

## Appendix B

# Description of New York State Climate Action Council Process

### Creation of the New York State Climate Action Council

In August 2009, Governor David A. Paterson signed [Executive Order 24](#) establishing the goal of reducing greenhouse gas (GHG) emissions from all New York sources to 80 percent below 1990 levels by 2050 and creating the New York State Climate Action Council (Council). The purpose of the Council is to assist New York in identifying the best opportunities to mitigate and adapt to climate change, reduce costs associated with climate change activities, and foster economic growth in New York.

**The Council's Response to Date:** In fulfillment of the requirements of the Executive Order, the Council has held six meetings between November 2009 and December 2010, and formed three external panels to assist and advise in areas requiring special expertise or knowledge: Technical Analysis, which consists of five Technical Working Groups; Multi-Sector Integration; and 2050 Visioning.

For planning and progress benchmarking purposes, the Council adopted an interim GHG reduction goal of 40 percent below 1990 levels by 2030, or one-half of the 80 by 50 goal at the mid-point between 2010 and 2050.

The Council and supporting panels crafted sector-specific vision statements that describe the major characteristics of each mitigation and adaptation sector in 2050 as necessary or desirable to achieve the 80 by 50 goal.

The Council and supporting panels reviewed over 300 multi-sector GHG mitigation policy options and approved for inclusion in this Report a package of draft mitigation policy options to reduce GHG emissions and address related energy and economic issues in New York State. Many of these draft recommendations have been individually analyzed for their likely GHG reduction potential and net direct cost or savings to the New York economy.<sup>1</sup>

The Council and supporting panels performed a systematic review of vulnerabilities to the effects of climate change and approved draft adaptation policy recommendations across eight sectors for inclusion in this Report.

### The Climate Action Plan Process

The Council began the formal deliberative process at the first meeting of the Integration Advisory Panel and Technical Working Groups on January 14, 2010. The Integration Advisory Panel has met in person five times, and the five Technical Work Groups have met in person and

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<sup>1</sup> Integrated analysis of the policies which takes into consideration policy interactions and overlaps, as well as macroeconomic, or indirect economic impacts on income, GSP, employment and prices, will be completed in the next phase of the Plan process.

by teleconference bi-weekly since January 2010. The five Technical Work Groups considered potential policy options in the following sectors:

- Power Supply and Delivery (PSD)
- Residential, Commercial/Institutional, and Industrial (RCI)
- Transportation and Land Use (TLU)
- Agriculture, Forestry, and Waste Management (AFW)
- Adaptation (ADP)

The four Mitigation Technical Work Groups (PSD, RCI, TLU, and AFW) focused on opportunities to mitigate GHG emissions or enhance the sequestration of atmospheric carbon dioxide within their respective sectors. The fifth, the Adaptation Technical Work Group, focused on policies that anticipated highly likely climate impacts over the next 100 years in eight economic and natural resource sectors, seeking to enhance potential benefits and reduce the cost and security risks associated with unavoidable climate impacts.

New York State agency participation has been extensive throughout the process, with project leadership and coordination provided by the [New York Energy Research and Development Authority](#) (NYSERDA) and the [Department of Environmental Conservation](#) (DEC). The [Center for Climate Strategies](#) provided facilitation and technical assistance to the process, including facilitation and technical support for each of the Technical Work Groups, based on a detailed proposal approved by NYSERDA.

The Technical Work Groups served as advisors to the Council and consisted of Council member agency staff and additional public, private and non-profit sector stakeholders with specific interest and expertise. Members of the public were invited to observe and provide input at all meetings of the Integration Advisory Panel and Technical Work Groups. A series of four public informational meetings were held around the State during the process. Planning process documents and deliberative and analytical products were posted to the Plan's public web site, which also provided an additional venue for public input.

Prior to a joint organizational meeting of the Integration Advisory Panel and Technical Work Groups the appointed participants attended a "2050 Visioning Conference" hosted by the [New York Academy of Sciences](#) and organized by [Brookhaven National Laboratory](#). The focus of the conference was to place the challenge of the 80 by 50 goal into real-world context, and by example illustrate the kinds of transformational change needed to achieve the goal.

After getting organized and reviewing the preliminary inventory and forecast the Technical Work Groups crafted sector-specific vision statements with supplemental text providing detail about the sector's demand for and use of energy, as well as advisory comments on related matters.

**Mitigation Policy Process:** Following the development of the vision statements, the four Mitigation Technical Work Groups then generated an additional set of New York State-specific policy options to be added to the catalog of existing states actions. Catalog policies were reviewed by representatives of the environmental justice community and participants in

NYSERDA's ClimAID project with written comments added to each policy in the catalog reflecting their concerns for whether and how the policy might affect disadvantaged communities, or be affected by anticipated near-term climate effects.

Where available, an estimate of the general potential for each cataloged mitigation policy to reduce GHG emissions in New York and a rough estimate of the direct cost or savings per ton of emissions reduced were provided to Technical Work Group members. Most of these estimates were derived from research sponsored by NYSERDA and conducted by the Center for Climate Strategies, titled [\*Development of New York State Greenhouse Gas Abatement Cost Curves\*](#).

Technical Work Group members also scrutinized and recommended enhancements to the New York State inventory and forecast of GHG emissions developed by NYSERDA with assistance from the Center for Climate Strategies (contained in the *New York Greenhouse Gas Emissions Inventory and Forecast* report and summarized in Chapter 3). The inventory, which begins in 1990, serves as the benchmark against which progress toward the 80 percent below 1990 emissions levels goal is measured. The forecast serves as the baseline or 'business-as-usual' projection of future emissions assuming no measures to reduce them are enacted beyond those already in place or approved.

The inventory and forecast and the analysis of most mitigation policies cover the six types of gases included in the United States (U.S.) Greenhouse Gas Inventory: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). The inventory and reference case projections include detailed coverage of all economic sectors and GHGs in New York State, including future emission trends related to energy, the economy, and population growth.

Once the Technical Work Groups had settled upon their broad sector visions for 2050, commented on the draft inventory and forecast, and reviewed the technical potentials and anticipated environmental justice and climate impact implications of the catalog policies, members engaged in a process of selecting priority policies for development and analysis. This process allowed the Technical Work Groups to regroup the catalog policies into logical policy bundles organized around sets of technologies, e.g., renewable electricity generation, or policy instruments, e.g., a renewable portfolio standard.

Technical Work Group-proposed priorities were reviewed by the Integration Advisory Panel and Council, ultimately yielding 39 priority policy bundles across the four mitigation sectors. The Technical Work Groups then set about the task of defining each policy as it could be implemented in New York State and specifying GHG reduction goals and timing. Each policy was developed using a template calling for:

- Policy Description
- Policy Design
- Implementation Mechanisms
- Related Policies and Programs in Place
- Estimated GHG Reductions and Costs or Cost Savings

- Key Uncertainties
- Additional Benefits and Costs
- Adaptation to Climate Change Considerations (if any)
- Environmental Justice Considerations (if any)
- Feasibility Issues

Once the policy design, goals and timing were settled, the Center for Climate Strategies analysts began to analyze the priority policy bundles designated for quantification. The analytical assumptions, data sources and methods were carefully reviewed and revised as needed by NYSERDA, DEC, other participating State agencies and Technical Work Group members. In some cases, multiple scenarios or sensitivity analyses were produced for policies or sub policies, and, depending on the results, policy designs were sometimes adjusted by the Technical Work Groups in response to the first analysis.

The four Mitigation Technical Work Groups have met in person or by teleconference bi-weekly through October 2010, not including small group meetings. Chapters 6 through 9 contain summaries of these mitigation policies including their analytical results. The analytical results presented here describe the potential effectiveness of the mitigation policies on a stand-alone basis; that is, it is assumed each policy is being implemented in isolation, and that none of the other recommended policies are implemented as well. This analysis generally does not consider interactions among policies or overlapping emissions reductions. It is therefore not appropriate to sum up the reductions or costs associated with individual policies in this Report to estimate a cumulative result.

**Adaptation Policy Process:** Unlike mitigation climate action planning, which has been undertaken in over 20 states and for which generally accepted methods have been developed, adaptation policy development is relatively new. A few other states have examined the adaptation challenge, but prior to the New York Climate Action Plan no state had attempted the comprehensive effort to investigate likely unavoidable climate impacts across eight sectors, assess their social, environmental, public health and economic risks, and propose dozens of measures to address them.

While there are many similarities, the Adaptation Technical Work Group followed a different process than that described above for the Mitigation Technical Work Groups. The Adaptation Technical Work Group was divided into eight sector subgroups as follows:

- Agriculture
- Ocean Coastal Zones
- Ecosystems
- Water Resources
- Public Health
- Transportation

- Energy
- Communications

Like the Mitigation Technical Work Groups, each Adaptation Technical Work Group subgroup crafted their own 2050 vision statement and then followed a formal process to guide the formation of recommendations. Informing this process were the draft results of the ClimAID research funded by NYSERDA and conducted by teams from Columbia and Cornell Universities, and the City University of New York, as well as the State Sea Level Rise Task Force and elements of New York City's PlaNYC.

The goals of the adaptation policies are somewhat different from the mitigation goals. Recommended adaptation policies seek to address one or more of the following:

- Prepare, protect, or improve climate resiliency
- Improve climate monitoring, surveillance and data collection
- Improve decision-making tools to enhance incorporation of climate projections in decision-making, permit and design criteria
- Evaluate and enhance New York's capacity to respond, e.g., through climate-informed emergency response plans and protocols
- Develop new strategies and promote advances in related technology through research and development
- Promote the inclusion of climate science in education curricula and other forms of educational outreach
- Improve coordination among federal, regional, state and local governments
- Identify and address equity issues

The Adaptation Technical Work Group created its own policy description template to fully describe their policy proposals and evaluate them according to criteria developed by the group. The adaptation policy template included the following:

- Climate Variables and Probabilities
- Impacts on Resources (Likelihood, Consequence, Magnitude)
- Timing of Risk and Overall Risk
- Adaptation Strategy
- Policy/Mechanism (Who, What, Where, How)
- Potential Cost
- Feasibility
- Timing of Implementation
- Efficiency

- Resiliency
- Environmental Justice Considerations (Distribution, Degree)
- Co-benefits and Costs
- Research/Information Needs

The Adaptation Technical Work Group has developed policy recommendations across the eight sectors, which are summarized in Chapter 11. The full Adaptation Technical Work Group met by teleconference 12 times since January 2010, with one in-person meeting, and the eight subgroups met dozens of times separately to develop their recommendations. As with the mitigation policies, the Integration Advisory Panel and the Council reviewed and commented on the adaptation policy sets as they were being developed.

**Public Engagement:** Key to the Climate Action Plan process design is the active engagement of the public. As shown in Appendix C, the Technical Work Groups and Integration Advisory Panel count among their members many representatives of environmental justice communities, business and industry, academia, non-government organizations, trade associations, regional and local governments, and state agencies. In addition to appointed membership on process committees, four public informational meetings were held including two with special focus on environmental justice concerns. An informational webinar will be provided, and three public hearings will be held to solicit comment on this Interim Report.

To facilitate ongoing public involvement, all Technical Work Group and Integration Advisory Panel meeting summaries, documents, drafts and work products were posted to the public web site [www.nyclimatechange.us](http://www.nyclimatechange.us), which provided an opportunity to submit electronic comments or questions. In addition, every Technical Work Group and Integration Advisory Panel meeting or teleconference was open to the public, and each meeting agenda provided an opportunity for public comment or question.

In addition to the multiple public engagement opportunities described above, those living in economically disadvantaged communities have been represented and their concerns voiced through formal integration of environmental justice concerns throughout the process. Through representation on the Integration Advisory Panel and Technical Work Groups, and by incorporation of written comments and guidance at key junctures in the deliberations, the authors of these recommendations have heard and sought to incorporate these concerns into the policy designs.

In all, dozens of comments were received during Technical Work Group conference calls, about 25 comments and other inquiries were received through the web site portal, and approximately 125 people attended the first four informational meetings.

### **Next Steps**

While the identification of mitigation and adaptation policies for New York and the quantification of a subset of these for their GHG reduction potential and cost is a major achievement, to fully satisfy Executive Order 24 more must be done. Public comment on this Interim Report will be taken for a 90-day period, during which three public hearings will be held.

Comments received will be reviewed by the Council and addressed in the draft Climate Action Plan as appropriate.

This Report identifies cross-sector policies and issues (Chapter 12), but the analysis contained here assumes each policy is implemented in isolation. The next phase of the planning process will consider all policy interactions and produce a methodologically correct ‘sum of the parts’ projection for Action Plan emission reduction potentials and costs.

Also to be included in the next phase is a macroeconomic analysis of the impact of the recommended policies on the broader New York economy. Costs and savings associated with policies in this Report consider only the direct costs and savings to society, defined as within the geographic boundaries of New York State. Secondary, indirect, or macroeconomic impacts such as statewide employment, income, energy price and Gross State Product impacts will be examined next with the results presented in the Final Climate Action Plan Report.

Many climate-sensitive policies are not new. Indeed, much progress has already been achieved through enactment of measures unrelated to climate concerns. Energy efficiency has long been both an economic and national security priority; the GHG benefits are considered ‘co-benefits’ of these policy goals. Likewise, many of the policies recommended here offer co-benefits of their own. In particular, efforts that result in reduced burning of fossil fuels often result in lowered emissions of pollutants other than CO<sub>2</sub>. Criteria pollutants, such as particulates, sulfur dioxide, nitrogen oxides and air toxics emissions, may also be mitigated by climate-driven actions. Some of these pollutants adversely affect human health and, therefore, impose economic and societal costs. To more completely assess the value of these policies, the next phase of this planning process will include a co-benefits analysis to project the level of non-CO<sub>2</sub> pollutant reductions and estimate the related benefits in improved human health and reduced cost associated with treating resulting illnesses.

As discussed in Chapter 14, some of the most effective actions New York State could pursue would either require or greatly benefit from the participation of our regional neighbors or the federal government. Following the issuance of the Final Climate Action Plan Report in 2011, the State will move toward implementation of the Plan, which will require engagement with regional neighbors and the federal government on a variety of policy recommendations.

Critical to the charge of Executive Order 24 is demonstrating that the policies proposed here, after enhanced analysis and refinement, can achieve the goal of total statewide emissions 80 percent below New York State emissions in 1990. The analysis contained here covers the period from 2010 through 2030. Some key policies have also had GHG reductions estimated between 2030 and 2050, but cost estimates are limited to the next twenty years due to the increasing uncertainty associated with longer-range projections. The Final Climate Action Plan Report will therefore contain an additional analysis showing whether the 2050 goal will be achieved by the implementation of the Plan’s recommendations.