



Quantum physicist Chu, left, demonstrates the effects of laser light on the behavior of atoms for students at Stanford in October 1997 on the day he won the Nobel Prize

In fact, Chu is already an efficiency nut. His California house was so well insulated, it barely needed air-conditioning, and he's now weatherizing his D.C. home. He's pushing 24 new appliance standards that languished under Bush; at Tsinghua, he explained that existing efficiency rules for U.S. refrigerators alone save more energy than the controversial Three Gorges Dam in China's Hubei province will produce. He's especially obsessed with promoting white roofs and light-colored pavement, constantly citing Rosenfeld's calculation that having them throughout the U.S. would save as much carbon as taking every car off the roads for 11 years.

But Chu is thinking far ahead, and he doesn't see existing technologies producing an 80% cut in emissions. At a recent appearance with Obama, he said the U.S. needs to be like Wayne Gretzky: not just chasing the puck but positioning itself where the puck is going to end up. "Very cool metaphor," the President said.

### Does Science Matter?

IN CHINA, I WATCHED CHU TOUR THE headquarters of a company called ENN—the name is a hybrid of *energy* and *innovation*—that was founded as a tiny gas supplier in 1989 by a cabdriver with \$200 in his pocket and has expanded into a clean-energy conglomerate with more than 24,000 employees. Chu peppered his hosts with technical questions as he checked out a sleek factory churning out superefficient solar panels, a greenhouse where genetically engineered algae were excreting fuel, a prototype for a coal-

gasification plant in Inner Mongolia and a research lab with 300 scientists. It felt like an only-in-America business story, except we were in Langfang, just outside Beijing.

My notebook quickly filled up with scribbles like "nanostructure??" and "Chu recommends polymer" and "don't think Hazel O'Leary got this briefing." Chu's only simple question—aside from "Will this explode?"—was "What percentage of your profit goes to science?" About 15% to 25%, the CEO explained. "That's very good," Chu said with a sigh. The entire visit reminded Chu of the futuristic spirit he loved at Bell Labs. "This was a power company, but it had the flavor of a high-tech company," he told me later. "They're looking at the long view." In short, they're Wayne Gretzky—and Chu is obviously worried that we're not, that we've lost our ability to focus on long-term problems.

The clear message Chu took home from China was that its leaders are dead serious about climate change and clean energy. They won't accept an emissions

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cap before we do—understandably, since our per capita emissions are still four times higher—but they're preparing for a carbon-constrained economy. They already have cars that are more fuel-efficient than ours, and they're developing more-advanced transmission lines. They're still building a new coal-fired plant almost every week, but two years ago, they were building two of them every week. They're making a huge push into wind and solar and should be the world's largest producer of renewables by 2010. "Every Chinese leader I met was absolutely determined to do something about their carbon emissions," Chu said. "Some U.S. policymakers still don't think this is a problem."

In fact, GOP leaders have said that global warming is a hoax, that fears about carbon are "almost comical," that the earth is actually cooling. When I asked Chu about the earth-is-cooling argument, he rolled his eyes and whipped out a chart showing that the 10 hottest years on record have all been in the past 12 years—and that 1998 was the hottest. He mocked the skeptics who focus on that post-1998 blip while ignoring a century-long trend of rising temperatures: "See? It's gone down! The earth must be cooling!" But then he got serious, almost plaintive: "You know, it's totally irresponsible. You're not supposed to make up the facts."

Welcome to Washington, where a Nobel Prize winner's opinion is just another opinion, where facts are malleable and sometimes irrelevant. It's tough to be Mr. Outside in a town where policy happens on the inside. Congress is blocking Chu's plan to create eight "Bell lablets" to investigate his game changers, along with his efforts to scuttle hydrogen-car research he considers futile. He's trying to make DOE's bureaucracy more nimble, but it still pushed less than 1% of its stimulus funds out the door in five months. And while Chu ends speeches with Martin Luther King Jr.'s quote about "the fierce urgency of now"—one of Obama's favorites—the clean-energy bill is on hold until health care is done. There's still a broad perception in Washington that dealing with climate change will require sacrifices that Americans won't tolerate.

The Chinese don't seem to worry about that. At one point, Chu acknowledged that democracy makes change a lot tougher, although he hastened to add that he's a big fan of democracy. "We just have to do a better job communicating the facts so the electorate can educate themselves," he said. Soon he sounded like he was talking to himself again: "Let's be positive. The facts really do matter to the American people."