Statement of
David Sandalow
Assistant Secretary of Energy for Policy and International Affairs
Before the
Committee on Environment and Public Works
United States Senate

August 6, 2009

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

I have traveled to China twice in the past two months. During those trips I have seen the impressive investments that country is making in clean energy. Chinese companies are investing in advanced clean coal technologies. They are deploying huge wind farms. They are building ultra-high-voltage long-distance transmission lines with low line loss. They are launching programs to deploy electric vehicles in 13 major cities.

In Europe, sustained investments in clean energy driven by supportive policies have helped create economic opportunity. Denmark – with a land area less than West Virginia and a population smaller than the Chicago metropolitan area – is the world's leading producer of wind turbines. The Danish wind turbine manufacturing industry employs more than 20,000 people and earns more than $4 billion each year. Germany and Spain are the world's top installers of solar photovoltaic panels, accounting for nearly three-quarters of a global market worth $37 billion last year.

In Brazil, more than half the gasoline supply has been replaced with ethanol made from sugarcane. More than 80 percent of the cars sold in Brazil last year were flex-fuel.

The world is on the cusp of a clean energy revolution. Whether the United States is a leader or laggard in that revolution depends on decisions we as a nation make in the months and years ahead.

The Obama Administration has started to lay a strong foundation. The American Reinvestment and Recovery Act provides more than $80 billion of clean energy investments, expected to create hundreds of thousands of jobs. This includes $11 billion to make our electrical grid more efficient and connect it to sources of renewable power, $5 billion to weatherize low-income homes, and $3.4 billion to accelerate the deployment of carbon capture and storage (CCS) technologies.

In May, President Obama announced the largest improvement ever in the fuel efficiency of the U.S. vehicle fleet. President Obama's announcement yesterday of $2.4 billion of investments in the American battery and electric vehicle industry will result in the creation of thousands of jobs while reducing our dependence on oil.

But these steps will not be enough. Transforming our energy economy will require comprehensive energy legislation to drive sustained American investment over a period of decades. As my boss, Energy Secretary Steven Chu has said, we must "get in the game and play to win."

We should start with energy efficiency. Today, American families and businesses are burdened with energy waste. A DOE co-sponsored McKinsey study released last week identifies potential efficiency opportunities available today that could reduce fossil-fuel CO_2 emissions in the year 2020 by more than 10 percent below 2005 levels – while yielding up to $700 billion in net lifecycle savings to the economy. Indeed, such savings could continue to underpin U.S. emissions reduction efforts well beyond 2020. The National Academy of Sciences' *America's Energy Future* report, also released last week, estimates that energy efficiency has the technical potential to more than offset projected business as usual increases in energy consumption through 2030.

As we work to become more energy-efficient, we must also make increasing use of the abundant renewable energy resources right here in the United States. Today, less than 2 percent of U.S. electricity use comes from wind, yet a DOE report concluded that with a major national commitment to clean energy, wind could potentially provide 20 percent of our electricity by 2030 while creating 500,000 jobs in the wind sector and reducing emissions by 825 million tons of CO_2 per year. Our solar resources are also impressive. DOE's Sandia National Laboratory has estimated that solar power plants covering an area in the U.S. Southwest 100 miles on a side – 0.3 percent of total U.S. land area – could hypothetically meet the entire country's electricity needs.

The challenge we face is to harness American ingenuity and use these resources to grow our economy in the twenty-first century. Renewable energy presents an enormous, once-in-a-generation business opportunity, and we must recognize that if we don't seize it, others will. As noted by venture capitalist John Doerr in his testimony before this committee on July 16, the United States is now home to only one of the ten largest solar PV producers in the world, only one of the top ten wind turbine producers and only two of the top ten advanced battery manufacturers.

As we accelerate this new industrial revolution, coal will remain a key part of our energy mix, so we must ensure that it's burned cleanly. Coal generates around half of our electricity – and based on current rates of consumption, we have at least a 100-year supply. We should make full use of this domestic asset, but should do so in way that allows us to meet our energy needs, minimize environmental impacts, contribute to national security and compete in global markets.

Carbon capture and storage (CCS) technology offers us a path to achieving those multiple goals. The National Academy of Sciences' report concludes that it is technically feasible, through retrofitting and new construction, to ensure that the entire U.S. coal fleet employs CCS by 2035, potentially eliminating over 2 billion tons of CO_2 per year – that's around a third of projected fossil-fuel CO_2 emissions.

Today, nuclear power provides 20 percent of our electricity and 70 percent of our carbon-free electricity. The Obama Administration is committed to restarting the domestic nuclear power industry and is working on $18.5 billion in loan guarantees for nuclear power plants. A cap-and-trade mechanism as part of comprehensive energy legislation provides important advantages for nuclear power in the competition against other energy sources that emit greenhouse gases.

Natural gas is another fuel with great potential to aid the transition to a clean-energy economy. Greenhouse-gas emissions from natural gas-fired plants are less than half those from conventional coal-fired power plants. In just the last several years, innovations in technology have almost doubled recoverable reserves of natural gas in the United States by allowing recovery from previously inaccessible reservoirs. Natural gas is especially well-suited to balancing fluctuations in load in intermittent renewable energy production.

The win-win opportunities here cannot be overstated. Investment in efficiency and clean energy enhances security, protects the environment, improves health, stimulates technological innovation, and drives economic growth.

Last month the House passed historic comprehensive clean energy legislation billed as the American Clean Energy and Security (ACES) Act. The Obama Administration strongly supported House passage of the ACES Act, which would help position the United States as a global leader in this area. The Senate now holds the pen, and the Administration looks forward to working with you to swiftly enact strong legislation that will reward efficiency and clean energy innovation. Working together, we can enact legislation that ensures economic recovery by creating millions of good new jobs while laying the foundation for a clean energy future.

Thank you for the opportunity to participate in this hearing. I'm pleased to take your questions.