

# **Operating Plan for Investments in New York under the CO<sub>2</sub> Budget Trading Program and the CO<sub>2</sub> Allowance Auction Program**

## **Concept Paper**

### **SECTION 1: INTRODUCTION**

The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by ten Northeastern and Mid-Atlantic States (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont) to reduce carbon dioxide (CO<sub>2</sub>) emissions from power plants. Under RGGI, the participating states have designed cap-and-trade programs that cap power plants' CO<sub>2</sub> emissions through 2015 and then lower the cap by 10 percent by 2018.

Each state is implementing this initiative through individual CO<sub>2</sub> Budget Trading Programs that are linked through the regional cap-and-trade program. Additional background on the initiative can be found at <http://www.rggi.org>.

The New York State Department of Environmental Conservation (Department) has established New York's CO<sub>2</sub> Budget Trading Program (CO<sub>2</sub> Budget Trading Program) through a new rule, 6 NYCRR Part 242 and revisions to an existing rule, 6 NYCRR Part 200, General Provisions. The New York State Energy Research and Development Authority (NYSERDA), under regulations established in 21 NYCRR Part 507 - CO<sub>2</sub> Allowance Auction Program (CO<sub>2</sub> Allowance Auction Program), is administering an CO<sub>2</sub> Allowance Auction (Auction) through which the State will sell most of its CO<sub>2</sub> allowances. NYSERDA's rule (Part 507.4(d)) states that proceeds from the sale of 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.”

As with other programs administered by NYSERDA, an Operating Plan (Plan) will be created that summarizes and describes the individual programs (Program(s)) to be supported by the Auction proceeds. The Plan will include (a) Program selection criteria, (b) an anticipated schedule for implementation of the Programs, (c) descriptions of the measurement, verification, and evaluation methods that will be used to judge the impacts and success of the Programs, and (d) a quantification of NYSERDA's costs for administration and evaluation of the Programs.

NYSERDA's regulations further direct it to convene an Advisory Group consisting of “stakeholders representing a broad array of energy and environmental interests” to advise NYSERDA on how to best utilize proceeds from the sale of allowances consistent with the directives in the regulations. The Advisory Group will provide input on the draft Plan and will meet at least annually to review and provide input on the Plan.

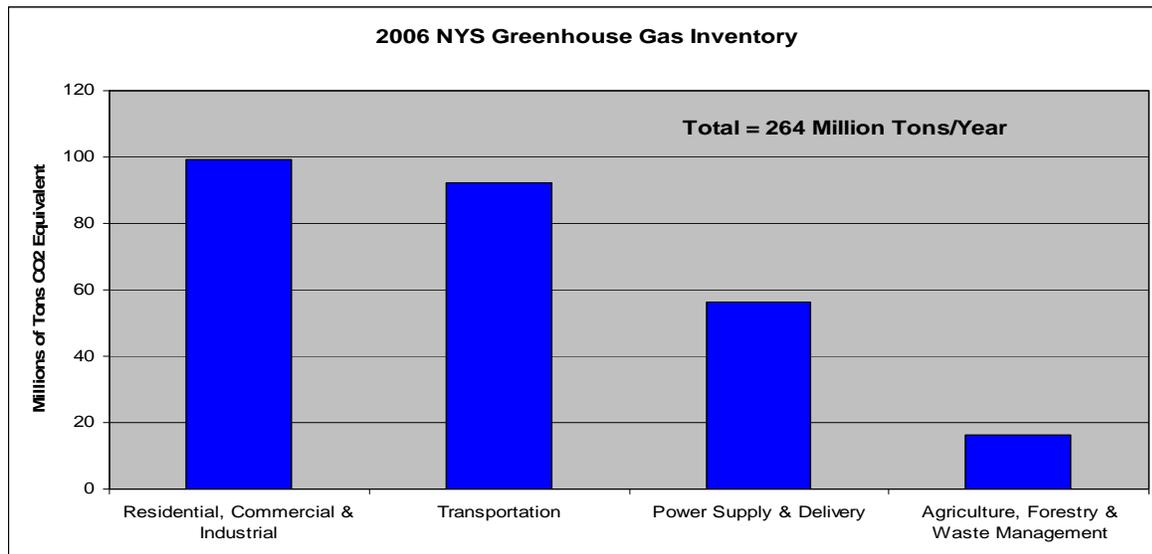
This Draft Concept Paper presents an initial framework to facilitate development of a final Plan for distribution of the energy efficiency, renewable energy, and innovative carbon abatement investments that will be made in New York under the CO<sub>2</sub> Budget Trading Program.

## SECTION 2: BACKGROUND

### New York Greenhouse Gas (GHG) Inventory

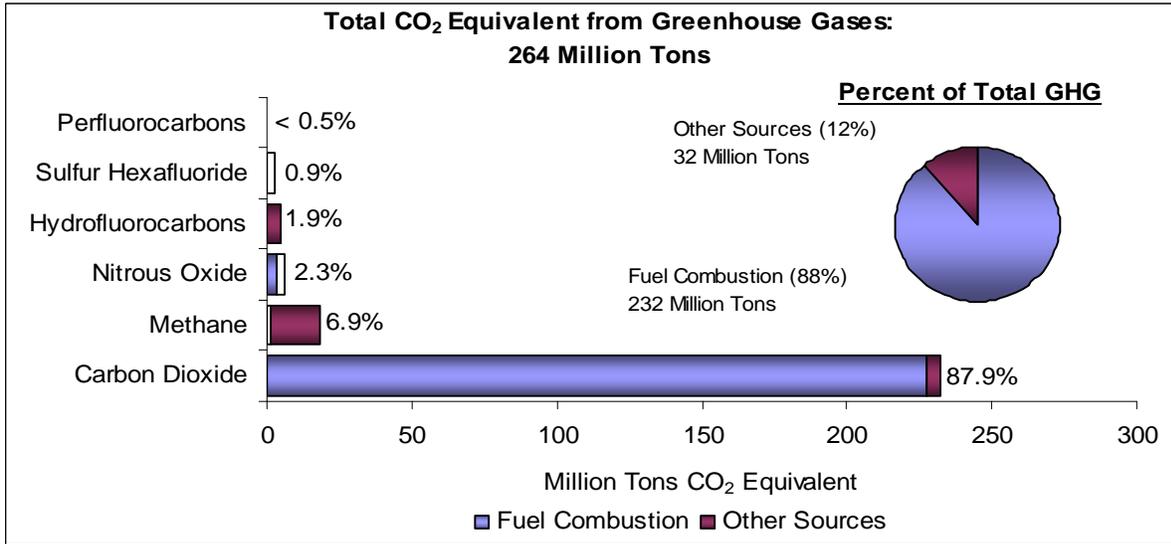
New York began to address climate change by identifying the state's contribution to GHG emissions and by building a portfolio of programs and policies aimed at reducing them. NYSERDA completed the New York Greenhouse Gas Inventory which quantified the total annual GHG emissions in New York in 2006 as 264 million tons of CO<sub>2</sub> equivalent and identified the sources of the emissions by sector. The emissions-by-sector breakdown is presented in Figure 1.

**Figure 1: 2006 NYS Greenhouse Gas Inventory – Breakdown by Sector**



The Inventory identified the contribution in CO<sub>2</sub> equivalent tons of six primary GHGs. The contribution of each gas is presented in Figure 2.

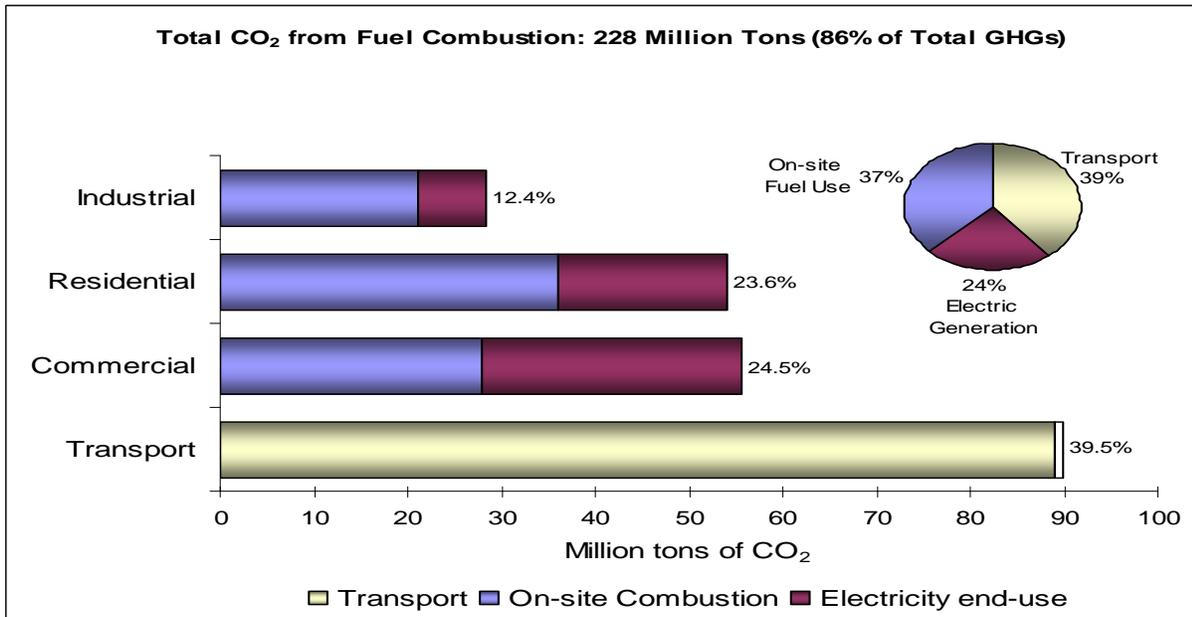
**Figure 2: Breakdown of Primary Greenhouse Gas Emissions in New York for 2006**



As illustrated in these figures, the primary GHG emitted in New York is CO<sub>2</sub>. Figure 2 indicates that the primary source of New York’s CO<sub>2</sub> emissions is fuel combustion which accounts for nearly 90 percent of all GHG emissions in the state.

The Inventory further refined the sources of CO<sub>2</sub> emissions by sector as presented in Figure 3.

**Figure 3: New York CO<sub>2</sub> Emissions from Fuel Combustion (2006)**



## **Policy Context**

In order to seriously address GHG emissions in New York, policy makers will need to identify the sectors of the economy that contribute most significantly to total emissions and direct and dedicate investments to reduce GHG emissions in those sectors.

Several efforts are under way in New York that can shape overall GHG emissions policies including the reinstatement of a State Energy Planning process. Governor Paterson's Executive Order No. 2 instructed the State Energy Planning Board to include the GHG inventory and GHG mitigation strategies in the new State Energy Plan (SEP). Climate change in New York will be highlighted in the SEP and will feature prominently in the short- and long-term policy and program recommendations presented in the SEP. Governor Paterson also convened a Renewable Energy Task Force to examine and accelerate development of indigenous and renewable energy resources to meet the state's energy needs and contribute to reducing GHG emissions from the power generation and energy use sectors. The implementation of a Renewable Portfolio Standard (RPS), which requires that 25% of New York's electricity be obtained from renewable energy sources by 2013, is another major initiative that is in place in New York to support these objectives.

To meet the goals of the Governor's "15 by 15" program, which is intended to reduce electric energy demand by 15 percent in 2015, the Public Service Commission (Commission) initiated an Energy Efficiency Portfolio Standard (EEPS). The Commission, the Department of Public Service (DPS), NYSERDA, the Department and diverse New York State agencies and authorities, utilities, and stakeholders are collaborating to accomplish the goals of the EEPS. At present, they are in the process of scheduling targeted reductions in the electric end-use sector. As the EEPS is implemented, natural gas end-use efficiency will likely be addressed. To achieve the 15 by 15 goal, NYSERDA, the New York Power Authority, and the Long Island Power Authority will focus mainly on electric end-use efficiency. While a primary goal of the EEPS initiative is to incorporate energy efficiency in electric resource planning and focus on energy efficiency as a resource to reduce the burden on the electric system, the energy efficiency activities are expected to contribute to reducing GHG emissions.

New York's central GHG strategy is currently focused on the CO<sub>2</sub> Budget Trading Program. Auction proceeds derived from this initiative offer New York a unique opportunity to reduce emissions from the spectrum of fuels and energy sectors that contribute to CO<sub>2</sub> and other GHG emissions.

While the RPS and EEPS programs initiated by the Commission will effectively meet the needs of the electric end-use sector, State efforts to address carbon-emissions outside the Commission's jurisdiction have proven elusive. The Plan to be drafted by NYSERDA and reviewed by an Advisory Group (see Section 3) will identify new opportunities and next-generation activities that can serve New York in terms of developing sound energy policy, improving our environment, and providing economic development opportunities.



### **SECTION 3: ADVISORY GROUP**

The CO<sub>2</sub> Allowance Auction Program, Part 507.4(e) states that, “at least annually, the Authority shall convene an advisory group of stakeholders representing a broad array of energy and environmental interests to advise it on how to best utilize said funds.”

The Advisory Group will provide input on this draft Concept Paper and the draft Operating Plan prepared by NYSERDA. Thereafter, the Advisory Group will meet to review and provide input on annual updates to the Operating Plan. Meetings of the Advisory Group will be open to the public. Additional information about the role of the Advisory Group can be found in Attachment 1. The list of current Advisory Group members appears in Attachment 2.

### **SECTION 4: PROGRAM GOALS, FOCUS, AND FUNDING CRITERIA**

#### **Program Goals**

The goal of the investments made with Auction proceeds will be to reduce GHG emissions in New York and to reduce the cost of complying with the CO<sub>2</sub> Budget Trading Program. Investments will be focused on GHG reduction opportunities related to energy production and use for all fuels and in all energy using sectors. Investments will seek to advance the State’s broad energy goal of moving toward a clean energy economy by providing reductions in GHGs in the near term and positioning New York to make additional reductions in GHGs over the longer term.

While the majority of funds will be directed at cost-effectively reducing CO<sub>2</sub> in the near term, at least 25 percent will address areas that may require longer investment horizons. The program can thus deliver near-term benefits to New York consumers while also positioning New York to progress toward a clean energy economy and pursue the aggressive carbon reduction framework that will be needed to ensure a stable climate.

Funds will be used to leverage additional GHG reductions by establishing commitment and capacity to curtail GHGs in municipal, institutional and other public and private sectors.

#### **Program Focus and Geographic Scope**

Investment of CO<sub>2</sub> Budget Trading Program funds will be focused on GHG emission reduction opportunities related to energy production and use, which account for the vast majority of GHG emissions in New York (see Figure 2 above). The initial Program phase will also include analysis and characterization of opportunities for reductions of non-energy related GHGs for potential funding in the future.

The funds generally will be used to effect GHG reductions in sectors and areas that will complement current investments in the **New York Energy \$mart<sup>SM</sup>** program, which is part of New York’s System Benefits Charge (SBC) programs, the RPS, and the EEPS or other programs and that supports the goals of the CO<sub>2</sub> Budget Trading Program.

As discussed in the following section on Program Criteria, CO<sub>2</sub> Budget Trading Program Auction funds will be used to implement Programs that directly address the electric sector on the demand and supply sides and to reduce the cost of achieving the emission reduction goals of the CO<sub>2</sub> Budget Trading Program. Possible initiatives for achieving these goals are presented in Section 6.

Recommendations of the Governor's Task Force on Renewable Energy will be considered in developing the CO<sub>2</sub> Budget Trading Clean Energy Program.

Programs generally will be statewide in scope.

### **Program Criteria**

Initial funding criteria developed for selecting and designing programs include the following:

- Cost effectiveness measured by quantity of carbon equivalents reduced per dollar invested;
- Long-range potential for the technology/investment to reduce GHG emissions in New York;
- Potential to reduce the cost of achieving the emission reduction goals of the CO<sub>2</sub> Budget Trading Program;
- Other benefits to New York, *e.g.*, the potential to: create jobs; leverage capital investment in New York to promote economic development, health and environmental benefits; enhance municipal capacity to further reduce GHG emissions;
- Opportunity to reduce the disproportionate cost burden and environmental impacts on low-income families and environmental justice communities; and
- Need for these funds based upon availability of other funding sources.

A diverse portfolio of initiatives will strike a balance between the goal of achieving short-term results and the need to invest in long-term strategies that will provide sustained, ongoing reductions in GHGs.

## **SECTION 5: ANTICIPATED PROGRAM SCHEDULE AND MULTI-YEAR PROGRAM PLANNING**

New York is currently scheduled to begin offering allowances for sale in regional Auctions on December 17, 2008.

Establishing firm Program budgets and implementation schedules is difficult because the market for CO<sub>2</sub> allowances, like markets in general, is volatile. Therefore, the amount of proceeds that will be generated by the Auction is uncertain. A detailed implementation schedule and budget estimates will be provided in the final Operating Plan.

In designing and implementing programs, NYSERDA will give serious consideration to the need for ensuring multi-year funding commitments to provide a level of market stability. As such, the funds generated in the first few auctions may target a limited number of initiatives to ensure that program objectives can be achieved and to provide for multi-year funding continuity.

The Operating Plan will be developed as a three-year plan and will be reviewed annually with input from the Advisory Group. The anticipated timeline for the development of the Operating Plan is presented below:

- Early November: Distribute Concept Paper to Advisory Group and post it on NYSERDA's website.
- Mid-November: Meet with the Advisory Group (meeting is open to the public) to receive feedback on the Concept Paper.
- Late-November: Receive comments from stakeholders on the Concept Paper through NYSERDA's website.
- Early January: Prepare the Draft Operating Plan, distribute it to the Advisory Group, and post it on NYSERDA's website.
- Mid-January: Meet with the Advisory Group (meeting is open to the public) to receive feedback on the Draft Operating Plan.
- Mid-January: Receive comments from stakeholders on the Draft Operating Plan through NYSERDA's website.
- Early March: Create Final Operating Plan and present to NYSERDA's Board for approval.
- Mid-to-late March: NYSERDA Board Meeting

Throughout the process, NYSERDA will also collaborate with NYSDEC, NYSDPS, NYSDOT, and other agencies during the development of the Operating Plan.

## **SECTION 6: POTENTIAL INITIATIVES**

The New York CO<sub>2</sub> Budget Trading Program requires that funds from the sale of CO<sub>2</sub> allowances are to be used by NYSERDA 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.” Generally speaking, the types of programs that could qualify for funding include, but are not limited to, the following:

- Development, demonstration, and/or implementation of
  - energy efficiency measures, including electricity, natural gas, oil and other on-site fuel use, transportation fuel use
  - renewable resource technologies
  - carbon emissions abatement technologies with significant carbon reduction potential
- Research, modeling, monitoring, and analyses that contribute to achieving and evaluating the objectives of the CO<sub>2</sub> Budget Trading Program

- Programs that provide education, information and participation in efforts related to climate change issues and solutions.

Using the criteria described in Section 4, NYSERDA identified an initial list of potential initiatives that could be funded with Auction proceeds. The initial ideas are grouped into target areas (Areas) that are consistent with the categories used in the New York GHG abatement cost curve study that is under way. The cost curve study is expected to be completed in June 2009, and information from the study, as it becomes available, will be used in developing and updating the CO<sub>2</sub> Budget Trading Program and CO<sub>2</sub> Allowance Auction Program Plan.

### **Residential, Commercial, and Industrial Sectors**

The new and existing residential, commercial, and industrial building sectors represent the most significant opportunities to reduce GHG emissions. The purpose of the Residential, Commercial, and Industrial sector initiative is to reduce fuel use by end users through energy efficiency improvements and practices and to reduce on-site emissions. Because these sectors are served by established, operating energy efficiency and renewable resource programs and infrastructure, the initiative will be designed to fill critical gaps by targeting fuels not adequately addressed through SBC, EEPS, and RPS initiatives, targeting environmental justice communities, stimulating municipal commitment to GHG reductions and promoting increased deployment of underutilized and emerging energy efficiency and clean energy technologies. To the extent possible, strategies and tactics for these sectors will be integrated within existing programs.

Initiatives that could cost-effectively reduce GHG emissions and the cost of achieving the emissions reduction goals of the CO<sub>2</sub> Budget Trading Program in the near term include: oil, gas, and wood heating system repairs and replacements as part of a strategy to address whole building and industrial process energy efficiency; use of green building rating systems to assist developers in lowering the carbon footprint of new construction projects; integration of lighting and day-lighting systems; increasing use of solar thermal and ground-source systems, combined heat and power systems, and district heating systems; improved industrial processes; and technologies and practices to reduce the use of hot water.

Long range initiatives that reduce GHGs in New York may include: demonstration of advanced building controls and automation to more efficiently manage operation and occupancy awareness, and to respond to energy price signals; development of flexible load end-use appliances capable of meeting smart grid requirements; demonstration of modulating HVAC systems; demonstration of high-performance building envelope systems (foundations, walls, doors, windows) and construction methods to raise codes and standards levels.

Initiatives that are consistent with the goals of the CO<sub>2</sub> Budget Trading Program and provide other substantial benefits in New York include encouraging green construction and the development of sustainable communities.

To reduce the potentially disproportionate cost burden of energy use and the impact of environmental degradation on low-income and environmental justice communities, higher incentives and individually targeted outreach and marketing could be designed for selected communities and households. In particular, community-wide solutions to emissions reduction goals will be sought by developing model green communities with on-site clean energy production and low carbon footprints.

## **Transportation**

The transportation initiative consists of a portfolio of near- and long-term strategies that will produce cost-effective GHG emission reductions. The initiative focuses on new and improved technologies and includes programs that target behavioral changes by: reducing vehicle miles traveled; increasing the use of renewable alternative fuels (consistent with the findings and recommendations from the ongoing New York State Renewable Fuels Roadmap and Sustainable Biomass Feedstock Study); developing and deploying high efficiency vehicles; and improving the magnitude, performance, and efficiency of transportation systems.

In 2006, New York's transportation sector was responsible for 39 percent of GHGs emitted through fuel combustion and accounted for 79 percent of the petroleum used in the state. The transportation sector is the only sector in New York in which 2006 GHG emissions from fuel combustion are higher than 1990 levels. In addition, most of the petroleum used in the transportation sector in 2006 was imported into New York and thus was responsible for exporting energy dollars out of the state. New development and deployment programs are needed to reverse the increasing use of fuel and cost effectively reduce transportation GHG emissions. Most initiatives in the transportation area require substantial expenditures, and auction proceeds would complement, rather than supplant, existing Federal and State funding (*e.g.*, Congestion Mitigation Air Quality (CMAQ) funds).

Near-term initiatives that can quickly and substantially reduce GHG emissions include: reducing carbon emissions from diesel vehicles (accelerating access to and use of truck stop electrification modules that reduce diesel truck idling and other emerging technologies that improve the efficiency of existing vehicles; providing incentives to modernize fleets and accelerate the deployment of alternative fuel and highly efficient vehicles such as hybrid-electric trucks and buses); supporting transportation system improvements that promote high efficiency road technologies, such as traffic light synchronization and switching operations at rail yards; using both behavioral and technology-based strategies to reduce vehicle miles traveled and manage demand, such as carpooling; and developing educational campaigns for travelers on efficient driving and vehicle maintenance practices.

Long-range initiatives that can accelerate reductions in GHGs include infrastructure and technology development to speed the introduction and use of advanced technology vehicles (including locomotives) and to reduce the carbon intensity of the fuels used to power them. Additional projects could include: the development and demonstration of innovative strategies that address unique aspects of New York's regional transit systems, including smart growth

transit systems that incorporate bus rapid transit and commuter rail oriented development in the downstate region and bus transit and community-based transit systems upstate.

Benefits other than GHG emissions reductions from the transportation initiative will be substantial. The transportation sector is fundamental to the state's economic health, and nearly 30 percent of the gross State product is affected by the sector. Other benefits from the initiative will include increased economic activity and job creation as markets grow for New York fuels, as new infrastructure supporting low-GHG transportation modalities is constructed, and expanded economic activity from increased mobility. The suite of transportation initiatives will address environmental justice issues including reduced vehicle criteria pollutant emissions and improved mobility through expanded access to public transit. Reducing the use of diesel fuel helps reduce elevated criteria pollutant levels in New York City and other urban areas. Transportation system improvements will provide low-cost travel options that benefit all New Yorkers including low-income residents.

### **Electric Power Supply and Delivery Initiative**

The objective of the Electric Power Supply and Delivery initiative is to reduce the carbon footprint of the electric power sector in New York. The initiative will optimize system performance and energy efficient operation of the entire sector including fuel delivery mechanisms and electric power generation, transmission, and distribution. Implementation of an integrated strategy enabling smart grid functionality will facilitate greater penetration of renewable resources and demand management technologies in the electricity system.

Cost-effective initiatives that reduce GHG emissions and reduce the costs of achieving the emission reduction goals of the CO<sub>2</sub> Budget Trading Program in the near term may include: implementation of innovative strategies to improve the overall efficiency of existing power plants; demonstration projects to diversify the portfolio of renewable resource options available for electric power production; and targeted incentives to increase market penetration and performance of direct renewable energy conversion systems, such as wind and low-impact hydroelectric power plants.

Long-term carbon mitigation measures must be included in any comprehensive strategy for addressing global climate change issues. Initiatives that build on near-term projects then yield long-term opportunities to reduce GHG emissions in New York may include, among other things: research, development, and demonstration of promising, innovative technologies including tidal, solar, wave, and off-shore wind; advanced energy storage systems used to dampen the intermittent power characteristics of renewable resource generation; carbon capture and geological sequestration techniques; and high efficiency power transmission and delivery systems. Pursuit of these initiatives will ensure that a secure, reliable electric grid can be maintained as the electric power sector adapts to a carbon-constrained environment.

Improving the operating efficiency of the electric power sector reduces GHGs and emissions of criteria air pollutants such as nitrogen and sulfur oxides, unburned hydrocarbons, and particulate matter. Of critical importance are initiatives that promote implementation of peak demand

management technologies (e.g., integrating smart grid technologies with advanced metering infrastructure to provide mutual benefits for utilities and consumers) and reduce harmful local air quality impacts associated with oil and diesel-fired peaking plants in environmental justice communities.

The Electric Power Supply and Delivery program will pursue a multi-disciplinary, integrated systems approach to improving the operational efficiency of the electric power sector. The program's fundamental objective is to reduce carbon intensity while simultaneously optimizing system reliability, safety, and security.

### **Agriculture, Forestry, and Sustainable Bioenergy Initiative**

The primary goal of the Agriculture, Forestry, and Sustainable Bioenergy Initiative is to foster innovation, apply new business strategies, and promote sustainable resource management techniques to reduce the lifecycle carbon intensity of the biopower and biofuels sectors. The initiative will also explore opportunities to reduce greenhouse gas emissions from the agriculture, forestry, and waste management sectors and characterize the potential for carbon sequestration in New York's terrestrial ecosystem.

Most programs in these sectors require long-term attention and investment. The options discussed below represent some of the activities that could be included in the initiative.

#### ***Optimize use of sustainable biomass resources and develop and use advanced biofuels***

Use of New York's extensive biomass resources could be a way to lower the lifecycle fuel carbon intensity in multiple end-use sectors including: transportation, heating, and electric power generation. Potential activities include: researching and developing advanced biofuels and exploring methods for sustainably expanding feedstock resources; initiating studies to better understand the capacity of the forest to supply woody biomass as a sustainable, renewable fuel; strengthening supply infrastructure through workforce development, training, and business support programs; expanding education and outreach to forest landowners, the public, and other stakeholders; demonstrating commercial-scale manufacturing and processing of advanced biofuels; and providing financial incentives to market participants to facilitate end-users' transition to using sustainable, advanced biofuels. Priorities will be guided by findings and recommendations from the ongoing New York State Renewable Fuels Roadmap and Sustainable Biomass Feedstock Study.

#### ***Greenhouse gas emission reduction in agriculture, forestry and waste management***

New York has numerous geographically dispersed greenhouse gas emission sources in the agriculture, forestry, and waste management sectors. Emission reductions could be achieved by supporting a number of initiatives, including, among other things: methane capture for biogas generation; increased on-farm energy efficiency and renewable energy production; and improved energy capture from wood combustion.

### ***Characterization of opportunities for terrestrial CO<sub>2</sub> sequestration***

Terrestrial sequestration may provide a near-term strategy for reducing New York's total net-emissions of carbon dioxide. Examples include changing management of agricultural lands to low- or no-till farming methods, which decrease the decomposition of organic material thereby keeping carbon in the soil and reforestation, choosing fast-growing, long-lived tree species that use substantial quantities of carbon dioxide over their lifespans. An accurate assessment is needed of the extent of terrestrial sequestration options in New York. The assessment should include estimated costs and benefits for each option; determination of the best options for New York in terms of net amounts sequestered and time scales; and links to carbon supply curves.

### **Multidisciplinary Initiatives**

Certain GHG reduction goals cannot be addressed within the confines of a single initiative such as those described above and require a multidisciplinary approach among government and private sector stakeholders. The following initiatives seek to leverage auction proceed investments and build critical capacity in New York to develop and implement new climate change mitigation solutions and to move toward a clean energy economy.

#### ***Clean Energy Innovation Initiative: University-Industry Collaboration in New York***

The Clean Energy Economy cannot take root and grow without support from New York's world class education system of universities, colleges, community colleges, and technical schools. Through a concerted and focused effort with public and private academic decision and policy makers, New York could become a leader in the development and commercialization of new technologies to meet the global demand for low-carbon, clean energy products. NYSERDA will work with the leaders of New York's academic institutions and potential private sector partners to scope out a multi-year investment strategy for coordinated clean energy research at universities in New York.

#### ***Business Innovation, Development, and Manufacturing***

Realizing the full potential of clean energy technologies requires more than the development, testing, and demonstration of the technologies. Bringing clean energy technologies to market requires that public and private sector investment and commitment be available to increase the likelihood of success by overcoming market barriers and accelerating the pace of market transformation.

#### ***Research Studies Related to Mitigating and Adapting to Impacts of Climate Change***

This multidisciplinary initiative will increase the understanding and awareness of the impacts of climate change on energy choices and emerging energy options and provide a scientific, technical foundation for formulating effective, equitable, energy-related environmental policies and resource management practices. Research is needed to: assess the potential ecological, public health, infrastructure, and economic impacts of climate change in New York; investigate how risks associated with climate change can be managed and minimized in New York; determine key parameters that need to be monitored to establish baselines and assess climate change impacts; and explore emerging climate change mitigation and adaptation strategies for New York to pursue.

### ***Climate Change Policy Research and Analysis***

Integrated policy analysis is needed to ensure that the CO<sub>2</sub> Budget Trading Program works synergistically with other evolving energy and environmental policies in New York. Protocols to verify emission reduction estimates of different offset measures are also necessary. Guidelines and protocols could be used to develop new carbon-offset projects and policy initiatives.

### ***Outreach and Education Initiatives, Strategic Partnerships and GHG Lifecycle Management***

Outreach and education campaigns are needed to inform the public about likely climate change impacts and potential adaptation measures. Educational and outreach of initiatives should help build local capacity by educating residents, urban planners, municipalities, business owners and operators, and consumers on the importance of climate mitigation activities. Current and future constituents, for example, elementary and high school students, should be included in these initiatives. Strategic partnerships are needed to provide GHG reduction resources, including on-line and technical support and access to tools and incentives to meet energy and environmental goals. Comprehensive carbon footprinting for end users is an important first step in meeting state and local initiatives for GHG reductions. Carbon footprinting combined with systematic solutions can reduce implementation costs, identify synergistic opportunities, and reveal hidden savings.

## **SECTION 7: ADMINISTRATION**

The programs that are ultimately identified in the final Operating Plan will be designed and executed consistent with the principles that NYSERDA has employed in effectively managing numerous successful energy efficiency and clean energy programs in New York.

Relevant principles include:

- Seeking stakeholder input in program design
- Competitively selecting projects
- Strategically using funds to advance program goals
- Maximizing administrative efficiency
- Evaluating programs
- Ensuring public transparency and accountability

NYSERDA will recover from auction proceeds reasonable costs associated with the administration of the CO<sub>2</sub> Allowance Auction Program and the administration and evaluation of the programs funded with auction proceeds in a similar manner to that used for the SBC and RPS programs.

## **SECTION 8: PROGRAM EVALUATION AND REPORTING**

NYSERDA will prepare an annual CO<sub>2</sub> Budget Trading Program report. The report will include for each prior year (a) an accounting of all sales of CO<sub>2</sub> allowances and the funds generated by

such sales, (b) a summary description of program activities, (c) an evaluation of the results and impacts of such program activities and program accomplishments, including reductions of GHGs and (d) an accounting of program administration costs and expenditures.

With regard to program evaluation, the overarching goals of the evaluation are to (1) provide a credible evaluation of the CO<sub>2</sub> Budget Trading Program portfolio and individual programs and (2) provide timely information to all stakeholders, to include (a) progress toward program and public policy goals, (b) progress in moving markets toward behavior that results in emissions reductions and increased energy efficiency and use of renewable energy, and (c) measuring efficiency and effectiveness of program implementation and administration.

The evaluation activities could include one or more of the following elements:

- Impact Assessment, which would measure the outcomes attributable to the program(s), calculate the cost-effectiveness of the program(s), and compare the outcomes to the goals set forth for the program(s)
- Market Characterization and Assessment, which would (1) develop an understanding of markets and market actors and provide information for program design and delivery and (2) track changes in markets over time.
- Process Assessment, which would (1) review program oversight and operations, (2) gauge customer satisfaction, and (3) provide recommendations for program and process improvements and efficiency.

The evaluation process will be revised in the final Operating Plan, and will be informed by stakeholder comments and by the final group of program areas that are included in the Plan.

## **Attachment 1 - CO<sub>2</sub> Budget Trading Program and CO<sub>2</sub> Allowance Auction Program Advisory Group Charter**

Background. The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by New York and nine other Northeastern and Mid-Atlantic States to reduce carbon dioxide (CO<sub>2</sub>) emissions from power plants. The New York State Department of Environmental Conservation (NYSED) and the New York State Energy Research and Development Authority (NYSERDA) have established New York's program through regulations. NYSED has created New York's CO<sub>2</sub> Budget Trading Program, while NYSED will administer an auction process by which the State will sell most of its CO<sub>2</sub> allowances to power plants or other purchasers (e.g. financial institutions, environmental groups). Proceeds will be placed into a newly-created Energy Efficiency and Clean Energy Technology Account. NYSED's regulations direct that Account funds 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."

Purpose of the Advisory Group. NYSED's regulations direct it to convene an Advisory Group consisting of "stakeholders representing a broad array of energy and environmental interests" to advise on how to best utilize proceeds from the sale of allowances consistent with the directives in the regulations. The Advisory Group will provide input on the draft Operating Plan that summarizes and describes the individual programs to be supported with the RGGI auction proceeds. Thereafter, the Advisory Group will meet on at least an annual basis to review and provide input on the Operating Plan. In order to avoid real or perceived conflicts of interest, Advisory Group members shall refrain from advocating for specific programs or positions that may financially benefit themselves or the organization(s) they represent.

Composition of the Advisory Group. The Advisory Group will consist of members that represent stakeholders concerned with the use of proceeds from the Auctions. Initially, half of the members will be appointed for a three year term, and the other half will be appointed for a two year term. Thereafter, NYSED, in consultation with the agencies implementing the CO<sub>2</sub> Budget Trading Program, will either reappoint existing members or appoint new members to two year terms. NYSED, in consultation with the agencies implementing the CO<sub>2</sub> Budget Trading Program reserves the right at any time to adjust, as necessary, the membership of the Advisory Group. The initial members are listed in Attachment 2.

Procedures. The Advisory Group shall meet at least annually. It is expected that members will make every effort to attend all meeting of the Advisory Group. Meetings shall be open to the public. NYSED staff or their designees shall prepare meeting agendas and facilitate meetings. The Facilitator will prepare notes summarizing each meeting, and such notes will be published on NYSED's website.

Revisions to this Charter. NYSED may revise this Charter at any time, in a manner consistent with the CO<sub>2</sub> Budget Trading Program and CO<sub>2</sub> Allowance Auction Program and implementing regulations.

Termination of the Advisory Group. The Advisory Group shall cease to exist upon termination of the RGGI program, or as authorized by NYSED's regulations.

### **DOCUMENT MEMBERS WILL SIGN**

I, [name] acknowledge that I have read the CO<sub>2</sub> Budget Trading Program and CO<sub>2</sub> Allowance Auction Program Advisory Group Charter and agree to abide by its provisions.

Dated: \_\_\_\_\_

## **Attachment 2 – Initial CO<sub>2</sub> Budget Trading Program and CO<sub>2</sub> Allowance Auction Program Operating Plan Advisory Group Members**

Alliance for Clean Energy New York [Carol Murphy]  
Alliance to Save Energy [Kateri Callahan]  
Brookhaven National Lab [William Horak]  
Consortium for Worker Education [Rebecca Lurie]  
Electric Power Research Institute [Bryan Hannegan] *Invited*  
Environmental Advocates of New York [Rob Moore]  
Environmental justice leader [David Hahn-Baker] *Invited*  
Gas Technology Institute [Ron Edelstein]  
ICLEI - Local Governments for Sustainability [Kim Lundgren]  
Independent Power Producers of New York [Gavin Donohue]  
National Association of Energy Service Companies [Don Gilligan]  
New York City Economic Development Corporation [Jim Gallagher]  
New York Energy Association [Patrick Curran]  
New York State Assembly Energy Chair  
New York State Association of Regional Councils [Rocky Ferraro]  
New York State Business Council [Ken Pokalsky] *Invited*  
New York State Conference of Mayors and Municipal Officials [Carolyn Peterson]  
New York State Senate Energy Chair  
NY-STAR (NYS Foundation for Science and Technology) [Ed Reinfurt]  
Oak Ridge National Laboratory [David Greene]  
PACE Energy and Climate Center [Jamie Van Nostrand]  
Renewable Energy Long Island [Gordian Raacke]  
Resources for the Future [Karen Palmer]  
Rockefeller Brothers Fund [Michael Northrup] *Invited*