Statement of

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Chairman Boxer, Ranking Member Inhofe, Members of the Committee, thank you for the opportunity to testify today.

When I appeared before you in July, I focused on the energy challenge and the grave threat from climate change. The Intergovernmental Panel on Climate Change found in 2007 that the best estimate for the rise in average global temperature by the end of this century would be more than 7 degrees Fahrenheit if we continued on a high growth, fossil fuel intensive course. A 2009 MIT study found a fifty percent chance of a 9 degree rise in this century and a 17 percent chance of a nearly 11 degree increase. Eleven degrees may not sound like much, but, during the last ice age, when Canada and much of the United States were covered all year in a glacier, the world was only about 11 degrees colder. A world 11 degrees warmer will be very different as well.

Today, I want to focus on the other half of the energy equation: the energy opportunity.

The world now realizes that its current level of greenhouse gas emissions is unsustainable. In the coming years, there will be a vigorous effort to limit carbon pollution that will require a massive deployment of clean energy technologies. The only question is – which countries will invent, manufacture, and export these clean technologies and which countries will become dependent on foreign products?

The Energy Information Administration – an independent statistical agency within the Department of Energy – recently estimated the market for a few key clean technologies. It based its analysis on a scenario derived by the International Energy Agency that could prevent the worst changes to our climate.

EIA found that, globally, the cumulative investment in wind turbines and solar photovoltaic panels from now through 2030 could be $2.1 trillion and $1.5 trillion, respectively. The policy decisions we make today will determine the U.S. share of this market. And many additional dollars, jobs and opportunities are at stake in other clean technologies.

China has already made its choice. China is spending about $9 billion a month on clean energy. It is also investing $44 billion by 2012 and $88 billion by 2020 in Ultra High Voltage transmission lines. These lines will allow China to transmit power from huge wind and solar farms far from its cities. While every country's transmission needs are different, this is a clear sign of China's commitment to developing renewable energy.

The United States, meanwhile, has fallen behind. The world's largest turbine manufacturing company is headquartered in Denmark. 99 percent of the batteries that power America's hybrid cars are made in Japan. We manufactured more than 40 percent of the world's solar cells as recently as the mid 1990s; today, we produce just 7 percent.

When the starting gun sounded on the clean energy race, the United States stumbled. But I remain confident that we can make up the ground. When we gear up our research and production of clean energy technologies, we can still surpass any other country.

This work began in earnest with the American Recovery and Reinvestment Act. The Recovery Act includes $80 billion to put tens of thousands of Americans to work developing new battery technologies for hybrid vehicles, making our homes and businesses more energy efficient, doubling our capacity to generate renewable electricity, and modernizing the electric grid. In fact, today, President Obama will announce an investment of more than $3.4 billion in smart grid projects across the country. This is a major down payment on a more robust, more flexible electricity transmission and distribution system.

However, to truly seize this opportunity, we must enact comprehensive energy and climate legislation. I commend Chairmen Boxer and Kerry for bringing forward this legislation.

The most important element of this bill is that it puts a cap on carbon emissions that ratchets down over time. That critical step will drive investment decisions toward clean energy.

Imagine, for example, that you own a power company and are considering building more generating capacity. Building a new coal-fired power plant or a new nuclear plant is a serious, multi-billion dollar investment. And these investments could last at least 60 years. If you knew that carbon emissions had to decrease, would you build a coal plant without carbon capture and storage technology? Would the nuclear plant look more attractive? Would you consider investing in wind and solar?

On-again, off-again incentives will not drive the level of clean energy investment we need. A cap on carbon will give the energy industry the long-term direction and the certainty it needs to make appropriate technology and capital investment decisions.

To achieve our long-term goals in a cost-effective way, we will also need a sustained commitment to research and development. Only R & D can deliver a new generation of clean technologies.

Much of this work is underway at the Department of Energy using the resources provided in the Recovery Act. However, continued investment will be needed. S. 1733 would continue portions of this work, and the legislation reported by Chairman Bingaman's committee would also bolster these efforts.

I applaud you for holding this hearing and look forward to working with this committee and the full Senate to swiftly pass comprehensive clean energy and climate change legislation. Thank you.