Testimony before the
Senate Committee on Energy and Natural Resources
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Good morning and thank you for this opportunity today. This is my first appearance before this panel under Chairman Murkowski's new leadership and I'm honored to contribute.

I am here today in my role as analyst at Bloomberg New Energy Finance, an energy market research division of financial information provider Bloomberg LP. Our group provides investors and others with data and insights on what we call new energy technologies. These include renewables such as wind and solar, electric vehicles, energy efficiency technologies, power storage such as batteries, and natural gas, among others.

I would note that my remarks today represent my views alone, not the corporate positions of Bloomberg LP. They also do not represent specific investment advice and should not be construed as such.

I would like start by saying that these are without doubt auspicious and exciting times for new energy technologies both globally and in the US, thanks to a confluence of economics and policy actions. I would argue that a fundamental re-think is now well underway about how energy gets produced, delivered, consumed, and managed in many parts of the world, including the US.

In 2015, investment in these new energy sectors achieved an all-time high of $329bn. The volume of renewable energy capacity deployed -- into wind, solar, and

other similar power-generating projects -- also soared to a record globally. What's notable is that this build-out of new projects is rising at a much quicker pace than is investment, reflecting the fact that clean energy unit costs have dropped dramatically.

In all, the clean energy sector has received over $1trillion in new capital over the past four years and over $2.5trillion in the past decade. With approximately one half of all new capacity built worldwide in 2015 represented by renewables, it is fair to say that clean energy is no longer an "alternative" source, but now very much in the mainstream.

What's behind this growth: improved price competitiveness for these technologies and policy support from governments. It should be noted that the latter -- policy actions -- has certainly assisted in helping achieve the former, lower clean energy prices.

Here in the US, we are seeing the power sector continue an unprecedented shift away from traditional, higher CO2 emitting sources of power generation. And in that regard, last year will likely be remembered as a watershed for "de-carbonization." Consider that in 2015...

- An annual record volume of coal-fired power generating capacity either was retired or converted to burn other fuels such as natural gas or biomass.
- A record volume of natural gas was burned in power plants and gas accounted for approximately 1/3 of all US power -- about the same as coal for the first time.
- Solar photovoltaic capacity added hit an all-time high, with strong growth in both the rooftop- and utility-scale sub-sectors.
- US clean energy investment totalled $56bn, the most in four years and the 2nd

most ever.

Since 2007, the share of US power provided by renewables (including hydro), natural gas and nuclear has surged from 49% to 65% with wind, gas, and solar accounting for nearly all new capacity added. The net result is that CO2 emissions in 2015 fell to their lowest level since some time in the 1990s. Over the past eight years, average retail power prices in most markets remained roughly level while average wholesale prices dropped.

Regarding US energy efficiency, over the past five years, US demand for electricity and for all sources of energy has remained basically flat, even as the economy has grown. Efficiency improvements to homes, buildings, and automobiles have all made contributions. As an aside, I would note that all of these trends are highlighted in an upcoming 2016 Sustainable Energy in America Factbook to be released in a few weeks.

The achievements of the past year for clean energy came even as fossil fuel prices -- most notably oil, but also gas and to a lesser extent coal -- were falling. At least thus far, the impact on new energy technologies has been muted, for a variety of reasons.

The one area where lower oil prices did impact this sector was in the sale of hybrid-electric vehicles, which slipped in 2015. However, it should be noted that pure electric vehicle sales continued to rise and automakers are now rolling out new, more affordably priced electric vehicles with longer ranges thanks to lower-priced batteries.

Looking ahead, the growth path for clean energy technologies appears to be wider and better defined than perhaps at any time. The so-called Paris agreement at

the end of 2015 saw over 190 nations committing to reduce CO2 emissions. Here in the US, the EPA's Clean Power Plan has the potential to offer greater certainty for clean energy through the next decade. Finally, Congress's extension of key tax credits for wind and solar ensured solid short-run growth for those technologies.

Just as importantly, the playing field where clean energy technologies compete and beat their incumbent rivals on cost continues to expand thanks to technological innovation and economies of scale. While risks and potential obstacles still exist, the outlook overall is generally positive for continuing growth and change.

Thank you again for this opportunity. I look forward to your questions.

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