Testimony of

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Thank you Chairman Smith, Ranking Member Johnson, and other members of the committee for inviting me to testify this morning. As Deputy Commissioner for Energy at the Connecticut Department of Energy and Environmental Protection, and as the Chair of the Regional Greenhouse Gas Initiative (RGGI), Inc. Board of Directors, I appreciate the opportunity to provide testimony on such an important topic. With a major international meeting on climate change happening soon in Paris, the world's attention is on the United States as we implement our own policies to reduce carbon pollution. In particular, there is considerable focus on the EPA's Clean Power Plan (CPP).

Many states, including Connecticut, have set a positive national example in advance of the CPP. Connecticut is one of nine states participating in RGGI – a market-based, mass-based multi-state program to reduce carbon pollution from the power sector. In addition to my State, the other RGGI participating states include Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Together, our states have a seven-year track record of successfully implementing the nation's first market-based program to reduce carbon pollution in the electric sector.

The RGGI program caps emissions by determining a regional budget of CO_2 allowances, and then distributes a majority of the CO_2 allowances through quarterly regional auctions so that the states may reinvest the value of the allowances into strategic programs. Collectively, the nine RGGI participating states represent 16 percent of the U.S. economy and generate a total gross domestic product of 2.4 trillion U.S. dollars.

Through our participation in RGGI and other climate change mitigation programs, Connecticut's experience has shown that significant reductions in carbon pollution—such as the CPP now requires—can be achieved affordably and reliably. Collectively, the RGGI states have already reduced power sector carbon pollution by over 40 percent since 2005. During this time the RGGI states' use of non-hydro renewables has increased by 63 percent. In 2013, the RGGI states produced about half of their power from clean or renewable sources.[1] The RGGI states' CPP targets are among the most stringent in the country, but we are well-positioned for compliance. As a group, the RGGI states are on track to reduce our power sector carbon pollution to 50 percent below 2005 levels by 2020, well beyond the national CPP projection of 32 percent by 2030.

Our experience has shown that RGGI and complementary programs in Connecticut have been accompanied by consumer savings, economic growth, and reliable power. In Connecticut, as of 2012 we have achieved a ten percent reduction in emissions from 1990 levels economy-

wide, while our population has grown nine percent, and our GDP increased by 41 percent. We see similar progress in all RGGI states. Since 2005, the region's GDP has grown by 8 percent as our carbon pollution declined 40 percent [see Appendix, Graph 1]. Independent reports by the Analysis Group have found that the RGGI program produced net economic benefits in each and every RGGI state. A recent Analysis Group report concluded that RGGI's second three years (2012-2014) are adding $1.3 billion in net economic benefit to the region, creating 14,200 job-years, and generating $460 million in consumer energy bill savings.[2] These benefits come in addition to findings from the program's first three years (2009-2011), which are adding $1.6 billion net economic benefit, 16,000 job-years, and $1.3 billion in consumer energy bill savings.[3] Our experience demonstrates that climate action and economic progress are compatible.

These findings focus on economic factors, and do not include the benefits of avoided climate change or improvements to public health. Real benefits including these factors would be far higher. Cleaner air is critical to safeguard the health of our families. One study found that our transition to a clean energy economy is saving hundreds of lives, preventing thousands of asthma attacks, and reducing medical impacts and expenses by billions of dollars.[4]

A 2015 peer-reviewed study concluded that RGGI is playing a significant role in the region's reduction in carbon pollution.[5] Complementary state policies and programs are also helping to drive these cost-effective achievements. These policies include utility-administered energy efficiency programs and renewable portfolio standards, which are common across the country. Market forces are driving further reductions, by encouraging fuel-switching to less carbon-intensive fuels. The RGGI program works in tandem with these policies and market trends to reduce pollution and establish long-term solutions for a reliable energy system.

Across the region, RGGI's 29 auctions have generated over $2 billion in proceeds. The reinvestment of RGGI auction proceeds in clean energy and consumer benefit programs is driving a virtuous cycle, further reducing carbon emissions and reinforcing these benefits. Through 2013, the RGGI states reinvested over $1 billion in auction proceeds in energy efficiency, clean and renewable energy, and other strategic energy programs. More than 3.7 million households and 17,800 businesses participated in programs funded through these investments. Connecticut accounted for more than $84 million of this regional investment, with more than 90 percent of the State's auction proceeds directed toward energy efficiency projects and clean and renewable energy.

In Connecticut, the reinvestment of auction proceeds has helped fund innovative programs that are harnessing market forces and competition to scale clean energy deployment at the lowest cost. Under the leadership of Governor Malloy, our State established the nation's first Green Bank, a quasi-public organization that leverages limited public dollars to attract private investment in clean energy in the State. The Connecticut Green Bank has used RGGI proceeds to help fund projects such as the development of solar photovoltaic (PV) and fuel cell installations in commercial, municipal, non-profit, and educational settings, and the installation of residential solar PV systems. The Green Bank has also partnered with the Connecticut Energy Efficiency Fund and incorporated RGGI proceeds in the Clean Energy Communities Program, encouraging Connecticut cities and towns to reduce their municipal building energy consumption. Funded through RGGI proceeds and ratepayer contributions, the Connecticut Energy Efficiency Fund's investments in energy efficiency and peak demand reduction in 2014 resulted in annual energy savings of 387.8 million kilowatt hours, and will avoid 3.2 million tons of carbon pollution over

the lifetime of the efficiency improvements.[6] Connecticut's energy efficiency investments planned for the next three years will reduce carbon emissions by 459,174 tons per year, and save enough energy to power a 262 megawatt power plant.[7] These investments are lowering customers' bills, and securing our state's long-term energy future.

Climate change and aging infrastructure pose threats to our economy and to the electric grid. The 2014 National Climate Assessment projected global sea levels to rise between one and four feet by 2100. It found that even without any increase in storm strength, two feet of sea level rise would more than triple the frequency of dangerous coastal flooding throughout most of the Northeast.[8] Extreme precipitation is also on the rise in the Northeast: we've seen an increase of over 70 percent in the amount of precipitation falling in very heavy events, a trend which is projected to continue. My State's Climate Preparedness Plan has warned of negative climate change impacts to Connecticut's agriculture, infrastructure (especially coastal infrastructure), natural resources, and public health.[9] This is why our State has set a long-term target to reduce greenhouse gases across all sectors to 80 percent below 2001 levels by 2050. Earlier this year, Governor Malloy convened a Governor's Council on Climate Change to develop a climate strategy that puts the state on a path to achieve near and long-term emission reductions across all sectors.

The recent Quadrennial Energy Review found that severe weather is the leading cause of power disruptions, costing the U.S. economy from $18 billion to $33 billion a year.[10] We have experienced these adverse climate impacts directly in Connecticut, resulting in direct costs to its citizens and businesses. According to our Department of Insurance, properties along the Connecticut coastline are collectively valued at over $570 billion; insurance companies paid nearly $1 billion for 200,000 covered claims as a result of five major storms in 2011 and 2012, including an unusual Halloween nor'easter, Tropical Storm Irene, and Superstorm Sandy. The cost of restoring power and rebuilding electric distribution lines damaged in those storms has reached to the hundreds of millions of dollars.

As Deputy Commissioner for Energy, I believe that reliability and affordability of energy are of utmost importance in implementing any program. RGGI helps manage these threats by reducing harmful emissions, and supporting reliability through energy efficiency, peak demand reduction, and other strategic investments. Investments funded through RGGI have advanced reliability goals in the region, even as our generation mix has changed and become cleaner.

Industry voices have also affirmed that continued reductions in power sector carbon pollution are achievable and affordable. Power generators Calpine, PG&E, and National Grid were joined by Austin Energy and Seattle City Light in filing a motion to intervene in support of the CPP. Their filing states, "The Power Companies support the Clean Power Plan because it will harness market forces to hasten trends that are already occurring in the electricity sector… the Power Companies have reduced CO_2 emissions within their respective generation fleets and portfolios. Their collective experience achieving those reductions demonstrates the achievability and reasonableness of the CPP."[11] Other power producers have made similar public statements that they do not anticipate continued pollution reductions to affect affordability or reliability.

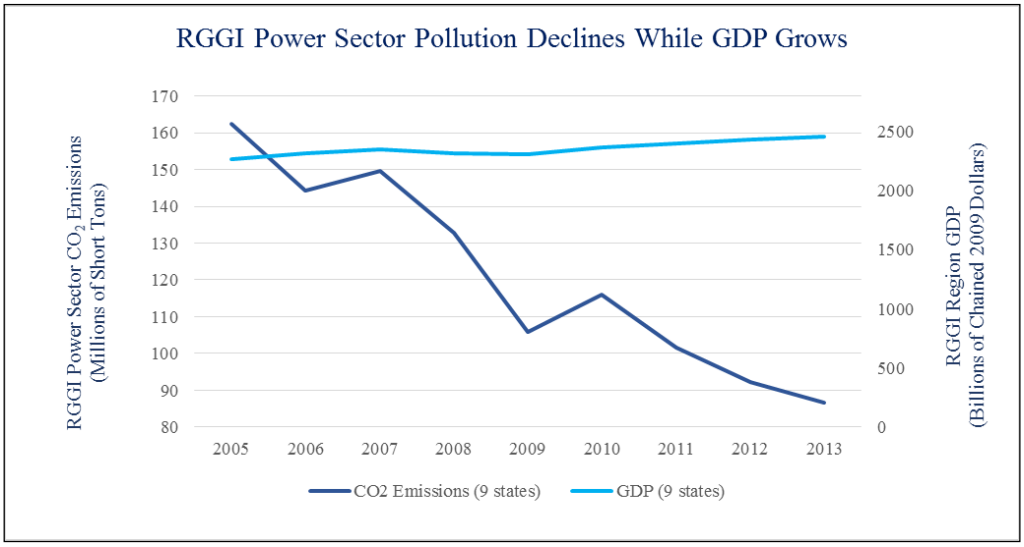
Connecticut has set a positive example through our individual accomplishments, and by working cooperatively with other states as a region. Multi-state programs have been repeatedly recognized by experts as the most cost-effective and reliable way to reduce carbon pollution.

Multi-state, mass-based programs like RGGI are especially advantageous because they reflect the regional nature of the electricity grid, and allow for a simple, transparent, and verifiable tracking and compliance system. The nine RGGI states are quite diverse, spanning three separate regional transmission organizations, different political landscapes, and dissimilar generation profiles, but through seven years of implementation—including changes in political leadership and generation mix—this diversity has proven to be a great strength. The RGGI program provides flexibility for each participating state to determine, for example, the amount of allowances to offer at auction, and how to reinvest the auction proceeds. The RGGI states have a strong commitment to reinvesting in strategic energy initiatives, as well as other consumer benefit programs. Regional programs like RGGI also introduce administrative efficiencies and foster regional cooperation.

The Clean Power Plan supports multi-state cooperation to reduce power sector carbon pollution, offering many pathways by which groups of states can work together. Connecticut has found that regional cooperation through RGGI, combined with complementary state programs, have allowed us to cut pollution while maintaining reliability, creating jobs, and boosting local economies. With this approach, we believe we are well-prepared to comply with the CPP requirements within the timeline established by the EPA. We look forward to sharing our success story to assist any other stakeholders, states, or regions who are interested in learning more. I again thank the Committee for the opportunity to testify.

Appendix

Graph 1:



[1] EIA Detailed State Electricity Data

[2] "The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States: Review of RGGI's Second Three-Year Compliance Period." The Analysis Group, 2015.

[3] "The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States: Review of the Use of RGGI Auction Proceeds from the First Three-Year Compliance Period." The Analysis Group, 2011.

[4] "How science, advocacy and good regulations combined to reduce power plant pollution and public health impacts; with a focus on states in the Regional Greenhouse Gas Initiative." Clean Air Task Force, 2015.

[5] "Why have greenhouse emissions in RGGI states declined? An econometric attribution to economic, energy market, and policy factors." Brian Murray and Peter T. Maniloff, 2015.

[6] Connecticut Energy Efficiency Board 2014 Programs and Operations Report. Connecticut Energy Efficiency Fund, 2015.

[7] 2016-2018 Electric and Natural Gas Conservation and Load Management Plan.(submitted to CT DEEP for review). Eversource Energy, The United Illuminating Company, Connecticut Natural Gas Corporation and The Southern Connecticut Gas Company, October 1, 2015.

[8] National Climate Assessment: Northeast. 2014.

[9] Connecticut Climate Change Preparedness Plan. 2011.

[10] Quadrennial Energy Review. US Department of Energy, 2015.

[11] "Unopposed Motion of Calpine Corporation, the City of Austin D/B/A Austin Energy, the City of Seattle, by and Through Its City Light Department, National Grid Generation, LLC, and Pacific Gas and Electric Company for Leave to Intervene in Support of Respondents." 2015.