Appendix 3

New Jersey Accomplishments and Ongoing Efforts with Respect to Greenhouse Gas Legislation, Regulations, Policies and Programs

Through enactment of Executive Order 54, the Global Warming Response Act (GWRA), and the Global Warming Solutions Fund Act (GWSF), the State has the direction and the vital tools necessary for addressing greenhouse gas (GHG) emissions in and from New Jersey. In addition to moving forward with its core 2020 recommendations (implementation of the Energy Master Plan (EMP), Regional Greenhouse Gas Initiative (RGGI) and the Low Emission Vehicle (LEV) program), the various State government agencies have made commitments and achievements to reduce New Jersey's impact on global warming, and are currently working to implement still more actions. This appendix highlights the State's GHG accomplishments to date, and gives the status of those in progress.

I. Establishing GHG Reduction Goals

The overarching GHG reduction goals for New Jersey were first established by Executive Order 54, and then expanded through the GWRA.

Executive Order 54

On February 13, 2007, Executive Order 54 was issued. The Executive Order, recognizing the devastating economic and environmental impact that global warming, if unchecked, could have on New Jersey, set ambitious goals for GHG reductions in New Jersey. Specifically, Executive Order 54 sets statewide limits to reduce GHG emissions designed to stabilize New Jersey's GHG emissions to 1990 levels by 2020 and reduce statewide GHG emissions 80 percent below 2006 levels by 2050. In addition to establishing statewide GHG reduction limits, Executive Order 54 directs the New Jersey Department of Environmental Protection (NJDEP) to develop a statewide inventory of GHG emissions and to evaluate policies to achieve the Statewide 2020 and 2050 emissions reduction limits.

Global Warming Response Act

On July 6, 2007, the GWRA put into law the statewide GHG limits established by Executive Order 54. In addition, the GWRA requires, among other things, that:

1. The NJDEP will establish an inventory of the current and 2006 Statewide GHG emissions, and an inventory of the 1990 level of Statewide GHG emissions. The NJDEP has completed this task. This initial inventory, as well as the updated inventory for 2005, 2006 and 2007, released November 9, 2009, can be found at http://www.nj.gov/globalwarming/index.shtml.

2. The NJDEP will adopt rules establishing a GHG emissions monitoring and reporting program for statewide GHG emissions. Specifically, these rules would require the identification of all significant sources of GHG emissions in the State (including but not limited to fossil fuel usage, electrical generation, and gas public utilities), and the monitoring and reporting of emissions from those sources and changes in emissions over time from those sources. These rules will allow the State to monitor its progress toward meeting the Statewide 2020 and 2050 GHG limits. See Section IV below for information on the status of this rulemaking.

3. The NJDEP, in consultation with the New Jersey Board of Public Utilities (NJBPU), the New Jersey Department of Agriculture (NJDA), the New Jersey Department of Transportation (NJDOT), and the New Jersey Department of Community Affairs (NJDCA), will prepare a report outlining specific recommendations for legislative and regulatory action needed to achieve the 2020 GHG limit. The State's final GWRA Recommendation Report satisfies this GWRA requirement. Subsequently, the NJDEP, in cooperation with any other affected State agencies, will prepare a second report outlining specific recommendations for legislative and regulatory action needed to achieve the 2050 GHG limit.

4. The EMP, required by N.J.S.A. 52:27F-14, will include a list of recommended policies and measures to reduce the GHG emissions from the production, processing, distribution, transmission, storage, or use of energy that will contribute to achieving the 2020 GHG limit. On October 22, 2008, the NJBPU released the final EMP, which can be found at http://nj.gov/emp/.

5. The NJDEP, by no later than January 1, 2009, and biennially thereafter, will prepare a report on the status of its GHG emissions monitoring and reporting program, the current level of GHG emissions in the State and the progress made toward compliance with the 2020 and 2050 GHG limits. The report will also include updated and comparative inventories of statewide GHG emissions. NJDEP has completed this task. The report, entitled "New Jersey Statewide Greenhouse Gas Emissions Inventory Update: 2005, 2006, and 2007 Estimates," can be found at http://www.nj.gov/globalwarming/.

6. The NJDEP, by no later than January 1, 2015, will evaluate the ecological, economic, and environmental factors and the technological capability affecting the attainment or maintenance of the 2020 and 2050 GHG limits.

7. The NJDEP will designate an independent research panel consisting of economists, business managers, nonprofit environmental organization representatives, public officials, and scientists from academia, industry and the government, to review its recommendations and evaluations. This research panel will complete its review within 12 months of the date of transmittal of the NJDEP's GWRA Recommendation Report to the Governor and State legislature, and will prepare and transmit its own report evaluating the ecological, economic and social impact of the proposed recommendations.

8. The NJBPU is authorized to develop an Emissions Portfolio Standard (EPS) to address pollution coming from out-of-state sources of electricity and an Energy Efficiency Portfolio Standard (EEPS) to specify energy efficiency requirements in existing building stock that utilities would have to achieve.

II. Global Warming Solutions Fund Act

On January 13, 2008, the Global Warming Solutions Fund Act (GWSF) was enacted. The GWSF legislation authorizes the auction of allowances under RGGI, a ten-state mandatory carbon dioxide (CO_2) cap and trade program for electric generating units above 25 megawatts. The legislation establishes, through the Department of the Treasury, a special, non-lapsing fund known as the Global Warming Solutions Fund. The GWSF dedicates to consumer benefit purposes up to 100 percent of the revenues derived from the auction or other sale of allowances pursuant to RGGI, and stipulates that these monies be delegated to State agencies as follows:

- Sixty percent of the proceeds to the New Jersey Economic Development Authority (NJEDA) to support end use energy efficiency, renewable energy, and combined heat and power (CHP) production and to develop innovative carbon abatement technologies to focus on reaching the 2020 GHG limit;
- Twenty percent of the proceeds to the NJBPU to fund programs to reduce electricity demand or cost to low and moderate income customers. The focus for these proceeds would be on urban areas, including an effort to address urban heat island effects;
- Twenty percent of the proceeds to NJDEP, with half of that allocation dedicated to support programs designed to promote local government efforts to reduce GHG emissions and the remaining half dedicated to investments in forestry and tidal marsh protection to maximize carbon sequestration.

The GWSF further directs the NJDEP, in consultation with the NJBPU and the NJEDA, to adopt guidelines and a priority ranking system for allocation of the funds, and sets forth evaluation criteria that need to be included in those guidelines and the priority ranking system. See Section IV below for information about the status of this rulemaking.

The GWSF also provides that all electric public utility and gas public utility investment in energy efficiency and conservations programs or Class 1 renewable energy programs[1] may be eligible for rate treatment approved by the NJBPU, including a return on equity, or other incentives or rate mechanism that decouple utility revenue from sales of electricity and gas.

Finally, the GWSF directs the NJBPU to undertake an EPS or other measure to mitigate the impact from "leakage" (increased imports from non-RGGI states) and authorizes the NJBPU to develop an Energy Efficiency Portfolio Standard. Electric and gas utilities have begun submitting plans for utility investment in energy efficiency and conservation programs, and Class 1 renewable energy programs to the Board of Public Utilities for approval. The NJBPU has convened a series of stakeholder meetings to discuss methods for mitigating potential "leakage" impacts related to RGGI implementation. The RGGI-participating states funded a study of leakage mitigation measures. The final report, issued in 2008, recommends an expansion of energy efficiency initiatives in the RGGI states as a primary means of addressing the impact of leakage. The report, "Potential Emissions Leakage and the Regional Greenhouse Gas Initiative (RGGI)," is available at http://www.rggi.org/docs/20080331leakage.pdf.

[1] "Class 1" renewable energy is defined as electricity derived from solar energy, wind energy, wave or tidal action, geothermal energy, landfill gas, anaerobic digestion, fuel cells using renewable fuels and, with written permission of the NJDEP, certain forms of sustainable biomass.

III. New Jersey Accomplishments

This section provides an overview of New Jersey's accomplishments to date to reduce greenhouse gas emissions.

Renewable Portfolio Standard

A Renewable Portfolio Standard (RPS) ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state. By increasing that required amount over time, the RPS can put the electricity industry on a path toward increasing sustainability. In New Jersey, pursuant to the provisions of the Electric Discount and Energy Competition Act (P.L. 1999, c. 23), each electric power supplier or basic generation service provider serving retail customers in the State is required to include in its power portfolio electricity generated from renewable energy sources. The State's original RPS directive has been modified several times since 1999. Prior to the changes made in 2006, New Jersey's RPS required electricity suppliers to acquire 6.5 percent renewable energy.

In April 2006, the NJBPU adopted rules which expanded the State's RPS by extending the existing goals out to 2020 and increasing the required amount of renewable energy, with a separate requirement for solar energy. Specifically, under these regulations, 22.5 percent of New Jersey's electricity must come from renewable sources by 2020, with a requirement that 2.12 percent of the renewable sources requirement be from solar energy. This "solar set aside" is forecast to require between 1,400 and 1,500 megawatts (MW) of new solar generation capacity, the Nation's largest solar commitment relative to population and electricity use. These rules will increase the use of renewable resources, thereby providing greater fuel diversity for New Jersey while simultaneously reducing GHG emissions, diminishing price volatility, strengthening the economy, and improving public health and our environment.

CO_2 as a Pollutant

In November 2005, New Jersey adopted a regulation under the authority of New Jersey's Air Pollution Control Act to classify CO_2 as an air contaminant. The adoption was published in the New Jersey Register on November 21, 2005. This rule enabled the State to implement its responsibilities under RGGI and to enact additional rules to reduce CO_2 emissions from other sectors as necessary. Prior to this, in 2003 New Jersey added CO_2 and methane to its emission statement program reporting requirements. The emission statement program requires the annual reporting of emissions of 50 air contaminants from approximately 600 of the largest stationary sources of air pollution in New Jersey.

International Carbon Action Partnership

On October 29, 2007, New Jersey joined the other members of the RGGI, and the members of the Western Climate Initiative, as well as European Union member states, the European Commission, New Zealand and Norway (the latter two both joining on behalf of their own emissions trading programs) in forming the International Carbon Action Partnership (ICAP). ICAP is an international forum in which governments and public authorities adopting mandatory

GHG emission cap and trade systems, like RGGI, can share experiences and best practices on the design of these emissions trading schemes. This cooperation will ensure that the programs are compatible and are able to work together as the foundation for a global carbon market. Such a market will boost demand for low carbon products and services, promote innovation, and allow cost effective reductions, which ultimately will allow ambitious global reductions in global warming emissions.

New Jersey's Clean Energy Program

In 2003, the NJBPU established the Office of Clean Energy to administer New Jersey's Clean Energy Program (NJCEP). The NJCEP is a ratepayer-funded program which promotes increased energy efficiency and the use of clean, renewable sources of energy, including solar, wind, geothermal, and sustainable biomass, by offering financial incentives, and provides assistance services for residential, commercial, and municipal customers. Also in 2003, representatives from government, business, environmental, and public advocacy organizations helped the NJBPU establish a Clean Energy Council to engage stakeholders in the NJCEP's development and provide input to the NJBPU regarding the design, budgets, objectives, goals, administration, and evaluation of the NJCEP. Today, NJCEP is recognized as a national model for programs that spur market development and adoption of clean, renewable energy technologies; manage programs to encourage energy efficiency; and assist low-income consumers. The NJCEP offers the following programs that make clean energy technologies affordable and accessible to residential customers, businesses, schools and local governments:

- **Residential Energy Efficiency & Assistance Programs:** A suite of programs designed to assist homeowners to improve residential energy efficiency, including: energy audits and efficiency improvement recommendations; incentives for energy-efficient construction in Smart Growth Areas; consumer education about the federal ENERGY STAR® program; aid to income-eligible households; and rebates for energy efficient heating and cooling equipment.

- **Commercial Clean Energy Programs:** A series of programs to support businesses, schools and governments, including:
    - The New Jersey SmartStart Buildings Program, which enables energy efficiency upgrades for new and existing buildings;
    - Incentives to increase industrial energy efficiency by utilizing the waste heat generated by manufacturing processes; and,
    - Financing programs, including incentives and low-interest loans to small businesses, schools and local governments.

- **Renewable Energy Programs:** Several assistance and incentive programs designed to increase the use of renewable energy technologies in New Jersey, including:
    - a rebate program to reduce up-front purchase and installation costs for solar, small wind and sustainable biomass (e.g., plants-to-energy) systems;
    - support to owners and sellers of Solar Renewable Energy Certificates, a marketable commodity;

- the CleanPower Choice Program, which enables voluntary purchases of green energy through local electric utilities;
- renewable energy project grants and financing for larger projects as well as grants for commercializing new technologies in partnership with the NJEDA; and
- technical and financial assistance for clean energy businesses.

The Table below summarizes the annual and projected lifetime emission reductions that result from the installation of energy efficiency and renewable energy measures installed in 2008, and projected cumulative emission reductions from measures installed from 2001 - 2008.

Emission Reductions from Energy Efficiency/Renewable Energy				
	CO_2 (metric tons)	**NO_x [a] (metric tons)**	**SO_2 [b] (metric tons)**	**Hg [c] (pounds)**
Annual Emission Reductions from Measures Installed in 2008	418,463	743	1678	20
Projected Lifetime Emission Reductions from Measures Installed in 2008	5,042,788	8,843	19,758	137
Cumulative Projected Lifetime Emission Reductions from Measures Installed from 2001-2008[d]	22,952,422	38,724	83,749	1,009

[a] NO_x is Nitrogen Oxides.
[b] SO_2 is Sulfur Dioxide.
[c] Hg is Mercury.
[d] Represents projected lifetime emission reductions for all energy efficiency and renewable energy installations since the inception of the New Jersey Clean Energy Program. From 2001 – 2002, the program was administered by the utilities. In 2003, the State government assumed administrative authority.

Other Energy Efficiency and Renewable Energy Programs:

- **NJDEP Regulations Supporting Renewable Energy and Energy Efficiency:** The NJDEP's rules require that major new sources of air pollution complete an evaluation of alternatives for non-attainment criteria pollutants, including oxides of nitrogen (NO_x) and fine particles emitted by fossil fuel fired plants and heaters. Pursuant to NJAC7:27-18.3(c)(2), alternative sizes, production processes (including pollution prevention measures) and environmental control techniques must be evaluated, demonstrating that the benefits of the project significantly outweigh the environmental and social costs imposed as result of the location and operation of such equipment. This is particularly relevant in the evaluation of new coal-fired power plants.

In 2007, New Jersey adopted NO_x rules to allocate NO_x allowances in response to the Ozone Transport Commission NO_x Memorandum of Understanding and subsequent federal NO_x State Implementation Plan Call to allow its emission trading program to promote energy efficiency. Specifically, these output-based allocations are based on energy produced, rather than being input-based allocations based on fuel burned. This program also has a set aside allocation for energy efficiency and renewable projects.

- **New Jersey Cool Cities Initiative:** As a result of research conducted by the NJDEP and the USEPA on urban heat island effects in Camden and Newark, New Jersey launched its Cool Cities Initiative in 2003. This program is designed to "green" New Jersey's larger cities by planting trees to create cooler, more comfortable urban environments, reduce air pollution, reduce the demand for electricity, and improve urban quality of life. The total Cool Cities funding from the NJCEP (including the NJBPU/NJDEP current 2009 Memorandum of Agreement funding commitment) to date is $16,850,000, resulting in the planting of over 36,000 trees. The program has or will work in 54 communities directly, and has worked with another 50 communities in 2006/2007 through the Statewide Cool Cities Grant program.

  The Cool Cites Initiative has provided the NJBPU with data concerning the conservation of energy through the tree planting effort. In addition, communities have provided positive feedback to the State regarding the Cool Cities partnerships. In fact, many communities have established a Community Forestry Management plan to not only manage the Cool Cities trees but the entire urban forest within their municipalities.

- **State Government Action to Promote Energy Efficiency:** On April 22, 2006 Executive Order #11 was enacted. This Executive Order was designed to promote energy efficiency, energy conservation, renewable energy, and the purchase by State government of recycled products, energy efficient products, renewable energy products, low toxicity products and alternatives to products that contain persistent bioaccumulative toxics. Executive Order #11 also created the post of Director of Energy Savings within the New Jersey Department of Treasury to oversee these new State government energy initiatives.

- **New Jersey Green Homes Office:** The NJDCA Green Homes Office works to increase the use of innovative green design and building technologies, raise building standards and create a consumer demand for efficient, healthy and environmentally responsible high-performance homes. This Office's primary focus is on energy efficiency.

IV. Status of GHG-Related Rulemakings

Reporting Rule

As discussed above, the GWRA requires the NJDEP to adopt GHG monitoring and reporting rules. The NJDEP held a stakeholder meeting on May 13, 2008 to outline approaches to this rulemaking and obtain stakeholder input. On January 20, 2009, the NJDEP proposed a rule[2] requiring: (1) reporting of releases by stationary sources of GHG other than CO_2 above a threshold of 2,500 tons per year; (2) reporting of fossil fuel use by manufacturers and distributors of fossil fuel, including prime suppliers, gas public utilities, and natural gas pipeline operators; and (3) reporting of storage quantities of GHG other than CO_2 and methane above threshold quantities. These proposed reporting requirements will be implemented through existing reporting mechanisms, with releases by stationary sources implemented through the Emission Statement program and reporting of fossil fuel use and quantities of GHG stored implemented through New Jersey's Worker and Community Right to Know program. A hearing on this rule proposal was held on March 3, 2009, and the comment period ended on March 21, 2009.

On April 10, 2009, the USEPA proposed rules establishing a federal mandatory GHG reporting program.[3] The NJDEP provided comments on the proposal urging the USEPA to coordinate with state GHG reporting requirements to improve the efficiency and effectiveness of future reporting. The final EPA rule appeared in the Federal Register on October 30, 2009.[4] NJDEP reviewed the final rule and has determined that it does not cover all of the requirements of the State monitoring and reporting program mandated by the GWRA. NJDEP is currently planning to adopt the State's rules to fill the gaps in reporting and to meet the State's requirements.

Priority Ranking Rule

As discussed above, the GWSF law requires the NJDEP, in consultation with the NJBPU and the NJEDA, to adopt guidelines and a priority ranking system to assist in annual allocation of funds to eligible projects or programs using GWSF monies, and sets forth evaluation criteria that must be included in those guidelines and the priority ranking system. Specifically, these guidelines and priority ranking system should include, but need not be limited to, an evaluation of each eligible project or program as to its predicted ability to:

- result in a net reduction in GHG emissions in the State or in GHG emissions from electricity produced out of the State but consumed in the State or net sequestration of carbon;
- result in significant reductions in GHGs relative to the cost of the project or program and the reduction of impacts on ratepayers attributable to the implementation of the GWSF, and the ability of the project or program to significantly contribute to achievement of the State's 2020 and 2050 GHG limits established pursuant to the GWRA, relative to the cost of the project or program;
- reduce energy use;

[2] 41 N.J.R. 337(a), January 20, 2009.
[3] Federal Register / Vol. 74, No. 68 p. 16448
[4] Federal Register / Vol. 74, No. 209 p. 56260

- provide co-benefits to the State, including but not limited to creating job opportunities, reducing other air pollutants, reducing costs to electricity and natural gas consumers, improving local electric system reliability, and contributing to regional initiatives to reduce emissions; and
- be directly responsive to the recommendations submitted by the NJDEP to the Legislature as part of this report.

On February 17, 2009, the NJDEP proposed rules[5] to meet this requirement. A public hearing on this rule proposal was held on March 23, 2009, and the public comment period closed on April 18, 2009. The rule is expected to be published in the New Jersey Register on December 21, 2009.

In addition to its leadership role in efforts to reduce GHG emissions regionally through RGGI, New Jersey continues to be very active in advocating for national and international efforts to reduce GHGs. For example, New Jersey has participated upon request in Congressional hearings and in national meetings regarding state and local perspectives on climate change.

In addition:

- On October 29, 2007, New Jersey became a founding member of the International Carbon Action Partnership (ICAP). For more information on ICAP, refer to Section III above; and
- New Jersey is a member of The Climate Registry (TCR), and sits on the organization's Board of Directors. TCR is a voluntary greenhouse gas reporting platform that allows organizations in North America to report their entity-wide greenhouse gas emissions. NJDEP participates in TCR's Protocol Committee, and played a leadership role in the development of the TCR General Reporting Protocol for organizational greenhouse gas reporting. More information is available at http://www.theclimateregistry.org.

[5] 41 N.J.R. 833 – 845, February 17, 2009.