

# **Draft Scope for the 2013 New York State Energy Plan and Public Solicitation of Comments**

**March 10, 2011**

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 Draft Scope (“Scope”) for the Plan and solicits public comments. 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

## **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 by the 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**

**Overview.** Provide an integrated overview of the State’s energy systems including historic, current, and forecasted demand and prices, disaggregated by fuel and customer types. Evaluate future energy and infrastructure requirements and costs, supply options, and system reliability needs. Assess system changes, technology development, economic growth, and environmental impacts, with focus on the potential contribution of energy efficiency, renewable energy, and distributed sources. Examine current energy prices for New York State customers, particularly for low-income consumers.

## **II. Meeting the State's Energy Needs and Goals with Energy Efficiency and Renewable Resources**

**Energy Efficiency.** Assess the impacts and effectiveness of existing energy efficiency initiatives. Assess the potential for meeting future energy needs by increasing energy efficiency in the residential, commercial, industrial, transportation, and agricultural sectors, thereby driving investment in new technologies and industries that advance a clean energy economy. 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 the existing and potential use of renewable energy resources, including grid-level electricity generation (onshore and offshore), customer-sited production of electricity and heat, and bio-based fuels, for meeting energy needs in the electricity generation, residential, commercial, industrial, transportation, and agricultural sectors. Review the Renewable Portfolio Standard and other programs designed to encourage implementation of renewable resources. Discuss methodologies and metrics used to assess the costs and benefits of renewable resources. Assess transmission needs and approaches to balancing intermittency. Discuss siting issues, permit processes, and grid interconnection standards. Assess the role of regulatory coordination, market incentives, policy mechanisms, cost recovery methods, and research and development in encouraging investment in renewable energy resources.

## **III. Meeting the State's Energy Needs and Goals for Electricity**

**Electricity.** Provide 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 generation, transmission and distribution infrastructure, options to modernize aging infrastructure, and impacts of siting new infrastructure. Analyze the effects on the reliability of the electric power grid as it adapts to changing needs, technologies, markets, and policies. 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 smart grid initiatives. 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 electricity markets, costs, and linkages with neighboring regional energy markets (PJM and ISO-NE) and Canada.

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

**Natural Gas.** Provide current and forecasted natural gas demand and prices. Address system reliability needs. Assess natural gas supply sources, including U.S., New York (Marcellus Shale and other geologic formations), and Canadian, as well as reliability, price, economic, and environmental impacts of production of natural gas from these sources. Discuss the inter-

dependency of the electricity and natural gas systems and the contribution that LNG and biogas can make to meeting total energy needs. Discuss New York's natural gas infrastructure; the regulatory, cost, and other implications of developing and siting infrastructure and new sources; adapting to technological advancements; and assessing impacts associated with the potential expansion of use of natural gas in the building, heating, and transportation sectors.

**Petroleum.** Provide 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. 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.

**Coal.** Provide current and forecasted demand and prices. Assess the contribution of the existing coal-fired generation fleet in meeting New York's energy requirements. Discuss national and New York markets for coal, including production, reserves, and transportation. Examine issues related to existing coal-fired generation, emerging trends, and alternatives to conventional coal generation, including the use of advanced coal technologies and the potential for use of carbon capture and sequestration.

**Nuclear.** Assess the contribution of the existing nuclear fleet in meeting New York's energy requirements, including plant characteristics, reliability, operation and maintenance, and impact of electricity markets on operation and economics of nuclear plants. Discuss relicensing issues, including safety, operational requirements, waste storage and disposal, decommissioning, and environmental impacts associated with nuclear power. 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 and discuss issues surrounding other fuels and energy sources, such as municipal solid waste, landfill gas, and hydrogen.

## **V. Growing New York's Clean Energy Economy**

**Economic Development.** Assess New York's existing clean energy assets and core competencies, including types of capital (human, financial, and natural); infrastructure of buildings, industry, and transportation; public, academic, research, and training institutions; and commercial and industrial enterprises. 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 programs that provide low-cost electric power. 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, and increase access to capital. [Engage in a study of the](#)

economic benefits of the mass transit system to the State of New York (the job creation and retention value to businesses, the taxes generated, the direct and indirect benefits, real estate value proximate to transportation, etc.) to encourage continuing investments in the mass transit system's capital programs and its ongoing maintenance and operating needs to preserve and enhance the State's competitive advantage in the global economy. Evaluate the viability of establishing a State Infrastructure Bank ("SIB") to address long-term gaps in funding for transportation, energy, bridges and tunnels, the highway system, and other physical infrastructure vital to the State's economic growth and continuing well-being. Evaluate the economic development potential and carbon-reduction benefits of Smart Growth development (meaning denser, location-efficient commercial and residential development, including infill) within a half or quarter mile of existing rapid transit lines in metropolitan regions of NYS, within half or a quarter mile of extensions of existing rapid transit lines in metro regions and within a half or quarter mile of new rapid transit lines in metro regions of NYS. In metropolitan regions throughout NYS, identify areas that have the best potential as live-work communities with access to rapid transit.

**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.** Assess the labor market characteristics of the State's energy sectors, including labor supply and demand, earnings, occupational trends, and growth opportunities. 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.

**Environmental Impacts.** Assess the impacts of energy production and use on criteria air emissions, such as SO<sub>2</sub> and NO<sub>x</sub>, air and water quality, and fish and wildlife, as well as 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 ability of a more efficient and reliable electric system to deliver cleaner energy.

## **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, including first- and last-mile means of access and gaps where needs are not met). Assess the impacts of maintaining a state of good repair, the associated costs and long-term shortfall in funding for such obligations. Evaluate alternative fuel and hybrid vehicle technologies, including cost efficient models for the mass transit system. Discuss the effect of increased electrification of the transportation system (single passenger vehicles, fleet vehicles, and public transit) on electricity demand and supply. Discuss the infrastructure required to charge vehicles and assess alternate sources of energy supply to meet demand (solar, wind, geothermal, and others to offset drain on electrical grid). Explore the State's role in potential initiatives to encourage electric vehicles (such as, conveniently located charging infrastructure at transit stations, parking lots and public garages using solar photovoltaic cells) and the options for funding such efforts, including public private partnerships (e.g., public sector provides land or facilities, private sector builds the energy infrastructure thereon and receives tax credits for the investment). Explore funding options for transportation-related energy efficiency and greenhouse gas reduction mechanisms. Develop policies and practices for greening mass transit and using transit to green cities and communities, utilizing information such as "Greening Mass Transit & Metro regions: The Final Report of the Blue Ribbon Commission on Sustainability and the MTA" and the "2011 MTA Sustainability Report. Identify cost-effective strategies, including technological and demand management and how public agencies can work together in achieving this goal with a uniform policy, approach and effort, to reduce energy consumption, vehicle-miles-traveled, and increase transit, high-speed rail, and smart growth efforts in the transportation sector. Discuss continued integration and alignment of the State's transportation policy with the State's energy and economic development goals, including linking varied modes of transportation between land, sea and air (e.g., smart card similar to the Octopus or Oyster Card usable in airports, subways, commuter rails, bridges and tunnels, and on ferries and other waterborne means of transportation) to promote ease of ridership, connectivity, access and increased use of public mass transit systems.

**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 while maintaining critical operations. Discuss

counter terrorism, emergency management and communications, 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, mass transportation 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 through a coordinated forum such as the State's Smart Growth Cabinet, or through legislation authorizing TOD districts with special tax incentives, subsidies and enabling power near mass transit's infrastructure and network. Study ways to utilize the State's Smart Growth Infrastructure Act, in conjunction with the SIB and the parking authorities to concentrate and leverage investments in or near existing infrastructure systems to maximize return on investment, reduce costs, encourage the development of TODs and meet future population growth needs and ensure sustainable economic development and competitiveness.

## **VIII. Health and Environmental Justice**

**Health.** Assess the known and potential health impacts of energy production and use. 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 climate decision making. Analyze current and proposed local, regional, and federal energy and climate policies and programs and their impacts on achieving the State's energy goals. Explore best practices of local, regional, and federal coordination in energy project development that can support economic growth and the development of a clean energy economy in the State. Discuss how to foster local engagement and training in power generation, renewable energy, and infrastructure development. Discuss enforcement of building and energy codes and equipment standards, and expansion of smart growth initiatives. Address 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.

## **Public Solicitation of Comments on the 2013 State Energy Plan**

The Board is soliciting comments on the Draft Scope. Comments may address any aspect of the Scope including how the Board should conduct the technical and policy analyses described, as well as any additional issues that should be addressed.

Comments may be submitted electronically through the Energy Plan website at <http://www.nysenergyplan.com/> or in hard copy to:

State Energy Plan Comments  
NYSERDA  
17 Columbia Circle  
Albany, NY 12203-6399

Comments must be received on or before April 29, 2011.

## **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. To the extent practicable, the elements will be provided on a statewide basis as well as for the Upstate and Downstate regions identified in the statute:

- forecasts for periods of five, ten and fifteen years of:
  - 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, for each region of the State, as well as the State as a whole, 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

- an 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
- an inventory of greenhouse gas emissions over five, ten and fifteen year periods, and strategies for facilitating and accelerating the use of low carbon energy sources and/or carbon mitigation measures
- an 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
- an analysis of security issues, considering both natural and human threats to the State's energy systems
- an environmental justice analysis recommendations, as appropriate and desirable, for administrative and legislative actions to implement the Plan's policies, objectives and strategies
- an 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