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Testimony before the Senate Environment and Public Works Committee

Hearing on “Examining the International Climate Change Negotiations”

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

My name is Lisa Jacobson, and I serve as the President of the Business Council for Sustainable Energy (BCSE).

The Business Council for Sustainable Energy is a broad-based industry trade group representing companies and associations in the energy efficiency, natural gas and renewable energy industries. Its membership includes independent electric power producers, investor-owned utilities, public power, commercial end-users, equipment manufacturers, project developers as well as service providers for energy and environmental markets.

Since its founding in 1992, the Council has been a leading industry voice advocating for policies at the state, national and international levels that increase the use of commercially-available clean energy technologies, products and services.

Through my testimony, I will address the Council’s engagement in the international climate change process, the contributions that clean energy technologies are making to reduce US greenhouse gas emissions and what the coalition seeks out of a Paris climate change agreement in December.

As an important backdrop to my testimony at this hearing, the Council would also like to share some of the findings from the 2015 edition of the *Sustainable Energy in America Factbook*.¹ The *Factbook* was researched and produced by Bloomberg New Energy Finance and commissioned by the Business Council for Sustainable Energy. It is a quantitative and objective report, intended to be a resource for policymakers with up to date, accurate market information. Its goal is to offer important benchmarks on the contributions that sustainable energy technologies are making in the US energy system today. It also provides information on finance and investment trends in clean energy resources.

The 2015 edition of the *Sustainable Energy in America Factbook* points to the dramatic changes underway in the US energy sector over the past several years. Traditional energy sources are declining, while natural gas, renewable energy and energy efficiency are playing a larger role.

These changes are increasing the diversity of the country's energy mix, improving our energy security, cutting energy waste, increasing our energy productivity and reducing air pollution and greenhouse gas emissions.

BCSE and its Engagement with the International Climate Change Negotiations

BCSE members in the energy efficiency, natural gas and renewable energy sectors offer readily-available low-carbon and zero-carbon energy solutions. This portfolio of technologies can be used today to provide reliable, affordable and clean energy options for public and private sector customers. In 2014, US investment in clean energy technologies reached \$51.8 billion and these sectors are providing hundreds of thousands of well-paying jobs.

The Council will bring a delegation of its members to attend as business observers to the 21st Conference of the Parties (COP 21) of the United Nations Framework Convention on Climate Change (UNFCCC) in Paris, France this December. The organization has consistently engaged in the international climate change process since the early 1990s.

¹ 2015 edition of *the Sustainable Energy in America 2013 Factbook*, February 2015, <http://www.bcse.org/sustainableenergyfactbook>

The BCSE participates in this process to offer clean energy business expertise to the negotiators and stakeholders, providing information on deployment trends, technology costs as well as policy best practices.

BCSE members view the climate change negotiations as a valuable forum to share knowledge on policy frameworks and to help to inform the policy choices of countries looking to reduce greenhouse gas emissions and deploy clean energy options.

Further, BCSE members view the outcomes of the international climate change negotiations as important signals to the market that countries are serious about investing in low-carbon solutions. These signals will serve to reduce the uncertainty that can stall private sector investment. The scope and scale of the intended nationally-determined contributions of 161 countries under consideration at COP 21, will spur new investment and continue low-carbon investment trends that are already occurring.

US government leadership and engagement in the international climate change process supports US clean energy business interests and expands clean energy business opportunities outside our borders. US leadership increases the ambition of other nations and helps showcase US technology innovations and policy frameworks. BCSE is especially pleased that the upcoming negotiations in Paris will create new forums for sub-national actors, including state and local government officials as well as the private sector to showcase their efforts to reduce emissions and adapt to climate change.

Unlocking Investment, Innovation and Clean Energy Deployment – A Road Map to a Meaningful Paris Climate Change Agreement

The coalition of clean energy industries represented by the Business Council for Sustainable Energy calls for governments to deliver a clear, concise and durable climate change agreement at the COP 21 of the UNFCCC in Paris, France in December 2015.

With over 91% of global emissions and 90% of the global population covered by the intended nationally-determined contributions (INDCs) ² of 161 countries, nations are showing a collective commitment to spur investment, innovation and deployment of clean energy technologies in countries around the world. While the unconditional INDCs are estimated to deliver only 42% of the emissions reductions needed to reach the 2°C pathway,³ the Council believes that a well-structured Paris agreement can facilitate higher levels of ambition over time.

Of note, in 2014, global investment in clean energy topped \$310 billion, proving that the low-carbon transformation of the energy sector is well underway. This transformation is driven by falling technology costs, business innovations and supportive policy frameworks. But as we look toward the next several decades, even higher levels of investment will be needed. The International Energy Agency estimates that \$500 billion annually by 2020 and \$1 trillion annually by 2030 will need to be invested in low-carbon energy in order to keep global warming below 2°C and avoid the worst effects of climate change.⁴ The world energy markets cannot afford any backtracking at this critical time.

² Climate Action Tracker, climateactiontracker.org/indcs.html. November 12, 2015.

³ Climate Advisors, "Climate Diplomacy After Paris: Opportunities for US Leadership," November 2015.

⁴ International Energy Agency, *Energy Technology Perspectives 2012: How to Secure a Clean Energy Future* (Paris: 2012).

The key elements of a Paris agreement and supporting decisions include:

- **Participation by all countries** to address climate change.
- **A clear and durable structure** that provides transparent and predictable schedules for the monitoring, review and evaluation of emissions mitigation target and timetables, with a built-in mechanism to adjust country goals and actions as needed over a longer time horizon.
- **Continued international climate finance** support by donor countries, both to meet existing commitments and to expand public-private finance mechanisms in a post-2020 environment.
- **Protection of innovation systems** that enable the deployment of existing clean-energy solutions and creation of next generation low-carbon technology solutions. When the private sector makes investment decisions in a country, it assesses a potential market based on the existence of stable policies, sound infrastructure, and effective legal frameworks that encourage competition and innovation and that protect intellectual property rights (IPRs).
- **Recognition of the role of market-based mechanisms** as cost-effective cooperative tools for countries to meet mitigation and development objectives, accompanied by an accounting system to protect environmental integrity and to avoid double-counting of emissions reductions.
- **Recognition of the role of the private sector** and the need for public-private partnerships to deliver the technology solutions and investment capital needed to transform the energy sector and help close the ambition gap between national targets and a 2°C pathway. The preparations for COP 21 in Paris have made new inroads toward recognizing the necessity and importance of the contributions of the private sector, cities, states and other non-state actors in addressing climate change. These actors and their contributions should be recognized in the new global framework that governs climate action into the future.

The Changing US Energy Landscape

The 2015 edition of the *Sustainable Energy in America Factbook* points to the dramatic changes underway in the US energy sector over the past several years. Traditional energy sources are declining, while natural gas, renewable energy and energy efficiency are playing a larger role.

These changes are increasing the diversity of the country's energy mix, improving our energy security, cutting energy waste, increasing our energy productivity and reducing air pollution and greenhouse gas emissions.

Behind this change are a portfolio of new energy innovations, technologies, and applications. These include: newly applied techniques for extracting natural gas from shale rock formations; lower-cost and higher-efficiency photovoltaic panels for converting sunlight to electrons; highly efficient, natural gas end-use applications; natural gas vehicles and battery and fuel cell electric vehicles; and 'smart meters' that allow consumers to monitor, modulate, and cut electricity consumption, among others.

The *Factbook* looks at a broad spectrum of sustainable energy technologies and provides data on a wide range of clean energy industries including natural gas, renewable energy sources (including solar, wind, hydropower, geothermal, biomass, biogas and waste to energy – but excluding liquid biofuels), stationary fuel cells and other distributed technologies, as well as energy efficiency.

The *Factbook* shows that the US economy is becoming more energy productive and less energy intensive. By one measure—US gross domestic product (GDP) per unit of energy consumed—productivity has increased by 54% since 1990. Between 2007 and 2014, total energy use fell 2.4%, while GDP grew 8%. This was driven largely by advances in energy efficiency in the transportation, power generation and buildings sectors.

BETWEEN 2007 AND 2014:

- Total energy use fell 2.4%, while GDP grew 8%.
- Energy productivity of the US economy has increased 11%, and specifically, 1.4% from 2013 to 2014.
- Annualized electricity demand growth has been zero.
- Energy-related carbon dioxide emissions have decreased by 9.2%.

While energy demand has fallen more steeply than it has in at least 50 years, the use of natural gas and renewable energy has increased. Natural gas provided the US with 28% of its total energy supply in 2014 of which 27% was used to produce electricity via natural gas-fired power plants. This was up from just 22% of electricity from gas-fired power plants in 2007. Renewable energy in 2014 was 9.7% of total US energy mix whereas electrical generation from renewable resources increased from 8.3% to 12.9% between 2007 and 2014.

The Role of Domestic Electricity Sector Policy in Deploying Clean Energy Technologies

The US power sector is undergoing rapid changes and clean energy technologies in the energy efficiency, natural gas and renewable energy sectors are playing a larger role in the electricity mix.

These changes have been happening due to a range of factors, including cost reductions in certain sectors, technology and business innovations and supportive policy frameworks.

The final Clean Power Plan that regulates carbon emissions from existing power plants was released in August 2015. The structure of the regulation reflects the direction that US power markets are taking and, as it is implemented, will provide investment certainty to inform future decisions.

While the BCSE favors a legislative approach to addressing greenhouse gas emissions, the release of the Clean Power Plan was a historic development and demonstrates federal leadership to address global climate change.

It is important to note that the Clean Power Plan provides flexibility to states to implement the standard. This flexibility will allow states to meet their targets with a broad portfolio of affordable and reliable technologies, including an array of energy efficiency, natural gas and renewable energy solutions. In addition, states can consider the use of carbon capture utilization and storage (CCUS) as well as carbon capture and sequestration (CCS) technologies for compliance if they have carbon utilization and sequestration capacity.

The Clean Power Plan also offers an opportunity for constructive partnership and dialogue between state policy-makers and the private sector, with clear opportunities to explore state-specific or multi-state options for compliance.

The Business Council for Sustainable Energy and its members are engaging in stakeholder processes for state plan development and understand that state plans must match clean energy solutions to each state's unique circumstances. To assist the development of state plans, the Council, in partnership with Bloomberg New Energy Finance (BNEF), released state specific factsheets that discuss the energy landscape in Minnesota, Nevada,

Pennsylvania and Virginia.⁵ The factsheets also consider deployment trends and technology costs of various technology and resource options. In all of these states, BNEF finds a foundation that positions these states well to meet the Clean Power Plan targets, based on the policy and market conditions already in place.

BCSE will continue to engage with EPA and states as plan development continues. We will also work with state and federal policymakers to adopt policies that provide certainty for low and zero carbon investments in the US.

Clean Energy Businesses Take Action to Address Climate Change

The US business community is increasingly considering climate change impacts in its energy and corporate strategies. Clean energy companies, including several Council members, have recently announced new pledges to reduce greenhouse gas emissions as well as other climate-friendly sustainability initiatives.

BCSE members making recent pledges include: Calpine, ENER-G Rudox, Ingersoll Rand, Johnson Controls, Kingspan Insulated Panels – North America, PG&E, Qualcomm Incorporated, and Schneider Electric.

Council member efforts as well as other US company actions show that addressing climate change is becoming a mainstream business issue.

The private sector is going to be a key partner in delivering the innovation, investment and technologies that will help the US and other countries meet their mitigation targets. By leading by example and showing what is possible, these American companies are adding to the global momentum for a positive outcome at the Paris negotiations for a new international climate change agreement.

⁵ Please see the BNEF state factsheets for Minnesota, Nevada, Pennsylvania and Virginia at: [State Energy Factsheet: Nevada](#) ; [State Energy Factsheet: Pennsylvania](#); [State Energy Factsheet: Minnesota](#) ; [State Energy Factsheet: Virginia](#)