

March 6, 2009

Paul A. DeCotis
Deputy Secretary for Energy
Chairman, Energy Planning Board
Executive Chamber
State Capitol, Room 245
Albany, NY 12224

Dear Paul,

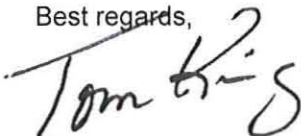
National Grid appreciates the opportunity to offer its thoughts and share its experience on the critical energy issues facing the State of New York today. As you know, the challenges facing New York are formidable: how to help its citizens, businesses and industry manage and reduce their energy costs and at the same time, how to address climate change, now an environmental imperative.

Leadership is imperative if these challenges are to be met. The State Energy Plan presents an opportunity to provide clear policy leadership and establish a roadmap for implementation that will encourage innovation by utilities, the regulatory agencies that oversee them, and other industry participants. The roadmap should:

1. Establish energy resource priorities to move New York toward an affordable and sustainable energy future. Environmentally friendly options – energy efficiency, demand side resources and renewable generation – should be pursued first when resource decisions are being made by utilities and the competitive markets.
2. Expand transmission infrastructure to increase choices for customers by providing access to renewable and other location-constrained resources on the electricity side and to new sources of supply on the gas side.
3. Upgrade and modernize New York's existing energy infrastructure to create a platform for energy efficiency, demand-side resources (including distributed generation), renewable energy and advanced technologies such as PHEVs.
4. Create an environment that fosters the economic vitality of the energy industry to ensure that New York is an attractive place to invest and do business. This will not only promote energy efficiency, demand response and renewable energy, but also more effectively finance the infrastructure that will be the foundation for new business and industry that will create jobs and provide citizens with reliable, cost-effective and environmentally sustainable energy resources.

National Grid stands ready to work with you and New York's policymakers and regulators to take the innovative steps needed to implement this roadmap and ensure that New York's energy future is both affordable and sustainable.

Best regards,



Thomas B. King

cc: Thomas Congdon, Executive Director, Energy Coordinating Working Group
Garry Brown, Chairman, New York Public Service Commission

INTRODUCTION

National Grid appreciates the opportunity to offer its thoughts and share its experience on the critical energy issues facing the State of New York today. We applaud the Administration for establishing the State Energy Planning Board to design a framework for establishing clear and coordinated energy and environmental policies. A well-defined plan for implementing those policies will ensure the provision and delivery of reliable, affordable, technologically advanced and environmentally sustainable energy for New York's citizens and businesses.

The challenges facing New York are formidable: how to help its citizens, businesses and industry manage and reduce their energy costs while still satisfying their needs and at the same time, how to address climate change, now an environmental imperative. The tension between these two inextricably linked challenges is heightened when the State (as well as the nation) is facing a significant economic downturn, driven in part by the level and volatility of energy costs.

CREATING A ROADMAP

The Governor's recent State-of-the-State address spoke of the vigor and courage needed to overcome the challenges facing the State and, indeed, the nation. Leadership is also imperative. It is time for policymakers, regulators and the energy industry in New York to step forward and take specific and measurable actions to ensure that New York's energy future is both affordable and sustainable. Without strong leadership, progress will continue to be slowed by competing viewpoints and agendas. The State Energy Plan (SEP) should set forth the roadmap for New York's energy and environmental future and enable policymakers to follow and implement it. The roadmap can lead in one of two directions: it can direct or regulate a specific course of action or it can create an environment that encourages and supports innovation. National Grid believes that an open innovative path will better elicit and support the investment needed to satisfy customer needs and at the same time mitigate and adapt to climate change.

The SEP should provide clear policy direction and establish a framework for implementation that will encourage innovation by utilities, the regulatory agencies that oversee them, and other industry participants. Such an ambitious road map when effectively implemented, will position New York as a leader among the states. The road map should

1. Establish energy resource priorities¹ to move New York toward an affordable and sustainable energy future. These priorities, in the priority order below, should address both customers' needs to manage and reduce their energy costs and the challenges of climate change by ensuring that environmentally friendly options are pursued first when resource decisions are being made by utilities and the competitive markets.
 - o First, all cost-effective energy efficiency should be deployed;
 - o Then, all cost-effective demand response and other demand side management options, including distributed generation, should be incorporated;
 - o Next, best fit and best cost structure for renewable energy should be facilitated;
 - o Then, clean conventional energy generation (for example, combined heat & power (CHP)) should be pursued.

¹ California pioneered a "loading order" to address future energy needs in its 2003 "Energy Action Plan" building on 20 years of success in energy efficiency and demand side management programs which have kept per capita emissions at only 2/3 of the U.S. average according to the "2008 Energy Action Plan Update."

2. Expand transmission infrastructure to increase choices for customers by providing access to renewable and other location-constrained resources on the electricity side, and to new sources of supply on the gas side. This will require:
 - o Improving regional planning that addresses reliability, economic, and environmental objectives;
 - o Streamlining siting and permitting to facilitate timely upgrades and new construction while being mindful of environmental impacts; and
 - o Resolving the complex cost allocation debate which is slowing or preventing construction of beneficial new transmission.

3. Upgrade and modernize New York's existing energy infrastructure to create a platform for energy efficiency, demand-side resources (including distributed generation), renewable energy and advanced technologies such as PHEVs. This will require:
 - o Supporting the investment needed to enhance and upgrade aging energy infrastructure;
 - o Recognizing the need for adaptation in designing and investing in infrastructure to meet increased customer demand and adapt to changing weather patterns;
 - o Facilitating implementation of smart technologies and complementary pricing mechanisms to enhance customers' decision-making and usage capabilities regarding energy efficiency and demand response; and
 - o Increasing funding for utility innovation, through research, demonstration and deployment (RD&D) of green, smart technologies in order to advance their commercialization.

4. Create an environment that fosters the economic vitality of the energy industry to ensure that New York is an attractive place to invest and do business. This will not only promote energy efficiency, demand response and renewable energy but also more effectively finance the infrastructure that will be the foundation for new business and industry that will create jobs and provide citizens with reliable, cost-effective and environmentally sustainable energy resources. A favorable investment climate that enables utilities to attract funding requires:
 - o Increasing regulatory stability and certainty regarding timely recovery of investment costs;
 - o Providing attractive returns that compensate utility investors at least as well as utilities in other jurisdictions and in similar businesses to enable utilities to attract funding; and
 - o Removing the obstacles that prevent utilities from increasing penetration of energy efficiency, distributed resources and renewable generation by implementing innovative rate mechanisms, such as decoupling and incentives that align utility company, customer and public policy interests to make these activities a core part of the utility business.

New York's policymakers and regulators, in partnership with the utilities, can build on the existing infrastructure and regulatory and policy framework, adopting innovative approaches to implement this roadmap.

- New York must tap the power of its utilities to ensure deep and fast deployment of energy efficiency and demand response. Expanded energy efficiency investment has been demonstrated to be the most cost-effective way to help customers manage their energy costs by reducing energy consumption, and over time avoiding the need

for infrastructure investment.² Energy efficiency has the added benefit of helping to mitigate climate change. Utilities have a unique relationship with their customers that they can leverage to facilitate customer adoption of energy efficiency measures. In the case of National Grid, our over twenty years of success in delivering energy efficiency programs has saved customers over \$3.6 billion, reduced usage by 29 billion kWhs of electricity and eliminated 14.6 million tons of greenhouse gases. In the last five years, our programs have reduced natural gas usage by about 37 million therms;

- New York also needs its utilities to take action to develop the State's renewable and distributed energy potential to the benefit of its citizens, businesses and industry. New York's renewable potential lies in both generally remote resources such as wind, as well as distributed resources such as photovoltaics (PVs) and other emerging distributed generation technologies. The State's utilities have a key role to play in advancing renewable generation through strategic ownership of certain renewables and through appropriate long term contracting with developers of renewable generation facilities;
- Utility investment in electricity transmission is needed to replace aging infrastructure and to deliver power from remote resources and from neighboring regions that have more cost effective resource options – both renewable and clean. Similarly, investment in pipelines can provide access to new economic sources of natural gas. Policy leadership to improve current planning and permitting processes is imperative to identify and enable the building of the appropriate infrastructure to enhance the reliability, economics and environmental sustainability of New York's energy future; and
- Utility investment in distribution that incorporates smart technologies and better integrates distributed resources will be crucial to enabling customers to better manage their energy usage and the State to meet its energy goals. Partnering with New York State Energy Research and Development Authority (NYSERDA) along with innovative policy and regulatory mechanisms can ensure this investment occurs in an effective and timely manner and that a robust research, development and deployment approach is fostered throughout the State.

The New York State Energy Planning process provides a timely and unique opportunity to articulate and lay out the framework for implementing policies to promote the actions needed to achieve the State's energy and environmental objectives in a way that will also spur New York's economic development. The New York SEP should provide guidance for the State's long-term, low-carbon growth. To achieve this, the plan should establish policies that:

- (1) Establish resource priorities that encourage customers to reduce energy usage through increased energy efficiency and increase both remote and distributed renewable and clean generation to meet customer energy needs in an environmentally friendly manner;
- (2) Remove obstacles to and facilitate needed transmission expansion;
- (3) Support distribution infrastructure investment, including the demonstration and deployment of advanced technologies; and
- (4) As importantly, foster an attractive economic climate for utilities to enable the investment needed to advance energy efficiency and renewables, and to modernize and construct needed infrastructure.

² California's efforts over twenty years equate to avoiding twenty 500MW power plants. The California Energy Commission found that the cumulative effects of California's efficiency initiatives over the 26 years ending in 2003 were the equivalent of avoiding twenty 500MW power plants. "Public Interest Energy Strategies Report" December 2003.

National Grid describes these policies and related actions in greater detail below.

ESTABLISH ENERGY RESOURCE PRIORITIES

The SEP should establish clear energy resource priorities to accomplish its energy, economic and environmental policy objectives – reducing costs and mitigating climate change. New York can demonstrate its energy and environmental leadership by implementing policies and rules that focus investment first in energy efficiency and demand side resources, followed by renewable resources, and then in clean conventional energy supply. New York is already rightly focused on energy efficiency and renewable energy, however, without establishing clear resource priorities, existing mechanisms will not deliver the volume of clean resources needed to help New York make a real and sustained positive impact on the climate in a cost-effective manner. Moreover, these resource priorities are consistent with and needed to meet the Governor's overall target of providing 45% of New York's energy needs from efficiency and renewable resources by 2015.

Energy Efficiency

To reduce customers' energy costs and mitigate climate change, New York's SEP must encourage customers to reduce their energy usage through increased energy efficiency and establish policies and programs that will enable them to do so. It is well-known and widely proven that the quickest, most cost-effective way to reduce energy costs and greenhouse gas emissions is to simply use less energy.³ Reducing energy consumption will also reduce the need for additional generation and infrastructure thereby reducing total costs further. To make New York a leader on energy efficiency, the SEP must (1) establish energy efficiency as the resource to be deployed first to meet needs, (2) recognize the unique role that utilities can and must play in providing energy efficiency services to their customers, (3) urge the PSC to quickly remove the obstacles preventing utilities from making energy efficiency a core part of their business, and (3) outline a framework for the deployment of advanced technologies for the benefit of customers – e.g., the "smart grid" can automate reduced energy use and provide a platform for tapping all cost-effective energy efficiency and demand-side resources.

Utilities are uniquely placed to implement effective energy efficiency programs because they can deploy resources quickly and reach deeply into their customer base to maximize cost-effective savings. New York has another unique resource in the New York State Energy Research and Development Authority (NYSERDA), which has a critical role to play as part of the solution to New York's energy challenges. The utilities, NYSERDA, third parties and most importantly, policymakers and regulators, must work together as partners to achieve all cost-effective energy efficiency and demand response to the benefit of New York's industry, business and citizens.

Increasing utility participation in delivering cost-effective energy efficiency and demand response programs is critical to achieving New York's ambitious objective of reducing usage 15% by 2015. To meet this objective, utilities must play the primary role in the implementation of energy efficiency and demand response programs for their customers. They

³ National Grid is a co-sponsor of the 2007 McKinsey report "Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?" Its analysis reveals that energy efficiency represents the least-cost means of reducing greenhouse gas emissions and savings realized by customers can help offset the costs of other clean energy initiatives. Refer to http://www.mckinsey.com/client-service/ccsi/pdf/US_ghg_final_report.pdf pages xiv, xvi, 34-41.

also have a major role to play in the design, evaluation and coordination of such programs across the State. The PSC has recognized the important role that utilities can play in delivering energy efficiency and demand response programs to customers and recently issued an order on the so-called "fast track" energy efficiency programs. Certain other energy efficiency programs are currently under review and that review must proceed as quickly as possible. However, to achieve its ambitious goal of reducing electricity usage 15% by 2015, the review and deployment of utility energy efficiency and demand response programs must be accelerated. Moreover, the current programs can only be a first step. Investments in comprehensive energy efficiency programs that are more cost effective than conventional generation should be pursued aggressively to reduce customer costs and avoid carbon emissions. Demand response, including clean distributed generation should also be a focus. These programs should be based on experience and evaluated results from successful programs in other states, which are then tailored to New York's specific circumstances. National Grid has over 20 years of experience in designing, implementing and evaluating energy efficiency and demand response programs, and we can leverage this experience and expertise to achieve real results for New York. The PSC should be urged to accelerate its review process to enable the rapid deployment of additional energy efficiency and demand response programs for all utility customers.

The SEP should recognize that NYSERDA has a critical role to play in achieving an affordable and sustainable energy future for New York. There is a great partnership opportunity between NYSERDA and the utilities to coordinate delivery of energy efficiency and demand response programs and identify areas where each entity can lead as a key part of the solution. NYSERDA is well situated to lead on research and development, where the utilities are better situated to lead on delivery of programs that take into account the specifics of their service areas. For example, the weather conditions in National Grid's electric and gas upstate service area differ from those in its New England and downstate service territories. These differences affect the cost-effectiveness of various energy efficiency programs and must be taken into account to ensure program designs where benefits will exceed costs to customers. Utilities also have a key role to play in the design and evaluation of such programs. As a statewide entity, NYSERDA is well-suited to coordinate workforce development programs with the State's vocational high schools, university and community college systems to train workers for the "green collar" jobs that will be needed to support expanded energy efficiency programs, and can help New York to lead the nation in this area. NYSERDA and the utilities should work together to seek access to new federal funds and job training incentives proposed for energy efficiency and demand response activities to multiply the investment deployed within New York.

Another way to improve New York's energy efficiency is through enhanced appliance efficiency and building code standards. This should be a key component of the SEP. Improved enforcement of codes and standards is also needed to reap their benefits for customers. The SEP should endorse a process for regularly updating codes and standards as technology improves. Codes and standards represent one of the most cost-effective ways to secure energy savings and greenhouse gas emission reductions for the future.

In addition to energy efficiency, the SEP should recognize the benefits of reducing greenhouse gas and other emissions through the use of cleaner fuels. New York City's plan to reduce or eliminate the use of high sulfur fuel oil is one example of how this can be accomplished.⁴ The SEP should also recognize the benefits of natural gas as a transition fuel at both the end-use level and for generation. Converting from oil to natural gas for home heating and cooking and

⁴ PlaNYC – Air Quality Initiative 10: Promote the use of cleaner burning heating fuels.
http://www.nyc.gov/html/planyc2030/html/plan/air_clean-heat.shtml

for industrial processes reduces greenhouse gas emissions and may save customers money. As customers make conversion decisions, energy efficiency programs that reduce the costs of high efficiency gas appliances and equipment should be available to them to encourage the installation of the most efficient equipment and avoid the "lost opportunities" associated with installation of less efficient equipment that will then remain in place for twenty years or longer.

Renewable Energy

New York should establish a framework that will enable utilities to play the critical role they must in planning, facilitating, financing and constructing renewable and clean distributed resources at their own and customer sites. Governor Paterson has identified renewable energy development as one of the pillars of New York's energy, economic and environmental policy and has set the ambitious goal of providing 45% of New York's energy needs from efficiency and renewable resources by 2015.⁵ Renewable energy development can offer long-term benefits for customers, so it is important that New York seek to advance the development of renewable energy resources in as cost-effective a manner as possible for customers in the near term. Utilities have an important role to play here. While competitive generating companies augmented by NYSERDA's efforts can be expected to contribute substantially to an expanded renewable supply, renewables are generally not yet competitive with conventional generation. The SEP should encourage utilities to move aggressively to support the development of new renewable and other clean energy resources. The PSC should signal that it is open to proposals by utilities to invest in renewable and other clean distributed generation and promote emerging beneficial technologies such as solar. New York can benefit from looking at other states' efforts in promoting small scale renewable generation such as Massachusetts' recently enacted "Green Communities Act" which provides for utilities to invest in up to 50 MW of solar generation.⁶

Distributed renewable generation can help lessen the State's dependence on fossil fuels which can reduce greenhouse gas and other emissions, and over time may help to stabilize future energy costs. Strategically located distributed generation can also help support the local utility delivery system to improve reliability nearby and reduce the need for infrastructure investment over the long term thereby reducing costs. However, there are significant barriers to increased penetration of distributed renewable generation. The high upfront costs and lengthy payback periods deter consumer investment. Although the technologies are improving, they are still at an early stage with limited vendors and distribution channels. In addition, installations are typically complex and involve multiple parties. In many instances the distribution infrastructure may need to be amended or upgraded in some manner. By participating in the planning, financing and construction of such resources, utilities can help to overcome these barriers. Utility investment horizons are significantly longer than those of most customers, utilities are generally more familiar with the technologies, and they have more experience with complex energy transactions.

Utilities may also have a role to play in facilitating renewable energy development through long term contracting. Utilities can help to prime the market for larger scale renewables by entering

⁵ State of the State Address 2009, David A. Paterson, Governor, "Our Time to Lead," January 7, 2009. http://www.state.ny.us/governor/keydocs/speech_0107091.html

⁶ Refer to Massachusetts Chapter 169 of the Acts of 2008 "AN ACT RELATIVE TO GREEN COMMUNITIES" at <http://www.mass.gov/legis/laws/seslaw08/sl080169.htm>

into long term contracts, e.g., 10, 15 or 20 years, with renewable generation developers. In the current economic climate, renewable developers are finding it increasingly difficult to finance new projects and many are seeking long term contracts. Utilities may be well-positioned to serve as creditworthy counterparties to such contracts.

The New York SEP should establish a framework that would allow utilities to facilitate customer ownership of distributed generation through financing and other innovative approaches. Utilities should also be able to own clean distributed generation on customer premises as a benefit to customers who do not want to directly invest in clean technology themselves. Examples of generation included in this category could include solar, fuel cells, low-head hydro, anaerobic digesters and micro combined heat & power. Early stage investment by utilities should reduce costs as scale develops thus advancing commercialization.

Renewable gas (sometimes referred to as biogas) presents another opportunity for New York to take a leadership role in advancing renewable energy resources. The SEP should include approaches and incentives to encourage renewable gas production and its injection into the State's natural gas infrastructure. Renewable gas can be produced from manure, agricultural wastes, biodegradable wastes, waste water, and energy crops. It can provide a positive alternative to waste disposal, which has negative economic and environmental impacts. Currently, there are few options to reduce the carbon emissions from the direct use of natural gas. Renewable gas delivered via the existing natural gas infrastructure can be a readily-implemented solution for delivering "renewable heat" to homes and businesses in New York State.⁷ National Grid has a landfill gas site on Staten Island where it injects the cleaned gas into New York pipelines. Up to this point, most renewable energy incentives have focused primarily on the production of renewable liquid transportation fuels or electricity. However, producing renewable gas and distributing it through the State's existing natural gas infrastructure is one of the most efficient ways to use a variety of New York renewable resources. For New York State, this would create green jobs, expand the rural economy, increase the State's energy security and reduce greenhouse gas emissions.

INCREASE INVESTMENT IN TRANSMISSION

The SEP must take the bold step of acknowledging the need for additional transmission investment in New York to provide access to renewable and other location-constrained resources on the electricity side, and to new sources of supply on the gas side. This access can reduce both the costs and the environmental impacts of New York's energy use. Accelerating the expansion of electric transmission infrastructure is necessary to access location-constrained but preferred clean and renewable resources and to access cleaner and diversified supplies from other regions. Customers will not realize the benefits of renewable generation, particularly remote resources, unless the transmission system is robust enough to ensure that its output can readily be delivered. New York has significant wind resources that could potentially be cost-effectively developed. Bordering regions offer the opportunity to tap additional resources. However, a current lack of adequate transmission infrastructure essentially blocks the ability to bring this wind and other clean generation to market. Additional investment in gas transmission should also be evaluated. Access to new supply basins can improve the reliability and affordability of natural gas for customers.

⁷ A recent National Grid study in the UK determined that renewable gas could meet up to 50% of UK residential gas demand. Source: *The Potential for Renewable Gas in the UK - A paper by National Grid*, January 2009. <http://www.nationalgrid.com/NR/rdonlyres/E65C1B78-000B-4DD4-A9C8-205180633303/31665/renewablegasfinal.pdf>

Identifying, facilitating and siting appropriate investment in transmission will require leadership on the part of policymakers and regulators. The SEP should outline a framework for planning and siting processes to accomplish this goal. This framework should include:

- Improved regional planning that addresses reliability, economic, and environmental needs and objectives;
- Streamlined siting and permitting to facilitate timely upgrades and new construction while being mindful of environmental impacts; and
- Resolution of the complex cost allocation debate which is slowing or preventing construction of beneficial new transmission.

Planning

Improve State and regional planning processes to identify and integrate evolving energy needs and address reliability, economic, and environmental goals. The New York State Energy Planning process can fill a gap that currently exists in comprehensive State and regional planning for electricity and natural gas infrastructure. There is no comprehensive process to consistently evaluate the environmental and economic benefits that energy infrastructure investment can provide to New York's citizens, business and industry. The narrow focus of existing planning processes presents an obstacle to investment in energy infrastructure needed for New York to meet its energy, environmental and economic objectives. The SEP can also pull together the results of the various separate planning processes currently underway.

Electricity

In recent years, New York's primary electricity planning process has been the NYISO's annual Comprehensive Reliability Planning Process (CRPP). In the CRPP, the NYISO, in conjunction with electricity market participants and stakeholders, has focused on identifying reliability needs in terms of resource adequacy on the bulk power system (230 kV and above) over a ten year period. If the NYISO determines that there is a reliability need in the next ten years, it assesses whether a market solution can meet the need. If no market solution is offered, the NYISO can request regulated solutions to meet that need. The recently released 2009 Reliability Needs Assessment does not identify any reliability need in the next ten years.

The NYISO regional planning process as designed is not likely to be an effective vehicle for facilitating new transmission investment. Its studies focus on resource adequacy, not maintaining transmission interface limits and the ability to move power efficiently throughout the grid. Moreover, the NYISO studies do not include most of the 115 kV system. Planning for lower voltages is left for individual transmission owner study. This has proven problematic due to dependencies on investment in neighboring systems and a gap where the 115kV system is a critical component for the connection and delivery of wind resources.

At the heart of the solution to New York's energy and environmental challenges is the need for a transmission system and market structure adequate to support the growing demands of developing power markets and the needs of customers, particularly the desire for cleaner resources. A major step in the realization of such a transmission system is the recognition by policymakers of transmission as infrastructure that enables the effective operation of markets and facilitates achievement of public policy objectives for energy and the environment rather than competes with generation.⁸

⁸ Refer also to National Grid's "*Transmission: the Critical Link*" and "*Transmission and Wind Energy: Capturing the Prevailing Winds for the Benefit of customers*" which can be found electronically at

Current activities to enhance the CRPP include how to incorporate into the planning process consideration of both economic issues and policy objectives regarding energy efficiency, renewable and other no- and low-carbon generation options, which may not be the least cost solution in the near term, but are expected to provide customer benefits in the long term. National Grid supports these efforts to develop an effective planning process that will facilitate investment to help New York achieve its broader energy objectives. However, the NYISO's economic planning process, as currently designed, is unlikely to produce beneficial results as it does not factor all costs that customers bear (such as capacity market costs) into its analysis of economic needs and benefits. For these efforts to be successful, the NYISO planning process, while continuing to focus on system reliability, should look beyond resource adequacy, and take into account economic benefits from congestion reduction and public policy objectives, including energy resource priorities. Specifically, comprehensive electricity system planning should:

- Take into account the value of energy efficiency and the use of demand side management resources to improve the cost effectiveness and mitigate the overall environmental impact of the power supply system but recognize that they are not substitutes for robust underlying infrastructure;
- Explicitly have among its functions ensuring the deliverability of renewable generation to customers in order to achieve New York's renewable policy objectives, which include greater diversity of supply and advancement of new technologies, as well as enhanced reliability, security of supply and operational flexibility. Providing for energy deliverability from such resources must be a central feature of the planning process, particularly because in New York progress in meeting State RPS goals is expressed in terms of MWh of renewable resources reaching customers rather than installed MW of capacity. Otherwise substantial curtailment of wind generation and other renewable resources due to bottlenecks will be commonplace, frustrating the achievement of public policy objectives to the detriment of customers;
- Incorporate consideration of the generation potential in renewable resource-rich remote areas within New York and in adjacent planning areas and the impact of tapping these resources on the existing network and the need for new transmission. Balkanized transmission planning limits supply options for customers creating missed opportunities to meet State renewable portfolio standards cost-effectively and to achieve other renewable development and clean energy objectives;
- Revise benefit measurement and the governance process for economic upgrades that reduce congestion to ensure a workable economic transmission planning process in New York; and
- Recognize that the development of regulated transmission solutions facilitates the operation of the competitive wholesale electricity market and the delivery of benefits to customers. A robust transmission infrastructure provides customers with access to remote (and cleaner) generation as an alternative to local, higher emitting plants.⁹

To complement the CRPP, National Grid recommends that the SEP endorse a nearer-term strategic assessment, which should be led by the NYISO with analytical inputs from the transmission owners. This assessment should address congestion, providing access to renewables and bottled-in generation and near-term reactive needs. To address reactive power needs, the benefits, both economic and in terms of enhanced reliability, which would justify the establishment of a statewide power factor standard on a zonal basis should be evaluated as

http://www.nationalgridus.com/non_html/transmission_critical_link.pdf and
http://www.nationalgridus.com/non_html/c3-3_NG_wind_policy.pdf, respectively.

⁹ This can help to address "environmental justice" concerns about the location of local generation in lower income communities.

part of this nearer-term strategic assessment. The adoption of power factor standards will enable the transmission system to operate and respond to changing system conditions in a more robust manner. Such an approach would allow those investments with wider benefits to customers to be identified.

New York also needs to look beyond its borders at a broader regional approach to planning. The SEP should encourage the NYISO to work with the system operators in neighboring regions, including the Independent System Operator of New England (ISONE) and PJM. New York must play an active role in eastern interconnection-wide planning efforts to ensure that its interests, resources and needs are recognized.

Finally, New York needs to develop a longer term roadmap, in conjunction with the NYISO's planning process and to which market participants can react and integrate into their own planning. To address this longer-term need, New York's transmission owners are conducting a State Transmission Assessment and Reliability Study (STARS) of the New York bulk power system, aimed at assessing long term transmission needs. Undertaken with the support of the NYISO, STARS principally seeks to assess the State's electricity transmission infrastructure needs over the next 20 years in light of projected transmission asset condition and such drivers as New York's environmental objectives and expansion to meet future load. To facilitate transmission development, STARS will consider the most effective use of existing rights-of-way and the potential application of new technologies to increase cost-effectiveness. State policymakers and regulators should support the goals of STARS, which include upgrading, expanding, and modernizing the power system (including Smart Grid applications and planning for the advent of plug-in hybrid electric vehicles (PHEVs)), and enhancing the integration of renewable energy resources. STARS may play a significant part in helping to meet long-term energy policy objectives such as the increased use of renewable power, advancement of economic development goals, and the efficient, reliable delivery of electric power to New York homes and businesses. This effort will complement and supplement the NYISO's planning process. Initial results from STARS are expected in the summer of 2009.

Natural Gas

Comprehensive State and region-wide planning should also occur for natural gas projects. Growth in demand for natural gas will be strong in the near- and mid-term, at a minimum. Of particular concern today is the adequacy of infrastructure in the New York City and Long Island areas, where supplies are tight and capacity to deliver, both from transmission and distribution standpoints, is challenged, even with recent significant investment. There are a number of infrastructure projects that are being considered by a wide variety of potential investors that would provide new access to diverse supply basins (e.g., the Williams Companies' Northeast Supply Project). Such projects could benefit multiple utilities' customers and provide necessary system reinforcement for anticipated growth. However, because projects are evaluated only for a specific utility's service territory, assuring that an optimal slate of projects is pursued and then making the case for regulatory approval and cost recovery remains a challenge. Project development takes many years and requires long term customer commitments to secure financing and regulatory approval. It will be important to ensure adequate interconnections allow supply to meet heating, industrial and electric generation needs.

The New York SEP should establish a robust planning process that includes the local distribution companies and pipeline operators to ensure gas supplies are adequate to meet the needs of customers under a variety of scenarios, e.g., if natural gas-fired generation is increased to address environmental concerns. Further, the planning process should assess the need for and cost allocation of regional expansion projects, including potential alternative cost

allocation mechanisms to facilitate certain projects where benefits expand beyond the service territory of a single utility. Finally, a natural gas planning process should recognize the benefits of expanded use of natural gas as a transition fuel where it can replace higher emitting sources of energy, at both the end-use and generation levels, as well as the potential for renewable gas. Strategic use of natural gas and expanded use of renewable gas will be critical in helping New York to achieve its energy and environmental objectives.

Siting

The SEP should endorse a flexible and streamlined siting and permitting process to facilitate critical infrastructure investment while giving due consideration to environmental impacts. Over the next ten years, utilities and non-utilities will need to make substantial investments in energy infrastructure to improve system reliability, reduce fossil fuel emissions, and tap New York's renewable energy potential. The State's siting and permitting requirements should ensure that the construction of needed infrastructure proceeds in a manner that addresses environmental and community concerns in a timely and efficient manner. Siting energy infrastructure is difficult and the siting and permitting process can present another obstacle to timely investment in needed infrastructure. Policymakers and regulators, along with utilities and other proponents of energy infrastructure investment, must demonstrate and be willing to support the benefits of such investment to the public and communities where such infrastructure is to be sited.

Streamlining regulatory requirements where appropriate will enable needed investment. For example, Article VII jurisdiction over electric transmission projects is driven primarily by voltage and the physical length of the project, rather than by the type of activity proposed.¹⁰ Thus, a pole replacement project that takes place entirely within an existing right-of-way, provides no new capacity, and has minimal environmental impacts technically is subject to the same regulatory regime as a new transmission line of the same length and voltage in an entirely new right-of-way. Subjecting such disparate projects to similar levels of regulatory scrutiny is unlikely to be in the public interest – it will result either in the abbreviated review of projects with extensive environmental and community impacts or the delay of important investments with relatively minor impacts.

To accommodate the unprecedented level of infrastructure investment that will be needed over the next decade, the PSC will need to tailor its review of infrastructure projects based on the scope and likely impacts of each project. The New York SEP should urge the PSC to adopt a flexible approach to the review of energy infrastructure, whether under Article VII, Part 102, or other authorities, so that infrastructure projects with minor impacts and substantial public benefits can be brought into service in a timely, efficient and cost-effective manner.

Cost Allocation

The SEP must establish regulatory principles that recognize the broad benefits and allocate the costs of transmission investment. The New York SEP provides an ideal vehicle for recognizing and addressing the fact that investments on one utility's transmission system can and often do require complementary investments on another utility's network. Such complementary investments provide significant benefits to the customers of the companies concerned. The allocation of costs associated with such projects to all customers who benefit is

¹⁰ New York's Article VII process is a valuable tool for coordinating the permitting of major new transmission projects, which provides a centralized, comprehensive permitting process coordinated by the NYPSC which has the specific expertise needed to assess a project's impact on the New York electricity and gas system and weigh its benefits against its environmental and social impacts and costs.

not only appropriate but necessary to remove an obstacle that would otherwise delay or prevent critical investment needed to maintain reliability, capture economic benefits, and support public policy (including energy resource priorities). Ongoing cost allocation debates must be resolved in order to ensure that needed investment can take place. It is an opportune time to consider more forward-looking regulatory principles to address infrastructure investment and better meet customer needs and policy requirements and expectations. Addressing cost allocation is particularly important given increased emphasis on environmental considerations and expectations of future environmental regulatory requirements, as well as technology advances that are changing the nature of energy sources and energy flows.

The State, working with the Federal Energy Regulatory Commission (FERC), must create a mechanism to address cost allocation for infrastructure investment that provides broad benefits, where beneficiaries are in a different service territory than the infrastructure investment. Without such a process, investments that could bring reliability, economic and environmental benefits to customers will continue to languish. An improved process would allow economic and environmentally beneficial investments (in addition to reliability based projects) to move forward as the mechanism for allocating and recovering costs would be clear.

The New York SEP should also address the issue of cost allocation for investments related to providing customers with access to remote wind and other clean generation, including connections to other regions and supply basins (e.g., Quebec's hydro and wind power). Typically these costs have been borne by the project's participants, but these types of investment often have beneficiaries beyond the project – particularly where clean generation or lower cost supplies are concerned. There is a clear gap in addressing the investment obstacles faced by these types of projects. The PSC (working with the State's regulated utilities, the FERC and the NYISO) could be tasked with assessing projects that have broad economic and environmental benefits and allocating their costs among the many customers who benefit. This would require a broader regional planning process as discussed above.

UPGRADE AND MODERNIZE NEW YORK'S ENERGY INFRASTRUCTURE.

Upgrading Infrastructure

Achieving New York's energy and environmental goals will require investment to replace, refurbish and modernize the State's electricity and gas infrastructure. Utilities in New York need to invest billions of dollars over the next 10 years to replace, upgrade and modernize aging energy infrastructure and to respond to growing and changing demand. These infrastructure improvements to both the electricity and natural gas networks will improve reliability of service, enhance the efficiency of the system for both customers and system operators through deployment of advanced "smart" technologies, provide access to cleaner and cheaper energy supplies, reduce the environmental impacts of energy production and delivery, and create jobs. National Grid has plans for capital investment in electricity transmission and distribution in the near term to refurbish and replace aging infrastructure and to respond to growing demand. On the natural gas side, National Grid is investing in gas mains and connections to meet demand, improve safety and reduce leakage that contributes to greenhouse gas emissions. Growth in demand for natural gas as customers convert from oil to manage their costs and in some cases reduce their own greenhouse gas emissions is requiring National Grid to undertake significant investment in pipeline transportation capacity as well as upgrading distribution capacity to maintain reliable service.

In addition to reducing greenhouse gas emissions to address climate change, new infrastructure must also accommodate necessary actions to adapt to a changing climate. This type of activity falls under the broader heading of "adaptation." Adaptation activities may include revising equipment specifications to withstand increased customer demand and weather hardships. These capacity and hardening changes increase the investment needed for a robust energy infrastructure.

The SEP must recognize the significant investment needed to enhance and upgrade aging energy infrastructure as critical to ensuring an affordable and sustainable energy future for New York. As New York's utilities undertake this investment, they should be incorporating new, "smarter" technologies. Increased research, development and deployment to identify opportunities for investment are also critical to improving and sustaining the State's energy infrastructure.

Smart Grid

The implementation of Smart Grid technologies will enhance the reliability and flexible operation of the energy network and increase the effectiveness of energy efficiency and demand response (including distributed generation) programs. "Smart Grid" represents the next generation of tools that will enable customers to better manage energy consumption and utilities to more efficiently operate and automate the network to assist in meeting policy goals. Technology and systems related to the smart grid have been receiving increasing attention in policy forums and the mainstream media. The SEP should endorse a partnership between policymakers, regulators, the State's utilities and technology providers to accelerate their investment evaluation and create a consensus about which technologies should be explored and why, as well as how, when and where they should be deployed.

The ability to manage energy delivery from the point of generation to the point of use has significant benefits for both operators and customers. The smart grid will enable operators to understand the performance of the grid and its component parts in a granular manner and facilitate advanced network investment planning and maintenance which will increase system resilience and reliability. These benefits will also include lower network operating costs through improved communications and automation capabilities. In addition, the smart grid will facilitate the deployment of clean distributed generation and renewable energy. It will feature advanced sensing and switching capability which will enable a dynamic approach to energy delivery allowing better management of intermittency associated with both of these resources.

Smart metering is a component of a smart grid that can provide customers with information to enhance their decision-making capabilities. Providing customers with tools to manage and automate their energy use and, therefore, reduce their utility bills will be critical to encourage energy efficiency and demand response (i.e., shifting demand to lower cost times of day). Customers may benefit from the convenient display of their energy usage, as well as smart thermostats and other devices with two way communications that can automatically shut off or cycle customer-selected appliances or systems, such as air conditioners.

The effectiveness of smart metering may be enhanced by alternative rate designs and pricing tariffs which reflect the true cost of energy and capacity during high usage times. This "time of use" pricing should be explored in conjunction with smart metering technologies so that customers can be better equipped to assess energy efficiency and demand response opportunities and benefits. By varying prices to reflect changes in costs over time, customers receive a price signal to reduce energy use or move demand to lower cost periods. These tariffs should be available for selection by mass market customers and mandatory for larger

commercial and industrial customers. Customer response to price signals in these tariffs can shift non-time sensitive loads in both mass and commercial markets to reduce the amount of peaking generation needed in the State. This will lower costs for all customers below what they otherwise would have been.

Research and Development

The New York SEP should support increased funding for utility participation in research, development and demonstration of innovative energy technologies that will enable a more dynamic, robust energy infrastructure and allow the State to lead in the global, green economy, creating new jobs and businesses. To meet its energy challenges, New York will need to encourage and support greater innovation through energy research, development and demonstration (RD&D). RD&D funding must be aligned with public policy goals for accelerating the introduction of cleaner and smarter technologies.¹¹ The existence of NYSERDA provides a unique opportunity for collaboration. The utilities' role should focus on demonstration and deployment, working closely with NYSERDA and others in the research and development community, including the State's universities. Utility RD&D activities have waned since the onset of restructuring. It is time to reinvigorate innovation and increase utility participation in RD&D.

Utilities have always been critical to the deployment of new technologies and innovations to meet the State's energy needs. For example, National Grid played, and continues to play, a key role in the development of infrastructure for natural gas vehicles. Without the early support of gas distribution utilities, this technology, would not be available today. Utilities could demonstrate riskier prototypes and those requiring integration in the energy system, enable real-world testing and monitoring of devices in utility systems and/or its customers' facilities and test emerging technologies that will improve reliability and increase efficiency of the utility system. Examples include energy storage to manage intermittent renewable generation, solid state lighting, gas heat pumps and plug-in hybrid electric vehicles and renewable gas. Customers would benefit from increased access to clean resources, reduced costs and increased ability to manage energy usage enabled by accelerated penetration of new technologies.

NYSERDA, the utilities and others working collaboratively can position New York as a leader in the emerging green economy that will create new businesses and jobs throughout the State. According to a 2007 report by Management Information Services, with proper incentives and supported through public policy initiatives (such as New York's 45 by 15 target), the energy efficiency and renewable energy sectors could generate up to \$4.5 trillion in revenue in the U.S. economy, creating 40 million new jobs in the engineering, manufacturing, construction and support industries. Marketing and incentive programs can help attract and support green technology and renewable energy companies and support economic development in the State. Additionally, partnerships with regional colleges and universities and with State and local agencies can develop the workforce necessary to support the expected rapid growth in the green economy and support utilities' implementation of new technologies.

¹¹ In 2007, National Grid's UK energy regulator, Ofgem, decided there was a strong need to reverse the decline in utility R&D and created the Innovation Funding Incentive (IFI). IFI comprises ring fenced support of targeted innovation for electric and gas networks. The IFI allows National Grid to spend up to 0.5% of its regulated revenues on innovation projects. The program is transparent with annual reporting by project to Ofgem.

ENSURE THE ECONOMIC VITALITY OF NEW YORK'S UTILITIES

New York needs to ensure timely recovery of costs; a sound and consistent policy for cost of capital and investment recovery; and a sound and stable economic policy in order to attract the billions of dollars needed for energy infrastructure and ensure the economic vitality of New York's utilities. A favorable investment climate with regulatory stability is required to attract the capital necessary to deliver increased energy efficiency, develop renewable resources, expand transmission, and upgrade and modernize New York's energy century infrastructure. Updating regulatory principles and frameworks to ensure the economic vitality of utilities is the cornerstone to the successful implementation of all of the initiatives described above. The State needs to advance policies that secure investment recovery, compensate investors through competitive ROEs and appropriate capital structures, remove the obstacles that hinder innovation, and align utility, customer and public policy interests. Without regulatory stability, the citizens of New York will not reap the benefits of expanded energy efficiency and demand response, renewable energy development, enhanced energy infrastructure, introduction of new technologies and the resultant jobs that come with those activities. Specifically,

Achieving New York's energy and environmental goals will require a stable and attractive regulatory climate that encourages the investment needed to replace, refurbish and modernize the State's electricity and gas infrastructure. National Grid has committed to \$1.5 billion of capital investment in electricity transmission and distribution in the near term to refurbish and replace aging infrastructure and to respond to growing demand. On the natural gas side, National Grid may invest \$1.8 billion in gas mains and connections to meet demand, improve safety and reduce leakage that contributes to greenhouse gas emissions. While National Grid has identified a certain level of investment needed to maintain adequate service to customers and will undertake such investment, the cost to customers of this investment will be affected by investor perceptions of the business climate in New York. We have identified another \$2.1 billion of electric infrastructure investment that offers the potential to provide customers with both economic and environmental benefits. However, utility willingness to make, and the timing and scale of, such investments will be affected by investor perceptions of the attractiveness of investing in regulated utilities in New York. These perceptions will be based on the stability and fairness of the regulatory process, the attractiveness of allowed and achievable returns and timeliness of cost recovery. These perceptions and expectations will focus on utility companies and regulators across the nation and for many institutional investors, the world. This applies to both equity and debt investors and will be reflected in the financing cost of that investment, a cost which ultimately will affect the rates customers pay.

Policymakers and regulators must provide a greater degree of certainty with respect to the adequacy and timeliness of investment recovery. Billions of dollars need to be invested in long-lived assets that take a considerable time to plan, permit and then construct. Traditional regulation relies on a 'used and useful' concept typically requiring the facilities to be placed in service prior to any recovery of the investment – often referred to as "regulatory lag."¹² For the foreseeable future, that puts billions of dollars at risk of recovery influencing the scale of investment investors are comfortable undertaking.

Mechanisms to offset the negative impact on cash flows and increase regulatory attractiveness include accelerated depreciation and investment tax credits to complement provisions in the "American Recovery and Reinvestment Act of 2009." Accelerated depreciation and tax credits improve the cash flow profile and credit ratings of utilities increasing attractiveness to capital

¹² Regulatory lag is the gap between authorized returns and the returns actually earned by a utility caused by the delay between cash outlays and regulatory recovery of those outlays.

markets. In addition, consideration of forward looking rate structures that take into account the length of time required for capital planning process are appropriate to evaluate as an enhancement to a forward-looking test year in order to improve recovery certainty. By establishing a process to evaluate medium and long term plans, regulatory mechanisms such as capital trackers and formula rates could provide increased transparency and flexibility for customers and utilities, particularly when forecasts may require regular updating due to changes in underlying factors such as materials costs. These mechanisms may also provide regulatory savings by eliminating the need for frequent rate cases caused by use of only one forward test year when costs and investment needs are changing dramatically. Beyond these mechanisms, an approach that includes performance features to encourage delivery of planned investment more efficiently (similar to achieving operating savings) should be developed.

Policymakers and regulators need a sound and consistent policy on cost of capital in order to facilitate the replacement and modernization of aging infrastructure. To continue to effectively raise the capital required to deliver the vital infrastructure needed to support New York's energy, environmental and economic objectives, its utilities need to earn returns on equity as attractive as the returns allowed to utilities in other states and other companies with similar risk profiles. Regulators need to allow appropriate returns and capital structures to attract this capital. Today, both metrics are among the lowest of all fifty states in the last 30 years.¹³ This has the effect of discouraging the investment needed to upgrade and enhance critical energy infrastructure. It is also inconsistent with the State's desire and ability to be a leader in energy policy and providing benefits to its citizens. A consistent approach on cost of capital across the State's utilities would enhance regulatory stability while allowing for company-specific conditions to be properly addressed.

The regulatory environment also needs to be symmetrical by providing for opportunities to achieve superior returns when service levels and results merit, not just imposition of penalties if service quality or results are found to be inadequate. Investors will weigh their perceptions of relative risk and reward for the entire regulatory compact as utilities seek to raise the capital needed to support investment.

Regulators must remove obstacles to aggressive utility pursuit of all cost-effective energy efficiency and distributed generation. Traditional ratemaking provides utilities with what is, in today's world of rising energy costs and increasing realization of the consequences of climate change, a perverse incentive to encourage energy consumption. Decoupling utility revenues from consumption must be a priority so that utility, customer and policy interests in reducing energy consumption and greenhouse gas emissions will be aligned. Recognizing that it will take time to design and implement decoupled rate structures as requested by the PSC in all future rate applications, interim lost base revenue measures should be implemented quickly, where needed, to ensure there are no barriers to utilities' rapid implementation of cost-effective energy efficiency and distributed generation measures. These mechanisms should reconcile forecasted sales assumptions used to set revenues with actual revenues received.

Decoupling revenues from sales is also important to align utility interests with public policies such as net metering. Mechanisms such as net metering offer financial incentives to customers to install renewable generation by essentially paying them the higher retail rate, rather than the lower wholesale rate they offset, for the electricity they generate. If public policy supports net metering, decoupling utility revenues from sales is necessary to avoid inadvertent harm to local distribution utilities and ensure their neutrality with respect to this policy.

¹³ Regulatory Research Associates, Commission Profile: Evaluation of the NYPSC (Section updated 10/1/08).

Regulators must consider incentives to encourage desired outcomes, for example increased energy efficiency and distributed generation. Removing obstacles posed by traditional ratemaking, while necessary, will not be sufficient for utilities to make energy efficiency, demand response and distributed resources a business priority. Given the importance of these resources to New York's energy, economic and environmental future, incentive mechanisms should be adopted that make their pursuit a core business activity of the utility by successfully aligning shareholder interests with State policy objectives. Utilities must be able to earn a return, or the equivalent of a return, on these non-traditional investments. The PSC has recognized the importance of providing utilities with incentives for electric energy efficiency investment that benefit customers.¹⁴ It should similarly recognize the value of incentives for gas energy efficiency investment and for other desired activities. The SEP should likewise recognize and support the critical role that financial incentives for desired utility programs will play in the success of these programs.

In addition, to the extent that public policy supports utilities entering into long term contracts to facilitate renewable energy development, the rules for the future cost recovery for such contracts must be clear and unequivocal to give utility investors assurance that partnering with the State in pursuing renewable energy development is good business as well as good public policy (and to avoid the stranded cost problems associated with such contracts in the past). To encourage utilities to enter into such contracts appropriate compensation for any risks of long term contracting not otherwise addressed must be considered. To reduce the risk to utilities and to customers, the number and duration of any long term contracts should be clearly defined at the outset.

CONCLUSION

It is clear that energy, economic and environmental policies are inextricably linked. New York faces a significant challenge in helping customers to manage and reduce their energy costs while mitigating and adapting to climate change. This is a challenge that must be met with leadership by policymakers, regulators and utilities. The SEP should set forth a road map to guide New York to an affordable and sustainable energy future. That roadmap should:

- Establish energy resource priorities that consider no- and low-carbon emission resources before all others;
- Facilitates expansion of transmission infrastructure necessary to reduce costs and deliver the preferred resources;
- Supports an innovative and technologically advanced approach to delivering the billions of dollars of infrastructure investment needed; and
- Creates the policy and regulatory environment to ensure the economic vitality of New York's utilities needed to enable them to deliver the stated energy and environmental policy goals.

National Grid looks forward to working with the State Energy Planning Board, the Energy Coordinating Working Group, the PSC, and other key stakeholders to develop and implement energy and environmental policies that will establish New York as a leader on these vital issues across the country. Thank you for the opportunity to present our views.

¹⁴ NYPSC Case 07-M-0548 – "Order Establishing Energy Efficiency Portfolio Standard and Approving Programs." Issued June 23, 2008, p.59.