

Scope for the 2013 New York State Energy Plan

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The 2013 New York State Energy Plan (“Plan”) will provide broad policy direction to guide energy-related decision-making in the public and private sectors within New York State. The Plan will focus on meeting future energy needs, while balancing reliability, cost, environmental and public health impacts, and economic growth.

This document sets forth a Final Scope (“Scope”) for the Plan, revised to reflect comments received through the public comment process. The topic areas to be developed in the Plan are guided by statutory requirements (Article 6 of the Energy Law), which are summarized in the Appendix.

The statute requires that the Plan seek to:

- Improve the reliability of the State's energy systems
- Insulate consumers from volatility in market prices
- Reduce the overall cost of energy in the State
- Minimize public health and environmental impacts, particularly those related to climate change
- Identify policies and programs designed to maximize cost-effective energy efficiency and conservation activities to meet projected demand growth

The Plan will also focus on policies and programs that help drive economic expansion and job creation, stimulate innovation and foster continued development of globally competitive clean energy industries.

Topic Areas to be Developed in the 2013 State Energy Plan

The topic areas described below are organized to meet statutory requirements and address additional issues identified through the public comment process and by the State Energy Planning Board (“Board”). Analysis and information from other State resources and plans, such as the Interim Report of the Climate Action Plan, the Emergency Management Plan, and transportation planning documents, will be integrated into the Plan, where appropriate.

To the extent practicable and feasible, each topic area of the Plan will assess current status and future outlook; discuss issues, challenges, and options; and provide recommendations for policy direction.

I. Overview of New York’s Energy Systems

Systems and Costs Overview. Provide an integrated overview of the State’s energy systems, including energy use and costs, disaggregated by fuel and customer types. Evaluate future energy and infrastructure requirements and costs, supply options, and system reliability needs. Assess potential system, market, and regulatory changes; efficiency improvements, technology development and implementation, economic growth, and environmental impacts, with focus on the potential contribution of energy efficiency, renewable energy, and distributed sources to meeting energy needs. Examine the drivers of energy costs for New York’s end-users. Assess the impact of energy and regulatory policies on energy costs, particularly for low-income consumers.

II. Meeting the State’s Energy Needs and Goals with Energy Efficiency and Renewable Resources

Energy Efficiency. Assess existing energy efficiency initiatives in achieving their goals. Assess the potential for meeting future energy needs by increasing cost-effective energy efficiency and conservation in the residential, commercial, industrial, transportation, and agricultural sectors, thereby reducing total energy bills while driving investment in new technologies and industries that advance a clean energy economy. Evaluate existing and potential funding mechanisms. Discuss methodologies and metrics used to assess the net benefits and cost-effectiveness of energy efficiency activities. Assess the current and potential role of building and energy codes and appliance standards, and increased compliance, in achieving energy efficiency goals and accelerating technology implementation. Consider potential impacts of distributed generation, combined heat and power systems, demand response, and efficiency improvements in the energy transmission and distribution systems.

Renewable Resources. Assess existing renewable resource initiatives in achieving their goals. Assess the potential for implementation and use of renewable energy resources for meeting energy needs in the electricity generation sector, and in the residential, commercial, industrial, transportation, and agricultural sectors. Assess renewable resource potential including grid-level electricity generation (onshore and offshore), customer-sited production of electricity and thermal energy, and use of bio-based fuels. Evaluate existing and potential funding mechanisms. Discuss methodologies and metrics used to assess the costs and benefits of renewable resources. Assess needs for transmission and distribution upgrades, and balancing resources to support integration of variable energy resources, e.g., wind and solar. Discuss siting issues, permit processes, grid interconnection standards and net metering provisions. Assess the role of policy mechanisms and research and development in encouraging investment in renewable energy resources.

III. Meeting the State’s Energy Needs and Goals for Electricity

Electricity. Provide historic, current, and forecasted electricity load, prices, and supply requirements, taking into account system and technology changes, and the potential contribution of energy efficiency and renewable resources in meeting energy needs. Assess the existing generation supply portfolio and transmission and distribution infrastructures. Discuss the need for and available options to replace, modernize, upgrade or repower outdated infrastructure, potentially increasing capacity in the process. Discuss opportunities and issues associated with the siting of new infrastructure, including the potential for smart grid projects to help meet infrastructure needs. Consider the effects on the reliability of the electric power grid of potential changes in markets and policies, including environmental policies that may affect air emissions and water discharges. Discuss fuel diversity, development of alternative energy resources, and system upgrades. Assess regulatory and cost recovery mechanisms for meeting transmission upgrade needs. Assess infrastructure needs, costs, and impacts associated with potential development of plug-in electric vehicles, energy storage, and other emerging technologies. Consider the impacts of increasing reliance on out-of-state generation as well as increasing the development of in-state resources to meet growth in energy needs. Examine the State’s competitive wholesale electricity markets, capacity markets, and ancillary services markets, including interaction with neighboring regional markets (PJM, ISO-NE, IESO (Ontario) and Hydro-Quebec). Discuss the impacts of increasing the integration of New York’s electricity markets with those of neighboring regions.

IV. Meeting the State's Energy Needs and Goals by Fuel Type

Natural Gas. Provide historic, current, and forecasted natural gas demand and prices. Assess existing and future supply sources, pipeline and storage capabilities, delivery infrastructure, and system reliability needs, including electricity generation, and in residential, commercial, industrial, and transportation sectors. Evaluate issues associated with potential production and transportation of natural gas from New York's Marcellus Shale and other geologic formations, including impacts on reliability, diversity, fuel and electricity markets and economic development. Discuss the inter-dependency of the electricity and natural gas systems and the potential contribution of LNG and biogas to meeting total energy needs. Assess the regulatory, cost, and other implications of siting new infrastructure including infrastructure to serve new generation resources; and implementing technological and efficiency advancements. Assess the potential impacts and needs associated with expansion of use of natural gas in buildings, industry, and transportation, that could result from economic growth and/or substitution of natural gas for other fuels.

Petroleum. Provide historic, current, and forecasted demand and prices; and supply requirements for petroleum products in New York, including fuel used for transportation, residential, commercial, and industrial end-use, and electricity generation. Petroleum products include distillate fuels, gasoline, propane, residual and jet-fuels. Assess petroleum markets, including the global perspective of world production trends for crude oil as well as markets for refined products used in the State's energy systems. Assess the adequacy and security of the current infrastructure and the impacts of potential expansion due to economic growth. Assess impacts associated with the use of petroleum as a transportation and heating fuel and evaluate options for use of alternative fuels in those sectors.

Coal. Provide historic, current, and forecasted demand and prices. Assess the contribution of the coal-fired electricity generation fleet in meeting New York's energy, capacity, and reliability requirements. Discuss national and New York markets for coal, including production, reserves, and transportation. Assess emissions and water use issues related to existing coal-fired generation, technology development, and alternatives to conventional coal combustion generation, including the use of gasification technologies and the potential for use of carbon capture and sequestration.

Nuclear. Assess the contribution of the nuclear fleet in meeting New York's energy, capacity, and reliability requirements. Discuss issues and alternatives associated with the potential unavailability of the Indian Point units, including replacement power, reliability needs, transmission, contribution of energy efficiency and renewable resources, and long-term waste storage and disposal. Assess nuclear technology development, including small-scale and modular units, as well as issues associated with the potential siting and construction of nuclear plants. Discuss impacts of federal energy policy on New York's nuclear plants.

Other and Alternate Energy Sources. In addition to the discussion of renewable fuels described above, e.g., solar, wind, hydropower, and bio-based fuels, assess the use of and discuss issues associated with other fuels and energy sources, including municipal solid waste, landfill gas, and hydrogen.

V. Growing New York's Clean Energy Economy

Economic Expansion and Development. Assess New York's current clean energy and economic assets, including: types of capital (human, financial, and natural); infrastructure; public, academic, research, and training institutions; and commercial and industrial enterprises in the context of the State's overall economy. Examine how these assets can help develop New York's energy economy. Assess the State's current and planned economic development policies and initiatives, including the Regional Economic Development Councils and programs designed to provide affordable and reliable energy supplies for

commercial and industrial customers. Explore the effect that government action (legislative, regulatory, policy, and public-private partnerships) and increased reliability of energy systems may have on the State's efforts to attract new businesses, foster job growth and innovation, increase access to capital, and increase the State's competitiveness in the global economy.

Clean Energy Innovation and Development. Assess existing State and federal policies, programs, and funding mechanisms to stimulate energy research and development, support business and market development of emerging clean energy technologies, and bridge the gaps to full commercialization of new products. Explore how New York can accelerate the development of clean energy industries and products, facilitate coordination between universities and industries, and encourage the growth of regional technology clusters.

Workforce Development and Educational Initiatives. Provide key metrics and trends for the clean energy economy and labor markets in the context of the State's overall economy. Focus on ensuring that there are sufficient skilled workers to support the expansion of the clean energy economy and enhance the State's economic competitiveness. Explore the workforce development and training programs, and educational initiatives needed to support the growing clean energy economy. Discuss the need for coordinated efforts across State agencies to implement these initiatives. Discuss barriers to education and training, including those facing low-income individuals and communities of color.

VI. Climate Change and Environmental Impacts

Climate Change. Provide an inventory and forecast of New York's greenhouse gas emissions, drawing upon the Interim Report of the Climate Action Plan. Assess the potential impacts of increased greenhouse gas emissions on the State's natural resources, infrastructure, and public health. Identify strategies for increasing the use of low-carbon energy sources and carbon mitigation and adaptation measures in the energy sector. Discuss existing and proposed policies, including potential impacts on New York's energy use, environment, and economy. Compare the use of energy and associated greenhouse gas emissions across sectors and fuel types on a full fuel-cycle basis.

Environmental Impacts. Assess the impacts of energy production, transmission, and use on criteria air emissions, such as SO₂ and NO_x emissions; air and water quality; fish and wildlife; natural habitats, and agricultural lands. Evaluate the potential impacts of proposed environmental policies on the energy sector. Assess selected current electric system reliability rules to estimate their impact on emissions and energy prices. Assess the potential environmental impact of smart grid and other technologies or initiatives designed to improve energy services.

VII. Investing in Resilient Energy Infrastructure, an Efficient Transportation System, and Smart Growth

Energy Infrastructure and Reliability. Discuss the importance of maintaining the reliability and resiliency of the State's energy systems (to be included within the topic areas for electricity and the individual fuels). Assess issues and potential impacts associated with infrastructure siting, cost recovery mechanisms and regulations, federal bulk transmission policy, and technology advancement.

Transportation. Examine the impacts and issues related to improved efficiency, utilization, expansion, and modernization of the existing system (highway, transit, rail, and other transportation modes). Assess the fuel use impacts associated with maintaining a state of good repair. Evaluate hybrid and plug-in vehicle technologies. Discuss the effect of increased electrification of the transportation system (single passenger vehicles, fleet vehicles, and public transit) on electricity demand and usage patterns. Discuss

the infrastructure required to charge vehicles. Explore the State's role in potential initiatives to encourage electric vehicles and the options for funding such efforts. Explore the State's role in potential initiatives to promote alternative transportation fuels, such as advanced biofuels, natural gas and hydrogen. Explore funding options for transportation-related energy efficiency and greenhouse gas reduction mechanisms. Identify cost-effective policy measures and strategies, encompassing both technological advancement and demand management, to improve mobility choices and reduce greenhouse gas emissions, including actions to reduce automobile dependency, and to increase transit, high-speed rail, and smart growth efforts. Discuss continued integration and alignment of the State's transportation policy with the State's energy, environmental, and economic development goals.

Resiliency, Security, and Emergency Planning. Review the impacts of natural, technological, and human threats to the State's energy systems, fuel supplies, and generating modes; and the need for the State to invest in resiliency of its energy and transportation systems. Explore developing robust contingency plans, e.g., emergency preparedness and redundancy planning, enabling proactive response to disruptions (originating from both in-state and out-of-state) while maintaining critical operations. Discuss counter terrorism, emergency management and communications, physical and cyber security, and fire prevention efforts to prepare New York for emergencies and to maintain the reliability of the State's energy systems.

Smart Growth. Assess the ability of municipal and urban planning, the integration of land-use and transportation planning, zoning and building codes, transit improvements, and other approaches to reduce energy use and transportation fuel demand. Consider ways to implement smart growth principles and sustainability in planning for transportation and energy systems.

VIII. Health and Environmental Justice

Health. Assess the known and potential health impacts of energy production and use across all sectors. Describe the methods, including standards and criteria, used to assess impacts of energy production and use on public health and potential strategies for reducing these impacts. Consider how use of emerging energy technologies and fuels can contribute to or mitigate potential health concerns. Consider community health concerns in the development of energy facilities.

Environmental Justice. Consider environmental justice issues as a key issue in energy planning. Examine current policies, programs, and procedures that are intended to ensure the fair treatment and meaningful involvement of all people, and identify ways to improve the health and environmental well-being of communities that are affected by impacts from energy-related industrial facilities and activities. Identify opportunities for participation in energy decision-making and planning by affected communities.

IX. Local, Regional, and Federal Action and Collaboration

Local, Regional, and Federal Action and Collaboration. Discuss the role of various levels of government in energy and related climate planning and decision making. Review current and proposed local, regional, and federal energy and related climate policies and programs and their impacts on achieving the State's energy goals. Explore best practices and opportunities for local, regional, and federal coordination and engagement in energy planning and decision making that can support economic growth and the development of a clean energy economy in the State, including the Regional Economic Development Councils. Discuss enforcement of building and energy codes and equipment standards, and expansion of smart growth initiatives. Identify opportunities for improving the regional flow of fuels and electricity and development of key energy infrastructures. Identify legal and jurisdictional issues that would need to be addressed in order to achieve potential benefits. Consider the regional (interstate) and

national policy landscapes and identify opportunities to expand New York's position in the larger clean energy supply chain.

Appendix

Summary of Statutory Requirements (Article 6 of the Energy Law)

As outlined in Article 6 of the Energy Law, the Plan will include the following elements. The elements of the State Energy Plan will be provided on a statewide basis, and as determined feasible and necessary by the Board, for the Upstate and Downstate regions identified in the statute:

- Forecasts for a minimum of ten years and for such other periods as the Board may determine:
 - Demand for electricity, natural gas, coal, petroleum products, including heating and transportation fuels, and alternate fuels, including ethanol and other biofuels, to the extent possible, taking into account energy conservation, load management and other demand-reducing measures which can be achieved in a cost-effective manner, including the basis for such projections, including an examination of possible alternate levels of demand and discussion of the forecasting methodologies and input variables used in making the forecasts
 - Energy supply requirements needed to satisfy demand for electricity, natural gas, coal, petroleum products, including heating and transportation fuels, and alternate energy sources and fuels, for each region of the State, and for the State as a whole, including with respect to electricity, the amount of capacity needed to provide adequate reserve margins and capacity needed to ensure reliability and competitive markets in the various regions of the State
 - An assessment of the ability of the existing energy supply sources and the existing transmission or fuel transportation systems, to satisfy, together with those sources or systems reasonably certain to be available, such energy supply requirements, indicating planned additions, retirements, de-ratings, substantial planned outages, and any other expected changes in levels of generating and production capacity
 - Additional electric capacity and/or transmission or fuel transportation systems needed to meet such energy supply requirements that will not be met by existing sources of supply and those reasonably certain to be available, where such analysis should identify system constraints and possible alternatives available, both supply-side and demand-side alternatives, including but not limited to distributed generation, energy efficiency and conservation measures, to redress such constraint
- Identification and assessment of the costs, risks, benefits, uncertainties and market potential of energy supply source alternatives, including demand-reducing measures, renewable energy resources of electric generation, distributed generation technologies, cogeneration technologies, biofuels and other methods and technologies reasonably available for satisfying energy supply requirements which are not reasonably certain to be met by the above identified energy supply sources, and will include an assessment of the contributions of current energy policies and programs to achieve long-range energy planning objectives

- Assessment of current energy policies and programs, and their contributions to achieving long-range energy planning objectives including, but not limited to, the least cost integration of energy supply sources, energy transportation and distribution system and demand-reducing measures for satisfying energy supply requirements, giving due regard to such factors as required capital investments, cost, ratepayer impacts, security and diversity of fuel supplies and generating modes, protection of public health and safety, adverse and beneficial environmental impacts, conservation of energy and energy resources, the ability of the State to compete economically, and any other policy objectives deemed appropriate
- Identification and analysis of emerging trends related to energy supply, price and demand, including trends related to the transportation sector
- Inventory of greenhouse gas emissions, and strategies for facilitating and accelerating the use of low carbon energy sources and/or carbon mitigation measures
- Assessment of the ability of urban planning alternative, including but not limited to smart growth and mass transportation improvements to reduce energy and transportation fuel demand
- Analysis of security issues, considering both natural and human threats to the State's energy systems
- Environmental justice analysis
- Recommendations, as appropriate and desirable, for administrative and legislative actions to implement the Plan's policies, objectives and strategies
- Assessment of the impacts of implementation of the Plan upon economic development, health, safety and welfare, environmental quality, and energy costs for consumers, specifically low-income consumers