

Statement by

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“Ensuring and Enhancing U.S. Competitiveness while Moving toward a Clean Energy Economy”

INTRODUCTION

Chairman Boxer, Ranking Member Inhofe and Members of the Committee, I am John Doerr, Partner at Kleiner Perkins Caufield & Byers. I appreciate the opportunity to be here before the Environment and Public Works Committee to discuss energy and climate policy.

You have heard many times that America confronts three interrelated crises: an economic crisis, a climate crisis, and an energy security crisis. Well, my message today is there's a fourth: it's a competitiveness crisis. It is a looming crisis in America's worldwide standing in the next great global industry, green technology.

There is no topic of greater importance for America's economic future.

Your decisions will determine whether the US leads or lags in tomorrow's global energy markets. And the difference between those two futures is dramatic.

THE ENERGY CHOICE

In the U.S. alone, energy costs total more than \$1 trillion per year -- for oil, coal, natural gas, nuclear and renewable energy.^a (See Exhibit 1 for more detail.)

This is *on top of* a similar sum we spend each year on what uses energy — our homes, shops, factories, and cars. That means about \$2 trillion per year is at stake right here in the United States.

We must ask ourselves:

- Is that money we want to send to hostile powers to import oil?
- Are those goods we want to purchase from competitors?
- Or, do we want to produce that energy, make those goods, and create those jobs here in America?

Do we want to be the world-wide winner in the race to lead the next great global industry, clean energy? That is the choice before us.

CHINA IS WINNING

Guess who is leading the race today? China.

China understands that controlling its energy future is fundamental. Its commitments to develop and own clean energy technologies and markets are breathtaking.

- China's cars are more than one-third more fuel efficient than US cars.^{bc}
- China is investing ten times more than the US on clean power as a percentage of GDP.^{defg}
- China's growth in renewable energy supplies is astonishing: In wind alone, China's capacity has doubled in *each* of the past four years, and China is expected to become the world's largest wind manufacturer this year.^h China is on track to deploy 120 gigawatts of wind by 2020ⁱ — that's equivalent to today's *global* total and nearly 5 times more than America's.^j And those GWs will create 444,000 jobs.^k
- As a result, China is already curbing emissions substantially. This year alone, it will abate almost 350 Million Tons of CO₂e compared to business as usual—which is as much as the country of Argentina emits in the course of a year.^{lm}

AMERICA IS FALLING BEHIND

The U.S. led the world in the electronics revolution and they led in biotechnology and the Internet. But we are letting the energy technology revolution speed by us.

What do Amazon, Ebay, Google, Microsoft and Yahoo have in common? They are the five worldwide leaders in internet technology and they are all American. But when it comes to wind, the most mature of the clean energy sectors, of the top five manufacturers (Vestas, GE, Gamesa, Enercon and Suzlon) -- only one is American.

In a broader context, The U.S. is now home to only one of the ten largest solar PV producers in the world, one of the top ten wind turbine producers and two of the top ten advanced battery manufacturers.ⁿ (See Exhibit 2.)

THE POWER OF INNOVATION AND ENTREPRENEURSHIP

How can we possibly catch up? It is through the power of good old home-grown American innovations and the policies that encourage them.

One thing I have learned over the years is to never underestimate the power of entrepreneurs. The key to entrepreneurs is they "*do more than anyone thinks is possible with less than anyone thinks possible.*"

America must bet more on its entrepreneurs. Here are five stories of the entrepreneurs who are trying to build the Amazons and Googles of energy and the jobs that come with them.

1. Entrepreneurs are converting our nation's coal into natural gas through a novel catalytic gasification process that dramatically lowers the cost of carbon capture and allows for advanced power plants to profitably reduce their carbon emissions by 50%-90%, and become a model for responsible use of fossil fuels.

2. Entrepreneurs are working today on advanced 3rd Generation thin film solar cells that meet or beat today's electricity costs ALL over the country instead of only working with subsidies in the sunny Southwest.
3. Entrepreneurs are designing new wind turbines that generate electricity more cheaply than today's cheapest power plants.
4. Entrepreneurs are using CO2 as a key ingredient in valuable products for roads and building materials, rather than trying to pump and sequester it underground.
5. Entrepreneurs are working to make advanced, high-performance biofuels at large volumes from available, inexpensive sources instead of importing overseas oil or relying on corn-based ethanol.

TODAY'S POLICIES

Members of the Committee, I am an American engineer and businessman. I am grateful and honored to appear before you as a witness on this important topic. Among all the witnesses from whom you will hear, I hope to make a unique contribution based on the fact that over the past 37 years my partners and I have helped build 500 new U.S. companies and 400,000 jobs -- including Amazon and Google, two of those top five internet companies. In fact just last month, with support from Senator Vitter and the Louisiana delegation, we announced the creation of 1,500 jobs in Louisiana for an American low-carbon car company.

We have reviewed over 1,000 new energy business plans and have invested \$680 million in 48 of the most compelling new clean energy ventures, and we have \$1.1 billion more to invest. So, we are trying to do our part.

But I am here to tell you that our government's energy and climate policies are our principal obstacle to success. To repeat: Our nation's current policies are the principal obstacle to creating even more new jobs in the next great industry, clean technology.

- We have no long term market signal that tells companies and consumers that we value low carbon energy.
- We have no policies to discourage sending hundreds of billions of dollars a year overseas for energy.
- We do not have adequate sustained R&D to be a serious competitor in this huge business.

Believe me, today's policies stifle American innovation and competitiveness.

OUR POLICY LEADERSHIP OPPORTUNITY

But good policy can flip this dynamic around, and give our country and companies a fighting chance in the new global energy economy. However, we cannot do this without you.

We need four basic policies:

1. Send a long-term signal that low carbon energy is valuable. We must put a price on carbon and a cap on carbon emissions. No long-term signal means no serious innovation at scale, which means fewer new American success stories.
2. Let's get the rules of the road for the utilities RIGHT. We must make our utilities a driving force for repowering America, driving efficiency through incentives, a renewable electricity standard, and a national unified smart grid.
3. Set smart standards that grow steadily stronger so America has the most efficient buildings, cars and appliances in the world--and so those savings land in the pockets of America's consumers and businesses.
4. Let's get serious about funding R&D and D, at scale. R&D and D – the second D is for deployment. The federal government currently spends only \$2.5 billion on clean energy R&D each year—that's 0.25% of our annual energy bill.^o Programs such as Senator Bingaman's Clean Energy Deployment Administration (CEDA) are a very good idea – it is fast, and flexible, but we will need more.

These policies are straightforward; we've seen them work in states and in other countries. In Denmark, policies, including prices on carbon and building and appliance efficiency standards, have made a huge difference since 1970. It started their wind industry. Today, one-third of all terrestrial wind turbines in the world come from Denmark.^p And Denmark's energy technology exports were more than \$10B.^q That's from a country with a smaller population than Missouri, Tennessee or Michigan.^r It has resulted in jobs; last year, the unemployment rate in Denmark last year was only 2%.^s

What is best about these policies is that they unleash American competitiveness disciplined by market forces. They are widely endorsed by American companies that compete internationally, and by the broad-based President's Economic Recovery Advisory Board. (See Exhibit 3.)

We should carefully design policy to bring in other nations. Think of Copenhagen as an opportunity to create world markets and momentum for a low-carbon future, just as the internet set the world on information-rich future. Some say we shouldn't move until China moves. In fact, China is moving full speed ahead – with or without us.

CONCLUSION

Senators, there is still time for us to get into this global race. But we need low-carbon policies to exploit America's strengths—innovation and entrepreneurs. I know that building such a policy is a heavy political lift. But I can tell you, without doubt, that bad energy policy has cost our country dearly, and the costs of continuing it are incalculable.

Our competitors have woken up. We need to do the same, or we will be buying our future from them.

Thank you.

REFERENCES

- ^a \$1,157 Trillion in 2006. Energy Consumption, Expenditures, and Emissions Indicators. Energy Information Agency, 2009. <<http://www.eia.doe.gov/emeu/aer/txt/ptb0105.html>>
- ^b China average fuel economy: 34 mpg. China Automotive Industry Association.
- ^c US average fuel economy: 27 mpg. National Highway Transportation and Safety Administration and the International Council on Clean Transportation.
- ^d China spent \$12B in 2007 on renewable energy. China's Clean Revolution. Climate Group, 2008. <http://www.theclimategroup.org/assets/resources/Chinas_Clean_Revolution.pdf>
- ^e The US spent \$4.875 billion in 2007 on renewable energy subsidies and support. Federal Financial Interventions and Subsidies in Energy Markets. Energy Information Agency, 2008. <www.eia.doe.gov/oiaf/servicert/subsidy2/pdf/execsum.pdf>
- ^f 2007 total US GDP: \$13.11 trillion. CIA World Factbook, 2009. <<https://www.cia.gov/library/publications/the-world-factbook/geos/US.html>>
- ^g China's official exchange rate GDP in 2008 was \$4.22 trillion. CIA World Factbook, 2009. <<https://www.cia.gov/library/publications/the-world-factbook/geos/US.html>>
- ^h Assessment of China's Progress on its Energy Intensity Targets and Future Potential. Energy Foundation, 2009.
- ⁱ Chinese Wind Power Development Report. European Wind Energy Association, 2008.
- ^j At the end of 2008, global capacity was 120GW and US capacity was just over 25GW. Annual Wind Report. AWEA, 2009. <<http://www.awea.org/publications/reports/AWEA-Annual-Wind-Report-2009.pdf>>
- ^k Wind Force 12. European Wind Energy Association, 2005.
- ^l Assessment of China's Progress on its Energy Intensity Targets and Future Potential. Energy Foundation, 2009.
- ^m Climate Analysis Indicator Tool. World Resources Institute, 2009.
- ⁿ Top Alternative Energy Companies by Market Capitalization. Lazard, 2009.
- ^o Renewable energy and energy efficiency R&D expenditure: \$2.5 billion. Summary: American Recovery and Reinvestment. Committee on Appropriations. U.S. House of Representatives, 2009. <<http://appropriations.house.gov/pdf/PressSummary02-13-09.pdf>>
- ^p Friedman, Thomas. "Flush with Energy." New York Times. 10 Aug. 2008.
- ^q Ibid.
- ^r Denmark has 5.5 million people.. CIA World Factbook 2009. <<https://www.cia.gov/library/publications/the-world-factbook/geos/DA.html>>
- ^s CIA World Factbook 2009. <<https://www.cia.gov/library/publications/the-world-factbook/fields/2129.html>>