Investing New York's RGGI Auction Proceeds

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CO2 Allowance Auction Program 21 NYCRR Part 507

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."

Creation of an Operating Plan

The Plan will summarize and describe the individual programs to be supported by the RGGI auction proceeds.

The Plan will include:

- Program Selection Criteria
- Descriptions of and budgets for the Programs
- Anticipated Schedule for Implementation of Programs
- Discussion of the Measurement, Verification, & Evaluation Methods
 Quantification of NYSERDA's Costs for Program Administration & Evaluation

Stakeholder Process

RGGI

Advisor Alexande 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 the Concept Paper and the draft Operating Plan
- Refrain from advocating for specific projects
- Meet thereafter to provide input on annual updates to the Plan
- Have its meetings be open to the public

Energy Stakeholders

- RGGI Agency outreach to stakeholder groups (e.g. BCSD, other state agencies)
- Participate in Advisory Group meetings
- Submit comments in writing or to: rggiprograms@nyserda.org

Process and Anticipated Timing

- November 7: Draft Concept Paper issued.
- November 21: Advisory Group Meeting (open to the public) to receive feedback on the Concept Paper.
- December 1: Received comments from Stakeholders on the Concept Paper.
- January/February: Prepare the Draft Operating Plan, distribute to the Advisory Group, and post it on NYSERDA's website.
- Early March: Meet with the Advisory Group to receive feedback on the Draft Operating Plan.
- Early March: Receive comments from stakeholders on the Draft Operating Plan through NYSERDA's website.

March: Create Final Operating Plan and present to NYSERDA's Board for approval.

April (estimated): NYSERDA Board Meeting.

Program Goals

- Reduce GHG emissions in New York
- Reduce the cost of complying with the CO₂ Budget Trading Program
- Target funding for near-term CO₂ reductions and long-term developments in the program (approx. 75/25)
- Leverage additional improvements by building emissions reduction capacity in the public and private sectors

Program Focus

Investments will be Focused on . . .

- GHG reduction opportunities related to energy production and use across a spectrum of fuels and energy consumption activities.
- Advancing the State's broad energy goal of moving toward a clean energy economy.
- Possible Federal Gov't Stimulus Package Opportunities.
- Providing reductions in GHGs in the near term.
- Positioning New York to make additional long-term reductions.



Proposed Funding Criteria

- Cost effectiveness: carbon equivalents reduced per dollar invested
- Long-range potential for the investment to reduce GHG emissions in New York
- Potential to reduce the cost of achieving CO₂ Budget Trading Program goals
- Other benefits to New York (e.g., create jobs; leverage capital investment in New York to promote economic development, health and environmental benefits)
- Reduce the cost burden and environmental impacts on low-income families and environmental justice communities
- Need for these funds based upon availability of other funding sources

2006 NYS Greenhouse Gas Inventory Breakdown by Sector



New York CO₂ Emissions from Fuel Combustion (2006)



Program Funding Target Areas

Residential, Commercial, Industrial (On-site Energy Use)

Power Supply and Delivery

Transportation

Agriculture, Forestry and Waste Management

Multidisciplinary Initiatives

Target Area: Residential, Commercial, and Industrial Sectors

Purpose :

•Reduce end-user fuel consumption through energy efficiency and behavior change

• Reduce on-site emissions

Strategies:

- Target fuels/technologies not sufficiently addressed by other funding
- Target environmental justice communities
- •Increase deployment of underutilized and emerging energy efficiency and clean energy technologies
- Use existing programs for delivery to the extent possible

Target Area: Residential, Commercial, and Industrial Sectors

Potential initiatives to cost-effectively reduce greenhouse gas emissions in the <u>near term</u>:

•Oil, gas, and wood heating system repairs and replacements as part of whole building energy efficiency

•Green building incentives to assist in lowering the carbon footprint of new construction projects

•Solar thermal and ground-source systems, combined heat and power systems, and district heating systems

- Improved industrial processes
- Technologies and practices to reduce the use of hot water.

Target Area: Residential, Commercial, and Industrial Sectors

Potential initiatives to address the <u>long-range</u> potential to reduce greenhouse gases in NYS:

- Advanced building controls and automation
- More efficient operations
- Occupancy awareness
- Respond to energy price signals
- •Flexible load end-use appliances capable of meeting smart grid requirements
- Lighting and day-lighting systems
- Demonstrate modulating HVAC systems

•Demonstrate high-performance building envelope systems, construction methods to enable increasing codes and standards

Target Area: Power Supply and Delivery

Purpose :

•Reduce Carbon Footprint of the Electric Generation, Transmission and Distribution industries.

• Co-benefits of Reduced emissions of Sulfur/Nitrogen oxides, PM

Strategies:

- Target activities to reduce cost of program compliance for generators
- Target environmental justice communities esp. re: peak demand units
 Increase deployment of underutilized and emerging technologies
- •Use existing programs for delivery to the extent possible

Target Area: Power Supply and Delivery

Potential initiatives to cost-effectively reduce greenhouse gas emissions in the <u>near term</u>:

- Improve overall efficiency and performance of existing power plants
- Increase performance and capacity of existing T&D infrastructure
- Demonstrations to reduce risks of incremental investment
- Advanced controls, transformers, cabling & other technologies

Target Area: Power Supply and Delivery

Potential initiatives to address the <u>long-range</u> potential to reduce greenhouse gases in NYS:

•Smart Grid/Advanced Controls/Energy Storage

- Stabilize Wind Assets / Increase Market Penetration of Renewables
- Improve Power Quality
- Reduce Congestion and Enhance Reliability

•Advanced Renewables Demonstrations •Including: Tidal Power, Off-shore wind

•Carbon Capture and Sequestration •Including Gas Separation for O₂, CO₂

•Dual-fuel, Bio-fuels

•Environmental Justice issues related to Reducing Emissions at peaking units

Target Area: Transportation

Purpose:

The Transportation initiative focuses on new and improved technologies and programs that target behavioral changes.

Strategies:

- Reduce vehicle miles traveled.
- •Increasing the use of renewable alternative fuels (consistent with the findings from the Renewable Fuels Roadmap and Sustainable Biomass Feedstock Study)
- Developing and deploying high efficiency vehicles
- •Improving the magnitude, performance, and efficiency of transportation systems.

Target Area: Transportation

Potential Initiatives to cost-effectively reduce greenhouse gas emissions and to reduce the cost of the RGGI Program in the <u>near term:</u>

- Vehicle Miles Traveled (VMT) Reduction and Smart Growth Strategies
- Metropolitan Transportation Authority (MTA) Systems Efficiency
- Transportation Systems Improvements
- Idling Reduction
- Alternative Fuel Vehicles (AFV) and Vehicle Efficiency
- Fleet Modernization

Target Area: Transportation

Potential Initiatives to address the <u>long-range</u> potential to reduce greenhouse gases in NYS:

- Advanced Transportation Technologies and Systems
 - Plug-in Hybrid Electric Vehicles, Electric Vehicles and Vehicle to Grid (V2G)
 - Electrified Rail Systems
- Commercial Hybrids, advanced Alternate Fuel Vehicles
- Larger-scale Transportation Demand Management
- Intelligent Transportation Systems
- Low Carbon Fuel Utilization
- Transit Improvements
- Land use/Transit Oriented Developments (TOD)

Target Area: Agriculture, Forestry, and Sustainable Bioenergy

Purpose:

- Reduce the Lifecycle Carbon Intensity of Biopower and Biofuel Production
 Reduce Emissions Derived from the Agriculture, Forestry and Waste Management Sectors
- •Characterize the Potential for Carbon Sequestration in New York's Terrestrial Ecosystem

Strategies

- Foster innovation and apply new business strategies to address the issue
- Promote sustainable resource management techniques
- Priorities will be guided by findings and recommendations from the ongoing New York State Renewable Fuels Roadmap and Sustainable Biomass Feedstock Study

Target Area: Agriculture, Forestry, and Sustainable Bioenergy

Potential Initiatives to cost-effectively reduce greenhouse gas emissions in the <u>near- to mid- term</u>:

- Produce and capture biogas from biological waste streams for electric or thermal applications, and
- Integrated on-farm energy efficiency & energy production.

Potential Initiatives to build infrastructure capacity in the <u>near-to-</u> <u>mid-term</u>:

- Strengthen the supply infrastructure through workforce development, training, and business support programs, and
- Expand education and outreach to forest landowners, the public, and other stakeholders.

Target Area: Agriculture, Forestry, and Sustainable Bioenergy

Potential Initiatives to address the <u>long-range</u> potential to reduce greenhouse gases in NYS include:

- Research and Development of advanced biofuels and methods for sustainably expanding feedstock resources and conversion processes
- Studies to better understand the capacity of New York's land resources to supply woody biomass as a sustainable, renewable fuel
- Demonstration of commercial-scale manufacturing and processing of advanced biofuels
- Provide financial incentives to market participants to facilitate end-user transition to using sustainable, advanced biofuels
- Characterization of opportunities for terrestrial CO₂ sequestration to accurately estimate costs and benefits for each option in terms of net amounts sequestered and time scales

Target Area: Multidisciplinary Initiatives

Purpose: To Leverage Investments and Build Capacity to:

- Stimulate voluntary action at the local and corporate level
- •Develop new Climate Change Mitigation and Risk Management Solutions
- Move toward a Clean Energy Economy

Strategies: To Build Capacity to Mitigate and Manage Climate Change through:

- Technology Innovation and Product Commercialization
 Widespread Understanding of Environmental Response and Climate Change Risks
- Effective Climate Change Policy
- Outreach and Education

Target Area: Multidisciplinary Initiatives

Initiatives to cost-effectively reduce greenhouse gas emissions in the near term and build local capacity to further reduce GHG:

Outreach /Education & Strategic Partnerships

•Identify sectors with interest in GHG reduction (e.g., universities, local governments, industry)

•Provide information resources, tools, models, incentives to help partners meet their energy and GHG goals

•Educate residents, urban planners, municipalities, business owners, and consumers on the importance of climate mitigation activities

Target Area: Multidisciplinary Initiatives

Initiatives to address the long-range potential to reduce greenhouse gases and move NYS toward a clean energy economy:

•Clean Energy Innovation Initiative: University-Industry partnerships to stimulate the development of climate mitigation technology

•Clean Energy Business Development: Provide assistance for start-up companies in NYS to develop successful business models

•Climate Change Research and Analysis

- Identify effective strategies for managing climate risk and mitigating climate change in NYS
- Assess the relationship of the CO2 Budget trading programs with other evolving energy and environmental policies affecting NYS

Program Evaluation & Reporting

Overarching goals of the evaluation effort:

- Provide a credible evaluation of the portfolio and individual programs
- Provide timely information to stakeholders on:
 - Progress toward program and public policy goals

•Progress toward emission reductions, increased energy efficiency and greater use of renewable energy

• Program efficiency and effectiveness

Program Evaluation & Reporting

Potential evaluation elements:

Impact Assessment

- Measure and verify outcomes attributable to the programs and compare achievements to stated goals
- Calculate program and portfolio cost-effectiveness

Market Characterization & Assessment

- Develop understanding of markets, market actors, customers
- Inform program design/delivery

Process Evaluation

- Review program oversight and operations
- Provide actionable recommendations for program and process improvements

Program Evaluation & Reporting

NYSERDA to prepare annual reports that will include:

- Accounting of sales of CO₂ allowances and funds generated
- Summary of program activities
- Evaluation of the results and impacts of program activities and accomplishments (e.g., reductions in greenhouse gases)
- Accounting of program administration costs and expenditures



NYSERDA RGGI Website:

http://www.nyserda.org/RGGI/default.asp

RGGI Concept Paper:

http://www.nyserda.org/RGGI/Concept%20Paper%20Nov %2012.pdf