**Energy and Natural Resources Committee Chairman Ron Wyden's Opening Statement –**
**Clean Energy Finance Hearing**
**7.18.13**

Good morning, and welcome to today's oversight hearing on clean energy finance.

Scientists at the National Oceanic and Atmospheric Administration sent a sobering message earlier this year when they announced that carbon dioxide has now passed 400 parts per million in the atmosphere. The last time that carbon dioxide levels were at 400 parts per million was a few million years ago. Scientists estimate that the Earth has to stabilize at just 450 parts per million to avoid the worst effects of climate change, so it is quite clear that it's going to take significant changes to stay under that goal, and obviously the clock is ticking.

The good news is that, according to a recent study in Science, the science publication, by some of the most prominent researchers in the field, there's a path out of this bind, and that is a path forged through technology and innovation. Addressing climate change has to happen on at least three tracks:

- First, more needs to be done to deploy more of the clean energy technologies that the country already knows about: like wind and solar, and hydropower and geothermal. The list goes on and on.

- Second, steps need to be taken, and bold steps, with technologies like energy storage. Energy storage solves the problem of intermittent renewable power, and helps the whole grid operate more smoothly. For example, there is a proposal to build a facility near Boardman, Oregon that would use compressed air to store energy from wind farms, allowing for even greater use of renewables, while offering electricity for sale below the current average electricity rates. There is bipartisan legislation now before the Senate with respect to promoting energy storage. And I'm very pleased that our new secretary of energy, Dr. Moniz, after years and frankly this has gone on through several administrations where energy storage has gotten at best short shrift. Dr. Moniz has committed to this committee that he is going to work with us to turn this around and we will shortly have a comprehensive plan from the department.
- The final track involves developing revolutionary technologies that nobody has thought about as yet. For example, five years ago, no one envisioned the shale oil and gas boom or that the U.S. would become a net exporter of petroleum products for the first time in 50 years. Let's push for the same kind of focus in the renewable energy field, with breakthrough technologies in a range of areas from hydrogen-powered cars, and in addition to renewables, we ought to look at modular nuclear reactors, fusion energy, because a variety of these fields are equally transformative for our nation's economy and environment.

- There's no question that it's going to take smart people to design these technologies, and skilled labor to deploy the infrastructure to support them. Both of these would promote domestic investment and create high-skill and high-wage jobs in this country. Addressing climate change by taking on this technology challenge can reduce greenhouse gas emissions at the same time it promotes job growth and a stronger economy.

Among the most useful things the government can do to reach that goal is to empower the immense amounts of private capital available to invest more easily in clean energy, and let the private sector go to work.

One source of low-cost capital that can be difficult for clean energy projects to tap is the bond markets. We have seen particularly in terms of encouraging new investment that bonds clearly are an attractive way to bring in the private sector. For years, for example, there were discussions here in the Senate about bipartisan efforts to bond in terms of transportation. Finally my friend and colleague Senator Stabenow knows from her service on the Finance Committee, I think there was a bipartisan interest in pursuing bonds finally so we would stop talking about it. The projection was for $3-$5 billion worth of investments through Build America Bonds. It's now come in at over $180 billion. My hope is we can find ways to tap the bond market to use the private sector in a creative way for clean energy and efficiency projects.

Bonds are used for big projects today, but don't get often used for smaller projects like residences or office buildings because it's too hard to put together so many disparate projects in a pool large enough to float a bond. That's leaving a huge demand for clean energy and efficiency going unmet, and again causing us to miss a big opportunity to reduce emissions. Industry experts estimate there is $1 trillion in potential energy savings in buildings alone over the next decade and $300 billion in potential investment opportunities that could be realized from building efficiency alone.

Another area that the committee has been told is hindering investment in clean energy technology is a lack of technical expertise by would-be investors. There are lots of Americans who would like to invest in clean energy, but don't have the ability to evaluate if a technology is meeting its goals and worth investing in. Certainly the Department of Energy could play an expanded role in assessing the technology progress across a broad range of clean energy technologies. At one point there was a role for government in this area. There was an Office of Technology Assessment and there was significant bipartisan interest in this. The late Senator Kennedy and a variety of conservatives were interested in this. So a role for the government in terms of assessing these clean energy technologies is, I think, also a promising opportunity for us to explore.

A final way is for the government to level the playing field so that clean energy technologies have the same benefits that fossil energy has enjoyed, and to make sure that the government itself doesn't stand in the way of clean energy being deployed. One of the big challenges to the Shepherd's Flat wind project getting built in Oregon – and one of the biggest projects not just in the country, this is one of the biggest projects in the world - was to ensure, and the government really hadn't had to deal with this before - that the wind turbines didn't interfere with nearby defense radar installations. The Oregon Congressional delegation went to work with the Air Force, we worked this out and now we're able to tap the clean energy benefits of wind power in Eastern Oregon and I think it's pretty obvious that the Department of Defense feels that we have worked through these issues sufficiently so as to be able to proceed and that we're proceeding in a way that is consistent with meeting our defense needs at a dangerous time.

Simple approaches like I've described could have a transformative effect on the deployment of mature technologies but it is going to take even more revolutionary technology to take America to a truly low-carbon future. This is why it's critical that our investments in basic research and development are so important. Programs like the Advanced Research Projects Agency-Energy, which partner with the private sector to jump-start revolutionary technologies, are an important priority. I think we're going to have a pretty big debate this fall with respect to budget priorities and ARPA-E and I'm very hopeful there will be bipartisan support for that.

Finally let me close with a couple of quick comments with respect to the loan guarantee programs. And I also want to say we already miss the late Herb Allison who recently passed and did particularly thoughtful work with respect to looking at these loan programs.

Now the loan programs have clearly produced some results that I think all parties ought to be encouraged by, including that of Tesla Motors, which repaid its loan guarantee nine years early, while the Consumer Reports magazine evaluated the Tesla vehicle as "the best car ever."

As mentioned, Herb Allison has given us a number of constructive recommendations. Senator Murkowski and I, I think were perhaps the only two senators who were there when Mr. Allison testified, but out of those discussions it struck me that a flaw of the existing loan program is that all of the companies considered for loan guarantees in effect get placed in the same "risk bucket". So regardless of the risk, they're all clumped together. So you have a situation where a small entrepreneur that has attracted some funding and has a buyer lined up for his product seems to be lumped in and treated the same as a company building a large-scale manufacturing plant for a new technology in a rapidly evolving global market.

So we now have new leadership at the program. Peter Davidson will be heading it. I am encouraged by the discussions that we have had. He clearly is willing to look at some fresh approaches to incorporate some of the recommendations of these

internal reviews and at the end of the day, the urgency behind this hearing, a number of colleagues who have done good work on climate change have joined us, is to recognize that one of the best paths forward in terms of trying to address climate change in the days ahead, is to find these new clean technologies that are going to help us create good-paying jobs while at the same time dealing with the disturbing finding that just came from the government recently, that I mentioned earlier. Let's level the playing field, unlock private sector investment and particularly continue investing in innovation.