

# Climate Change Action in Connecticut: Linking Energy, the Environment and the Economy

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## I. INTRODUCTION

The State of Connecticut is fortunate to have in place forward-thinking leadership that sees the dramatic environmental and economic risks associated with ignoring climate change and the opportunity associated with meeting climate goals by moving the state's economy in a direction that supports green technology,

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green jobs and a vibrant sustainable environment that produces the quality of life envisioned by all who live, work and play in New England.

Over the past eight years, Connecticut and other leadership states have put this type of commitment into action and to lead climate policy development in the United States. The states have produced dynamic plans and programs to begin to address climate change while the federal government has been less than helpful and, at times, even obstructionist. As a result, our nation today stands at a crossroad, with the international community clearly waiting for a more comprehensive and unified approach from our country, one of the largest emitters of greenhouse gases (GHGs) on our Earth. The federal government now seems poised to act and understands, just as do the states, we will need to adopt a suite of policies and programs that transcends the jurisdiction of any single government agency if we are to reduce GHG emissions to levels that sound science tells us are necessary to avert the most devastating impacts associated with global climate change.

Even though state action on climate is couched in terms of each state's own economic self-interest, states certainly understand the larger ramifications associated with a dramatically altered climate. While state action is prefaced in terms of protecting coastlines, agriculture, infrastructure and local habitat and biodiversity, we also understand that climate change brings serious threats to our national security from governments that will be destabilized by the reasonably foreseeable effects of dangerous climate change. These effects include increased drought in areas that already suffer from unstable food supply systems and sea level rise that could displace tens of millions of people.

Against this backdrop, states have followed the bumper sticker slogan, "think globally, act locally" . . . and regionally.

## II.

### BACKGROUND

Connecticut's leadership role on climate issues traces its roots to ongoing communication and dialogue with our sister New England states and the eastern Canadian provinces. We have a long history of working together to address and resolve common environmental issues. Starting in the 1980s, the New England governors (NEG) and eastern Canadian premiers (ECP) recognized the harmful effects of acid rain on the region's forests and the

negative impact on its economy. The NEG/ECP passed a joint resolution calling for the elimination of emissions contributing to those effects. As a result, states and provinces acted to reduce emissions of nitrogen oxides (NO<sub>x</sub>) and sulfur oxides (SO<sub>x</sub>). Those steps later served as a model for regional and federal action.

In 2000, the NEG/ECP, citing findings in the United Nations Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report, commenced regional discussions on global warming and its environmental impact. A March 2001 NEG/ECP workshop on the science and impacts of climate change provided a framework for a climate change action plan. In August 2001, the NEG/ECP signed the Climate Change Action Plan 2001.

Connecticut continued to build on the NEG/ECP effort by establishing the Governor's Steering Committee on Climate Change—a body of key state agency leaders in the areas of policy, energy, transportation, environment, administration and clean energy who meet to coordinate Connecticut's executive level climate policies. The steering committee has worked to build on the foundation laid by the NEG/ECP and developed a Connecticut Climate Change Action Stakeholder Dialogue in 2003 that led to the 2005 Climate Change Action Plan, which identified fifty-five separate recommendations to reduce GHG emissions. Stakeholders unanimously agreed to fifty-two of the recommendations. The State of Connecticut slated thirty-eight of these recommendations for immediate implementation. Some of Connecticut's key climate programs are discussed *infra* in Parts III and IV.

Connecticut's leadership efforts on climate change are pursued in partnership with the state's legislative body, the Connecticut General Assembly. The General Assembly has also been forward-thinking in its approach to addressing climate change as evidenced by the number of substantial initiatives passed in recent years:

- Public Act (PA) 04-84 required the Connecticut Department of Environmental Protection (CTDEP) to adopt the California Low Emission Vehicle Program and was specifically designed to incorporate the AB 1493 standards then under development in California.
- PA 04-252 required Connecticut to reduce GHGs as part of a regional effort and for the Governor's Steering Committee

on Climate Change to develop plans to help achieve such goals.

- Special Act 05-06 required CTDEP to study the feasibility of a motor vehicle “feebate” program.
- PA 06-161 required CTDEP to establish a motor vehicle GHG labeling program accompanied by a public outreach and education program.
- PA 06-187 adopted initial green building requirements for state projects costing over \$5 million.
- PA 07-242 required CTDEP to adopt regulations to implement the Regional Greenhouse Gas Initiative (RGGI). Most importantly, this act included provisions requested by CTDEP to authorize the auction of CO<sub>2</sub> allowances, adopted many essential and critical energy policies related to integrated resource planning, and expanded the green building requirements noted in PA 06-167 to schools and set the phase-in of these requirements to privately funded construction projects.
- PA 08-98 required GHG emissions be reduced in Connecticut to 10 percent below 1990 levels by 2020 and to 80 percent below 2001 levels by 2050.

### III.

#### CONNECTICUT’S SUCCESS WITH THE REGIONAL GREENHOUSE GAS INITIATIVE (RGGI)

Chief among the recommendations in the Connecticut Climate Change Action Plan was the implementation of a regional GHG cap and trade program for the electric generating sector. New York State’s Governor Pataki initiated the regional effort in 2003. This effort led to the adoption of a multi-state memorandum of understanding, the “RGGI MOU” in December 2005. Each of the ten participating states finalized implementing regulations by late 2008.

RGGI is a cooperative effort by ten Northeast and mid-Atlantic states<sup>1</sup> to limit GHG emissions and is the first mandatory, market-based CO<sub>2</sub> emissions reduction program in the United States. Through legislative or regulatory action, each of the ten participating states has adopted a regulatory cap on CO<sub>2</sub> emis-

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1. The states are: Connecticut, New York, New Jersey, Maine, Massachusetts, Maryland, Delaware, Rhode Island, Vermont and New Hampshire.

sions for the fossil-fuel based power sector. Taken together, the ten individual caps stabilize and then reduce CO<sub>2</sub> emissions by 10 percent by 2018. Each state maintains enforcement authority, but allowances are fungible across the region.

RGGI is a market-based control program in that there is no specific emission rate established for GHGs. Compliance is determined at the end of each three-year control period, when each source subject to the program must hold a number of allowances covering their actual emissions of CO<sub>2</sub>. Regulated power plants may use a CO<sub>2</sub> allowance issued by any of the ten participating states to demonstrate compliance with the state program governing their facility. Taken together, the ten individual state programs function as a single regional compliance market for carbon emissions. To guard against unforeseen price impacts, the RGGI program authorizes the creation and use of GHG reductions from outside the power generation sector to be counted towards compliance. In the RGGI program, these off-sector reductions are known as GHG “offsets” and there are five specific categories:

1. Landfill methane capture and destruction.
2. Reduction in emissions of sulfur hexafluoride.
3. Sequestration of carbon due to afforestation.
4. Reduced or avoided CO<sub>2</sub> emissions due to end-use energy efficiency.
5. Avoided methane emissions from agricultural manure management operations.

#### A. *RGGI Is Different From Other Environmental Programs*

Recognizing the technical limitations on the ability of sources to control direct CO<sub>2</sub> emissions, the most unique and exciting element of the RGGI framework is the emissions auction component. For the first time ever in the United States, regulated entities must monetize their environmental impact on a large scale—rather than being provided a windfall by the free allocation of allowances. The states have led the way and proven that a regional emissions auction can be held in an open and transparent process that assures the market participants a level playing field. Over the first three auctions, over 77 million allowances were sold. A secondary spot market and a futures market are also operating and providing constant price signals.

The states recognize that the auction component provides the greatest ability to control price impacts if the proceeds of allowance auctions are used to support low-carbon-intensity solutions, including energy efficiency and clean renewable energy. The states also intend to manage price impacts by employing offset projects, as described above, to help companies meet a portion of their compliance obligations with carbon reductions from outside the fossil-fueled-power generating sector if they so desire.

Like most market based programs, the emission reduction targets are being implemented in phased stages. RGGI's phased approach means that reductions in the CO<sub>2</sub> cap will initially be modest, providing predictable market signals and regulatory certainty. Electricity generators will be able to plan for and invest in lower-carbon alternatives and avoid dramatic electricity price impacts.

### B. *RGGI Sector Expansion*

As a member of RGGI, I am proud to say that the state of Connecticut along with the other RGGI states is not resting on their laurels with the success of the cap-and-trade program. While there is still work to be done to ensure that the program is properly implemented, we are actively engaged in efforts to expand RGGI both geographically and on a sector wide basis. We are looking to cooperate where further regional action would be productive, such as with developing a low-carbon fuel standard.

The states continue to recognize a successful climate mitigation program will drive lower fossil fuel use and help us use energy more efficiently.

### C. *Challenges and Opportunities*

The most significant challenge for any state, combination of states or the federal government has been and will continue to be the "perils of policy development." Simply put, no matter how good your data or the soundness of the science supporting any given action, policy development is not easy.

A good example of this peril lies with the development of the regional GHG cap set for the RGGI program. Several reports<sup>2</sup>

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2. Beth Daley, *Recession Byproduct – A Cut in Emissions*, BOSTON GLOBE, Mar. 11, 2009, available at [http://www.boston.com/lifestyle/green/articles/2009/03/11/recession\\_byproduct\\_\\_a\\_cut\\_in\\_emissions](http://www.boston.com/lifestyle/green/articles/2009/03/11/recession_byproduct__a_cut_in_emissions); Jay Yarow, *Watch for RGGI Carbon Market to be Oversupplied in 09*, BUSINESS INSIDER, Mar. 11, 2009, <http://www.businessinsider.com/watch-for-rggi-carbon-market-to-be-oversupplied-in-09-2009-3>; Busi-

indicate that actual emissions within the RGGI program area are substantially below the regional cap established by the RGGI MOU in 2005. While these reports may accurately reflect that current emissions are below the established cap, they do not take into account the broader policy context in which the states acted.

The policy goal of RGGI is modest in terms of reductions, but enormous in terms of scope. The goal is to stabilize power plant CO<sub>2</sub> emissions over a four-year period and then reduce these emissions by 2.5 percent per year for four years. No entity has ever imposed a GHG cap-and-trade program on fossil-fueled power plants before. The RGGI cap, i.e., the baseline from which these reductions would be measured, was established using the best data available over a three-year period from 2000–2002. During this period, regional emissions were increasing each year at a rate of about 3 percent. This growth was incorporated into the regional cap set for the program start date in 2009.

Hindsight is 20/20, or so the old adage goes. These reports clearly miss the broader view, which is that the cap is functioning as intended and that the additional reductions of GHG emissions are caused by externalities beyond anyone's reasonable view. While those who set the RGGI cap could reasonably foresee a colder winter, a hotter summer, a warmer than average winter or even a cooler than average summer and plan for it by establishing a three-year compliance period; there is no way they could have foreseen the seesawing costs of oil and natural gas. As the price of oil skyrocketed and that of natural gas plummeted, more generation switched to the less expensive fuel and emissions dropped. Neither could policymakers reasonably foresee the financial crisis that has led to the worst recession since the Great Depression. As the economy contracts, emissions also contract. The fact of the matter is that the RGGI cap is working just as intended. The problem, if any, may be that the region is simply too small to smooth out all the variables that affect carbon emissions.

Without question, there will be tremendous opportunities associated with the path we choose to address climate change. The greatest opportunity, from a planning perspective, will involve a systemic change in how energy and environmental policies are developed and communicated. States have learned over the past

several years that it is necessary to develop complimentary energy and environmental policies to meet ever more stringent air quality goals. For example, fossil fuel-derived electric power needed to meet periods of our highest demand is often generated by the most expensive and most polluting sources on days when our air quality is poorest. Under the current paradigm, a complementary policy to target both problems—cost and environmental impact—is necessary. Each entity pursues its individual goal through a separate venue. Sometimes the results align; often they do not, because each entity operates within its own planning horizon.

In terms of climate, it is no longer sufficient to say that energy and environmental goals must be complementary. They are, and need to be, much more than that. A new climate paradigm must be developed in recognition that energy and climate are mutually essential components—mirror images that must reflect each other's goals. Our climate policies need to reflect our energy policy goals of being more energy independent, valuing energy efficiency and redefining sustainability and profitability within the electricity generation and distribution sector. Our energy policies need to reflect our climate goals of a more energy efficient, lower carbon future.

#### IV.

##### KEY CLIMATE INITIATIVES IN CONNECTICUT

###### A. *Clean Cars*

Connecticut and many other states have had varying degrees of success in regulating GHG emissions from motor vehicles. Regulating motor vehicle GHG emissions is absolutely critical to meeting climate goals and will be a necessary element of any comprehensive effort to reduce GHG emissions. Transportation related GHG emissions account for almost 40 percent of Connecticut's GHG inventory.

States clearly face significant hurdles in achieving GHG reductions from the transportation sector. Regulating motor vehicle emissions, in general, is limited by certain provisions of the federal Clean Air Act, which preclude any state, except California, from imposing emission standards on new motor vehicles. In addition, California must obtain a waiver of preemption from the federal Environmental Protection Agency (USEPA) before it may enforce any motor vehicle standard. States are authorized

to adopt California's tailpipe standards if necessary to meet air quality requirements and they may only enforce standards within their jurisdiction after the USEPA has issued a waiver of pre-emption to California. Furthermore, once a state adopts the California motor vehicle program, it must maintain identical standards or forfeit its ability to enforce the requirements.

By way of background, California adopted legislation, AB 1493—also known as the Pavley standards—requiring the regulation of motor vehicle GHG emissions in 2002 and CARB adopted implementing regulations in 2005. Connecticut's General Assembly followed closely with a legislative directive to the CTDEP to adopt California's motor vehicle GHG standards in 2004 and subsequent regulations were adopted by the end of 2005. The standards were to become effective with the 2009 MY, however USEPA refused to act on California's waiver request. USEPA's inaction prevented California and eleven other states from enforcing the motor vehicle GHG program. Spurred by the U.S. Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), which clearly authorized USEPA to regulate carbon emissions, the states initiated litigation against USEPA for failing to act on California's waiver request. In the face of impending litigation, USEPA initiated and subsequently finalized a rulemaking that resulted in the denial of California's waiver request. The USEPA's decision flew in the face of over thirty years of waiver precedent and relied on flawed reasoning and a legally indefensible analysis of the Clean Air Act. Fortunately, the Obama Administration has recognized the magnitude of this error and has initiated a reconsideration of the ill-conceived denial of California's waiver request.

### B. *Clean Car Labeling*

In Connecticut, we firmly believe that technology is an important and necessary aspect of reducing GHG emissions. However technology will not, of and by itself, produce the GHG reductions necessary to meet the targets established in the Connecticut Global Warming Solutions Act. Ultimately the choices we make—as individuals and as consumers—will be as important as any technological solution. Resultantly, we believe that everyone must be vested in the challenge that climate change presents and be an active partner in solving the problem. Education and outreach will be central to this effort and is best exemplified by Connecticut's motor vehicle labeling law, PA 06-161. This act re-

quires the CTDEP to establish a GHG labeling program for new motor vehicles sold or leased in Connecticut with a model year of 2009 or later. GHG labels will include the vehicle's GHG score and provide a means to compare scores as well as a public education and outreach effort to inform the public about the impact vehicle choice has on GHG emissions.

### C. *Green Buildings*

The misguided American mantra of "bigger is better" doesn't just apply to cars. Unfortunately, this sentiment permeated our construction culture in an era when energy was relatively inexpensive and the climate impacts of energy inefficiency were not fully understood. Until recently, few people concerned themselves with the interrelationship between energy, the environment and the economy. I am pleased to say that this is no longer the case in Connecticut. We have taken steps to accelerate the shift to green buildings through legislation, regulation and education.

We understand that buildings are the backbone of our societal infrastructure. Buildings are designed to withstand the changeable and sometimes unfriendly New England climate. As a result, our buildings tend to last a long time, consume a great deal of energy and contribute to GHG emissions in Connecticut. In helping to reduce this impact, green buildings are critical to meeting climate goals.

Beginning in January 2008, any new state building costing more than \$5 million, or a major renovation project costing more than \$2 million, must meet a "Leadership in Energy and Environmental Design" (LEED) silver or equivalent standard. This requirement is extended to local school projects that receive state funding as of January 1, 2009. Connecticut is also extending this requirement into new private sector construction over \$5 million as of January 1, 2009 and to major private renovation projects of more than \$2 million as of January 1, 2010.

Again, in the context of green buildings, Connecticut recognizes that education makes for much more effective legislative and regulatory programs. There is clearly a learning process involved in this effort and government has been building awareness of the benefits (and costs) associated with green building. Education takes a consistent amount of time and effort, but can otherwise accelerate the process and help achieve the necessary results more efficiently and effectively than by regulation alone.

#### D. *State Government "Leading by Example"*

State government is responsible for significant infrastructure: 24/7 operations such as universities, hospitals, and prisons consume a great deal of energy. Other operations such as large office buildings, smaller decentralized offices such as group homes, and large transportation fleets make state government a very large energy consumer. Being a large energy consumer means that state government is well positioned to demonstrate the long term feasibility, from both cost and operational perspective, of low-carbon, energy efficiency and renewable energy technology.

Governor M. Jodi Rell clearly recognizes the leadership role incumbent upon the state of Connecticut to lead by example (LBE) and has directed state agencies to:

- Purchase only vehicles with best in class highway mileage as determined by USEPA after January 1, 2009;
- Reduce the size of the state's non-emergency fleet by 20 percent by July 1, 2009;
- Purchase only Energy Star appliances and equipment; and
- Reduce overall energy use by 20 percent.

The GWSA also contains a LBE component that requires the Governor's Steering Committee agencies to make the same GHG reductions that are being required of the entire state: 10 percent below 1990 levels by 2020 and 80 percent below 2001 levels by 2050.

Clearly, state government maintains an interest in moving to address broader environmental, public health and financial challenges associated with the use of conventional energy sources. Advancing energy efficiency and renewable energy provides many benefits including reduced energy costs, lower air pollutant emissions, lower GHG emissions, and improved energy reliability and security. LBE also allows the state yet another opportunity to educate others and demonstrate the many benefits associated with using energy, in all its forms, as wisely as possible.

#### E. *Climate Change Adaptation*

We know that climate change will affect us all in Connecticut. The overall measure of this effect will, in large part, be determined by state, regional, national and international mitigation efforts. Connecticut recognizes, and sound science tells us, that we can expect our climate to change based on the GHGs already in

our atmosphere and the ongoing GHG emissions that will continue to occur as our mitigation efforts mature.

We clearly understand that a comprehensive response to climate change cannot be just about mitigation anymore. Given limited resources, we had hoped to solidify our mitigation efforts prior to tackling adaptation, but there simply may not be enough time. The IPCC's Fourth Assessment Report essentially punted on sea level rise predictions because recent observations exceeded activity predicted by climate models. As a coastal state, Connecticut views sea level rise as a serious threat to our coastal resources, water supply, public health and general economic well being. In response to this threat and as directed by the GWSA, the Governor's Steering Committee on Climate Change has created an adaptation subcommittee. Over the next year, this subcommittee will work with experts in the fields of climate science, public health, agriculture, natural resources and society's infrastructure to assess the impacts of climate change on Connecticut. The adaptation subcommittee is specifically tasked to study infrastructure, natural resources and ecological habitats, public health and agriculture and to report back to the steering committee by December 31, 2009. By July 1, 2010, the adaptation subcommittee will develop recommendations for changes to programs and laws that would enable state and local government to adapt to the predicted impacts associated with a changing climate.

Connecticut views adaptation as a complementary strategy to mitigation. There are certain adverse conditions that are more likely to occur as a result of our changing climate, e.g., changing precipitation patterns, higher heat and extreme weather events. These conditions will threaten public health by increasing the likelihood of harmful impacts from more air pollution due to air conditioning needs, more water pollution from stormwater runoff, and greater instances of vector borne disease such as West Nile Virus and Eastern Equine Encephalitis. The risk posed by more frequent and extreme weather events will also threaten our economy based on the value of coastal property and associated infrastructure, such as roads, bridges, transit, power generation and distribution, water treatment and telecom facilities. Finally, these adverse conditions will also threaten natural resources and habitats throughout Connecticut, but especially in the coastal zone.

Connecticut must develop a comprehensive strategy to effectively address the known range of potential impacts and be ready

to implement an adaptation strategy and plan in a phased approach as the range of potential impacts is narrowed to those that are most likely to occur. In the meantime, there are certainly actions that we must consider taking now. For example, we must identify susceptible infrastructure and critical habitat that should be preserved. We must consider actions that can be taken within our current administrative and regulatory framework that could lessen the need for future adaptive strategies, including road planning and storm water management. We should take steps to better protect our groundwater supplies as well.

Climate change adaptation planning is living proof of the old adage that “no one plans to fail, they just fail to plan.” Connecticut does not intend to be an idle victim of a changing climate.

## V.

### CONCLUSION

Current economic conditions notwithstanding, there is no better time than now and no better place to be than in Connecticut working on climate and clean energy issues. We know what it’s like to be heavily dependent on foreign energy sources; we embrace the value of energy efficiency. We are also closer than ever before in linking our energy and environmental goals in a single planning vision—an integrated resource plan.

Without a doubt, there are significant challenges ahead. In addition to the perils of policy development, there is litigation challenging RGGI in New York and litigation challenging GHG tailpipe standards in California. Clearly some industries will not embrace the opportunities afforded to early adopters.

As a result, we need comprehensive federal action to equitably address climate change and to spur our transition to a low carbon, clean and sustainable economy. Leadership states, such as Connecticut, look forward to partnering with the federal government on climate and energy policies. Approaching the issue in partnership is the best way to ensure that the tremendous effort the leadership states have put forth to date informs the federal process and provides sufficient flexibility for states to continue to experiment with innovative approaches to address climate change and adaptation challenges moving forward.

