

Testimony of Dennis Bracy
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Co-chairs Reinsch and Shea, members of the Commission, I am Dennis Bracy, CEO of the US-China Clean Energy Forum. It is my pleasure to be with you today to offer some perspectives on current and future cooperation on clean energy between the US and China.

My goal today is to share perspectives we've gained from more than three years of working with Chinese leaders to forge a pragmatic and effective cooperative clean energy program between the world's two largest energy users.

I'd also like to offer some comments on the Administration's efforts to promote joint research and eliminate trade and policy barriers. More on that later.

WHERE WE ARE

To judge by the headlines, over the past few years we've gone from "China is adding two new, dirty coal plants a week and doesn't care about the environment," to "China is doing laps around the US and is going to steal our jobs and dominate the clean energy sector for years to come."

The truth, I believe, is much more nuanced than those headlines would indicate. If we want to understand how we to transform to a clean energy economy, we need to dig beneath the headlines and look at what's really happening on the ground.

That's why this is a perfect time for this commission, and for our country as a whole, to examine the risks, understand the opportunities, and implement a plan of action that will benefit both our countries. I applaud the commission for diving into this important issue.

US-CHINA COOPERATION

But first, a bit of background on the US-China Clean Energy Forum.

In November of 2006, Senator Maria Cantwell gave an important speech to more than 1,000 women business leaders in Beijing.

In that speech, Senator Cantwell said "The US and China are the largest energy users in the world, and we consume nearly half the energy on the planet. We've hit a "Y" in the road. In coming decades, we can either compete with each other for resources all over the world, with all the terrible things that means for the environment, our economies and geopolitical security; or, we can put a stake in the ground and join together to mount a moon-shot-level program on clean energy and efficiency."

Senator Cantwell's speech struck a chord and was widely covered in Chinese media. Later, she met with vice chairman Zhang Guobao of the National Development and Reform Commission—China's top energy leader—and they agreed to work together to organize a process for increasing cooperation—and commerce—in clean energy and efficiency.

Minister Zhang's staff from the National Development and Reform Commission took the lead on the Chinese side.

Back in the US, we recruited a bipartisan group of leaders who have deep experience with China and with trade: founding co-chair Stan Barer; former US Trade Representatives Mickey Kantor, Carla Hills and Bill Brock, former cabinet secretary, Congressman and Mayor Norm Mineta; Sharon Nelson, chair of the board of Consumers Union; Sue Tierney, chair of the Energy Foundation and former Ambassador to China Stapleton Roy.

With their guidance and the support of hundreds of expert volunteers and nearly three dozen supporting sponsors—organizations like GE, Boeing, Energy Foundation, Honeywell, McKinsey, Applied Materials, Garvey Schubert Barer law firm, Itron, PriceWaterhouseCoopers, Consolidated Edison of New York, Puget Sound Energy, L&L Energy, Stark Investments, The Port of Seattle, PG&E, Better Place, Sapphire Energy, Hill & Knowlton, University of Washington, US-China Business Council, Amcham-Shanghai, Washington State University, Battelle, Washington State China Relations Council, the Woodrow Wilson International Center for Scholars, Avatar Studios, The Prosser Group and many more, we've been working to turn the vision of enhanced cooperation and increased commerce into a practical roadmap for both our countries.

EIGHT INITIATIVES FOR CLEAN ENERGY COOPERATION

We decided early on to concentrate on clean energy and efficiency, not the broader issue of climate change, so we could concentrate on common interests, rather than debating historic roles and issues of fairness. In clean energy and efficiency, our common interests are clear and well understood by both sides. China and the US are:

- The largest energy users and emitters of greenhouse gases
- The largest importers of petroleum and similarly vulnerable to supply shocks
- The world's largest automobile markets
- The largest electric grid and the biggest investors in energy infrastructure

We also decided the only recommendations we would make to our governments would be those in which we had absolute agreement from both sides. Over the course of three years, through numerous expert working group meetings in China and the US, we developed a joint set of eight recommendations:

1. *Establish a joint clean energy center* to collaborate on research and development projects, train energy efficiency experts and create a training program for lenders.
2. *Share knowledge and technologies needed to create Smart Grids* (including transmission and distribution networks) to increase efficiency and facilitate integration of variable resources such as wind and solar power.
3. Establish a coordinated program to *accelerate development of advanced coal projects*, including carbon capture and sequestration.
4. *Increase efficiency and lower manufacturing costs of solar photovoltaic and solar hot*

water systems to make them competitive with traditional thermal resources. Set ambitious goals for deployment of renewable by 2020 in each country.

5. *Power the rollout of hybrid and pure electric motor vehicles* by aggressively building infrastructure for recharging, conducting joint research and development of battery technology and developing standards that will maximize trade and job creation.
6. Develop bio-energy fuels and *sustainable transportation technologies for the aviation and maritime industries*, which are not able to rely only on batteries for power.
7. *Utilize policy tools to eliminate barriers* such as import tariffs and export controls. Accelerate clean energy adoption by creating a sustainable financing system and establish a joint entity to protect intellectual property.
8. Create *Strategic Energy Zones (SEZs)* to facilitate innovation in applying new policies, rate structures and tax incentives, etc. so that it will be easier to implement other priorities in the joint clean energy program.

These initiatives are ambitious, but achievable. They represent a healthy down payment on the “moon shot” cooperative effort that was our original call to action.

We are pleased to note that the concepts embodied in six of these initiatives were incorporated into the agreements signed by Presidents Obama and Hu in November. We are very supportive of the efforts of our government is taking to implement these agreements, and we are working to focus the efforts of the private sector to support the government-to-government initiatives.

REMOVING BARRIERS IS KEY TO LONG-TERM PROGRESS

But the work can't stop there. Despite our well-recognized common interests in accelerating deployment of clean energy technologies and creating jobs by increasing trade, a number of policy barriers prevent common interests and good intentions from being translated into the kind of wholesale action both countries need. In the past 30 years, the US and China have signed more than 45 cooperative energy agreements. All of them well-intentioned, but none of which has led to the kind of transformation we both need.

That's why, in initiative number seven, we focused on trade and policy barriers. Key recommendations include:

- Minimizing or eliminating tariffs and non-tariff barriers on clean energy goods and services. Both the US and China currently impose import tariffs on a wide variety of clean energy technologies. China is now the largest exporter of many clean energy technologies and would benefit from the lowering or removal of tariffs.

- Eliminating or greatly simplifying export controls for clean energy technology, software and services. A substantial barrier in perception and practice is the current US system of export controls which substantially delays and deters efforts for joint research and development of new technologies between the US and other nations. The combination of license requirements, dual use analyses, end user requirements and non-eligible trader lists served important national security needs in the past but now deter joint efforts to develop and implement multi-country use of best efforts to reduce carbon emissions. As Secretary Locke has pointed out, we can protect our legitimate national interests and still simplify the export process, so we encourage the widest possible deployment of clean energy technologies.
- Instituting a joint intellectual property protection program with insurance jointly written by US and Chinese entities (for example by the US Export-Import Bank or similar government program and by People's Insurance Company of China), with the full faith and credit of each government standing behind the policies. This would strengthen property rights on both sides and greatly increase confidence when transferring new technology or undertaking joint research. It would also encourage strong enforcement of laws against infringement of intellectual property rights.
- Instituting ongoing and sustainable financing mechanisms for clean energy, including direct financing, loans and loan guarantees that are appropriate for each country's situation.
- Sharing best practices on innovative energy rate structures to help manage demand and on incentives to accelerate clean energy deployment.

GETTING BEYOND STATISTICS

Co-chairs Reinsch and Shea, members of the Commission, when we began our efforts, the common wisdom was that China was not focused on clean energy and was in the process of building two 500-megawatt coal plants each week.

Three years later, I can tell you with absolute conviction that the landscape has changed dramatically.

In fact, I think it's fair to say that a new fever has taken over China in the past couple of years—a low-carbon fever. That fever is driven by the significant pollution issues that China continues to face, the knowledge that China cannot continue to fuel its growth with traditional forms of energy generation and a drive to reduce its dependence on other countries for energy.

The national statistics provide solid evidence for the new path that China has charted:

- China spent twice as much as any country on the world last year on renewable energy—more than \$35 billion. They've done this by regulation and with a

focused investment plan and a series of aggressive feed-in tariffs. Some of the projects are monumental in scale: 8-gigawatt wind farms in the western part of China and a 2-gigawatt solar photovoltaic project in Inner Mongolia—a solar farm larger in area than Manhattan. (This project, by the way, will be led by an American solar company—First Solar). Huaneng, one of the world's largest power producers, recently announced that 35% of its generation will come from renewable energy—by 2020. And overall, China has set a goal of getting 15% of its power from renewable sources by 2020.

- With the assistance of US national laboratories and non-profit organizations such as the Energy Foundation, China has greatly improved its building and appliance energy standards. They require automobiles to achieve 35 miles per gallon or higher, a standard which takes hold in the US in 2016. They instituted a clunker tax and gave generous tax rebates to stimulate the market for energy-efficient cars. They are moving aggressively to electric vehicles for fleets and already have public charging stations in several cities. They've already converted tens of millions of motor scooters to electricity.
- The commitment to mass transit and high-speed rail is evident in cities all over China. There are new subway lines, buses powered by electricity, 250 mile per hour rail lines. The new train from Beijing to Shanghai will cut transit time from 12 hours to four, and will be completed one year ahead of time. China has purchased hundreds of GE's energy-efficient locomotives.
- In Tianjin, Huaneng is nearing completion on a low-carbon coal gasification plant that will be among the most advanced in the world. They are working closely with several American companies to share information and accelerate progress in the areas of efficiency, cost, and adoption of carbon-lowering technology around the world.
- And China has become a leader in exporting clean technology to the rest of the world. This past year, they've become the world leader in solar and in wind exports. And they are well positioned to play a leading role in LED lights and advanced batteries.

The national statistics are notable, but it is the stories-behind-the-story that leave the strongest impressions:

- In Shaanxi Province, home of Xi'an and the terra cotta warriors, Governor Yuan Chunqing used a portion of his province's stimulus funds to provide 23,000 of the poorest families in Shaanxi, who have been living without access to electricity, with solar panels and batteries. Even better, with the assistance of Applied Materials, they provided training for the women of the village so they could earn money by starting micro-enterprises to maintain the new solar panels and batteries.
- In Yunnan province's capital city of Kunming, in southwest China, as you look out your hotel window, you can see solar hot water heaters on nearly every building.

Costing only about \$200, more than half the city's 5 million residents get their hot water from solar devices. In nearby Lijiang, the women of the village no longer have to spend eight months of every year gathering wood and dung for heat and cooking. Thanks to assistance from the Nature Conservancy, they have modern bio-digesters that create gas to heat their homes and cook their meals.

- Near Shanghai, the 20-mile long Donghai bridge connects Shanghai with Yangshan Island, which serves as an extension of the Port of Shanghai. Seeing that bridge, NDRC vice-chairman Zhang Guobao came up with an idea—and today there are 34 giant wind turbines alongside the bridge, which provide a total of 100 megawatts of power, enough for 170,000 families.
- All over China companies are building green businesses. Companies like BYD, Suntech and ENN are not only strong in China, but are becoming world-class competitors in solar, electric vehicles, grid storage, cleaner coal and algae-derived biofuels.

All in all, as one travels around China, it's hard not to conclude that some sort of low-carbon fever has taken hold. There are green buildings everywhere. Not only in the biggest international cities like Beijing, Shanghai and Shenzhen, but also in Changsha, Yangzhou, Jilin, Wuxi and Xi'an.

In Dalian, Shui On is developing a new city-within-a-city that will cut the carbon footprint by more than 60%, using existing technologies, with the capability to cut carbon further as new technologies become cost-effective.

Recently, at a conference in Shanghai, I met the Mayor of Liaoyuan, of Jilin province, who presented me with a list of eight initiatives for a low carbon economy, modeled on the eight initiatives developed by the Clean Energy Forum. The truth is I had never heard of Liaoyuan, whose economy was long based on coal, but somehow city officials heard about our joint efforts and created their own initiatives to transform their economy.

So, members of the Commission, let me say with some conviction that the low carbon movement in China is for real, and it is gaining momentum.

CHINA'S CHALLENGE

At this point, a reasonable person might ask: "So what's the problem? If China's leaders really get it, if they are truly investing so heavily in clean energy and efficiency, why has China become the world's largest emitter of greenhouse gases and why won't they agree to cap their emissions as part of an international agreement?"

As a regular visitor to China, I am constantly reminded of two megatrends that are fundamental to understanding China's energy situation:

- First, China is growing a middle class of hundreds of millions of people. People who suddenly find themselves with new prosperity. Prosperity that enables them to travel, to buy their first car, to meet friends at a restaurant, to install an air conditioner in their home, to buy a flat panel TV and a computer. It's happening

in cities all over China, and even, to some extent, in rural China. More prosperity, more comfortable lifestyles, leads to increased energy use.

- Second, the largest migration in the history of the world is underway in China. Each year, twenty million people are moving from the countryside to the cities, seeking a better life and increased economic opportunity. Twenty million people every year means, over the next fifteen years, China has to build new infrastructure that is the equivalent of the United States: homes, schools, hospitals, stores, power plants, mass transportation, airports, roads, sewage plants and all the rest.

To put this in context, take a look at just one sector: automobiles. Today China has about 40 million light vehicles, compared with our 225 million. Last year, China leapfrogged the US to become the world's largest car market. By 2030, just 20 years from now, estimates are that China will have more than 350 million vehicles. That's a sobering number. If China adds that many vehicles using traditional internal combustion technologies, we're all in trouble.

Serious trouble. The impact on petroleum prices, air quality and greenhouse gas emissions would be enormous.

But if China takes a new approach, emphasizing mass transit and electric vehicles, they can meet that surge in demand without sending the price of petroleum through the roof, creating more pollution and overwhelming the world's efforts to contain greenhouse gas emissions. They can even make their electrical grid more efficient by storing otherwise wasted nighttime wind power in car batteries. I believe Chinese leaders understand this reality and are eager to cooperate with the US in helping to shape this transformation to an electric car future.

TIME IS THE ENEMY

The US and China have many common challenges, many common opportunities and some areas where we will inevitably compete. When it comes to energy, the watchword with China will be "coopetition."

As different as our countries are, we face one common challenge that trumps all others: time.

McKinsey & Company published a compelling analysis of what impact various technologies can have on reducing—or abating—the rise in greenhouse gases. They rank the potential abatement impact of key technologies and analyze whether, in today's world, deployment of those technologies makes economic sense.

Here's the scary part of their analysis: if we delay deployment of the cost-effective technologies by just five years, we lose 35-50% of our ability to capture that incremental carbon (essentially) forever, since greenhouse gases don't decay for 100 years or more.

So time is the common enemy and our imperative is to work as quickly as we can to implement the technologies that make sense today, while combining our brains and our budgets to create tomorrow's technologies and make them affordable.

A PRAGMATIC ROADMAP FOR COOPERATION

There's no doubt that there are significant differences between the US and China. It's no secret that we have and will continue to have disagreements over trade, currency, Taiwan and other issues. This Commission understands that landscape very well.

But when it comes to energy, China and the US are in the same boat. And even with the current tensions between our countries, we see no let up in China's willingness to cooperate on clean energy and efficiency.

Understanding our differences, but building on our mutual benefits, we can do more together, more quickly, than we can separately. It's that simple.

But a US-China bilateral agreement, if it is going to result in more than pilot projects and good intentions, needs to be built on a no-nonsense approach that includes putting the policies in place which will enable both countries to make the necessary investments, and leverage each other's strengths, so we can increase trade and create more jobs in both countries. That's a prescription for sustainable cooperation.

We need to continue and expand on the many joint projects underway by businesses, government agencies, national laboratories, NGOs and universities. We need to put our best teams forward to lead and provide sufficient funding for the US-China Clean Energy Research Center, which will be under the leadership of Secretary Stephen Chu and Assistant Secretary David Sandalow at the Department of Energy. By joining forces with Chinese researchers, for every dollar we invest, we can get many dollars in impact.

And we need to support Secretary Gary Locke's efforts to get at the barriers which have inhibited true, mutually-beneficial cooperation: trade and tariffs, intellectual property protection and financing. For our part, the US-China Clean Energy Forum will continue to tap into our network of energy, finance and legal experts so we can help both governments develop creative answers to these long-standing issues.

Co-chairs Reinsch and Shea, members of the Commission, thanks again for addressing this important issue and giving us the opportunity to share our perspective.

The time is right, the need is urgent and cooperation on clean energy simply makes good sense--for the United States, for China and for the world.

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