



Taking Action in New York on Climate Change

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New York State Bar Association
Task Force on Global Warming.

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TAKING ACTION IN NEW YORK ON CLIMATE CHANGE:

**Report of the New York State Bar Association
Task Force on Global Warming**

January 2009

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EXECUTIVE SUMMARY

The New York State Bar Association (NYSBA) Task Force on Global Warming (the Task Force) has been convened by NYSBA President Bernice Leber to summarize New York's existing laws and programs regarding climate change and to make specific proposals that the State can implement in a timely and cost-effective fashion to reduce greenhouse gas (GHG) emissions and to prepare for the impacts of climate change. New York has taken many steps to address climate change; however, there is much more that can be done. The Task Force has not attempted to comprehensively suggest every possible action, but rather has selected 22 specific proposals that can be readily accomplished and that will yield real results. It is the hope of the Task Force that officials in the executive and legislative branches will seriously consider the recommendations made in this Report and seek to implement as many as possible. In making these recommendations, the Task Force was acutely aware of New York State's current fiscal situation and has thus concentrated on action items that it expects will either save money because of their energy cost savings or will have, at worst, a modest cost to State and local government.

As Sections IV and V of Report demonstrate, New York has an impressive array of laws, policies and programs that contribute to reducing the amount of statewide GHG emissions. What is missing, however, is a statewide comprehensive climate change strategy that has a specific, measurable and binding reduction target. Without such a target, it is difficult to assess whether New York's efforts in reducing its emissions are effective. For this reason, the Task Force believes that the adoption of a statewide target to reduce New York's GHG emissions to 80% below 1990 levels by 2050 is appropriate. This target has been adopted by several states, has been proposed for adoption by the European Union, and was also reflected in certain federal cap-and-trade bills that were recently introduced in Congress. In addition, President Obama has called for the adoption of this target in any forthcoming federal cap-and-trade legislation. The adoption of such a target should include a mid-term target of achieving 1990 levels by 2020. In addition, New York should measure its progress towards achieving this target on a periodic basis. In this regard, the Task Force recommends that New York adopt common measurements for its various programs aimed at reducing GHG emissions and energy use. By utilizing a common metric, New York will be able to assess periodically whether this GHG reduction goal is being achieved and make adjustments as warranted.

The Task Force has divided the 22 proposals into the following four categories: buildings and energy, land use, vehicles and transportation, and other initiatives. Within each section, the Task Force has ranked the proposals in order of importance. With respect to buildings and energy, the Task Force has made nine recommendations. First, the Task Force recommends that New York improve its incentives regarding energy efficiency in buildings by centralizing this information, updating the State Energy Code more swiftly and providing incentives for local Code enforcement, by expediting processing for "climate friendly" projects, and by prioritizing energy efficiency initiatives for affordable housing. Second, the Renewable Portfolio Standard (RPS) should be raised from 25% to 30%. Third, the Public Service Commission should be permitted to require time-of-use pricing, which allows the price of electricity to more closely track the actual cost of producing it on an hour-by-hour basis. Fourth, New York should provide incentives for the installation of "smart meters," which allow for the exchange of information between the electricity provider and the customer's electric meter.

Fifth, sub-metering should be required in all buildings, which would allow building owners to bill tenants for individual measured electric usage. Sixth, the State Energy Code should be amended to cover more building renovations; currently only renovations that involve the replacement of 50% or more of a building's subsystem must comply with the Code. Seventh, all new or substantially renovated school buildings should be required to meet green building standards. Eighth, water and wastewater treatment plants should be required to adopt energy conservation requirements. Finally, the State Energy Planning Board should be reinstated.

With respect to land use, the Task Force has made three recommendations. First, the State Environmental Quality Review Act (SEQRA) regulations should be amended such that GHG emissions are considered for projects that are subject to it. Second, GHG emissions should be factored into local comprehensive plans. Third, wind projects, including those offshore, should be encouraged and New York should adopt a statewide wind energy goal as part of its RPS requirement.

With respect to vehicles and transportation, the Task Force has made four recommendations. First, New York should continue to strive for a 10% reduction in vehicle miles traveled (VMT) below business as usual within 10 years; to this end, New York should initiate a VMT Task Force as recommended by the Renewable Energy Task Force. Second, New York should consider imposing feebates on the purchase of new vehicles with low fuel economy and offer rebates on the purchase of vehicles with high fuel economy. Third, New York should encourage the purchase of alternative fuel vehicles. Fourth, energy-saving vehicle maintenance techniques should be included as part of the vehicle registration process.

The Task Force has made six additional recommendations that did not fit in the above three categories. First, New York should encourage the expansion of the Regional Greenhouse Gas Initiative (RGGI) by promoting the adoption of an economy-wide cap on GHGs; in addition, New York should consider lowering the existing cap. Second, carbon capture and sequestration (CCS) technology should be pursued provided that adequate federal funding is available. Third, green workforce development should be promoted by enhancing educational and job training programs throughout the state. Fourth, New York should encourage the Interagency Committee on Sustainability and Green Procurement to be aggressive in setting green specifications for certain goods that are purchased by State agencies. Fifth, New York should promote methane capture by requiring or encouraging it in all municipal solid waste (MSW) landfills. Sixth, New York should improve its floodplain mapping system by taking into account future sea level rise.

Introduction

Climate change is the most prominent and important environmental issue of our time. There is now a general consensus among the scientific community that there is a causal link between increased greenhouse gas (GHG) levels and temperature, with related climate disruptions.² These disruptions include, among other things, rising sea levels, higher temperatures, extreme weather events, and increased precipitation. New York is especially vulnerable to these disruptions given its hundreds of miles of coastline and the fact that a large percentage of its population lives in dense low-lying urban areas such as New York City.

The New York State Bar Association (NYSBA) has long been active on these issues. It issued one of the seminal reports on the subject in 1994,³ and it played a central role in the New York State Symposium on Economic Development and Climate Change in 1998 and its resulting report.⁴ In 2008 Bernice Leber, President of the NYSBA, convened a Task Force on Global Warming (Task Force) to update the prior reports, summarize New York State's existing laws and programs regarding climate change, and, most importantly, make specific proposals that the State can implement in a timely and cost-effective fashion to reduce GHG emissions and prepare for the inevitable impacts of climate change.

The Legislature, the Governor, and numerous State agencies and authorities have already taken many steps to address climate change. However, there is a good deal more to be done. The Task Force has not attempted to comprehensively suggest every possible action, but rather has selected 22 specific actions that can be readily accomplished and that will yield real results. It is the hope of the Task Force that the relevant officials in the executive and legislative branches will seriously consider the recommendations made in this Report and seek to implement as many as possible.

In making these recommendations, the Task Force was acutely aware of New York State's current fiscal situation. Many more actions could have been recommended, but they would add to the strain on an already serious budgetary shortfall. The Task Force has concentrated on action items that it expects will have at worst a modest cost to State and local

² In 2007, the Intergovernmental Panel on Climate Change (IPCC), in its Fourth Assessment Report, made a number of findings with respect to effects of climate change that are now being observed, including higher temperatures, rising sea levels, declining Arctic sea ice and increasing precipitation in certain regions of the world. The report concluded that there is "high agreement" that global greenhouse gas (GHG) emissions will continue to increase in the coming decades and that there will be a corresponding increase in climate-related effects. See Intergovernmental Panel on Climate Change, Summary for Policymakers of the Synthesis Report of the IPCC Fourth Assessment Report, 2-4 (Nov. 16, 2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4syr_spm.pdf [hereinafter "IPCC Report"].

³ N.Y. State Bar Ass'n, *The Threat of Global Climate Change -- What Can New Yorkers Do? State and Local Strategies to Reduce Greenhouse Gas Emissions in New York State* (1994).

⁴ New York State Symposium on Economic Development and Climate Change (including NYSBA), *Recommendations for a Climate Change Agenda for New York State* (1998).

government; many of the proposals, in fact, will save money, at least after a few years, largely based on energy cost savings.

I. Climate Change in New York

In recent decades, New York has begun to experience conditions related to climate change in the form of higher temperatures, increased precipitation, extreme weather events, and sea level rise. If GHG emissions continue to increase, which appears inevitable at least in the near term, these conditions will worsen, producing a number of negative ecological, health and economic effects.

a. Temperature and Weather-Related Projections

According to the Columbia University Center for Climate Systems Research, from 1900 to 2005, the average annual temperature in the New York City Metropolitan Region increased approximately 1.9° F.⁵ In addition, the rate of warming in the U.S. Northeast has accelerated in the past 30 years. This is likely caused by the fact that the rate of growth of global concentrations of carbon dioxide (CO₂) has increased markedly since the 1990s.⁶ Temperatures across the region have risen more than 1.5° F since 1970.⁷ By the 2050s, New York could see winter temperatures rise an additional 3.3 - 5.6° F from current levels depending on the rate of increase of worldwide GHG emissions.⁸ If current trends continue, by the end of the century seasonal average temperatures in New York could rise 8 - 12° F above historic levels in winter and 6 - 14° F in summer.⁹ Thus, it is likely that in the coming decades New York's cities will experience a dramatic increase in the number of days over 90° F and 100° F.¹⁰

⁵ Columbia Univ. Ctr. for Climate Sys. Research, *Long-Term Annual Observed Temperature Trend in the NYC Watershed Region 1900-2005* (2007), available at http://www.nyc.gov/html/dep/pdf/climate/climate_chapter1.pdf.

⁶ According to a recent report by the Global Carbon Project, annual mean growth rate of atmospheric CO₂ was 2.2 parts per million (ppm) per year in 2007 (up from 1.8 ppm in 2006), and above the 2.0 ppm average for the period 2000-2007. The average annual mean growth rate for the previous 20 years was about 1.5 ppm per year. According to the report, the global concentration of CO₂ emissions has been increasing 3.5% a year since 2000, a rate of growth almost four times what it was in the 1990s. A summary of the report is available at http://www.globalcarbonproject.org/carbontrends/index_new.htm.

⁷ Union of Concerned Scientists, *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions* 1 (2007), available at http://www.climatechoices.org/assets/documents/climatechoices/new-york_necia.pdf.

⁸ Columbia Univ. Ctr. for Climate Sys. Research, *Metro East Coast Regional Assessment* (2001). The Executive Summary is available at http://ccsr.columbia.edu/cig/mec/0.2_Executive_Summary.pdf (hereinafter "Climate Sys. Research, Regional Assessment").

⁹ Union of Concerned Scientists, *supra* note 7, at 1-2.

¹⁰ Climate Sys. Research, Regional Assessment, *supra* note 8, at x-xi. According to the Assessment, global climate models project that the number of days above 90° F in the region will increase from 14 days in 1997-98 to between 24-40 days by the 2020s, 30-62 days by the 2050s and 40-89 days by the 2080s. *Id.*

Annual precipitation rates have also increased in New York in the last 100 years. From 1900 to 2005, the average amount of annual precipitation in the New York Metropolitan Region increased by 4.2 inches, or nearly 10%.¹¹ Current average precipitation in the region is 45.9 inches per year.¹² Average annual precipitation in the region is projected to increase by an additional 0.7% by the 2020s, 5.7% by the 2050s and 8.6% by the 2080s.¹³ In the Northeast, winter precipitation is expected to increase by 20 - 30% and heavy rainfall events are expected to become more frequent and severe.¹⁴ Even though annual precipitation rates have increased, it is estimated that there will be little to no change in the amount of rain that falls during the summer, which could increase the frequency of droughts lasting one to three months by the end of this century.¹⁵

b. Sea Level Projections

Sea level in the New York Metropolitan Region increased between .09 - .15 vertical inches per year during the 20th century,¹⁶ amounting to a total vertical increase of .85 feet (approximately 10 inches) from 1920 to 2005.¹⁷ If GHG emissions continue to increase, global sea levels are expected to rise an additional 10 - 24 inches by the end of the century.¹⁸ According to a report by the Organization for Economic Cooperation and Development, New York City is third on a list of world cities that will be most at risk of coastal flooding by the 2070s in terms of potential economic damage.¹⁹

Sea levels in New York could rise as much as 3.2 inches by the 2020s, 9.0 inches by the 2050s, and almost a foot and a half (16.5 inches) by the 2080s.²⁰ The state could also see

¹¹ Columbia Univ. Ctr. for Climate Sys. Research, *Long-Term Annual Observed Precipitation Trend in the NYC Watershed Region: 1900-2005* (2007), available at http://www.nyc.gov/html/dep/pdf/climate/climate_chapter1.pdf.

¹² New York Acad. of Sci. & New York State Energy Research & Dev. Auth., *Climate Change in New York State: Developing a Research Strategy* 11 (2007) (hereinafter "NYAS & NYSERDA").

¹³ Columbia Univ. Ctr. for Climate Sys. Research, *Modeled Annual Precipitation Changes for the NYC Watershed Region Relative to the 1980s* (2006), available at http://www.nyc.gov/html/dep/pdf/climate/climate_chapter1.pdf.

¹⁴ Union of Concerned Scientists, *supra* note 7, at 2.

¹⁵ *Id.*

¹⁶ Climate Sys. Research, Regional Assessment, *supra* note 8, at xi. Each vertical meter of sea level rise can entail many meters of horizontal land loss.

¹⁷ Columbia Univ. Ctr. for Climate Sys. Research, HydroQual, *The Battery Annual Mean Sea Level Rise, 1920-2005* (2007), available at http://www.nyc.gov/html/dep/pdf/climate/climate_chapter1.pdf.

¹⁸ Union of Concerned Scientists, *supra* note 7, at 2.

¹⁹ Org. on Econ. Cooperation & Dev., *Ranking of the World's Cities Most Exposed to Coastal Flooding Today and in the Future* (2007), available at <http://www.pbs.org/wgbh/pages/frontline/story/2008/10/heat.html>.

²⁰ Columbia Univ. Ctr. for Climate Sys. Research, *Modeled Regional Sea Level Rise Relative to the 2000s* (2006), available at http://www.nyc.gov/html/dep/pdf/climate/climate_chapter1.pdf.

increases in the magnitude and frequency of storm surges on its coast. The so-called “100 year flood”²¹ could become a common occurrence in New York’s coastal cities by the end of the century.²² Sea level rise is also expected to inundate low-lying coastal areas and accelerate erosion, threatening coastal residences and businesses as well as salt marshes and estuaries on Long Island.²³ Studies of salt marsh islands in the Jamaica Bay Wildlife Refuge have shown that they have reduced 12% in area since 1959 as a result of sea-level rise.²⁴

c. Ecological Effects

Climate change is likely to have a wide range of ecological effects throughout New York. One effect could be the amount of available water. Higher temperatures will likely lengthen the growing season, which will increase the amount of water used by plants, ultimately reducing the amount of water that would otherwise be stored in reservoirs. Further compounding this problem is that, because of higher temperatures during the winter, more precipitation could fall as rain rather than snow. Thus, less water will be stored as snowpack, which will reduce inflows into the reservoirs during the spring thawing season. The increased rates of precipitation and the increased intensity of severe weather events could also lead to periodic flooding.²⁵

Another effect could be shifting climate zones brought on by warmer weather, which may result in New England sugar maples and oaks moving northward and upward in mountainous regions by the end of the century. While warmer weather may increase forest productivity, warmer winters typically result in decreased sugar maple yields. Large scale die-offs could occur if winter temperatures are warmer than normal. In addition, increased temperatures and higher soil evapo-transpiration rates could lead to increased forest fires, pests and pathogen outbreaks.²⁶

Warmer and shorter winters may also result in habitat encroachment by invasive species, which could lead to a number of native species becoming threatened or endangered. Given the expected shift in climate zones, eco-systems may become out of synch, with some migratory species arriving at the same time of year to find that they have missed the flowering time of

²¹ A one-hundred-year flood is calculated to be the level of flood water expected to be equaled or exceeded every 100 years on average.

²² A 100 year flood could occur in the New York Metropolitan Region every 43-80 years by the 2020s, 19-68 years by the 2050s, and 4-60 years by the 2080s. *See* Climate Sys. Research, Regional Assessment, *supra* note 8, at xi. *See also* Union of Concerned Scientists, *supra* note 7, at 2 (stating that 100 year flood could occur as often as once per decade by the end of the century).

²³ Union of Concerned Scientists, *supra* note 7, at 4.

²⁴ Climate Sys. Research, Regional Assessment, *supra* note 8.

²⁵ N.Y. City Dep’t of Env’tl. Prot., *Climate Change Assessment and Action Plan: Report 1* at 36 (2008), available at http://www.nyc.gov/html/dep/html/news/climate_change_report_05-08.shtml.

²⁶ NYAS & NYSERDA, *supra* note 12, at 13.

certain plants.²⁷ Commercial and sport fisheries may also be affected as water temperatures rise and other marine conditions change.²⁸

d. Health Effects

Higher temperatures, combined with the urban “heat island” effect,²⁹ will likely increase the incidence of summer heat stress morbidity and mortality for poor, sick and elderly populations in New York municipalities.³⁰ These populations are typically the most vulnerable, particularly if they do not have access to air conditioning and have limited mobility.³¹ In addition, increased summertime temperatures could enhance smog, which forms when pollutants from tailpipes and smokestacks mix with sunlight, heat and stagnant air. The number of days with poor air quality is expected to quadruple in Buffalo and New York City by the end of this century.³² Increased smog could increase rates of asthma and other respiratory diseases.³³ Higher temperatures and increased CO₂ are also expected to accelerate pollen production in plants, which could extend the allergy season and increase asthma risks.³⁴ Further, although not specifically related to heat waves, diseases caused by warmer, wetter temperatures, such as Lyme disease, and diseases normally found in tropical regions of the world, could become widespread in the region.

²⁷ *Id.*

²⁸ Union of Concerned Scientists, *supra* note 7, at 5. See also J.B. Ruhl, *Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future*, 88 B.U. L. Rev. 1 (2008).

²⁹ The “heat island effect” is caused by the large number of buildings, sidewalks and other non-natural surfaces in high density urban environments which absorb heat, resulting in higher temperatures in these areas.

³⁰ As extreme heat becomes more common, the risk of heat stress, heart attacks and death increases. In the summer of 2006, 46 people in New York City, most of them elderly, died from heat stroke. Union of Concerned Scientists, *supra* note 7, at 4. One study predicts an increase in heat-related mortality of 70% in the U.S. by 2050. See Laurence S. Kalkstein & J. Scott Green, *An Evaluation of Climate/Mortality Relationships in Large U.S. Cities and the Possible Impacts of a Climate Change*, 105 *Envtl. Health Persp.* 84, 90 (1997).

³¹ In July 2008, the EPA released a report finding that the elderly, young children, and people with compromised immune systems are the most vulnerable to increased temperatures. The report also concluded that heat-related mortality affects poor and minority populations disproportionately due in part to the lack of air conditions, particularly in inner-city neighborhoods. *Envtl. Prot. Agency, Analyses and Effects of Global Change on Human Health and Welfare and Human Systems (Final Report)*, available at <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=197244>.

³² Union of Concerned Scientists, *supra* note 7, at 4.

³³ Even modest increases in smog can cause asthma in children, especially poor and minority children living in highly urban environments. See Peyton A. Eggleston, *The Environment and Asthma in U.S. Inner Cities* (Am. Coll. of Chest Physicians 2007).

³⁴ Union of Concerned Scientists, *supra* note 7, at 4.

II. Energy Use in New York

In 2006, the most recent year for which data is available, New York's primary energy consumption totaled 4,071 trillion Btu (TBtu).³⁵ This was a 4.1% decrease from 2005.³⁶ Although statewide petroleum usage decreased 13% from the previous year, it still accounted for 1,584 TBtu, or 200 million barrels of oil, representing 38% of New York's primary energy consumption.³⁷

According to a 2008 report by the New York State Energy Research and Development Authority (NYSERDA), New York is the fourth largest energy consuming state in the United States. However, according to the report it is the second-most energy efficient state on a per capita basis -- New York accounts for 4.1% of the nation's energy consumption despite having 6.4% of its population.³⁸ A 2008 report by the Center for American Progress lists New York as the sixth most energy-efficient state on a per capita basis.³⁹ This is mostly due to the widespread use of mass transit in the New York Metropolitan Region and the greater energy efficiency of apartment buildings over single-family homes.

a. Current Energy Usage by Sector

There are four primary sectors of energy consumption statewide: transportation, residential, commercial and industrial. In 2006, the transportation sector used 1,201 TBtu of energy, the most of any sector, accounting for 41% of New York's energy consumption. The residential sector was second on the list, consuming 774 TBtu of energy in 2006, accounting for just over one-fourth (27%) of the state's energy consumption. The commercial sector used 694 TBtu of energy, 24% of total statewide energy consumption. Last among the four sectors was the industrial sector, which consumed 242 TBtu of energy, 8% of total statewide energy consumption.⁴⁰

b. Consumption Trends

New York's total primary energy use reported for 2006 was virtually the same as it was in 2001, though the total amount fluctuated significantly from year to year over this period.

³⁵ See N.Y. State Energy Research & Dev. Auth. *Patterns and Trends: New York State Energy Profiles: 1992-2006* at 12 (2008), available at <http://www.nysERDA.org/publications/Patterns%20&%20Trends%20Final%20-%20web.pdf>. A Btu, or British thermal unit, is defined as the amount of heat required to raise the temperature of one pound of liquid water by one degree from 60° to 61° F at a constant pressure of one atmosphere.

³⁶ *Id.* at 22.

³⁷ *Id.*

³⁸ *Id.* at 2.

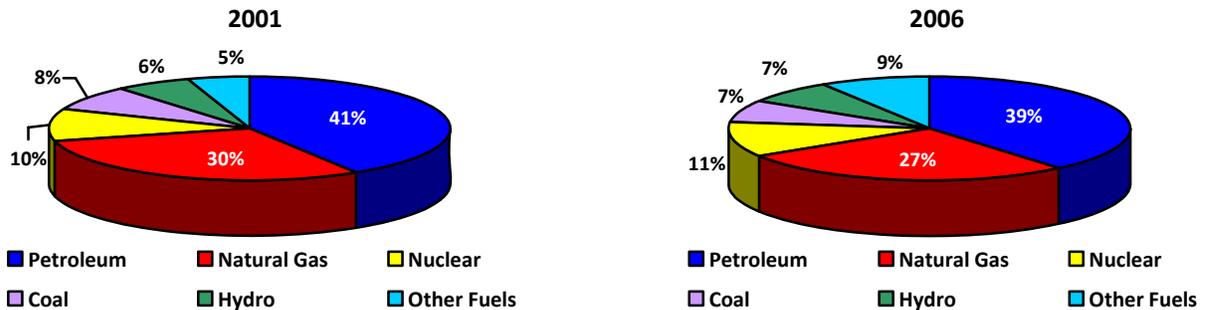
³⁹ Ctr. for American Progress, *The Clean and Clear Winners* (2008), available at http://www.americanprogress.org/issues/2008/10/emissions_interactive.html. The report uses 2005 CO₂ emissions per state gathered by the United States Energy Information Association.

⁴⁰ *New York State Energy Profiles*, *supra* note 35, at 30.

Total primary energy use accounts for the use of all types of energy across all sectors, including on-site fuel use by the residential, commercial, and industrial sectors, as well as fuel used for electricity generation and transportation. From 2001 to 2006, electricity use and transportation fuel use (together representing about 70% of total primary fuel use), increased by 4% and 11%, respectively. Over this period, the increased fuel use by the electricity and transportation sectors was offset by decreased on-site fuel use by residential, commercial, and industrial customers (representing about 30% of total primary fuel use) of 12%, 18%, and 14%, respectively.⁴¹ It should be noted that while year-to-year changes in energy use in each sector are partially due to changing trends in technologies and patterns of use, such as adoption of more energy efficient technologies, short-term changes can also be associated with responses to energy prices, economic conditions, and weather conditions. Thus, it is difficult to attribute short-term changes in energy use to specific causes.

c. Fuel Use Trends

In 2006, petroleum accounted for 39% of fuel consumption, followed by natural gas at 27%, nuclear power at 11%, coal and hydro each at 7%, while all other fuel sources accounted for the remaining 9%.⁴² These numbers have, with the exception of hydro and nuclear power, decreased slightly from 2001, when petroleum accounted for 41% of fuel consumption, followed by natural gas at 30%, nuclear power at 10%, coal at 8%, and hydro at 6%. In addition to coal, biofuel has increased slightly from 3% in 2001 to 4.4% in 2006.⁴³



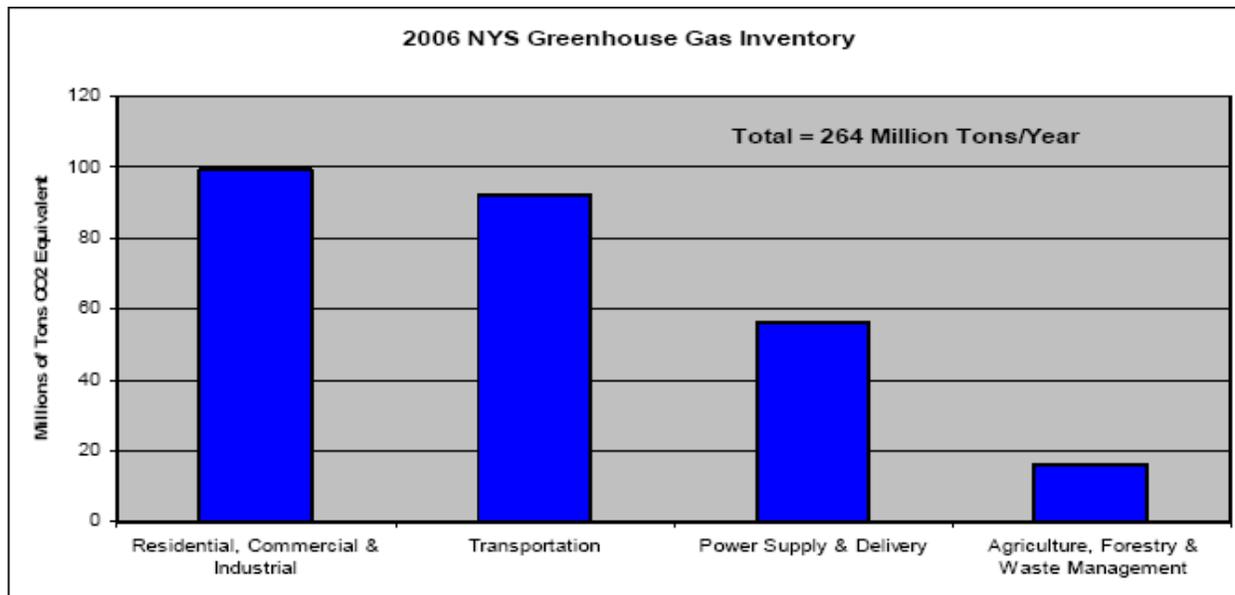
⁴¹ *Id.*

⁴² *Id.* at 23.

⁴³ *Id.*

III. Sources of Greenhouse Gas Emissions in New York

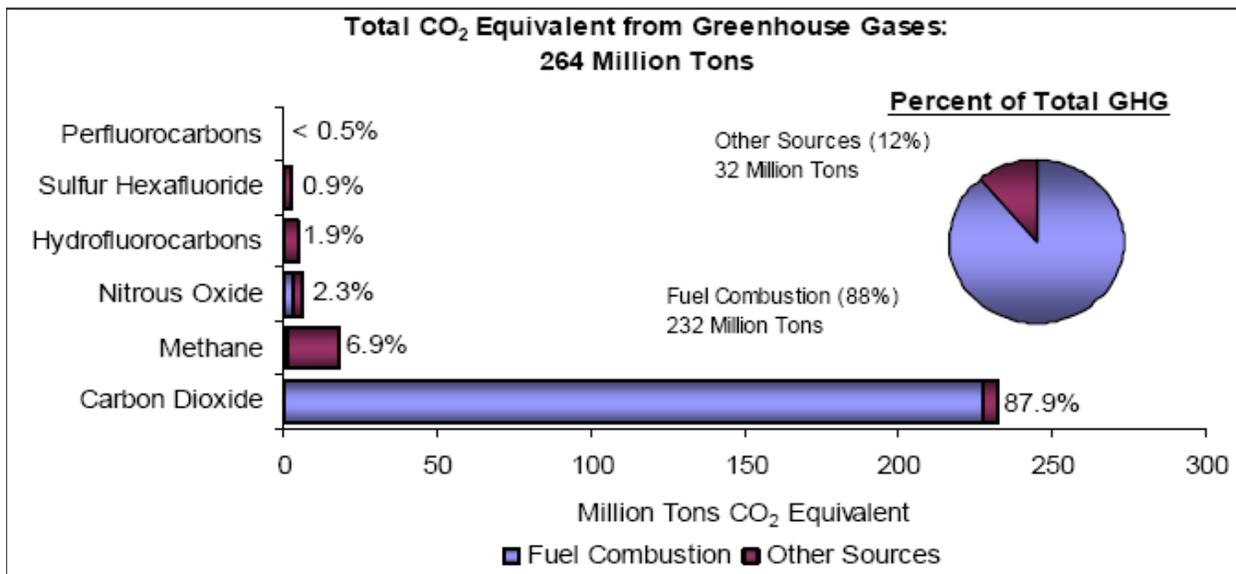
In 2006, the most recent year for which figures are available, New York emitted 264 million metric tons (MMT) of GHGs. The following chart shows this breakdown by sector:⁴⁴



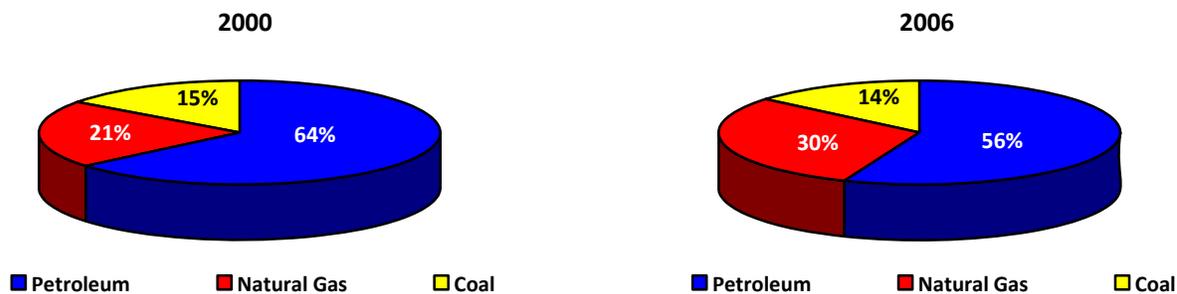
The vast majority of the global warming potential (nearly 90%) embodied in GHG emissions comes from CO₂. While other gases have greater global warming potential than CO₂ on a per ton basis (for example, CO₂ has a global warming potential of 1, while methane has a GWP of 23 and nitrous oxide has a GWP of 296), the far greater prevalence of CO₂ makes it by far the most significant greenhouse gas in New York. The following chart shows the type of GHGs emitted in New York in 2006, expressed in CO₂ equivalents:⁴⁵

⁴⁴ This chart is taken from NYSERDA's "Operating Plan for Investments in New York under the CO₂ Budget Trading Program and the CO₂ Allowance Auction Program" (Nov. 2008), available at <http://www.nysERDA.org/RGGI/Concept%20Paper%20Nov%2012.pdf>.

⁴⁵ See *id.*



With respect to fuel type, petroleum products accounted for 57% of total GHG emissions, while natural gas accounted for 30% and coal the remaining 13%. GHG emissions from petroleum products and coal both declined as a percentage of total emissions since 2000. Petroleum products accounted for 64% of total GHG emissions in 2000 and 56% of total emissions in 2004. Coal accounted for 15% and 14%, respectively, in these years. In contrast, emissions from natural gas increased from 21% in 2000 to 30% in 2004, where they remain.⁴⁶



There are a number of sources of non-CO₂ GHG emissions in New York. In descending order, they are as follows: municipal waste (methane); natural gas leakage (methane); refrigerant substitutes (hydrofluorocarbons); agricultural animals (methane); electricity distribution (sulfur hexafluoride); municipal wastewater (methane); and municipal wastewater (nitrous oxide).

⁴⁶ *Id.* at A-1.

IV. New York State's Current Laws and Programs on Climate Change

New York, like most other states, does not currently have laws or regulations concerning GHG emissions that apply to all sectors of the economy. However, it does have a number of initiatives that directly and indirectly help to reduce the state's overall emissions.

a. Regional Greenhouse Gas Initiative

In the absence of federal legislation, several multi-state organizations and initiatives have been formed to address climate change issues. The most advanced of these is the northeastern and mid-Atlantic states' Regional Greenhouse Gas Initiative (RGGI).⁴⁷ RGGI is the first CO₂ mitigation trading system in the United States. New York is a member of RGGI, along with Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, Rhode Island and Vermont. RGGI aims initially to regulate CO₂ emissions from electric power plants that have a capacity of at least 25 megawatts (MW). RGGI took effect on January 1, 2009. RGGI aims to stabilize current levels of CO₂ emissions by 2015, and then gradually reduce emission levels from the power sector by 10% by 2019. To meet these targets, the participating states have established a cap-and-trade system, which is governed by a complex set of rules. The memorandum of understanding among the states establishes that they will sell a minimum of 25% of their allowances by auction with the proceeds to be used to benefit consumers by investing in energy efficiency measures. According to the New York State Department of Environmental Conservation (DEC), New York will offer 96.5% of its allowances by auction.

On September 15, 2008, the CO₂ Budget Trading Program regulations were finalized to implement the primary RGGI program requirements in New York.⁴⁸ On October 8, 2008, the NYSERDA CO₂ Allowance Auction Program regulations became effective. These regulations establish the process by which CO₂ emissions allowances will be auctioned. On September 25, 2008, RGGI held its first auction of CO₂ emissions allowances. RGGI established a minimum reserve price of \$1.86 per allowance, meaning that a one-ton emission allowance could not be purchased for less than this amount. Six of the ten RGGI states (Connecticut, Maine, Maryland, Massachusetts, Rhode Island, and Vermont) sold allowances for emission of 12.56 million tons of CO₂ at a clearing price of \$3.07 per allowance. This money will be distributed among the six states that sold their allowances at the first auction. The second auction was held on December 17, 2008. The clearing price was \$3.38. All 31.5 million tons of CO₂ allowances offered for sale were sold, yielding approximately \$106.5 million of proceeds. All ten RGGI states, including New York, sold allowances and the proceeds will be divided among them. New York received approximately \$42 million in auction proceeds from the December 2008 auction.⁴⁹

⁴⁷ Information about RGGI is available at <http://www.rggi.org/home>.

⁴⁸ CO₂ Auction Allowance Program, 21 NYCRR Part 507, *available at* <http://www.nyscrda.org/RGGI/NYSERDA.RevisedExpressTermsPart507.pdf>.

⁴⁹ *See* Press Release, N.Y. Governor's Office, "Governor Paterson Hails New York's First Sale of Carbon Dioxide Pollution Allowances as Success" (Dec. 19, 2008), *available at* http://www.ny.gov/governor/press/press_1219081.html.

While the states participating in RGGI are committed to the program, uncertainty surrounding a federal program and the impact of other regional trading programs (such as the Western Climate Initiative and the Midwest Governors Greenhouse Gas Accord) could affect RGGI going forward. Some but not all of the climate change legislation now under debate in Congress would preempt such programs.

b. New York State Energy Plan Greenhouse Gas Reduction Goal

In June 2002, the New York State Energy Planning Board released a State Energy Plan.⁵⁰ The Plan was designed to position New York to take advantage of the most advanced uses of energy and to participate in emerging markets associated with alternative forms of energy. The Plan was also designed to stimulate job growth associated with the development of new energy technologies and the expanded use of statewide sources of power.

Among other things, the Plan made the following recommendations: reducing energy use across all sectors and fuels by 25% based on 1990 levels by 2010; reducing GHG emissions across all sectors and all fuels by 5% based on 1990 levels by 2010 and 10% by 2020; increasing renewable energy use as a percentage of primary energy use by 50% (from 10% of primary energy use currently to 15%) by 2020; including greenhouse gas, air quality and energy production in the development of transportation plans, programs and projects at a metropolitan and statewide level; redirecting transportation funding to energy efficient transportation alternatives; targeting open space funding to prevent suburban sprawl, reduce vehicle miles traveled, and reduce energy use and pollutant emissions; and supporting, adopting and enhancing various emission control strategies. In December 2002, a memorandum was released that updated the State's progress in meeting the policy objectives of the 2002 Plan concerning four areas: energy and infrastructure security, energy diversity, electricity markets and electric system reliability and transportation.⁵¹ Subsequent memoranda were released in February 2004⁵² and March 2006⁵³ that provided further updates concerning State implementation of the 2002 Plan. The specific contents of these memoranda are beyond the scope of this Report.

In March 2008, Governor Paterson issued an Executive Order requiring the State Energy Planning Board to develop a new State Energy Plan by June 30, 2009.⁵⁴ Among other things, the Executive Order requires that the Plan contain an inventory of New York's GHG emissions and strategies for facilitating and accelerating the use of low carbon energy sources and/or carbon

⁵⁰ The Plan is available at <http://www.nyserdera.org/sep>.

⁵¹ Planning Board Agencies and Authority Staff Memorandum concerning 2002 State Energy Plan (Dec. 18, 2002), *available at* <http://www.nyserdera.org/sep/sepmemo.pdf>.

⁵² Energy Coordinating Working Group Memorandum concerning 2002 State Energy Plan (Feb. 23, 2004), *available at* http://www.nyserdera.org/Energy_Information/2003sep_annual_report.pdf.

⁵³ Energy Coordinating Working Group Memorandum 2002 State Energy Plan (March 2006), *available at* http://www.nyserdera.org/Energy_Information/sep_annual_report.pdf.

⁵⁴ *See* Exec. Order 2, "Establishing A State Energy Planning Board and Authorizing the Creation and Implementation of a State Energy Plan" (2008), *available at* http://www.nysenergyplan.com/presentations/EO_2.pdf.

mitigation measures. In addition, the Executive Order requires that, upon issuance of the Plan, State agencies give “due consideration” and be guided by the Plan in their decision-making.

c. System Benefits Charge/New York Energy \$mart Program

In 1996, the New York State Public Service Commission (PSC) established a System Benefits Charge (SBC) to fund public policy initiatives not expected to be adequately addressed by New York’s newly competitive electricity markets. An SBC is a charge on a consumer’s bill from an energy utility. The proceeds pay for carrying out New York’s energy policy goals by promoting energy efficiency, renewable energy, assisting low-income customers, encouraging research and development, and protecting the environment. These initiatives are carried out through the New York Energy \$mart Program, which is administered by NYSERDA. The Energy \$mart Program implements these initiatives by disseminating information to increase consumer energy awareness, marketing, providing financial incentives to customers, performing product development and testing, and collecting data and other information.

In 1998, the PSC specified SBC funding levels for three years and established the framework for energy programs targeting efficiency measures, research and development and the low-income sector. In 2001, the SBC and the Energy \$mart Program were renewed for a five-year period with increased funding and additional focus on programs designed to achieve peak load reductions. In December 2005, the PSC extended the SBC and the Energy \$mart Program for an additional five-year period, from July 1, 2006 to June 30, 2011.

Under NYSERDA’s current operating plan, the goals of the five-year \$750 million SBC allocation are as follows: \$436.3 million for energy efficiency programs, including \$16.5 million for special consumer education and outreach programs; \$113.7 million for low-income energy affordability programs; and nearly \$200 million for research and development projects, with a focus on promoting renewable resources, distributed electric generation, and combined heat and power installations.

In June 2008, the PSC increased the level of SBC funding to provide an additional \$172 million annually.⁵⁵

d. Executive Order No. 111 -- “Green and Clean” State Buildings and Vehicles Guidelines

Then-Governor George Pataki signed Executive Order No. 111 on June 10, 2001.⁵⁶ The Executive Order has been renewed several times, most recently by Governor Paterson on March 20, 2008. It applies to energy efficiency in State buildings, State vehicle purchases and State purchases of renewable energy.

⁵⁵ Order Establishing Energy Efficiency Portfolio Standard and Approving Programs, Case 07-M-0548 (issued June 23, 2008).

⁵⁶ Exec. Order No. 111, “Directing Agencies to Be More Energy Efficient and Environmentally Aware” (2001), *available at* <http://www.nyserdera.org/programs/pdfs/exorder111.pdf>.

With respect to energy efficiency in State buildings, E.O. 111 requires that all State agencies, departments, and public benefit corporations under the jurisdiction of the Governor reduce their energy consumption by 35% from 1990 levels by 2010 in buildings that they own, lease or operate. In addition, State agencies must select Energy Star-labeled products when acquiring or replacing energy-using equipment. With respect to new and existing State buildings, construction and substantial renovations must follow Leadership in Energy and Environmental Design (LEED) green building standards to the maximum extent practical. New State buildings are required to exceed the State Energy Code by at least 20% and State buildings undergoing substantial renovation are required to exceed the State Energy Code by at least 10%. Existing State buildings should strive to meet the Energy Star-building standards for energy performance and indoor air quality.

With respect to State vehicle purchases, E.O. 111 requires that by 2005, a minimum of 50% of all light-duty vehicle purchases by State agencies be alternative-fuel vehicles (AFVs), including hybrid vehicles. By 2010, 100% of all light-duty vehicles must be AFVs. State agencies that operate medium and heavy-duty vehicles are required to implement strategies to reduce petroleum consumption and emissions by using alternative fuels and by improving vehicle fleet fuel efficiency.

With respect to State purchases of renewable electricity, E.O. 111 requires that State agencies responsible for purchasing energy must purchase at least 10% of the overall energy demand of buildings owned, leased or operated by them from wind, solar thermal, photovoltaics, sustainably managed biomass, tidal, geothermal, methane waste and fuel cells. By 2010, these agencies must purchase at least 20% of their energy from these sources.

NYSERDA is the agency responsible for implementing the various provisions of the Order. In addition, NYSERDA is required to generate energy efficiency equipment standards for products for which Energy Star labeling is not available. Guidelines issued by NYSERDA identify several exemptions from E.O. 111, including buildings less than 5,000 square feet and energy use in leased space that is not billed based on direct use.⁵⁷

e. Executive Order No. 142 -- Biofuels

In 2005, then-Governor Pataki issued Executive Order 142, requiring State agencies to phase-in the use of renewable heating and transportation fuels.⁵⁸ E.O. 142 directs State agencies to diversify transportation fuel and heating oil supplies through the use of bio-fuels in State vehicles and buildings. E.O. 142 requires that by 2012, at least 10% of the diesel fuel consumed by State vehicles and 5% of heating oil used in State buildings be biodiesel.

⁵⁷ N.Y. State Energy Research & Dev. Auth., *Executive Order No. 111 "Green and Clean": State Buildings and Vehicles Guidelines* (2004), available at http://www.nyserd.org/programs/State_Government/exorder111guidelines.pdf.

⁵⁸ Exec. Order 142, "Directing State Agencies and Authorities to Diversify Transportation Fuel and Heating Oil Supplies Through the Use of Bio-Fuels in State Vehicles and Buildings," available at <http://www.dos.state.ny.us/info/register/2005/dec14/pdfs/Executiveorder.pdf>.

f. Appliance and Equipment Energy Efficiency Standards Act of 2005

In 2005, the State Legislature passed the Appliance and Equipment Energy Efficiency Standards Act, codified as Article 16 of the Energy Law.⁵⁹ Under Article 16, the Secretary of State, in consultation with the president of NYSERDA, was required to develop energy efficiency standards for specified products sold or offered for sale in New York. The standards apply to items not covered under the federal National Appliance Energy Conservation Act of 1987.⁶⁰ Article 16 set energy efficiency standards for items such as ceiling fans and ceiling light kits; furnace air handlers; commercial washing machines; commercial refrigerators, freezers and icemakers; torchiere lighting fixtures; unit heaters; reflector lamps; large packaged air-conditioning equipment; and other commercial and household items.

For consumer audio and video products, digital television adapters, and single-voltage power supplies, Article 16 required the Department of State, in consultation with NYSERDA, to develop standards by June 30, 2006 and to implement such standards no sooner than six months after issuing final rules.⁶¹ State regulations also allow the Secretary of State, in consultation with NYSERDA, to add additional products to the list. Any new product added to the list must be commercially available, cost effective on a life-cycle basis, and not covered under existing federal standards.⁶²

Concurrent with New York's regulatory actions, the federal government imposed and updated appliance efficiency standards through several legislative acts and now has standards in place or under development for 30 classes of products. These Acts include the National Appliance Energy Conservation Act of 1987, the Energy Policy Act of 1992, the Energy Policy Act of 2005, and the Energy Independence and Security Act of 2007. Article 16 currently includes 14 products, of which 13 have been pre-empted by federal standards. In general, states which had set standards prior to federal action can enforce their own standards until the federal standards take effect. States that had not set standards prior to federal action must use the federal standards. Accordingly, standards for metal halide lamp fixtures and some types of single voltage external power supplies, for example, have been preempted by federal law. However, additional product categories not covered by current federal standards have been identified as having large energy savings potential, and New York is developing standards for these products. Further, the proposed implementation date for some federal standards is 2012 and beyond, allowing New York to develop state standards in the interim.

⁵⁹ Appliance and Equipment Energy Efficiency Standards, NY CLS Energy § 16-102 (2008), *available at* <http://www.dsireusa.org/documents/Incentives/NY09R.htm>.

⁶⁰ 42 U.S.C § 6201.

⁶¹ *See* Appliance and Equipment Energy Efficiency Standards: General Requirements, 19 NYCRR § 910 *et seq* (2008), *available at* <http://www.dsireusa.org/documents/Incentives/NY09RB.htm>.

⁶² *See* 19 NYCRR § 911.1.

g. New York's Adoption of California Vehicle Emissions Standards

Under the federal Clean Air Act (CAA),⁶³ the U.S. Environmental Protection Agency (EPA) promulgates uniform federal standards regulating the emissions of air pollutants from new motor vehicles or new motor vehicle engines that contribute to air pollution or endanger the public health or welfare.⁶⁴ In light of federal regulation of such pollutants, Section 209(a) of the CAA⁶⁵ prohibits states from adopting or enforcing standards regulating emissions from new motor vehicles.⁶⁶ However, Section 209(b) allows states that regulated emissions from new motor vehicles prior to March 30, 1966 to obtain a waiver of federal preemption and maintain their own standards. California is the only state that adopted state standards prior to March 30, 1966, and thus is the only state to qualify for a waiver of federal preemption. Under 209(b), California has requested and received over fifty waivers.

In 1977, Congress added Section 177 of the CAA, allowing states to adopt California's standards instead of the federal standards under certain conditions.⁶⁷ Several states, including New York, adopted California's new vehicle emissions standards.

In September 2004, the California Air Resources Board (CARB) approved new regulations concerning GHG emissions from new motor vehicles.⁶⁸ The regulations added regulation of CO₂, methane, nitrous oxide and hydrofluorocarbons and set diminishing fleet average emission standards for these gases in two phases: 2009-2012 and 2013-2016.⁶⁹ The standards would result in a 37% reduction in GHG emissions from cars and a 24% reduction from light trucks by 2016. The changes were approved by California's Office of Administrative Law on September 15, 2005 and became operative on October 15, 2005. A waiver of federal preemption was requested in December 2005.⁷⁰

On April 28, 2005, New York proposed to amend its regulations to incorporate California's Low Emission Vehicle (LEV) program.⁷¹ After reviewing, summarizing and responding to comments, DEC finalized the amendments and published a Notice of Adoption on December 7, 2005. The New York amendments to 6 NYCRR Part 218 and Section 200.9 are

⁶³ 42 U.S.C. § 7401 *et seq.*

⁶⁴ Clean Air Act of 1970 § 202(a), 42 U.S.C. § 7521.

⁶⁵ 42 U.S.C. § 7543(a).

⁶⁶ *See id.* § 209(a).

⁶⁷ 42 U.S.C. § 7505.

⁶⁸ These regulations are available at <http://www.arb.ca.gov/regact/grnhsgas/grnhsgas.htm>.

⁶⁹ *See id.*

⁷⁰ This request was ultimately denied by the EPA in 2008. *See California State Motor Vehicle Pollution Control Standards, "Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles,"* 73 Fed. Reg. 12157 (March 6, 2008).

⁷¹ New York State Register, Dec. 7, 2005, at 24. New York maintains authority to amend these regulations under the Environmental Conservation Law and the CAA.

currently in effect for the 2009 model year, as are the California standards. Nothing further remains to be done to finalize the New York standards.

EPA postponed review of the waiver request until after the Supreme Court's decision in *Massachusetts v. EPA*⁷² on the assumption that the disposition of *Massachusetts* would be relevant to the waiver application.⁷³ However, despite *Massachusetts*' holding that the CAA authorizes EPA to regulate GHG emissions from new motor vehicles if it makes a judgment that these emissions contribute to climate change,⁷⁴ EPA, in a letter dated December 19, 2007, notified Governor Schwarzenegger that the waiver would be denied.⁷⁵ On January 2, 2008, California petitioned the Ninth Circuit Court of Appeals seeking review of EPA's denial. Fifteen states, including New York, moved to intervene as party petitioners in California's suit. In April 2008, the Ninth Circuit rejected a motion by the EPA to dismiss the suit on the grounds that it should be heard in the D.C. Circuit.⁷⁶ However, the Ninth Circuit granted a subsequent motion to dismiss in July 2008 on the grounds that the suit was premature given that it was filed in January 2008, two months before the EPA Administrator formally entered his decision denying the request for a waiver in the Federal Register.⁷⁷ This litigation may become moot if, as now seems likely, the Obama Administration grants the California request upon taking office.

The automobile industry has brought several lawsuits challenging various states' adoption of the California standards, but none of these suits has succeeded.⁷⁸

If California is granted a waiver, its regulations would automatically apply in New York and the 16 other states that have adopted California's regulations.

h. New York State Department of Environmental Conservation Office of Climate Change

The New York State Office of Climate Change was created within DEC in 2007 to lead the development of programs and policies that mitigate statewide GHG emissions and assist municipalities and individuals to adapt to the effects of climate change. The Office has two bureaus: Climate Science and Technology, and Climate Programs and Partnerships. The Climate Science and Technology Bureau seeks to design solutions that will help stabilize atmospheric

⁷² 549 U.S. 497 (2007).

⁷³ 73 Fed. Reg. 12157.

⁷⁴ *Massachusetts v. EPA*, 549 U.S. at 528.

⁷⁵ 73 Fed. Reg. at 12157.

⁷⁶ *California v. Env'tl. Protection Agency*, No. 08-70011 (9th Cir. April 10, 2008) (unpublished). A copy of this decision is available at http://climate.alston.com/files/docs/Ninth_Circuit_Ruling.pdf.

⁷⁷ *California v. Env'tl. Protection Agency*, No. 08-70011 (9th Cir. July 25, 2008) (unpublished). A copy of this decision is available at http://climate.alston.com/files/docs/ccn07252008_waiver.pdf.

⁷⁸ See, e.g., *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F.Supp.2d 295 (D. Vt. 2007); *Cent. Valley Chrysler-Jeep v. Goldstene*, 529 F.Supp.2d 1151 (E.D. Cal., Dec. 2007); *Lincoln Dodge, Inc. v. Sullivan*, Nos. 06-70T, 06-69T, 2008 WL 5054683 (D. R.I. Nov. 21, 2008).

GHG concentrations and supports the development of climate impact analyses to help New York adapt to climate change. The Climate Programs and Partnerships Bureau assists State agencies, local governments, NGOs, institutions, businesses and individuals in reducing carbon emissions and adapt to unavoidable impacts.

The announced function of the Office is to implement RGGI and to ensure that New York develops the full suite of responses needed for significant emission reductions and for successful adaptation to changing temperatures, sea levels, precipitation and other climate factors. These responses include: (1) mitigation programs to reduce GHG emissions; (2) emissions inventory and assessment; (3) evaluations of the feasibility and benefits of alternatives to fossil-fuel technology and of other mitigation and adaptation approaches; (4) partnerships for shared solutions that save money for governments, institutions, businesses and individuals; and (5) information about expected climate change impacts to help communities, organizations and individuals determine what local adaptations will be needed.

One of the Office's main priorities is to inventory New York's GHG emissions. The Office is promoting voluntary emissions reporting by New York facilities through an international nonprofit group, the Climate Registry. DEC has committed to inventory and report its own emissions under the Climate Registry protocol.⁷⁹ The PSC requires periodic emissions reporting from New York's regulated utilities in its environmental disclosure program.

i. New York State Energy Conservation Construction Code

The New York State Energy Conservation and Construction Code, otherwise known as the Energy Code and most recently updated in April 2008, encompasses commercial provisions based on the text of the International Energy Conservation Code (IECC) 2003 and ASHRAE⁸⁰ 90.1-2004. The residential provisions are based on the IECC 2004 Supplements. Updating the Energy Code requires a rulemaking initiated by the Department of State (DOS). The Energy Code Technical Subcommittee, directed by DOS, is comprised of stakeholders including Code officials, builders, advocacy groups, heating ventilation and air conditioning (HVAC) and lighting experts, and agency representatives. After reviewing the current or supplemental version of the IECC, the Subcommittee prepares recommended Energy Code changes that generally follow the requirements and language of the IECC Codes. However, the Subcommittee is not bound by the IECC requirements and often recommends requirements exceeding that of the IECC Code. The proposed Energy Code must be shown to meet at 10-year payback as required by Article 11 of the State Energy Law and often a cost-effectiveness study must be completed to support proposed changes, particularly if the proposed changes are from the IECC Supplements or newer versions. All building-related codes in New York are currently reviewed and updated on a three-year cycle, with the next cycle beginning in 2009. The recommended Energy Code changes are presented to the DOS Code Council for review and approval. The proposed Energy Code revisions are also reviewed by the Governor's Office of Regulatory Reform for conformance to applicable laws, such as the State Energy Law. Once

⁷⁹ This protocol is available at <http://www.theclimateregistry.org/protocols.html>.

⁸⁰ American Society of Heating, Refrigerating and Air Conditioning Engineers.

approved, a series of public hearings are held and resultant comments are provided and reviewed by the DOS Code Council. Once adopted, the modifications become mandatory throughout New York, although municipalities may choose to adopt a more stringent code.

j. Green Buildings Tax Credit

New York offers a tax incentive program for developers and builders of environmentally-friendly buildings through its Green Building Tax Credit (GBTC) Program, which was enacted in 2000.⁸¹ The GBTC Program encourages building owners and developers to construct and operate buildings that are energy efficient, use recycled materials, provide clean air, and incorporate renewable and energy efficient power. The GBTC Program regulations,⁸² which establish the standards that must be met in order to qualify for the tax credits, were adopted in May 2002. The program offers owners and developers tax credits for using green building techniques when building structures. Eligible buildings include hotels and office buildings having at least 12 units with at least 20,000 square feet of interior space, residential multi-family buildings having at least 12 units with at least 20,000 square feet of interior space, and residential multi-family buildings having at least 2 units with at least 20,000 square feet of interior space, provided that 10,000 square feet is under construction or rehabilitation in any single phase.

The law provides six different credit categories: whole buildings, base buildings, tenant space, fuel cells, photovoltaic modules, and green refrigerants. Regulations provide detailed provisions on standards and methods of compliance in categories such as appliances, energy use, ventilation and exchange of indoor air, and waste disposal.⁸³ The program, which is administered by DEC, is in place until 2014. In 2005, the GBTC Program was funded with an additional \$25 million in credits and amended by capping the aggregate amount of credits available for each building at \$2 million. Under the amended legislation, DEC has from 2005 through 2009 to accept applications and issue credit certificates for the additional \$25 million.

k. Sea Level Rise Task Force

In 2007, the State Legislature enacted a law creating the Sea Level Rise Task Force to assess impacts to New York's coastlines from rising seas and recommend protective and adaptive measures.⁸⁴ Its report is due by December 31, 2009. The Task Force is charged with applying the best available science to evaluate ways to protect New York's remaining coastal ecosystems and natural habitats, and increase coastal community resilience in the face of sea level rise. The Task Force is composed of State agencies, local governments, not-for-profit groups and private citizens appointed by the members of the legislature.

⁸¹ N.Y. Tax Law § 19.

⁸² These regulations are available at <http://www.dec.ny.gov/regs/4475.html>. Additional information about this program is available at http://www.epa.gov/solar/documents/4_20_06_Austin_GBTC_paper_Kneeland.pdf.

⁸³ See 6 NYCRR § 638.7.

⁸⁴ L. 2007, Ch. 613.

At its first meeting in June 2008, the Task Force agreed to a framework in which a steering committee consisting of staff from several State agencies and non-governmental organizations would draft recommendations for task force approval. Several smaller work groups will be organized to study specific issue areas, such as natural resources, infrastructure, human health and water supply. The final report will include: (1) an assessment of anticipated impacts related to sea level rise; (2) recommendations to provide more protective standards/enforcement for coastal development, wetlands protection, shoreline armoring and post-storm recovery; (3) recommendations for adaptive measures to protect and connect terrestrial and aquatic habitats to allow species to migrate with changing temperatures and conditions, protect and restore habitat to maintain natural communities and protect ecological services they provide, identify and monitor early effects of climate change on animals, plants, etc., and integrate climate change adaptation strategies into state environmental plans; and (4) recommendations to amend local and State regulations and statutes to respond to climate change.

I. Landfill Gas Recovery

The natural decomposition of materials deposited in landfills creates more man-made methane than any other source in the U.S.⁸⁵ Landfill gas is generated by the natural degradation of municipal solid waste (MSW) by anaerobic micro-organisms. About half of the gas emitted by landfills is methane, a potent GHG. In landfill gas recovery facilities, gases produced from the decomposition of solid wastes are collected for the purpose of energy recovery. Landfill gas-to-energy projects can offset GHG emissions which would otherwise be produced by fossil-fueled power generation.

Municipal solid waste landfills in New York are required to contain a gas venting layer that releases methane and other gases produced from the decomposition process.⁸⁶ Landfill gas recovery facilities operating in New York are required to obtain an operating permit and otherwise comply with Section 111 of the Clean Air Act.⁸⁷

As of October 2008, there were 20 landfill gas recovery facilities operating in New York. In 2007, these facilities produced approximately 434 million kilowatt (KW) hours of electricity.⁸⁸ In addition, the Fresh Kills Landfill produced approximately 1,570 million cubic feet of high BTU/pipeline quality gas.⁸⁹

⁸⁵ U.S. Evtl. Protection Agency Landfill Methane Outreach Program, *An Overview of Landfill Gas Energy in the United States* (2008), available at <http://epa.gov/lmop/docs/overview.pdf>.

⁸⁶ See 6 NYCRR § 360-2.13(p).

⁸⁷ See 6 NYCRR § 360-2.16.

⁸⁸ Data on these landfills are available at <http://www.dec.ny.gov/chemical/48873.html> and http://www.dec.ny.gov/docs/materials_minerals_pdf/gaslist.pdf.

⁸⁹ See Dep't of Evtl. Conservation, *Landfill Gas Recovery Facilities*, at <http://www.dec.ny.gov/chemical/23679.html>.

m. Renewable Portfolio Standard

The 2002 State Energy Plan required NYSERDA to examine and report on the feasibility of establishing a renewable portfolio standard (RPS). An RPS requires electric utilities and other electric service providers to supply a specified minimum amount of customer load with electricity from eligible renewable energy sources. In February 2003, after NYSERDA issued its report stating that an RPS was feasible, the PSC instituted a proceeding to develop and implement an RPS for electric energy sold in New York. In September 2004, the PSC issued an Order approving an RPS. The Order called for an increase in renewable energy used in New York from the then current level of about 19% to 25% by the year 2013. The Order provides for investor-owned utilities to collect a surcharge on most delivery customer bills and transfer those funds to NYSERDA, which administers the RPS program through a central procurement model for renewable energy projects. This surcharge is separate from and in addition to the SBC mentioned above.

The RPS program identifies two tiers of eligible resources -- a Main Tier consisting of medium-to-large scale electric generation facilities and a Customer-Sited Tier consisting of smaller, on-site technologies. Renewable power sources eligible for the Main Tier include wind, biomass, liquid biofuels, fuel cells, photovoltaics, hydroelectric, and ocean and tidal power facilities. Eligible resources in the Customer-Sited Tier include fuel cells, photovoltaics, methane digesters and small wind technologies. NYSERDA can procure Main Tier sources through auction, requests for proposals, or standard offer contracts. Customer-Sited Tier systems are offered through NYSERDA's first-come-first-served Program Opportunity Notices and are generally limited to the size of the load at the customer's meter.

In October 2008, the PSC issued a notice pursuant to the State Administrative Procedure Act stating that it is considering whether to increase the RPS goal to 30% by 2015 or otherwise adjust it.⁹⁰ On January 7, 2009, New York Governor David Paterson called for such a raise in his "State of the State" address.⁹¹

n. Energy Efficiency Portfolio Standard

In June 2008, the PSC issued an order establishing and funding an Energy Efficiency Portfolio Standard (EEPS).⁹² The EEPS is designed to help New York reduce electricity consumption 15% below projected levels by 2015, equivalent to a 7.5% reduction from current levels. The PSC reported that, if existing trends continue, electricity use in New York is expected to increase by 11% by 2015. The EEPS order issued in June 2008 authorized an increase in the system benefit charges (SBC) of \$172 million annually, beginning in October 2008, to invest in energy efficiency programs. As part of the \$172 million increase in the SBC,

⁹⁰ SAPA No.: 03-E-0188SA19 (2008).

⁹¹ The text of this speech is available at http://www.ny.gov/governor/keydocs/speech_0107091.html.

⁹² Order Establishing Energy Efficiency Portfolio Standard and Approving Programs, Case 07-M-0548 (2008), available at [http://www3.dps.state.ny.us/pscweb/WebFileRoom.nsf/Web/544F8DE178C8A15285257471005D41F6/\\$File/201_07m0548_final.pdf](http://www3.dps.state.ny.us/pscweb/WebFileRoom.nsf/Web/544F8DE178C8A15285257471005D41F6/$File/201_07m0548_final.pdf).

the PSC authorized \$85 million annually to fund a group of fast-track NYSERDA programs, as well as \$87 million annually to fund utility-administered programs that can receive expedited approval.

The EEPS will stimulate investment in energy efficiency by promoting currently available technologies, such as compact fluorescent light bulbs, solar hot water heaters, and insulating wraps for hot water tanks. It also authorizes incentives to encourage the purchase of energy efficient appliances, such as boilers, furnaces, air conditioners, and clothes washers. In addition, the EEPS will provide weatherization services for low-income households and energy retrofits for small businesses.

According to the PSC, the program, when fully funded, is expected to provide more than \$4 billion in benefits to customers through 2015. In addition, the PSC anticipates that the EEPS will lead to the creation of thousands of jobs to support new energy efficiency programs, such as retrofitting outdated, inefficient residential, commercial and industrial properties and installing new energy efficient equipment.

o. Net Metering

In June 2008, the State Legislature enacted several laws that authorized increased development of renewable energy with a process called “net metering,” which allows electricity customers with qualified renewable energy systems to sell excess electricity back to their local utility. The law expands net metering in three areas of renewable energy – solar, wind and farm waste. Three separate laws were enacted to address these areas. The first law expands New York’s solar net metering program to apply to businesses and increases the size of eligible solar photo-voltaic systems to 25 KW for residential customers and up to 2 megawatts (MW) for non-residential customers.⁹³ The second law increases the size of farm waste electric generation systems that can be net metered from 400 KW to 500 KW.⁹⁴ The third law authorizes net metering for wind technology for all utility customer classes.⁹⁵ Previously, the law authorized such systems for residential and farm operations only. The laws will also increase the maximum amount of electricity that utilities are required to buy back through net metering.

p. Green Residential Building Grant Program

On September 25, 2008, New York enacted the Green Residential Building Grant Program.⁹⁶ The program amends the Public Authorities Law to authorize NYSERDA to create and develop standards and criteria for a new green residential building grant program that encourages the use of environmentally friendly design and construction techniques in the construction and renovation of residential building. NYSERDA is authorized to consult existing standards and criteria, such as those established by LEED. NYSERDA is also authorized to

⁹³ L. 2008, ch. 452. This legislation is available at <http://assembly.state.ny.us/leg/?bn=S07171&sh=t>.

⁹⁴ L. 2008, ch. 480. This legislation is available at <http://assembly.state.ny.us/leg/?bn=S08415&sh=t>.

⁹⁵ L. 2008, ch. 483. This legislation is available at <http://assembly.state.ny.us/leg/?bn=S08481&sh=t>.

⁹⁶ L. 2008, ch. 631; Environmental Conservation Law §§ 45-0105, 45-0111, 49-0205, 49-0301.

develop and establish other standards and criteria that are necessary for the administration of the program such as eligibility criteria, training and qualification procedures for builders and technicians, application procedures, award determinations, award levels, and inspection, documentation and compliance requirements.

The amount of the grants will be based on a number of considerations, including the size and the type of the residential structure, but may not exceed \$7,500 for one-family and two-family homes, \$11,250 for residential buildings with three to six dwelling units, and \$15,000 for residential buildings with more than six dwelling units. In addition to these limitations, no single owner, such as a developer of multiple qualified residential buildings who is a qualified owner, may receive more than \$120,000 in incentive payments during any calendar year. The program applies to buildings constructed or renovated between January 1, 2010 and October 31, 2013.

q. State Renewable Energy Task Force

The New York State Renewable Energy Task Force was established by then-Governor Eliot Spitzer in June 2007 and was chaired by then-Lt. Governor David Paterson. It is charged with identifying barriers to renewable energy expansion, recommending policies and financial incentives, and identifying market areas needing more research and development. In February 2008, the Task Force issued a report setting forth 16 recommendations for increasing solar energy generation and creating business incentives in New York to attract new technologies.⁹⁷ The recommendations include raising the renewable share of New York's energy generation to 25% by 2013, developing eight times more solar photovoltaic energy generation (approximately 100 MW) than currently exists by 2011, and developing incentives to attract technology companies working in solar, wind, biomass, and other energy technical areas. The report stated that the \$575 million New York has already committed to its RPS program is expected to yield \$1 billion in economic benefits over the next 20 years, not counting economic spillover, multiplier effects, and environmental quality-of-life gains from renewable energy production. The report also stated that up to 43,000 new jobs could be created in New York by the renewable energy production needed to meet the 2013 goal. To build up this "green collar" workforce, the report recommended building up and coordinating training programs, as well as making training opportunities available to residents of disadvantaged communities, minority and women-owned companies, and other small businesses.

r. State Smart Growth Cabinet

On December 10, 2007, then-Governor Spitzer signed Executive Order No. 20 creating a Smart Growth Cabinet.⁹⁸ According to E.O. 20, "smart growth" is "sustainable development that capitalizes on existing infrastructure in [New York's] urban centers and other developed areas such as 'brownfields,' while protecting the open space and natural resources that are critical to

⁹⁷ Renewable Energy Task Force, *Clean, Secure Energy and Economic Growth: A Commitment to Renewable Energy and Enhanced Energy Independence* (2008), available at http://www.ny.gov/governor/press/lt_RETF_Report.pdf.

⁹⁸ Exec. Order No. 20, "Establishing the Governor's Smart Growth Cabinet" (Dec. 10, 2007), available at http://www.state.ny.us/governor/executive_orders/xeorders/20.html.

preserving and enhancing [New York's] quality of life.”⁹⁹ The Cabinet is charged with reviewing State agency spending and policies to determine how best to discourage sprawl and promote smart land use practices. It will coordinate cross-agency activities and develop “smart growth” policies that cater to New York’s regional needs. The Cabinet consists of high-level policy-makers from various State agencies that have an impact on growth and development patterns, including representatives from, among others, the Empire State Development Corporation, DEC, the Department of Transportation, the Department of State, and the Department of Housing and Community Renewal. The Cabinet is chaired jointly by the Governor’s Deputy Secretary for the Environment, Judith Enck, and the Deputy Secretary for Economic Development and Infrastructure, Timothy Gilchrist. The Cabinet held its first meeting in January 2008 and has met on a monthly basis to discuss draft policy recommendations to present to Governor Paterson.

s. State Green Procurement and Agency Sustainability Program

In April 2008, Governor Paterson signed Executive Order No. 4 establishing a “New York State Green Procurement and Agency Sustainability Program” to promote the purchase of items within State agencies and authorities that reduce energy and material consumption and otherwise reduce environmental impacts.¹⁰⁰ Pursuant to E.O. 4, State agencies are required to purchase environmentally-friendly commodities, services and technologies and develop sustainability and stewardship programs. E.O. 4 has three primary initiatives: an interagency committee, environmentally-friendly agency programs and policies, and training programs for State employees to pursue their duties in an environmentally responsible manner. Pursuant to E.O. 4, an Interagency Committee on Sustainability and Green Procurement was created to enhance interagency coordination in promoting green policies and is co-chaired by General Services Commissioner John Egan and DEC Commissioner Pete Grannis. Under the program, each State agency and authority will develop and implement programs and policies that will promote environmental sustainability and stewardship.

In December 2008, the Interagency Committee tentatively approved 18 new specifications for the purchase of the following items: computers, copiers, printers, electronic signs, refrigerators, clothes washers, dishwashers, air conditioners, hydraulic oil, motor oil, ink, pest management, printing, and recycling services. These are currently available for comment and public review.¹⁰¹ In addition, the Committee has finalized four procurement specifications which cover passenger cars, engine block heaters, and desktop and laptop computers.¹⁰² The procurement specifications provide guidance on buying Energy Star products and services that contain recycled content, avoid toxic chemicals, and promote reuse. Once finalized, State agencies and authorities are required to use these specifications when purchasing these items with certain limited exceptions.

⁹⁹ *See id.*

¹⁰⁰ Exec. Order No. 4, “Establishing a State Green Procurement and Agency Sustainability Program” (April 25, 2008), *available at* http://www.state.ny.us/governor/executive_orders/xeorders/eo_4.html.

¹⁰¹ These preliminary specifications are available at <http://www.ogs.state.ny.us/ExecutiveOrder4.html>.

¹⁰² *See id.*

t. Long Island Power Authority Energy Efficiency Program

In May 2008, the Long Island Power Authority (LIPA) launched a 10-year, \$924 million energy efficiency program called “Efficiency Long Island.” The program begins in January 2009 and will offer a wide array of incentives, rebates and initiatives available to LIPA’s residential and commercial customers to assist them in reducing their energy usage. The program will be paid for by adding a new “energy efficiency fee” on customers’ bills. According to LIPA, the program is expected to reduce peak electric demand by 500 MW by 2018. The majority of the funds will be paid out to customers and contractors in the form of rebates and incentives to encourage the purchase and installation of energy efficiency products and measures. Under the program, residential and commercial customers will be able to enroll in the following programs:

Residential:

Efficient Products – Purchases of lighting, appliances, consumer electronics, in-wall air conditioners and dehumidifiers from retail outlets;
Energy Star- Labeled Homes – includes building shell upgrades, HVAC, hot water, duct seals, lighting and high efficiency appliances;
Existing Homes – duct sealing and tune-ups for central air conditioners, whole house retrofit assistance and installation services, Residential Energy Affordability Program (REAP), and properly installed higher-than-code efficiency central air and heat pump equipment.

Commercial:

Commercial & Industrial (C&I) New Construction – targets all new buildings and major renovations;
C&I Existing Buildings – addresses equipment purchases stemming from natural replacement at the end of useful life and retro-fits (discretionary replacement of functioning inefficient equipment).

LIPA estimates that implementation of the program will reduce its CO₂ emissions by about 12 million metric tons compared to the CO₂ emissions that would be produced from new power plants burning natural gas.¹⁰³

u. New York Power Authority Activities

The New York Power Authority (NYPA) has launched a series of measures to reduce GHG emissions and conserve energy. In 2008, NYPA became a founding member of the Climate Registry, an organization established to measure and publicly report GHG emissions. In addition, since 1991 NYPA has invested more than \$1.1 billion on energy efficiency programs and has stated that it will dedicate more than \$1.4 billion over the next several years to meet the

¹⁰³ Additional information about LIPA’s program is available at <http://www.lipower.org/ELI/eli.html>.

state's energy efficiency portfolio standard. NYPA has undertaken more than 1,400 energy-efficiency projects at approximately 2,300 public buildings across New York.¹⁰⁴

v. Climate-Related Securities Disclosures

Climate change and its impending regulation impose a variety of costs on corporations, including the direct monetary impacts of compliance with regulations, the costs of purchasing emission allowances and offsets, and losses from the effects of climate change itself. These costs should be reflected in the securities disclosures of publicly-traded companies. Carbon-related securities disclosure can take several forms, including (1) an assessment of the direct monetary impacts from greenhouse gas regulation and trading schemes; (2) assessments of the indirect effects of climate change, such as increased energy costs or shore loss, on a company's property; and (3) the industry wide impact of climate-related litigation and litigation.

The Securities and Exchange Commission (SEC) has not yet required the disclosure of such information, and it has not responded to a petition that was filed by several governmental and nongovernmental organizations calling for guidelines on this issue. However, New York Attorney General Andrew Cuomo issued subpoenas to several electric utilities concerning climate disclosures they did and did not make, and he has reached settlements with two of them. In August 2008, Excel Energy reached an agreement with Attorney General Cuomo on its disclosure practices. In October 2008, Dynegy, Inc. reached a similar agreement.

w. Regional Low Carbon Fuel Standard

On January 6, 2009, DEC and NYSERDA officials announced that New York and 10 other Northeast and Mid-Atlantic states will cooperate to develop a regional Low Carbon Fuel Standard (LCFS) to reduce the carbon concentration in fuels used in vehicles and buildings. The 11 states – the 10 members of RGGI plus Pennsylvania – will work together to create an emissions-performance standard that will eventually provide incentives for energy providers to use low-carbon fuel. In December 2008, officials from these states signed a statement to jointly tackle the challenge of reducing greenhouse gases from fuels.¹⁰⁵ In 2008, these states began to examine how a low-carbon fuel standard could be implemented regionally, creating a larger market for cleaner fuels, reducing emissions associated with climate change and supporting development of clean energy technologies. The LCFS initiative envisions the creation of a market-based, technologically neutral policy to address the carbon content of fuels. In addition to covering vehicle fuels, a low-carbon standard could potentially apply to fuel used for indoor heating, industrial processes and electricity generation. In the transportation sector, such a standard could potentially encourage the use of electric-powered vehicles and biofuels that have a lower-carbon footprint than traditional fuels, based on a full life-cycle analysis. The joint statement noted that the interconnected nature of fuel distribution in the Northeast and Mid-Atlantic regions favors a regional approach to a LCFS. The states have also agreed to work cooperatively with other states and the federal government, and to seek to influence the design of any federal LCFS or other proposed fuels policy.

¹⁰⁴ A sample of NYPS's projects is available at <http://www.nypa.gov/services/esprojects.htm>.

¹⁰⁵ This statement is available at http://www.mass.gov/Eoeea/docs/pr_lcfs_attach.pdf.

x. New York State Governor’s “45 by 15” Goal

On January 7, 2009, Governor Paterson, in his “State of the State” address, announced a goal of meeting 45% of New York’s electricity needs through renewable energy and improved energy efficiency by 2015.¹⁰⁶ According to the Governor, this would be met by raising the RPS from 25% to 30% and by meeting the EEPS goal of reducing statewide energy use by 15% over business as usual. To help meet this goal, the Governor announced the creation of a clearinghouse to provide information on energy efficiency programs for schools, hospitals, and local governments. In addition, Governor Patterson called on the PSC and other public authorities to provide financing mechanisms to help citizens invest in energy efficiency and renewable energy measures to lower their energy costs and meet this goal. According to the Governor, meeting this goal will create 50,000 new jobs in New York.

V. Selected New York Municipal Laws on Climate Change

In addition to actions on the state level, New York municipalities have also enacted laws and initiatives regarding climate change. For example, in 2007, New York City passed landmark legislation aimed at reducing its GHG emissions and was among the first municipalities in the country to pass a green buildings law that mandated that new buildings financed by public money meet certain LEED standards. In addition, the Town of Babylon has enacted a program that provides financing for energy efficiency improvements to residences. While this is not intended to be an exhaustive list, these laws and programs are good examples of the kinds of initiatives that have begun to be adopted by municipalities across New York.

a. New York City Climate Protection Act

On November 28, 2007, the New York City Council unanimously passed legislation to require the reduction of GHG emissions throughout the five boroughs.¹⁰⁷ The Climate Protection Act is intended to strengthen PlaNYC 2030, Mayor Michael Bloomberg’s environmental agenda for New York City, by requiring that New York City reduce its GHG emissions. The law establishes two benchmarks that the City must reach as it curbs its GHG emissions. One benchmark is that City operations reduce their GHG emissions 30% by 2017. The other is that the City as a whole reduce its emissions by 30% by 2030. The law requires annual emission inventories, analyses and reports, as well as public education and outreach programs. The Mayor’s Office of Long-Term Planning and Sustainability is charged with annually completing and posting on its website an inventory and analysis of citywide emissions, measured in CO₂ equivalent, and it will calculate the percentage change in citywide and City government emissions each year. The first report on such emissions was released September 17, 2008 and is due every subsequent September 17.¹⁰⁸ If the Mayor’s Office of Long-Term Planning and

¹⁰⁶ The text of this speech is available at http://www.ny.gov/governor/keydocs/speech_0107091.html.

¹⁰⁷ New York City Climate Protection Act (Int. No. 20-A), *available at* <http://webdocs.nycouncil.info/textfiles/Int%200020-2006.htm?CFID=1824340&CFTOKEN=96492153>.

¹⁰⁸ *See PlaNYC, Inventory of New York City Greenhouse Gas Emissions (2008), available at* http://www.nyc.gov/html/planyc2030/downloads/pdf/emissions_inventory_2008.pdf.

Sustainability determines that the required reduction in GHG emissions is not feasible, it must make recommendations to achieve the legislation's targets. The law also calls for the creation and implementation of voluntary global warming emissions reduction programs to encourage private entities operating within New York City to commit to reducing their own GHG emissions.

b. New York City Green Building Law

In 2007, New York City enacted Local Law 86, otherwise known as the New York City Green Buildings Act.¹⁰⁹ The law requires that non-residential capital projects undertaken by City agencies or that receive at least 50% public financing with estimated construction costs of \$2 million or more be designed and constructed to achieve a LEED-Silver or higher rating. Newly constructed schools must achieve a LEED-Certified rating. The law also requires that capital projects with an estimated construction cost of more than \$12 million but less than \$30 million be designed and constructed so as to reduce energy costs by a minimum of 20%. Projects with an estimated construction cost of greater than \$30 million must be designed and constructed so as to reduce energy costs by a minimum of 25%.

In addition, pursuant to the law capital projects that include the installation or replacement of a boiler at an estimated cost of \$2 million or more must be designed to reduce energy costs by a minimum of 10% as determined by the methodology prescribed in LEED energy and atmosphere "credit 1" or the State Energy Code, whichever is more stringent. Similarly, capital projects that include the installation or replacement of lighting systems with an estimated cost of \$1 million or more must be designed to reduce energy costs by a minimum of 10%. Further, projects involving the installation or replacement of an HVAC system with an estimated cost of \$2 million or more must be designed to reduce energy costs by a minimum of 5%. Finally, capital projects involving the installation or replacement of plumbing systems with an estimated cost of \$500,000 or more must be designed to reduce energy costs by a minimum of 30%.

c. Babylon, New York Green Homes Program

In June 2008, Babylon, New York enacted an innovative program to work with citizens to pay for energy efficiency upgrades. Under the Long Island Green Homes Program, Babylon will loan residents up to \$12,000 at a 3% interest rate to pay directly for energy efficiency improvements to their homes. Under the program, which has been funded with \$2 million in Town funds, residents will receive home energy audits that include recommended actions for renovations, including adding more insulation, changing out the HVAC system, etc. Babylon will pay for the renovations and the homeowner then makes payments to the Town based roughly on the reduction in payments caused by having a more efficient home. The homeowner assumes no debt and, should the house be sold, what is remaining of the obligation is assigned to

¹⁰⁹ New York City Green Buildings Act, Local Law 86, *available at* http://www.nyc.gov/html/dob/downloads/pdf/ll_86of2005.pdf.

the new homeowner. Homes that go through the program are expected to reduce energy consumption by roughly 20-40%.¹¹⁰

VI. Prior Reports

Over the past fifteen years, a series of reports have been issued concerning climate change impacts and mitigation measures in New York. The most important of these reports are summarized here.

a. New York State Bar Association, *The Threat of Global Climate Change -- What Can New Yorkers Do? State and Local Strategies to Reduce Greenhouse Gas Emissions in New York State* (January 1994)

In 1994, the Environmental Law Section of the New York State Bar Association released a report entitled “The Threat of Global Climate Change -- What Can New Yorkers Do? State and Local Strategies to Reduce Greenhouse Gas Emissions in New York State.” The report made a number of recommendations concerning reducing GHG emissions. The first set of recommendations focused on construction and building initiatives and included updating the State Energy Code, increasing energy efficiency in public buildings and publically-assisted projects, incorporating energy conservation considerations into State Environmental Quality Review Act (SEQRA) findings, disclosing energy costs when selling or renting real property, promoting incentives for using energy-efficient products, and increasing public education regarding climate change. The second set of recommendations focused on land use and transportation initiatives and included promoting cluster zoning and mixed-use districts, encouraging southern orientation of buildings to maximize solar exposure, using trees and other vegetation to reduce heat island effects, encouraging “clustered” or district heating and cooling systems, employing strategies to promote energy-efficient development that makes optimum use of public transportation facilities, and factoring GHG considerations into the “economic dispatch” system used by electric utilities to establish the sequence for bringing power generating facilities on-line to meet electricity demand at any given time.

b. New York State Symposium on Economic Development and Climate Change (including NYSBA), *Recommendations for a Climate Change Agenda for New York State* (1998)

In 1998, the New York State Symposium on Economic Development and Climate Change released a report entitled “Recommendations for a Climate Change Agenda for New York State.”¹¹¹ The report was the result of a two-year effort by the Symposium to develop economically responsible measures that New York could adopt to address climate change. The

¹¹⁰ Additional information about Babylon’s Green Homes Program is available at <http://www.townofbabylon.com>.

¹¹¹ N.Y. State Symposium on Econ. Dev. & Climate Change, *Recommendations for a Climate Change Agenda for New York State* (1998), available at http://www.nysba.org/AM/Template.cfm?Section=Climate_Change&Template=/CM/ContentDisplay.cfm&ContentID=15147.

report proposed initiatives in the following areas: economic development, public sector activities, utilities/energy efficiency, building design, zoning and land use, and education. Among the recommendations included the following: the establishment of a worldwide GHG emissions trading regime headquartered in New York, upgrading mass transportation and rail freight service, the creation of a system of incentives to encourage the development of buildings that exceed the requirements of the Energy Code, the establishment of a tax reform and financial incentive package to promote energy efficiency, revising zoning laws to discourage sprawl and encourage more mixed-use development, and the development of curricula that promotes awareness of climate change.

c. Center for Clean Air Policy, Recommendations to Governor Pataki for Reducing New York State Greenhouse Gas Emissions (April 2003)

In 2003, the Center for Clean Air Policy, in collaboration with the State Greenhouse Gas Task Force, released a report providing recommendations for reducing GHG emissions in New York.¹¹² The report recommended that New York establish a statewide target to reduce GHG emissions to 5% below 1990 levels by 2010 and 10% below 1990 levels by 2020. The report also recommended that New York advocate for federal action on climate change and work aggressively for neighboring states and Canadian provinces to pursue a coordinated strategy to reduce GHG emissions on a regional basis.

Among the report's policy actions included the following: shifting funding to more GHG-efficient alternatives such as public transit and smart growth; the adoption of light-duty vehicle GHG standards; the creation of a state biofuels industry; a package of measures to further reduce GHG emissions from the electric generation sector including a renewable portfolio standard and a mandatory cap on state carbon emissions from electricity generation to at least 25% below 1990 levels by 2010; and a package of efficiency measures for buildings and industry, including support for combined heat and power, oil and gas end-use efficiency, and negotiated agreements with industry. This report and its recommendation of a cap on statewide carbon emissions from electricity generators were instrumental in the creation of RGGI.

d. Union of Concerned Scientists, *Climate Change in the U.S. Northeast* (October 2006)

In October 2006, the Union of Concerned Scientists released a report entitled "Climate Change in the U.S. Northeast."¹¹³ The report used climate modeling to assess how climate change could affect the climate in the Northeast portion of the United States. The report compared climate change from both higher and lower emissions. Under the higher-emissions scenario, emissions are allowed to continue growing rapidly, and under the lower-emissions scenario, emissions are reduced substantially. According to the report's findings, similar

¹¹² Ctr. for Clean Air Policy, Recommendations to Governor Pataki for Reducing New York State Greenhouse Gas Emissions (2003), available at http://www.ccap.org/docs/resources/534/NYGHG_Report.pdf.

¹¹³ Northeast Climate Impacts Assessment, *Climate Change in the U.S. Northeast* (2006), available at http://www.ucsusa.org/assets/documents/global_warming/necia_climate_report_final.pdf.

changes in climate are expected under either emissions scenario over the next few decades. However, by midcentury and later, temperatures would rise dramatically under higher emissions scenario, as would sea levels. In contrast, under the lower-emissions scenario, emissions would peak by about mid-century and then decline, and temperatures and sea levels would be about half what they would under the higher-emissions scenario. The report concluded that, under either scenario, the Northeast of the future will be vastly different than it is now and the extent of these differences will depend on present-day decisions our society makes regarding GHG emissions.

e. Environmental Advocates of New York, Forecast for New York: Projected Global Warming Impacts & Next Steps (November 2006)

In November 2006, Environmental Advocates of New York (EANY) issued a report entitled “Forecast for New York: Projected Global Warming Impacts & Next Steps.”¹¹⁴ The report highlighted some of the potential effects of climate change on New York, discussed the policy context related to sources of GHG emissions in New York, and listed additional actions that the state should consider taking to further reduce emissions. The report also highlighted the effects of climate change on public health, infrastructure, coastal property, agriculture, wildlife and water supply.

Among the recommendations that EANY urged New York to implement were the following: establishing a permanent Climate Change Commission which would be responsible for establishing an emissions baseline, evaluating policies and making recommendations for future actions; improving New York’s GHG emission inventory; establishing more aggressive statewide GHG emissions limits for all economic sectors; strengthening New York’s implementation of RGGI; requiring GHG emissions reporting from all stationary sources; establishing an energy efficiency portfolio standard; enacting policies to reduce the distance traveled by vehicles in the state; prioritizing New York transportation infrastructure for projects that cut GHG emissions; including a GHG emissions analysis as part of the SEQRA process; encouraging consumers to choose cleaner cars; requiring regular reviews of the State Energy Code; promulgating appliance efficiency standards; making energy efficiency a criteria for receiving low-cost power under New York’s power programs; expanding the existing net metering law; and assessing the financial risks associated with climate change.

f. City of New York, PlaNYC: A Greener, Greater New York (2007)

On April 22, 2007, Mayor Bloomberg announced the launch of PlaNYC, 127 environmental proposals aimed at making New York City more energy efficient and reducing its GHG emissions.¹¹⁵ PlaNYC’s goal is to reduce the City’s CO₂ emissions by 30% by 2020 even though the City is expected to add 1 million residents by that date. The plan originally called for “congestion pricing,” which would impose a toll of \$8 for people who drive into the City from 6 a.m. to 6 p.m. below 86th Street (later changed to 60th Street) in Manhattan. Commercial trucks

¹¹⁴ Env’tl. Advocates of New York, *Forecast for New York: Projected Global Warming Impacts & Next Steps* (2006), available at <http://www.eany.org/issues/reports/ForecastForNewYork.pdf>.

¹¹⁵ Information about PlaNYC is available at <http://www.nyc.gov/html/planyc2030/html/home/home.shtml>.

would pay \$21 during that same period. However, State legislative approval was necessary for congestion pricing to go into effect and in April 2008, the State legislature declined to vote on the proposal, effectively killing it. PlaNYC's other initiatives include planting 1 million trees within 10 years, creating affordable housing, improving water quality and infrastructure, increasing the number of City parks, modernizing school buses and cleaning up New York City's brownfields.

g. New York City Department of Environmental Protection, *Climate Change: Assessment and Action Plan, Report 1 (May 2008)*

In May 2008, the New York City Department of Environmental Protection (DEP) released a report entitled "Climate Change: Assessment and Action Plan."¹¹⁶ The report stated that DEP has established a task force to oversee DEP's Climate Change Program. The mission of the Program is to ensure that all aspects of DEP's planning take into account the potential risks of climate change on the City's water supply, drainage, and wastewater management systems, and integrate GHG emissions management to the fullest extent possible.

The Action Plan includes five primary tasks: (1) work with climate scientists to improve regional climate change projections; (2) enhance DEP's understanding of the potential impacts of climate change on its operations; (3) determine and implement appropriate adaptations to DEP's water systems; (4) inventory and manage GHG emissions; and (5) improve communication and tracking mechanisms.

h. New York State Bar Association and Albany Law School, "Climate Change" (special issue), *Government, Law and Policy Journal (Summer 2008)*

In 2008, the NYSBA Government, Law and Policy Journal published a special issue devoted to climate change. The issue included articles from attorneys and scientists with expertise in various aspects of climate change, which examined the topic from a national and state perspective. The issue addressed energy efficiency, using land use law to mitigate climate change, carbon capture and geologic storage, regional and state-based climate change initiatives in the U.S., federal-state partnerships for addressing climate change, opportunities and challenges for local governments associated with climate change, incorporating climate change considerations into the SEQRA process, and climate change trends in Northern New York and Western Vermont.

¹¹⁶ N.Y. City Dep't of Env'tl. Prot. Climate Change Program, *Assessment and Action Plan: Report 1 (2008)*, available at http://www.nyc.gov/html/dep/pdf/climate/climate_complete.pdf.

VII. Specific Proposals

Following are proposals that the Task Force believes New York State should adopt in order to further its work in reducing GHG emissions and preparing for the effects of climate change.

OVERALL OBJECTIVE OF PROPOSALS

As Sections IV and V demonstrate, New York has an impressive array of laws, policies and programs that directly and indirectly contribute to reducing the amount of GHG emissions in the state. What is missing, however, is a statewide comprehensive climate change strategy that has a specific, measurable and binding reduction target. Without such a target, it is difficult to assess whether New York's efforts in reducing its emissions are effective. In addition, a binding GHG target will focus initiatives on achieving reductions in GHG emissions, rather than on other laudable but different goals such as increasing renewable energy usage or making buildings more energy efficient. For example, California's climate change law (AB 32) requires the state to reduce its GHG emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050. California's adoption of this law has led to the creation of many important and inter-related state policies and initiatives that all have as their primary focus reducing the state's overall emissions to 1990 levels within 11 years and 80% below 1990 levels within 41 years. New York should adopt a similar goal through legislation or executive order.

The Task Force believes that the adoption of a target to reduce New York's GHG emissions to 80% below 1990 levels by 2050 is appropriate. This target has been adopted by several states¹¹⁷ and has been proposed for adoption by the European Union.¹¹⁸ This target was also reflected in certain federal cap-and-trade bills that were recently introduced in Congress.¹¹⁹ In addition, President Obama has called for the adoption of this target in any forthcoming federal cap-and-trade legislation.¹²⁰ Like AB 32, the adoption of such a target should include a mid-term target of achieving 1990 levels by 2020. The Task Force believes that such a goal is appropriate and necessary given the warnings from many scientists and other climate change experts that worldwide GHG reductions of this magnitude will be necessary by 2050 to avoid serious climate disruptions.

New York should measure its progress towards achieving this target on a periodic basis. In this regard, the Task Force recommends that New York adopt common measurements for its

¹¹⁷ These states include California, Washington, Florida, and Colorado. Oregon has adopted a law with a target of 75% below 1990 levels by 2050.

¹¹⁸ See Temporary Committee on Climate Change, European Parliament, *Recommendations for the EU's Future Integrated Policy on Climate Change (Draft Report)* (2008), available at http://www.europarl.europa.eu/meetdocs/2004_2009/documents/pr/728/728472/728472en.pdf.

¹¹⁹ This legislation was introduced by Representative John Dingell, the outgoing Chairman of the House Energy and Commerce Committee, in October 2008. The text of this bill is available at http://energycommerce.house.gov/Climate_Change/CLIM08_001_xml.pdf.

¹²⁰ See "Change.Gov, The Obama-Biden Plan," available at http://change.gov/agenda/energy_and_environment_agenda.

various programs aimed at reducing GHG emissions and energy use. Some of New York's programs, as described above, aim to increase the use of renewable energy by a certain percentage, reduce electricity use by a certain percentage, reduce energy use in buildings by a percentage, and so on. Estimates should be made of the GHG reductions anticipated to result from the programs heretofore or hereafter adopted by the state to increase energy efficiency, promote renewable energy, advance "smart growth" land use or reduce vehicles miles traveled, so that the state can measure how such programs contribute to the GHG reduction effort. By utilizing a common metric, New York will be able to assess periodically whether the GHG reduction goal is being achieved and make adjustments as warranted.

Buildings and Energy

1. Improve New York's Current Incentives Regarding Energy Efficiency in Buildings

Nationwide, buildings account for nearly 40% of total energy consumption and contribute nearly that much in total GHG emissions.¹²¹ Improving buildings' energy efficiency decreases the amount of fossil fuel consumed in producing energy used by buildings, which leads to a corresponding decrease in overall GHG emissions.

Centralize Information Concerning Energy Efficiency Incentives

New York has enacted a number of tax credits and other incentives that reward those who improve energy efficiency in buildings. A variety of other federal, municipal and private financial incentives are also available. However, these incentives are not reaching their full potential because their number, complexity and often confusing eligibility criteria make it difficult for potential beneficiaries to learn about and use them. New York, through NYSERDA or another State agency, should establish a toll-free hotline and website to provide information about the full range of green building-related programs, answer inquiries and assist in the application process. In addition, information concerning these programs should be made available in hard copy with easy-to-understand program summaries and application instructions. Further, New York could encourage utilities to advertise the website and hotline in customer bills.

As previously mentioned, Governor Paterson, in his 2009 "State of the State" address, has called for the creation of a clearinghouse to provide information on energy efficiency programs for schools, hospitals, and local governments.¹²² The Task Force is pleased to note that Governor Paterson included this recommendation in his speech several weeks after members of the Task Force had discussed the recommendation mentioned above with several State officials and believes this is a good first step. However, the clearinghouse should be available to

¹²¹ See U.S. Env'tl. Protection Agency, *Buildings and the Environment: A Statistical Summary* (2004), available at <http://www.epa.gov/greenbuilding/pubs/gbstats.pdf>. See also J. Cullen Howe, *Green Financing: Governmental and Private Programs Concerning Financing of Green Buildings* (LexisNexis 2008).

¹²² The text of this speech is available at http://www.ny.gov/governor/keydocs/speech_0107091.html.

everyone, not just schools, hospitals and local governments. In addition, it should include all relevant information regarding energy efficiency initiatives and incentives that are available to residents and the information should be easily accessible and written in easy-to-understand language. Finally, a toll-free number should be established that residents can call to ask questions regarding these initiatives and incentives.

Update Building Energy Codes More Swiftly and Provide Incentives for Local Code Enforcement

New York updates its State Energy Code by adopting new codes or standards (such as ASHRAE 90.1-2004 and the International Energy Conservation Construction Code) every three years. However, the process to update the State's codes and standards is lengthy and often takes several years, although the New York State Department of State (DOS) has greatly reduced the amount of time it takes in this process. The DOS Codes Division has prioritized a reduction of the consensus committee review procedures in order to expedite the codes update process. In 2007, DOS adopted a policy reducing the Subcommittee process of review for each of nine codes from twelve months to three months. The Subcommittee review process is needed to align the model codes with New York laws and policies. The Code update process is also currently subject to the State Administrative Procedure Act. According to DOS, when the Uniform Code update is completed in 2009, New York will be current with the ICC adoption process. Other State agencies involved in the code adoption process should follow DOS's lead and streamline their review process as much as possible so that these new codes and standards can be swiftly adopted when they are released.

In some municipalities, the Code is not enforced. One possible cause of this is a lack of sufficient funding and staffing. In some smaller municipalities building inspectors work only a few hours a week. Thus, they often do not have enough time or in some cases sufficient training and expertise to check for Code violations in the course of a building inspection. Proper inspection of building energy features requires more than one cursory inspection of building insulation, which currently is the normal course of business. New York should provide incentives to local governments to provide this training and to reward municipalities that vigorously enforce the Code. In addition, DOS should consider incorporating energy conservation issues into training and continuing education for architects, building engineers, and Code enforcement officers. Two options for paying for increased local inspection are raising the levy on fire inspection fees and designating some of the proceeds from the EEPS surcharge for this purpose. NYSERDA has introduced a proposal that establishes a fee-for-service demonstration program to pay for this increased local inspection. In addition, New York should consider allowing municipalities to fund Code inspections by requiring a fee for this service and allowing inspections by a locality or a third-party expert. Finally, the State should seriously consider the reapportionment of certain funding in the State Finance Law (referred to as "54G funding") which was formerly levied on the cost of commercial fire insurance as a funding mechanism to increase local Code enforcement programs. Between 1982 and 1991, a surcharge was collected on all fire insurance policies to reimburse local governments for Code enforcement expenses. In 1992, these funds were diverted to the General Fund and State assistance under this program for local Code enforcement activities ceased.

Expedite Processing for Climate-Friendly Projects

New York should reward “climate friendly” projects by allowing them to “move to the front of the line” when undergoing review by a State agency. Municipalities should also be authorized to provide for such expedited processing for projects undergoing local review, such as subdivision and site plan approval. Such processing would not relax any substantive environmental standards, but would afford a procedural preference. For example, Harvard University agreed to limit GHG emissions from its proposed Allston Science Complex by 50% below current baseline standards in return for expedited processing of certain projects under the Massachusetts Environmental Policy Act (MEPA).¹²³ Climate-friendly projects could be defined to include construction projects that meet certain green building or high efficiency standards as well as other types of projects such as alternative energy facilities that result in a lowering of New York’s overall GHG emissions. In allowing for expedited processing, the State should establish clear criteria for determining what projects would qualify. In addition, special attention should be paid to time limits for project review that exist in State and local laws.

Given that expedited processing will require additional resources, New York could give applicants the option of paying a review fee that would be utilized to hire staff or consultants to expedite the review. A similar mechanism is now in effect for applicants to pay review fees under SEQRA, though it is a mandatory fee imposed on applicants rather than an option.

Prioritize Energy Efficiency Incentives for Affordable Housing

Affordable housing increases land use density. High land use density results in the reduction of automobile ownership and use, as people need to travel shorter distances. Also, high land use density provides a sufficient population to support efficient public transportation services. This ultimately results in the reduction of GHG emissions. In addition, affordable housing targets low income communities, which are a significant part of the population and are least able to invest in energy efficiency improvements for their homes and buildings. Therefore, when adopting energy efficiency incentives to reduce GHG emissions, New York should prioritize such incentives for buildings that provide affordable housing.

2. Enhance New York’s Renewable Portfolio Standard

Renewable Portfolio Standards (RPS) mandate that utilities sell or that consumers buy a certain percentage of their power from renewable sources. New York’s RPS aims for 25% renewable consumption by 2013 and does not require that utilities finance and procure renewable sources themselves. Rather, utilities apply a surcharge on each kilowatt-hour of energy and the PSC allocates these funds to encourage renewable energy production. Its centralized approach has eliminated the need for enforcement mechanisms, and New York has incorporated

¹²³ Information regarding Harvard’s Allston Initiative is available at <http://www.allston.harvard.edu/projects/projects.htm>. See also Harvard University Gazette, “Harvard to Limit Greenhouse Gas Emissions in New Allston Construction,” (Sept. 20. 2007), available at <http://www.news.harvard.edu/gazette/2007/09.20/99-environment.html>.

mechanisms for adjusting the specifics of the program as needed.¹²⁴ In addition, New York's goals have been high enough to encourage growth in the renewable sector without unduly burdening rate-payers.¹²⁵

New York should raise the renewable consumption requirement to 30%. This is currently under consideration by the PSC and, as previously mentioned, Governor Paterson has called for such a raise in his "State of the State" address in January 2009.¹²⁶ New York's commitment to renewable resources should be examined by reference to the amount of renewable resource development that will be stimulated by compliance with the RPS requirement. When looked at in this way, New York's current obligation of 25% by 2013 is less aggressive than it appears to be. Because existing large-scale hydroelectric projects count toward meeting the obligation, New York started at 19.3%; thus the 25% goal represented an increment of less than 6% of *new* renewable resources stimulated by the RPS requirement.¹²⁷ Moreover, as the electric retail load in New York declines due to the impact of conservation efforts geared toward meeting the PSC's EEPS requirements, the effect of retaining the existing 25% RPS requirement (which was based on retail loads from the 2002 State Energy Plan) would be to reduce the number of MWs necessary to achieve compliance with a procurement requirement, given that the obligation is based on a fixed percentage of a declining retail load.

A goal of 30% by 2015 is certainly within New York's reach and would strengthen the market for renewable energy in the state. Such an increase would be consistent with actions taken by other states to revisit – and increase – their RPS obligations. It would be very modest, however, compared to more aggressive actions taken by other states. Eleven states made substantial modifications to their RPS programs in 2007, and these changes have generally been to strengthen pre-existing RPS requirements. In March 2007, Colorado doubled its RPS target – from 10% in 2015 to 20% in 2020 – and thereby doubled as well the effective size of its solar set-aside.¹²⁸ Connecticut increased its RPS requirement in June 2007 to 23% by 2020, with at least 20% from Class I resources.¹²⁹ In July 2007, Delaware doubled its RPS from 10% to 20% by 2019, and created a solar PV set-aside that reaches 2.005% by 2019.¹³⁰ New Mexico also doubled its RPS requirement in March 2007 to 20% by 2020, up from 10% by 2011.¹³¹ The

¹²⁴ State of N.Y. Dep't of Pub. Serv., *Status Report on Implementation of the Renewable Portfolio Standard Program* at 3–4 (2007).

¹²⁵ *Id.* 4–5.

¹²⁶ The text of this speech is available at http://www.ny.gov/governor/keydocs/speech_0107091.html.

¹²⁷ By contrast, the state with the greatest number of MW of hydro generation – Washington – does not count this existing large hydro toward meeting its RPS requirement of 15% by 2020; its 15% requirement, while seemingly more modest is, in fact, much more aggressive in stimulating new renewable resource development.

¹²⁸ Col. Rev. Stat. 40-2-124.

¹²⁹ Conn. Gen. Stat. § 16-245a *et seq.* Class 1 resources include solar, wind, new sustainable biomass, landfill gas, fuel cells, ocean thermal power, wave or tidal power, low-emission advanced renewable energy conversion technologies, and hydropower facilities with a maximum capacity of five MW.

¹³⁰ Del. Code 351 *et seq.*

¹³¹ N.M. Stat. §§ 62-15-34; 62-16-1.

increase under consideration by the PSC – to 30% by 2015 – looks somewhat modest in comparison to the more aggressive actions taken by these states. The Renewable Energy Task Force’s February 2008 report acknowledged that “New York must keep pace” as other states across the nation enact their own renewable portfolio programs and “energy independence” incentives.¹³² The increase from 25% to 30% would, at a minimum, seem to be necessary to accomplish this objective and thus should be encouraged.

3. Authorize the Public Service Commission to Require Time-of-Use Pricing

New York should consider authorizing the PSC to require time-of-use (or time differentiated) pricing in circumstances where such rates are found to be in the public interest. Time-of-use pricing is a method by which the price of electricity charged consumers varies with the time of day, which allows the price to more closely track the actual cost of producing electricity in each hour. Under time-of-use pricing, consumers are able to save on electricity costs by shifting their usage from peak periods when prices are highest to non-peak periods when prices are lower. Customers must have “advanced” or smart meters to take advantage of time-of-use pricing. The Public Service Law provides that large utilities can offer the option of time-of-use pricing to their residential customers.¹³³ Chapter 307 of the Laws of 1997, however, deleted a provision authorizing the PSC to mandate time of use rates for residential customers when it is found to be in the public interest. Removing the PSC’s ability to mandate the implementation of time-of-use rates severely constrains the efficacy of time-of-use pricing, because those customers with the highest contribution to peak demand, *i.e.*, those who use large amounts of electricity at the times when it is most expensive to produce, are unlikely to voluntarily opt for such a pricing structure. Thus, if some customers with high peak usage are permitted to avoid being placed on time of use rates, the investment in changing out all of the meters is more difficult to justify. An added benefit of time-of-use pricing is that alternative energy sources such as solar, which typically have higher costs per kilowatt hour than fossil fuels, will be more cost effective during summer months and at mid-day when power use is at its peak and conventional power sources are the most expensive. Solar power is “peak coincident,” meaning that it generates the most power on hot, sunny days when demand is at its peak. A bill¹³⁴ was introduced in the State Legislature in 2008 that would amend the Public Service Law to authorize the PSC to require time-of-use pricing where such rates would be in the public interest, but the bill was not reported out of either the Senate Energy and Telecommunications Committee or the Assembly Energy Committee. The Legislature should pass such a bill in the next legislative session. The bill should include a provision that provides financial assistance for low-income residential and small-business users who cannot shift their usage to lower peak periods.

4. Provide Incentives for the Installation of Smart Meters

Smart electric meters are defined in the federal Emergency Economic Stabilization Act of 2008 as any time-based meter and related communication equipment that measures and records

¹³² Renewable Energy Task Force, *supra* note 97, at 4.

¹³³ Public Service Law § 66(27).

¹³⁴ S.7445/A.10937.

electricity usage data on a time-differentiated basis in at least 24 separate time segments per day.¹³⁵ Smart meters provide for the exchange of information between the supplier or provider and the customer's electric meter in support of time-based rates or other forms of demand response, provide data to suppliers or providers so that they can provide energy usage information to customers electronically, and provide for net metering.¹³⁶ Electricity demand usually peaks at certain predictable times of the day and the season. Prices can rise significantly during these times as more expensive sources of power are purchased or brought online. Smart meters provide the foundation for electric utilities and consumers to make informed choices about energy suppliers and usage on the basis of price and time-of-use of energy, enabling electric utilities and consumers to manage the need for additional supplies to satisfy growing demand, to avoid use of high priced fuels, and to moderate pricing volatility associated with use of expensive generation in times of peak demand. Smart meters have a number of other benefits as well, including cost savings from automation of meter reading, outage management, theft detection, etc. These benefits are generally available only if smart meters are installed system-wide.

The PSC currently allows customers to install smart meters, although it is only required for New York's largest commercial and industrial electric customers. The PSC has instituted a proceeding to assess the public benefits of installing smart meters for all customers.¹³⁷ In August 2006, the PSC issued an order that directed utility companies to study the costs and benefits of mass deployment of smart meters, and to file proposals for integrating smart meters into their systems where cost-effective. One important issue that the PSC is considering is that the costs of requiring universal smart meter installation are uncertain and could run into the billions of dollars. The level of demand response benefits also depends on several uncertain assumptions, including the degree to which small customers are able to shift usage and the number of customers that can be expected to participate if participation in time-differentiated rate schedules is not made mandatory for high use customers. If, after further investigation by the PSC, the cost-effectiveness of smart meters remains uncertain, New York should enhance smart metering by providing incentives to power companies or energy service companies that install smart meters.

5. Require Electric Sub-Metering in All Buildings¹³⁸

Electric sub-metering is the implementation of a system that allows a building owner to bill tenants for individual measured electric usage. In the residential context, sub-metering allows co-ops and condominiums that have one master electric meter to charge shareholders and unit owners for the power they use, rather than dividing power costs among the residents on the basis of their proportionate interest. From an energy conservation perspective, buildings that do

¹³⁵ The Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343 (2008).

¹³⁶ As previously mentioned, net metering allows electricity customers with qualified renewable energy systems to sell excess electricity back to their local utility. In June 2008, the State Legislature enacted several laws that expands net metering in three areas of renewable energy – solar, wind and farm waste.

¹³⁷ Case No. 00-E-0165.

¹³⁸ Task Force member J. Kevin Healy has recused himself from this recommendation.

not have sub-meters have no way of correlating energy usage and cost. As of 1977, all newly-constructed and substantially renovated (*i.e.* renovations affecting more than 50% of a building's electrical system) multi-unit buildings are required to be sub-metered. However, there are large numbers of pre-1977 multi-unit residential buildings without individual meters, particularly in municipalities such as New York City that have a large number of older buildings. Nearly half a million residential units served by Con Edison have electrical usage that is not metered to capture usage by individual units.

The Public Service Law should be amended to require that all multi-unit buildings be sub-metered. Individual metering provides price signals to consumers regarding their consumption of electricity, thereby encouraging the conscientious and efficient use of energy in their residences. Thus, mandatory sub-metering will encourage consumers to use electricity wisely by providing them appropriate price signals to minimize their consumption. Occupant knowledge of energy consumption will create an opportunity for investment by consumers in such things as efficient lighting, improvements to the building envelope, and other good practices of energy efficiency. The installation of sub-meters in master-metered buildings has been shown to reduce electricity consumption in the individual units between 10 and 26 percent.¹³⁹

The State Legislature should enact a law that requires multi-unit buildings to install sub-meters. This legislation should set an appropriate size threshold for buildings subject to this requirement, provide for reasonable timelines for installation, and allow exemptions in case of extreme technical difficulties or genuine hardship.

In addition, the current regulation that requires that 70% of shareholders in co-ops and condominiums to vote in favor of sub-metering should be abolished.¹⁴⁰ There should be no requirement that a certain percentage of a building's tenants or owners vote in favor of sub-metering for it to take effect.

6. Amend the Energy Code to Cover More Building Renovations

The State Energy Code Act (Article 11 of the Energy Law) applies to new building construction and to renovations of existing buildings only if the renovation is "substantial" - *i.e.*, only if the renovation involves the replacement of more than 50% of a "building subsystem" such as exterior walls, floors, and ductwork.¹⁴¹ Thus, many renovations and building system replacements that do not meet this threshold are not required to comply with the Energy Code. Article 11 also prohibits any amendment of the Energy Code imposing new requirements that would cost more than the present value of the expected energy savings over a 10-year period. Article 11 further provides a blanket exemption from the Energy Code for any property that is on

¹³⁹ NYSERDA, *Residential Electric Submetering Manual* (Oct. 2001) at 2, available at <http://www.submeteronline.com/pdf/subman2001.pdf>.

¹⁴⁰ Public Service Law §§65, 66; 16 NYCRR Part 96.

¹⁴¹ Energy Conservation Construction Code Act § 11-103(b). This "50% rule" is absent both in the International Energy Construction Code (IECC) and ASHRAE 90.1, both of which the Energy Code is based on.

the National or State registry of historical places and for any “property” that is determined to be eligible for listing on the State Registry by the Commissioner of Parks, Recreation and Historic Preservation.¹⁴² New York is the only state that incorporates the 50% rule and the ten-year payback requirement. These are not present in the IECC, which is the model code for New York as well as many other states.

As a result of these limitations and exemptions, many building renovation projects need not conform to the Energy Code. Thus, many chances for improving energy efficiency in existing building stock during rehabilitation are lost. Regarding alterations to historic buildings, because of the “historic property” exemption, any additions to a historic building or a newly constructed building on property determined to be of a historic nature do not have to comply with the Energy Code.

To address these shortfalls, DOS crafted an amendment in the form of a bill which was introduced in the State Assembly and Senate in 2008.¹⁴³ These changes would amend Article 11 to remove the 50% threshold, remove the requirement for a 10-year payback studies for changes to the ECCC, and would reword the historic exemption, changing the word “property” to the word “building,” therefore retaining exemptions to existing historic buildings rather than entire historic districts. This bill did not advance out of the Assembly Ways and Means Committee. The State legislature should enact a similar law that eliminates these exemptions. As and to the extent it would be inappropriate to apply the requirements of the Energy Code to renovation activities, Code provisions specific to renovations should be adopted.

7. Require Schools to Meet Green Building Standards

New York State and New York City have adopted different approaches to greening school buildings, whereby the State has adopted a voluntary system while New York City has adopted a mandatory system. The New York State Education Department (NYSED) chose a voluntary guideline system for the construction of new schools and renovations to existing schools.¹⁴⁴ This guideline system was created through a collaborative effort between NYSED and NYSERDA and was modeled upon California’s and Massachusetts’ Collaborative for High Performance Schools (CHPS) Guidelines. The guideline system also took into account LEED and other state school building greening efforts as well as state code requirements. The guidelines provide a rating system for achieving a High Performing School. All building permits must meet all applicable local, state and federal codes, as well as all requirements in the NYSED Manual Planning Standards (MPS), including the New York Uniform Fire Prevention and Building Code and the State Energy Code. In addition, NY-CHPS has added standards that are school specific to enhance the learning environment, such as by reducing noise, adding natural light, and improving air quality. The guidelines are provided as an appendix to the required NYSED MPS and there is an attempt to make them easy to use when considering the MPS

¹⁴² *Id.*

¹⁴³ A.11290/S.7702.

¹⁴⁴ These guidelines are available at <http://www.emsc.nysed.gov/facplan>.

requirements. NY-CHPS also attempts to make clear the savings that a school construction project would achieve by becoming a High Performance School.

In contrast, New York City requires that its public schools meet specified green building standards. As previously mentioned, in October 2005, the City enacted Local Law 86, which requires that all City-owned and City-funded buildings meet certain LEED standards. The law went into effect in 2007. The New York City Department of Education (NYCDOE) and the New York City School Construction Authority (SCA) developed a NYC Green Schools Guide to assist New York City schools in meeting the requirements of Local Law 86.¹⁴⁵ The Guide is based primarily on LEED, but takes into account NY-CHPS, CHPS, and SCA best practices. Pursuant to Local Law 86, capital school building projects with over \$2 million in construction costs must achieve a LEED-Certified rating. School construction projects that have construction costs of more than \$12 million must achieve a LEED-Certified rating as well as reduce energy costs by 20-30% pursuant to certain LEED requirements. Additionally, school construction projects that involve the replacement or installation of specific systems such as boilers, lighting, and HVAC comfort controls and have a construction budget of more than \$500,000 must achieve a 5 to 10% energy cost reduction in addition to meeting the requirements of Local Law 86. School construction projects that involve the replacement or installation of plumbing systems must achieve a 20 to 30% potable water use reduction in addition to meeting Local Law 86 requirements. The local law also requires that an annual report on these efforts be published every year for 10 years.

New York should adopt mandatory green building standards for new and substantially renovated school buildings based either on the State's NY-CHPS guidelines or on New York City's Green Schools Guide. In addition, New York should make money available to low-income school districts to help pay the additional costs of complying with such standards.

8. Adopt Conservation Requirements for Water and Wastewater Treatment Plants

Water and wastewater treatment plants are large users of energy; thus, they emit large quantities of greenhouse gases, either directly or through the generation of the electricity they purchase. Currently, the State Energy Code does not apply to water or wastewater treatment plants. As a result, these plants are not required to comply with any rules that govern energy use. In February 2008, the EPA Office of Water issued a memorandum that suggested ways to improve energy efficiency at water and wastewater treatment plants.¹⁴⁶ The memorandum pointed out that EPA recently added wastewater facilities to its Energy Star portfolio manager program, an interactive energy management tool that can be used to track and assess energy and water consumption, and that has established an environmental management system (EMS) for

¹⁴⁵ N.Y. City School Constr. Auth. & N.Y. City Dep't of Educ., *NYC Green Schools Guide*, available at <http://source.nycsca.org/GreenSchools/nycgsg-031507.pdf> (hereinafter "Green Schools Guide").

¹⁴⁶ Memorandum from Benjamin H. Grumbles, Assistant Adm'r EPA Office of Water, "The Nexus Between Water and Energy: Promoting Energy Efficiency For the Water Sector" (Feb. 14, 2008), available at http://www.epa.gov/waterinfrastructure/pdfs/memo_si_bengrumbles_nexus-between-water-energy_02142008.pdf.

these plants to analyze and reduce the environmental impact of its activities and operate more efficiently.

New York should follow EPA's lead and adopt minimum energy conservation requirements for water and wastewater treatment plants. In addition, the State should consider adopting more aggressive energy conservation requirements when these plants are funded through the Environmental Facilities Corporation, a State agency that provides funding for certain environmental projects.

9. Reinstatement Energy Planning Requirements in Article Six of the Energy Law

The State Legislature should amend Article 6 of the State Energy Law to reinstate the State Energy Planning Board. Previous versions of Article 6 provided for such a Board but contained a sunset provision.¹⁴⁷ The Board would have the power to adopt a State Energy Plan that would forecast energy demand for ten years and energy supply requirements necessary to meet this demand. New York should not include a sunset provision in any future legislation. A bill was introduced in the State Assembly in 2007 providing for such an amendment, but it did not advance out of the Energy Committee.¹⁴⁸ This legislation should be introduced and enacted in the next legislative session.

Land Use

10. Amend SEQRA Regulations to Incorporate GHG Emission Considerations

SEQRA¹⁴⁹ requires all State and local governmental agencies to evaluate environmental impacts resulting from discretionary decisions, including actions they might approve, fund or undertake. For most agency actions, an agency first completes an initial review of the project using an Environmental Assessment Form (EAF). If a project is found to have the potential for any significant environmental impacts, the agency must complete an Environmental Impact Statement (EIS) to establish a comprehensive understanding of the potential impacts.¹⁵⁰ DEC has required analysis of climate change issues in certain EISs where it is the lead agency, but has not yet required such analysis in all EISs. However, DEC is the lead agency in only a small minority of actions.

New York is in the initial stages of updating requirements under SEQRA to incorporate climate change considerations, but it has fallen behind Massachusetts, California and Washington, three states with environmental impact review laws similar to SEQRA.¹⁵¹ In

¹⁴⁷ See NYSERDA, *2003 State Energy Plan Executive Summary*, available at <http://www.nysERDA.org/sep/sepexecsummary.pdf>.

¹⁴⁸ A. 5542.

¹⁴⁹ 6 NYCRR Part 617.

¹⁵⁰ N.Y. Dep't of Env'tl. Cons., Draft EAF (Appendix A) at 1 (Sept. 15, 2008).

¹⁵¹ Massachusetts' equivalent statute (MEPA) requires certain agency projects to analyze both direct and indirect greenhouse gas emissions; quantify energy consumption and projected emissions; and commit to

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September 2008, DEC circulated preliminary drafts of two SEQRA-related documents: an updated version of the Environmental Assessment Form, requiring agencies to document GHG emissions and perform more thorough energy analyses, and a technical guidance tool to facilitate the inclusion of energy use and climate change in EISs.¹⁵²

The proposed revision to the EAF, which is still undergoing informal review by interested groups, contains a significantly more comprehensive section on air quality impacts compared to the existing form,¹⁵³ and asks agencies to document projected emissions of specific greenhouse gases and pollutants. In addition, the proposed EAF revisions also mandate more thorough energy analyses, requiring agencies to consider the electricity demand as well as the specific fuel type and consumption rates of a project. The existing EAF simply asks if the proposed action will cause more than a 5% increase in the use of any form of energy.¹⁵⁴

The second proposed document is a technical guidance tool to facilitate the inclusion of energy use and climate change in an EIS.¹⁵⁵ After a State agency has determined that the scope of an EIS will contain energy use or GHG emissions, this document provides guidance to the agency in developing the EIS with regard to the following: establishing boundaries for the assessment; quantifying direct and indirect CO₂ emissions; quantifying emissions from waste generation; quantifying methane emissions from landfills; and analyzing mitigation options.¹⁵⁶

DEC should move forward with adoption of EAF revisions and a technical guidance document. The Task Force does not necessarily endorse the details of DEC's current proposals, but believes it is important that that formal action be taken to define how climate change should be considered under SEQRA. DEC should also amend its SEQRA regulations (Part 617) so that some discussion of climate change (at a level appropriate in light of project characteristics) is

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mitigation efforts. California is in the midst of developing CEQA guidelines “for mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions.” The Governor’s Office of Planning and Research is “required to ‘prepare, develop, and transmit’” guidelines before July 1, 2009, and such guidelines must be certified and adopted by the Resources Agency by January 1, 2010. In addition, Attorney General Jerry Brown settled several cases involving challenges to projects approved without consideration of climate impacts and has submitted comments to thirteen local governments in an effort to include climate change analyses in CEQA reviews. King County in Washington has taken a different approach and has addressed the issue through an executive order, requiring county agencies to consider climate change in their project assessments.

¹⁵² Letter from N.Y. Dep’t of Env’tl. Cons. to Stakeholders at 1 (Sept. 17, 2008), *available at* http://www.nycom.org/documents/EAF_Stakeholders.pdf [hereinafter NYDEC, Letter to Stakeholders].

¹⁵³ N.Y. Dep’t of Env’tl. Cons., Full Environmental Assessment Form, Appendix A to 6 NYCRR § 617.20 at 14, *available at* <http://www.dec.ny.gov/public/6191.html>.

¹⁵⁴ *Id.* at 18.

¹⁵⁵ N.Y. Dep’t of Env’tl. Cons., Letter to Stakeholders, *supra* note 152, at 2.

¹⁵⁶ N.Y. Dep’t of Env’tl. Cons., Draft Guide for Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements at 2 (Sept. 9, 2008). An updated draft version of this was released on March 2, 2009. The comment period ended on April 10, 2009. It is available at http://www.dec.ny.gov/docs/permits_ej_operations_pdf/dftgrmhsegas.pdf.

more explicitly required for all actions undergoing EIS review. In addition, DEC should consider amending the SEQRA regulations, 6 NYCRR 617.11(d)(5), to provide that the findings statements issued by agencies upon the completion of a final EIS should also include a finding that the selected alternative incorporates cost-effective energy efficiency and renewable energy measures into its design, construction and operation to the maximum extent practicable, consistent with social, economic and other essential considerations. DEC should explore additional amendments to the findings requirements embodied in Part 617 to more explicitly address GHG emissions as appropriate.

One primary issue that must be determined is what qualifies as a “significant impact” under SEQRA with respect to GHG emissions. The details of such an analysis are beyond the scope of this report. California¹⁵⁷ and a number of organizations are attempting to address this issue.

In addition, when adopting a regulation that may have significant GHG impacts, New York should require a GHG analysis as part of the State Administrative Procedure Act/SEQRA processes.

11. Incorporate GHG Emission Considerations Into Local Comprehensive Plans

Land use is a major target to address climate change in New York, largely because higher densities tend to encourage mass transit use and reduce trip lengths. Municipal actions, particularly zoning, are effective ways for municipalities to mitigate and adapt to climate change in the long term.¹⁵⁸ Local governments’ comprehensive plans provide a good opportunity to integrate transportation, energy efficiency and land use planning in order to reduce GHG emissions. Some other states have begun to address this. For example, on October 1, 2008 California adopted Senate Bill 375,¹⁵⁹ which complements California’s climate change law (A.B. 32) by integrating transportation and land use planning to decrease GHG emissions. The State Legislature should introduce a bill amending provisions of the General City Law, the Town Law and the Village Law to provide that municipal comprehensive plans consider GHG emissions as well as adaptation to climate change.

Thus, Section 272-a of New York Town Law, which defines “town comprehensive plans” as the materials, written or graphic, that identify the goals, objectives, principles, guidelines, policies, standards, devices and instruments for the immediate and long term protection, enhancement, growth and development of the town, could be amended to include

¹⁵⁷ In October 2008, the California Air Resources Board released a preliminary draft entitled “Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act.” This draft is available at http://www.opr.ca.gov/ceqa/pdfs/Prelim_Draft_Staff_Proposal_10-24-08.pdf.

¹⁵⁸ See John R. Nolon, “Zoning, Transportation, and Climate Change,” *New York Zoning Law and Practice Report*, Sept./Oct. 2007 at 1.

¹⁵⁹ California Senate Bill No. 375, available at http://leginfo.ca.gov/pub/07-08/bill/sen/sb_0351-0400/sb_375_bill_20080930_chaptered.pdf.

environmental objectives such as reducing GHG emissions and encouraging energy efficiency.¹⁶⁰ In the same way, General City Law Section 28-a¹⁶¹ and Village Law Section 7-722¹⁶² could be amended to take GHG emissions and energy efficiency into account when developing comprehensive plans.

12. Encourage Wind Energy Projects, Including Those Located Offshore

New York should encourage the development of wind energy projects both by encouraging their development and by adopting a statewide goal as part of the RPS requirement. The State Revenue Maximization Commission should look into the possibility of leasing State lands (with the exception of parkland) for wind farms. In addition, the development of large-scale offshore wind energy projects has considerable potential. New Jersey recently approved a 345.6 MW offshore wind project, consisting of 96 turbines located sixteen miles off its coast, southeast of Atlantic City.¹⁶³ Similar offshore wind projects could be sited in New York off the shore of Long Island and in Lake Ontario. Governor Paterson has formed a working group to study the potential for a project off the Rockaway Peninsula. This working group's efforts should be encouraged.

New York should also consider adopting a specific wind energy goal as a separate requirement under its RPS. In October 2008, New Jersey Governor John Corzine announced a plan to triple the state's goal for offshore wind power, setting a target of 3,000 MW by 2020.¹⁶⁴ New York should adopt a similar goal in its current review of the RPS requirements.

Vehicles and Transportation

13. Strive For a 10% Reduction in Vehicle Miles Traveled

As previously mentioned, transportation is the one sector where statewide energy consumption has increased. New York should continue to strive for a 10% reduction in vehicle miles traveled (VMT) below business as usual within 10 years. This would allow State agencies to focus on implementing strategies and initiatives to achieve such a goal, which would ultimately reduce statewide GHG emissions.

¹⁶⁰ N.Y. Town L. § 272-a.

¹⁶¹ N.Y. Gen. City L. § 28-a.

¹⁶² N.Y. Village L. § 7-722.

¹⁶³ Press Release, N.J. Bd. of Pub. Util., "Board of Public Utilities Approves Grant of \$4 Million for Offshore Wind Project Proposal" (Oct. 3, 2008), *available at* <http://www.njcleanenergy.com/renewable-energy/programs/cleanpower-choice-program/new-jersey-cleanpower-choice-program>.

¹⁶⁴ Press Release, U.S. Dep't of Energy, Office of Energy Efficiency & Renewable Energy, "New Jersey to Develop a 345-Megawatt Offshore Wind Power Project" (Oct. 15, 2008), *available at* http://www1.eere.energy.gov/windandhydro/news_detail.html?news_id=12038.

In its report, the Renewable Energy Task Force recommended that the State convene an interagency task force headed by DEC to develop a strategy to reduce VMT.¹⁶⁵ It recommended the development of an integrated plan to achieve a statewide target of a 10% percent reduction in VMT from projected levels in 10 years. It made a number of recommendations, including, among other things, facilitation of intermodal transportation options and support of local initiatives, and the use of location-efficient mortgages, which are low-cost mortgages for people in areas that are close to public transportation or where they can walk instead of drive.¹⁶⁶ According to DEC, several State agencies have been examining ways to reduce VMT.

New York should follow through on the Task Force's recommendation and convene a task force headed by DEC to develop a strategy to reduce VMT by 10% over business as usual within 10 years. The task force should examine ways to reduce VMT by looking at a variety of options, such as implementing congestion pricing, providing for tax incentives for transit-oriented development, increasing investment in public transit, implementing pay-as-you-go insurance,¹⁶⁷ and establishing a dedicated funding stream for alternative transportation.

14. Consider Feebates for the Purchase of New Vehicles

A feebate is an adjustable scale of fees and rebates that apply to the purchase of new motor vehicles. In essence, a fee is imposed on new vehicles with low fuel economy, while a rebate is given to new vehicles that have high fuel economy. In addition to reducing oil consumption and GHG emissions, feebates are an effective policy tool because they do not require new increases in technology, can apply to all vehicle size classes, and allow for continuous technological improvement.¹⁶⁸ In the most basic form of the program, once the target has been selected—*e.g.*, fuel consumption—two parameters must be set: the amount of the payments (such as dollars per fuel consumption rate), and the pivot point that divides those who pay a fee and those who are paid in the form of a rebate. A proposed plan under the New Jersey Global Solutions Act was circulated for public comment in December 2008 that mentions feebates as a way to reduce GHG emissions in the state.¹⁶⁹

In the last two legislative sessions, attempts have been made to implement a feebate program in New York without success. A feebate bill should be reintroduced that is designed to foster continuous and significant improvement in vehicle emission characteristics while strongly discouraging the sale of dirty vehicles.

¹⁶⁵ See Renewable Energy Task Force Report, *supra* note 97, at 24.

¹⁶⁶ Additional information about location specific mortgages is available at <http://www.locationefficiency.com>.

¹⁶⁷ Under “pay as you go” or pay as you drive” (PAYD) insurance, insurance premiums are adjusted by the number of miles a motorist drives in comparison to other drivers on the road.

¹⁶⁸ N. Mims & H. Hauenstein, *Feebates: A Legislative Option to Encourage Continuous Improvements to Automobile Efficiency* 36 (Rocky Mountain Inst.2008), available at https://www.rmi.org/images/PDFs/Transportation/Feebate_final.pdf.

¹⁶⁹ See *Draft Global Warming Response Act Recommendation Report* at 52, 84 (2008), available at http://www.nj.gov/globalwarming/home/documents/pdf/final_report20081215.pdf.

15. Encourage Governmental Purchasing of Alternative Fuel Vehicles

Transportation accounts for 67% of all oil consumed in the United States. State use of Alternative Fuel Vehicles (AFVs) can significantly reduce GHG emissions while curbing government expenditures on petroleum-based fuel. As previously mentioned, E.O. 111 mandates that, by 2010, State agencies may only purchase AFVs for light-duty vehicle purchases. E.O. 142 allows State agencies to comply with E.O. 111 by substituting biodiesel purchases for AFVs. However, these executive orders do not apply to municipalities. State aid to municipalities flows through a variety of grants administered by NYSERDA, which has funded AFV infrastructure projects, municipal bus purchases, and AFV consulting services. However, most of NYSERDA's grants are limited in size and focus. For example, NYSERDA has a permanent program for a 100% reimbursement for the incremental (*i.e.* additional) costs of purchasing a clean-fueled vehicle only with respect to municipal buses. If municipalities want to apply for grants with respect to other vehicles, they must do so either through NYSERDA's Clean Cities Program or on a case-by-case basis. The Clean Cities Program allows municipalities to design their own AFV programs and then seek partial reimbursement from NYSERDA.¹⁷⁰ Only six New York municipalities currently participate in this program. In addition, NYSERDA has a program that provides grants to private AFV fleets only with respect to New York City.

New York should broaden incentives and requirements for AFV purchases. E.O. 111 should include the purchase of medium and heavy use vehicles, unless the purchase of such vehicles is unduly expensive or otherwise not suitable as an AFV. In addition, NYSERDA should broaden its grant programs to provide for 100% reimbursement of the incremental costs of purchasing other municipal vehicles besides buses and expand its program for grants for private AFV fleets throughout the state. Further, the State Legislature should enact legislation requiring all municipalities to purchase AFV vehicles in instances when the State provides financial assistance or require it in all instances unless it is unduly expensive or otherwise not suitable.

16. Promote Energy-Saving Vehicle Maintenance Techniques

Vehicle maintenance and driving techniques can have a significant effect on car mileage. Topping off and changing oil when necessary can improve fuel economy by up to 10%. Replacing a clogged air filter can improve a vehicle's gas mileage by up to 10%. Keeping tires inflated to at least the manufacturer-recommended pressure can improve fuel economy by up to

¹⁷⁰ See NYSERDA "Clean Cities Challenge Program," available at <http://www.nysERDA.org/programs/transportation/AFV/CCchallenge.asp>.

3%.¹⁷¹ These changes are simple and inexpensive ones for drivers to make. The greatest challenge is ensuring that drivers have the necessary information.

Pursuant to State law and Department of Motor Vehicles (DMV) regulation, all motor vehicles more than two model years old, but less than 25 years old, are required to have emissions inspections each year.¹⁷² In addition, all vehicles registered in New York must get a safety inspection every twelve months or when the ownership of a vehicle is transferred.¹⁷³ These mandated inspections could be modified to add tire pressure and other factors that affect gas mileage and hence GHG emissions.

In addition, mailings that are sent to motorists advising them to renew their vehicle registrations and drivers licenses could include information on vehicle maintenance, including tips for increasing fuel efficiency. Such information could also be provided to people seeking learner permits and drivers licenses. For persons who renew their drivers' licenses online,¹⁷⁴ a list of vehicle maintenance suggestions should be provided. The information should also be prominently displayed on the DMV website, and could link to further information on air pollution and car emissions provided on the DEC website. Finally, driver education courses should include curriculum that teaches students ways to maintain their vehicles that increases fuel efficiency.¹⁷⁵

Other Initiatives

17. Expand the Regional Greenhouse Gas Initiative

As explained above, New York is a member of RGGI, a regional cap and trade system covering all electric generating units with a generation capacity of 25 MW or greater. RGGI has led the nation as a model cap-and-trade regime for CO₂. However, even if successful, RGGI will produce only modest reductions in CO₂, given that it only applies to large electric generating units and only calls for a 10% reduction below current levels by 2018. RGGI should therefore expand to include additional GHG emitters.

¹⁷¹ Greening Driving USA, "Get a Green Checkup," *available at* <http://www.greendrivingusa.com/greencheckup.html>.

¹⁷² N.Y. State Dep't of Motor Vehicles, Registration-based Enforcement of Emissions Inspection Requirements, *available at* <http://www.nydmv.state.ny.us/rbe.htm>.

¹⁷³ N.Y. State Dep't of Motor Vehicles, Vehicle Safety, Inspection, Repairs and Dealers, *available at* <http://www.nydmv.state.ny.us/vehsafe.htm>.

¹⁷⁴ N.Y. State Dep't of Motor Vehicles, Driver License Renewal, *available at* <http://www.nysdmv.com/licrenew/lrnFAQ.htm>.

¹⁷⁵ In 2006, Canada implemented an Auto\$mart campaign to encourage drivers to use more environmentally-friendly driving practices. Part of that campaign included a free Auto\$mart Driver Education Kit which showed driver educators how to teach students to "buy, drive and maintain their vehicles in ways that will reduce fuel consumption and increase road safety."

The Western Climate Initiative (WCI) has pioneered a broader approach along those lines. The WCI is a collaboration launched in February 2007 by the Governors of Arizona, California, New Mexico, Oregon and Washington. The initiative has subsequently expanded to include Montana and Utah and the Canadian provinces of British Columbia, Manitoba, Ontario and Quebec. The WCI has adopted an economy-wide GHG reduction goal of its member states of 15% below 2005 levels by 2020.¹⁷⁶ It is in the process of establishing a cap-and-trade system to meet this goal that applies to nearly 90% of the member states' emissions, including emissions from electricity, industry, transportation, and residential and commercial fuel use.¹⁷⁷ According to WCI, member states have agreed to begin reporting emissions in 2011 for emissions that occur in 2010. The first phase of the cap-and-trade program will begin on January 1, 2012, with a three-year compliance period. The second phase will begin in 2015 when the program is expanded to include transportation fuels and residential, commercial and industrial fuels not already covered in the first phase.

RGGI should consider adopting a cap-and-trade system similar to WCI's, and New York should lead these efforts. Although it is possible that federal legislation will supplant RGGI and other regional programs, it is unclear at this time when and if such legislation will be adopted and whether it will include a provision preempting state and regional programs. In the meantime, New York should build upon RGGI's relative success by advocating for a more comprehensive regional GHG program that applies economy-wide.

The initial September 2008 RGGI auction yielded a clearing price of \$3.07. The December 2008 auction price was \$3.38 and the March 2009 auction price was \$3.51. These numbers came as a relief to the electric utilities, since they are modest and do not amount to much money, but conversely they are so low that they may do little to induce a reduction in GHG emissions. These relatively low prices are influenced by the fact that emissions from generating units covered by RGGI are below the RGGI cap.¹⁷⁸ Thus, State regulators may want to consider lowering the cap below the current level of a 10% reduction by 2018 to create a pricing dynamic to better encourage reductions in GHG levels. Before doing so, the economic impacts of lowering the cap should be thoroughly analyzed.

In addition, RGGI auction proceeds should not be allocated for anything other than promoting energy efficiency programs and technologies that reduce GHG emissions. NYSERDA's regulations provide that proceeds from the sale of carbon allowances will be used to "promote and implement programs for energy efficiency, renewable or non-carbon emitting technologies, and innovative carbon emissions abatement technologies with significant carbon reduction potential."¹⁷⁹ The State Legislature should not enact any legislative mandates that

¹⁷⁶ See WCI Statement of Regional Goal (Aug. 22, 2007), available at <http://www.westernclimateinitiative.org/ewebeditpro/items/O104F13006.pdf>.

¹⁷⁷ The draft design of WCI's cap-and-trade system is available at <http://www.westernclimateinitiative.org/ewebeditpro/items/O104F18808.PDF>.

¹⁷⁸ Environment Northeast, "RGGI Emissions Trends & the Second Allowance Auction" at 15 (Dec. 15, 2008), available at http://www.env-ne.org/public/resources/pdf/ENE_2nd_RGGI_Emissions_Report_v2.pdf.

¹⁷⁹ See 21 NYCRR 507.4(d).

would allocate the RGGI auction proceeds in a different manner or otherwise affect the implementation of the existing NYSERDA rule. It is important that RGGI auction proceeds be deployed in a manner that is closely linked to the reduction of CO₂ emissions, an objective that is achieved under the existing NYSERDA rule.

18. Pursue Carbon Capture and Sequestration (CCS) in New York if Federal Funds are Available

While New York should reduce its dependence on fossil fuels as much as possible and encourage renewable sources of energy whenever practicable, the reality is that fossil fuels will remain a primary source of energy for the foreseeable future. Currently about 50% of the electricity generated in the U.S. is from coal-fired generating plants. Coal is the most GHG-intensive fossil fuel and the U.S. energy supply situation is such that coal will be in heavy use for decades, regardless of the success of energy conservation and renewable energy efforts. Thus, pursuing technologies that seek to reduce GHG emissions from the burning of coal should be encouraged.

Recently, Governor Paterson announced his support for a 50 MW demonstration project in Jamestown, New York. In June 2008, the Governor authorized \$6 million in funds from the Empire State Development Corporation to support the continuing development of the project, premised on the ability to leverage federal funding from the Department of Energy. If successful, this demonstration project will be the first of its kind in the United States.

With this in mind, New York should consider pursuing the development of CCS in the state to the extent that federal funds are made available for this purpose. In addition, it should seek to identify the legal obstacles to making CCS a viable climate change mitigation option, and develop legislative and regulatory solutions to those obstacles. If CCS technology is pursued, it should be accompanied by adequate environmental safeguards, such as the adoption of appropriate legislative or regulatory enactments which require sequestration of at least 90 percent of CO₂ emissions in connection with the construction of any new coal-fired facilities.

19. Promote Green Workforce Development in New York

Besides providing much-needed jobs, the development of a statewide green workforce can help New York reduce its overall energy use, reduce overall GHG emissions, and promote the development of alternative energy sources such as solar and wind. So-called “green collar jobs” can include many types of employment, but they typically include blue-collar employment that focuses on energy efficiency and alternative energy. These jobs also typically have an environmental justice component that focuses on providing education and training to individuals in low-income communities.

New York should promote green collar jobs by enhancing educational and job training programs in the state. The Governor’s Renewable Energy Task Force and the PSC’s Workforce Development and Training Working Group have both recommended that New York enhance education and training opportunities in energy efficiency and alternative energy and have taken steps to provide funding for education and training. PSC’s June 2008 EEPS Order implementing the goal of 15% reduction in overall electricity usage by 2015 specifically identified workforce

development as important in ensuring that the state met this goal. PSC's Workforce Development and Training Working Group, consisting of approximately fifty people representing utilities, colleges, and labor groups, was convened as part of the EEPS proceeding to provide recommendations about green workforce development in the state. It issued a report to the PSC in October 2008, that provided six overall recommendations regarding encouraging the development of green jobs in the state.¹⁸⁰ These include the following:

- a. Approve and fund NYSERDA's proposal to immediately increase the availability of curriculum and programs for energy efficiency coursework at technical schools, training organizations, and two and four-year educational institutions. This proposal targets employed and emerging workers and requests approximately \$16.3 million over three years for program costs. The proposal also includes approximately \$11 million in leveraged resources by the Department of Labor.
- b. Develop and provide energy efficiency skills training to low-income populations which focus on basic skills training, technical training, career ladders and on-the-job training. This proposal requests \$6 million in additional funding.
- c. Ensure that a statewide strategy is implemented for workplace development and training under the EEPS to ensure that training facilities are available across the state, leverage resources across state agencies and training organizations, coordinate the activities of training providers, leverage federal funding and avoid duplication.
- d. Assess the contribution of workforce development and training activities to energy savings in programs funded by the EEPS.
- e. Determine how to best evaluate the ability of contractors, system designers, and building operators to determine that they have the technical knowledge and skills to properly design and install systems so that the performance of these systems can be maximized. Training and certification should be an integral part of program design and implementation.
- f. Enhance New York State's Job Exchange (New York's public labor exchange website) to facilitate representation, posting and classification of the jobs necessary to support the EEPS throughout the state.

These recommendations align with a proposal submitted by NYSERDA¹⁸¹ as well as the Renewable Energy Task Force and the Governor's Environmental Justice Interagency Task Force. The Working Group's recommendation to the PSC of \$22.3 million in EEPS funding

¹⁸⁰ Working Group VII, Workforce Development and Training, Report to the Public Service Commission (2008), available at http://www.dps.state.ny.us/07M0548/workgroups/WGVII_Final_Report.pdf.

¹⁸¹ *Id.* at Appendix B.

from 2009-2011 to implement this workforce development and training strategy is approximately 2.2% of overall EEPS funding for the three-year period.¹⁸²

The PSC should approve the Working Group's recommendation. In addition, New York should continue to enhance green workforce development by using existing sources of revenue such as additional funding from SBC collections and revenue received from RGGI auctions to continue to fund and expand similar educational and job training programs throughout New York.

20. Encourage the State's Interagency Committee on Sustainability and Green Procurement to Be Aggressive in Setting Green Specifications

"Green procurement" is the practice of buying environmentally-friendly goods and services. As mentioned above, in April 2008, Governor Paterson signed E.O. 4, which established a State Green Procurement and Agency Sustainability Program. Among other things, E.O. 4 establishes an Interagency Committee on Sustainability and Green Procurement which is charged with identifying an annual list of categories and products for which green specifications can be developed and issued. In December 2008, the Interagency Committee tentatively approved 18 new specifications for the purchase of certain goods and services and finalized four procurement specifications for passenger cars, engine block heaters, and desktop and laptop computers. State agencies must rely on and use these procurement lists and specifications when purchasing items from existing State contracts or when developing new procurement contracts.

While E.O. 4 mandates that the Interagency Committee, when developing the specifications, consider, among other things, the protection of public health and the environment, reduction of greenhouse gases, and the use of renewable resources, the Order gives it considerable leeway in developing particular specifications. The Interagency Committee should therefore be aggressive in incorporating energy efficiency and GHG reductions into particular product specifications. For example, if a higher energy efficiency standard can be adopted for a product that does not result in a higher lifetime cost when compared with a lower standard, the higher standard should be adopted.

21. Promote Methane Capture

If not captured, methane that is released into the atmosphere becomes a greenhouse gas that is more than twenty times more potent than CO₂. Instead of allowing methane to escape into the air, it can be captured, converted, and used as an energy source. New York State regulations require that high (*i.e.* "explosive") concentrations of methane be vented in landfills.¹⁸³ In addition, entities that fall under RGGI's regulatory scheme can sponsor methane capture and destruction to offset their emissions.¹⁸⁴

¹⁸² *Id.* at i.

¹⁸³ See 6 NYCRR §§ 360-2.17; 360-8.3.

¹⁸⁴ See 6 NYCRR § 242-10.3.

New York is taking steps to increase methane capture by forming a partnership with the EPA's Landfill Methane Outreach Program (LMOP).¹⁸⁵ Through LMOP, the EPA assists states in overcoming barriers to project development by "helping them assess project feasibility, find financing, and market the benefits of project development to the community."¹⁸⁶ EPA has assisted in the development of more than 360 landfill gas energy projects over the past 13 years.

New York should promote methane capture by requiring it in all MSW landfills and sewage treatment plants or offer incentives for its capture and conversion into electricity. Several states provide tax credits for landfills that capture methane and convert it into electricity.¹⁸⁷ Other states mandate production of electricity from methane as part of their RPS laws.¹⁸⁸ Still other states require consideration of methane capture technology as part of the initial MSW permitting decision.¹⁸⁹ New York should follow these states' lead and encourage the capture of methane and its conversion into electricity whenever possible.

22. Improve New York's Floodplain Mapping System

Floodplain mapping is the process of mapping out which areas in a state or municipality are especially subject to flooding. While the Federal Emergency Management Agency (FEMA) has traditionally been responsible for conducting floodplain mapping, many FEMA maps are out of date.¹⁹⁰ Recently, state and local governments (often with the approval of FEMA) have begun to conduct their own floodplain mapping. FEMA designs floodplain maps by looking at historical data. With sea levels rising, historical data are no longer the best predictor of what flooding will look like in the future.

New York should thus update its flood zone maps to correctly reflect which areas are at risk of flooding by looking at projections regarding future sea level rise. If maps were updated to correctly reflect flooding dangers, municipalities or the State could use those maps to shape appropriate land use rules and to regulate new construction in the most flood-prone areas. They could also revise building codes to require buildings in flood-prone areas become more flood-resilient, such as by requiring that lower levels of buildings in these areas remain unfinished

¹⁸⁵ U.S. E.P.A., Landfill Methane Outreach Program, *available at* <http://www.epa.gov/lmop>.

¹⁸⁶ *Id.*

¹⁸⁷ *See, e.g.*, Iowa Code Ann. § 476C.2; Mont. Code Ann. 15-24-3102(3). Illinois mandates that electricity producers buy energy from solid waste sources of methane and provides rebates for those purchases. *See* 220 Ill. Comp. Stat. Ann. 5/8-403.1.

¹⁸⁸ *See, e.g.*, 26 Del. Code § 352(6) (Delaware); D.C. Stat. § 34-1431(15) (District of Columbia); N.C. Gen. Stat. Ann. § 62-133.8(a)(8) (North Carolina).

¹⁸⁹ *See, e.g.*, Ark. Rev. Stat. § 49-771 (Arkansas). This policy is amenable to a large number of variations. For example, Nebraska allows landfills with methane capture technology to accept yard waste year round provided it is used for the production and recovery of methane; in contrast, regular landfills can only accept such waste from December 1 to March 31 of each year. *See* Neb. Rev. Stat. § 13-2039.

¹⁹⁰ *N.H. Flood Maps Outdated, FEMA-Sponsored Study Finds*, Insurance Journal, July 3, 2008, *available at* <http://www.insurancejournal.com/news/east/2008/07/03/91582.htm>.

and/or first floors be elevated.¹⁹¹ New York should ensure that all of its flood maps are updated using data and projections that take anticipated climate change into account.

VIII. Other Idea Considered--Enact an Environmental Competition Statute

The following idea was raised by Task Force members but was not included in the specific recommendations because there was not a consensus. Nonetheless, policymakers may wish to consider it.

Existing law does not provide a continuous incentive to innovate and go beyond compliance. The incentive to improve environmental performance lasts only until the compliance deadline comes up and provides no incentives for net reductions beyond those envisioned by government officials, who set limits with limited information about private sector capacity for innovation. An environmental competition statute aims to stimulate a race to the top, a competition to develop and deploy environmentally superior technology. To stimulate this race, an environmental competition statute requires those producing products or services with low emissions to collect fees from competitors with higher emissions. These fees should be sufficient to fund the full cost of using and developing an environmentally superior approach and also provide a premium above that amount. The State legislature should consider passing such a statute.

The State Legislature may make the obligation to pay low pollution competitors a general requirement for all classes of pollutants and industries or may instead focus on a particular industry and set of pollutants of concern. For example, the Legislature could enact a law that focuses on all emitters of CO₂. The owner of a new solar plant, for example, could collect all of the costs of plant construction from owners of existing power plants with higher emissions plus a premium dollar amount written into the legislation. Similarly, makers of vehicles with low CO₂ emissions could demand that the makers of vehicles with higher emissions pay the additional costs associated with making their vehicles lower emitting.

The legislation would function best if it addressed some matters in detail. For example, the legislation should define the pollutants and/or industries it applies to in broad terms. The legislation should also forbid communication about how parties plan to respond to the law among competitors. Otherwise, they might agree to do nothing, thereby eliminating the incentive to compete. The legislation should also seek to minimize litigation by providing a dispute settlement mechanism, perhaps through mandatory arbitration.

¹⁹¹ Cullen Howe, "Preparing for the Inevitable: What New York City Should Do to Adapt to the Impending Effects of Climate Change," *Environmental Law in New York* at 1, 10 (Sept. 2008).



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