



**Testimony of
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Before the Senate Energy and Natural Resources Committee

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Chairman Murkowski, Senator Cantwell and members of the committee, my name is Greg Dotson, and I'm pleased to testify today on behalf of the Center for American Progress, a nonprofit think tank dedicated to improving the lives of Americans through progressive ideas and actions.

Today's hearing examines the critically important issue of energy infrastructure. Given the high capital cost and long, useful life of energy infrastructure, the energy policies Congress establishes today will help shape our children and grandchildren's economic and environmental futures.

Therefore the Center for American Progress urges the Committee to develop a clean energy policy that responds to today's needs and anticipates tomorrow's challenges. American innovation is delivering new technology and opportunities to enhance the nation's security and create jobs while reducing pollution.

As we consider policies to serve us in the coming decades, we should be asking some fundamental questions about what we hope to achieve:

- Will we harness the vast potential of renewable energy sources like wind and solar to power our communities and create jobs?
- Will we substantially reduce pollution and enjoy a healthier, more sustainable America?
- Will we build a resilient America that's ready for the challenges of the future?
- Will we seize opportunities to deploy technology that can empower American families and businesses to take control of their energy use?

Any energy bill Congress produces should be judged by how it proposes to answer these questions. An energy bill that is ambitious and science-driven will best meet our climate change challenge and protect the nation for future generations.

More or Less Pollution?

As a threshold matter, a commitment to cutting carbon pollution is the key to a sensible energy policy.

Market forces are currently pushing the United States towards a lower carbon future. While we should expect continued progress, we cannot expect the market alone to sufficiently clean up our energy systems.

Despite substantial progress by the current Administration in addressing climate change, the world is not yet on track to sufficiently cut pollution. According to a recent report from accounting firm PricewaterhouseCoopers, the gap between what the world needs to do and what it is doing has grown for the 6th year in a row. We need to decarbonize the global economy at 6.2% per year, but are only achieving one-seventh of that rate of decarbonization (0.9%).

In the past, some have argued that we cannot afford to cut pollution because doing so might harm our economy. Now, more than ever, the American people see they do not need to choose between clean energy and economic growth. Recent experience in the United States and abroad is demonstrating that we can cut pollution while growing the economy.

Between 2005 and 2014, the U.S. economy (GDP) grew by more than 13 percent while energy-related carbon pollution fell by more than 8 percent. In addition, individual states have adopted carbon cap-and-trade programs and have experienced strong GDP growth in the midst of declining emissions.

Internationally, global carbon emissions from the energy sector remained static in 2014, marking the first time since the International Energy Agency began collecting data that global emissions have stalled or decreased for reasons other than an economic slowdown.

It's increasingly evident that with thoughtful policies we can reduce our carbon pollution while improving the health of our economy. Moreover, achieving significant reductions in carbon pollution will avert the most costly impacts of climate change.

As the Committee considers changes to the nation's energy policies, it's important to remain cognizant of the immense economic impacts of failing to address climate change. The U.S. Council of Economic Advisors warned that while "delaying action can reduce costs in the short run, on net, delaying action to limit the effects of climate change is costly." They estimated that

allowing temperatures to rise by more than 3° Celsius could cost the United States \$150 billion every year, in perpetuity, and could cost even more if warming goes beyond 3° Celsius.

Fortunately, there are a number of energy policies that have been demonstrated to cut carbon pollution effectively. States are reducing emissions and growing their economies with cap and trade programs. British Columbia has shown that a carbon tax that recycles its revenue back to businesses and families can be good for both the environment and the economy. State renewable energy standards have helped deploy large amounts of renewable energy generation capacity. These policies demonstrate effective ways to put the country on the course towards a low carbon future. Congress could adopt any of these policies and each would result in significant infrastructure investments.

Legislation before the Committee

Today, the Committee is considering nearly two dozen energy proposals. Five of these proposals would amend the Public Utilities Regulatory Policies Act, or PURPA. Many of these bills constructively point the nation toward cleaner, more resilient energy infrastructure. This policy direction is particularly timely.

The electricity sector in the United States is experiencing a period of dynamic change and is estimated to require \$2 trillion of investment over the next 20 years. Technological advancements are making energy available from new and innovative sources and offering an array of new and exciting tools for managing and understanding the way we use energy. Market forces are pushing natural gas in and backing coal out, while renewable energy increases its share of the national market. Regulations, such as the proposed Clean Power Plan, are beginning to chart a course to a low-carbon future. Furthermore, the reality of climate change is barging onto the scene for the electric sector bringing with it challenges such as creating additional strains on the nation's water supplies, which are relied upon for cooling coal-fired and nuclear power plants and turning hydroelectric turbines.

In the recent Quadrennial Energy Review, the Department of Energy stated:

The U.S. electricity sector is being challenged by a variety of new forces, including a changing generation mix; low load growth; increasing vulnerability to severe weather because of climate change; and growing interactions at the Federal, state, and local levels. Innovative technologies and services are being introduced to the system at an unprecedented rate—often increasing efficiency, improving reliability, and empowering customers, but also injecting uncertainty into electricity-grid operations, traditional regulatory structures, and utility business models. Modernizing the grid will require that these challenges be addressed.

Historically, electric retail markets have been regulated at the state level, but the challenges facing the electricity sector, including a changing climate, powerful market forces, and the need to reduce pollution, are of such importance that the federal government has a strong interest in ensuring they are met. Unfortunately, the state responses to these challenges to date have been uneven. Some state public utility commissions, or PUCs, have been tempted by short-sighted arguments to undermine successful regulatory policies and pretend the challenges of the day do not exist. Others are working overtime to surmount the challenges the nation's faces to create an affordable, reliable clean energy future.

Over the past four decades, Congress has periodically amended PURPA to call upon the state public utility commissions to consider adjusting their electricity policies using an open and evidence-based review process. By simply requiring public utility commissions to examine the merits of various policies through formal proceedings, PURPA has triggered states to adopt smart policies that have helped save energy and promote renewable energy.

The Center for American Progress recommends that Congress embrace this precedent and help set a forward-looking agenda for the nation's public utility commissions to address the important issues facing the electricity sector today. Specifically, Congress should amend PURPA to require state PUCs to consider three policy standards:

- Boost energy-efficiency efforts through technology and regulation.
- Establish policies to encourage utilities to use clean energy to reduce pollution.
- Ensure utilities will have the resilience to function reliably in the future.

Energy efficiency policies can avoid expensive infrastructure investments

The Committee has previously considered energy efficiency proposals at a different hearing, but because efficiency offers an opportunity to avoid needless and expensive infrastructure investments, it is appropriate to mention it here. On a per-kilowatt basis, energy efficiency can reduce energy demand more cheaply and provide superior grid stability than construction of new power plants. According to the American Council for an Energy-Efficient Economy, energy savings from customer energy efficiency programs are typically achieved at 1/3 the cost of new generation resources.

Integration of clean energy and energy storage into the grid

Congress should require PUCs to consider how to encourage integration of clean energy and energy storage into their grid. As the cost of clean-energy technology continues to fall, regulators must be proactive in establishing standards for deployment that achieve economic,

environmental and other societal benefits, and address any institutional biases against generation. Clean-energy sources are nonpolluting, so they do not impose health risks on the communities they serve. They can be placed closer to demand centers, mitigating the need for additional investment in transmission. And with the use of microgrids that can operate independently of the traditional electric grid, clean energy can provide access to electricity during blackouts.

Clear regulatory guidance from state public utility commissioners can send strong signals to energy markets by eliminating barriers for integration of renewable energy, encouraging investment in energy storage to balance loads from intermittent sources of energy, and examining what policies can facilitate the use of fossil-power generation that captures and stores carbon pollution. Regulators that consider the value offered by clean energy beyond their immediate benefits can better serve state consumers with what the DOE calls a “portfolio of electricity options that meet their state specific goals for reliable, affordable, and clean electricity.” As inexpensive sources of renewable electricity make up an increasing share of state electricity generation, regulators will also have to adopt better planning and prediction methods to accommodate clean energy in a way that ensures grid stability and reliability. In states that have not already established net metering and interconnection standards, PUCs should consider their application.

S. 1213, introduced by Senator King, focuses on a key aspect of this important and timely issue. Across the country, more and more Americans are embracing rooftop solar panels as a way to generate their own electricity, save on their power bills, and reduce their carbon footprint. Last year was a banner year for the installation of solar photovoltaic, or PV, systems. U.S. power customers installed 30 percent more solar PV capacity in 2014 than they did in the previous year. The Solar Energy Industry Association predicts solar PV installations will grow by another 30 percent in 2015. Falling prices have fueled this tremendous growth in rooftop solar. In 42 of the nation's 50 largest cities, a typically-sized solar PV system is now less expensive than power from the local utility.

The rapid growth of distributed solar power threatens the traditional business model of most investor-owned electric utilities. In March, Joby Warrick of the Washington Post wrote an article entitled “Utilities wage campaign against rooftop solar.” The article details the “determined campaign to stop a home-solar insurgency that is rattling the boardrooms of the country’s government-regulated electric monopolies.”

In February 2015, the Salt River Project in Arizona approved a \$600-per-year fee on any customer adding a new rooftop solar system. Arizona Public Service has asked the Arizona Corporation Commission for permission to increase its fees on solar customers to more than \$250 per year. In December 2014, Public Service Company of New Mexico proposed charging a fee ranging from \$250 per year for small solar PV systems to at least \$430 per year for larger home solar PV systems. In Wisconsin, the Public Service Commission voted in November to

allow We Energies to charge customers with solar PV systems about \$182 per year. Utilities in other states also have been fighting for new legislation or rate restructuring plans to add fixed fees for solar customers, but not always with success.

The utilities argue that these fixed fees are necessary to ensure solar PV customers pay their fair share to maintain the electricity grid. But that discounts how solar PV supports the grid by reducing peak demand, offsetting the need for new generation capacity, and reducing investment in transmission and distribution infrastructure.

Congress has a role to play in protecting consumers' rights to install solar PV systems without paying exorbitant fees to electric utilities that want to preserve their market share.

S. 1219 would amend PURPA to focus on this issue as well. However, the legislation seems to direct states to focus on the challenges of net metering, rather than the opportunities. It would be a mistake to provide a platform solely for the airing of utility objections to net metering and distributed generation. Distributed generation offers tremendous potential benefits and should be encouraged at the federal and state levels.

Building climate resilience into energy infrastructure

Sen. Cantwell's legislation, S. 1243, would amend PURPA to ensure that utilities prepare for a changing climate. The Department of Energy's *Quadrennial Energy Review*, or QER, makes it clear why S. 1243 is so badly needed.

According to the QER, "extreme weather and climate change is a leading environmental risk" to electricity transmission, storage, and distribution systems. Hurricanes and tropical storms significantly damage electricity infrastructure, as seen in the mass power shutdowns in the New York area after Hurricane Sandy in 2012, resulting in more than 8 million combined customer electricity outages.

S. 1243 would require PUCs to consider how to encourage utility resilience planning to protect investments against extreme weather and drought in a changing climate. Shifting weather patterns will require utilities to invest in resources to harden infrastructure, conserve water, and increase the resilience of their assets. Planning and proactive investment by investor-owned utilities can protect their ratepayers and investors from excessive recovery costs and falling operational efficiencies due to climate change. Regulators could encourage their utilities to develop long-term plans for their facilities that determine acceptable levels of risk to climate change, particularly during rate cases to evaluate investments in new assets. Such planning will support grid reliability and long-term affordability.

The Center for American Progress would welcome the opportunity to work with the committee as it continues to consider comprehensive energy legislation.