of the White House.