Appendix C

Exhibit No. NYT-1

EXHIBIT NO. NYT-1

UNITED STATES OF AMERICA
BEFORE
THE FEDERAL ENERGY REGULATORY COMMISSION

New York Transco, LLC	**)**	
	)	
Central Hudson Gas & Electric Corp.	**)**	
Consolidated Edison Company of	**)**	
New York, Inc.	**)**	**Docket No. ER15-___-000**
Niagara Mohawk Power Corporation d/b/a	**)**	
National Grid	**)**	
New York State Electric & Gas Corp.	**)**	
Orange & Rockland Utilities, Inc.	**)**	
Rochester Gas and Electric Corp.	**)**	

PREPARED DIRECT TESTIMONY OF STUART NACHMIAS ON BEHALF OF THE NEW YORK TRANSCO

December 4, 2014

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

New York Transco, LLC	)	
Central Hudson Gas & Electric Corp.	)	
Consolidated Edison Company of New York, Inc.	)	**Docket No. ER15-___-000**
Niagara Mohawk Power Corporation d/b/a National Grid	)	
New York State Electric & Gas Corp.	)	
Orange & Rockland Utilities, Inc.	)	
Rochester Gas and Electric Corp.	)	

PREPARED DIRECT TESTIMONY OF
STUART NACHMIAS
ON BEHALF OF THE NEW YORK TRANSCO

Background and Qualifications

Q. Please state your name and business address.

A. Stuart Nachmias. My business address is 4 Irving Place, New York, New York 10003.

Q. Please describe your current responsibilities.

A. I am employed by Consolidated Edison Company of New York, Inc. ("Con Edison") and currently hold the position of Vice President, Energy Policy and Regulatory Affairs. I am responsible for establishing Con Edison's policy positions with respect to energy issues, covering the New York Independent System Operator, Inc. ("NYISO") and the PJM Interconnection, L.L.C. ("PJM") stakeholder processes and have responsibility for Con Edison's efforts in forming New York Transco, LLC ("NY Transco"), a process which began in early 2011. In addition, I have recently been appointed to the position of

President of the NY Transco. In this role, I am responsible for the day to day management of the NY Transco as well as the efforts related to the establishment of the NY Transco as a new utility.

Q. Please explain your educational background, work experience, and current general responsibilities.

A. I graduated from the State University of New York at Binghamton with a Bachelor of Arts degree in Economics and Psychology and earned a Master of Business Administration degree with a concentration in Finance from the City University of New York's Baruch College. I also earned an Advanced Certificate in Energy Management from the New York Institute of Technology, and completed a Power Technologies Inc. ("PTI") Distribution Engineering program. Since 1988, I have worked primarily for Con Edison. I began in Con Edison's management intern program, and then worked in capital budgeting, customer sales and revenue forecasting and corporate planning. I worked to develop the State of New York's plan to establish wholesale energy markets, including establishing the NYISO. I also worked at Con Edison Solutions from 1997 to 2000, initially in the wholesale power group and later as marketing manager for large business customers. Con Edison Solutions is an affiliate of Con Edison that was formed with the restructured energy markets to focus on retail customer services. After leaving the Company from 2000-2001, I rejoined Con Edison in the Energy Markets Policy Group, which focused on policy issues surrounding the wholesale electric and natural gas markets. I have held positions of increasing responsibility in this area. I also have held a position in customer operations where I worked to address customer complaints to the New York Public Service Commission ("NYPSC") and to executives. As Vice President of Energy Policy and Regulatory Affairs, I am responsible for development of energy

policy and the management of state and federal regulatory matters, including a host of wholesale and retail energy issues.

Q. Have you previously submitted testimony before the Federal Energy Regulatory Commission ("FERC" or the "Commission") or any other regulatory commission?

A. Yes. I testified in Docket No. EL02-125 before this Commission. I testified in Cases 13-E-0030, 13-G-0031, 13-S-0032, 08-E-0539, 09-S-0794 and 09-G-0795 before the NYPSC. I have also testified before the New York State Senate Committee on Energy and Telecommunications.

Purpose and Summary of Testimony

Q. What is the purpose of your testimony?

A. My testimony will address the following topics. First, I will provide an overview of the NY Transco and the filings made by the NY Transco and the investor-owned New York Transmission Owners ("NYTOs"), which are: Central Hudson Gas & Electric Corporation ("Central Hudson"), Con Edison, Niagara Mohawk Power Corporation d/b/a National Grid ("National Grid"), New York State Electric & Gas Corp. ("NYSEG"), Orange & Rockland Utilities, Inc. ("O&R"), and Rochester Gas & Electric Corp. ("RG&E"). As part of this section of my testimony, I will introduce the other testimony that is being submitted as part of this filing. Second, I will describe New York State's *Energy Highway Blueprint* ("*Energy Blueprint*"), which is designed to improve reliability and reduce longstanding congestion limits in the flow of electricity, including electricity from renewable energy sources, to markets throughout New York State. I will also describe the state's public policies with respect to new transmission development that have been designed to address these issues as well as other statewide needs. These other public policies include preparing for the potential closure of significant existing

generation plants, providing for economic development, including jobs and local tax stabilization, and providing a path for renewable energy to flow to customers in furtherance of state and federal clean energy goals. I will also review recent orders of the NYPSC which indicate that the NY Transco's projects satisfy these statewide public policy goals. Third, I will describe the NY Transco business model including an overview of the NY Transco and its proposed projects. This section will discuss the business objectives of the NY Transco as well as the process the NYTOs undertook to form the NY Transco. I will also describe the NY Transco's members. Fourth, I will summarize the NY Transco's cost allocation and cost recovery proposal. Fifth, I will summarize the transmission incentives requested by the NY Transco, its overall rate of return ("ROE") request and proposed capital structure. Sixth, I will present the NY Transco's proposal to share the risk of unforeseen increases in the estimated project costs with customers for the proposed projects.

Q. Please provide an overview of the NY Transco.

A. The NY Transco is a partnership that includes New York State's four investor-owned utilities, which have jointly formed a new limited liability company ("LLC") to facilitate the planning, development, construction, and ownership of new transmission projects that will enhance the current capabilities of the bulk power system across New York State. The first five projects that are the subject of this filing involve additions to or modifications of the individual transmission systems of the NYTOs and are estimated to cost approximately $1.7 billion (in nominal dollars) to complete. Each of these projects is designed to address public policiesincluding to enhance reliability and to reduce longstanding congestion in the state with respect to: (1) the potential closing of the 2,040

megawatt ("MW") Indian Point Energy Center ("IPEC"), a nuclear facility in southeastern New York, and other generating plants; and (2) relieving historic congestion on the lines near Albany known as the "Central East" and the "Upstate New York—Southeastern New York" or "UPNY-SENY" constraint. These constraints have restrained the ability of existing and new generation to deliver energy from the northern and western parts of the state to the more populated southern and eastern portions of the state. These projects also involve aggressive in-service dates and significant regulatory, permitting and construction challenges. The formation of the NY Transco will facilitate the coordinated effort necessary to meet these challenges. This new business structure is also being developed in response to New York Governor Cuomo's *Energy Blueprint* and the policies implemented by the Commission's Order Nos. 679 and 1000, which encourage the continued investment in the nation's transmission infrastructure to improve reliability, provide cost-effective infrastructure improvements, and provide a path for renewable generation to get to market to the benefit of all New Yorkers. The NY Transco will join the NYISO and will sign the appropriate NYISO enabling agreements and comply with all NYISO tariffs. It will turn over operational control of its facilities to the NYISO and service over these facilities will be subject to the terms and conditions of the NYISO Open Access Transmission Tariff ("OATT"). The NY Transco's revenue requirement will be billed and collected by the NYISO pursuant to the terms of the NYISO OATT.

Q. Please summarize what the NY Transco is requesting in this filing.

A. The NY Transco is requesting the authorizations necessary to establish its annual transmission revenue requirement and to recover this revenue requirement in rates that

will be collected by the NYISO. Specifically, this filing proposes to establish a new Attachment DD to the NYISO OATT which will incorporate the NY Transco's proposed formula rate and associated cost allocation methodology. Attachment DD will include the proposed cost allocation for the NY Transco's five projects as well as the proposed transmission formula rate and associated protocols, which will be used to update the rate annually. The NY Transco is also requesting approval of a new Rate Schedule 13 that will govern the billing and collection of the NY Transco revenue requirement by NYISO. As described more fully by NY Transco's other witnesses, the NY Transco is also requesting the following transmission rate incentives: inclusion of 100% Construction Work in Progress ("CWIP") in rate base in order to earn a cash return during construction for two of the five projects; regulatory asset treatment to allow for the recovery of all prudently incurred costs that are not capitalized and included in CWIP; a hypothetical capital structure of 60% equity and 40% debt during the first five years of construction and the use of NY Transco's actual capital structure thereafter; a 50 basis point ("BP") ROE adder for joining the NYISO and turning over control of its projects to the NYISO, a 50 BP ROE adder for forming a "Transco," and a 50 BP ROE adder for the incremental risks and benefits associated with financing, constructing and operating these five projects. When these incentives are added to its proposed base ROE request of 10.6%, NY Transco is requesting an overall ROE of 12.1%. NY Transco recognizes that the high end of the zone of reasonableness could potentially limit the effective ROE to 11.63%, as described in the joint testimony of Dr. William Avera and Mr. Adrien McKenzie. NY Transco is also requesting approval to recover any costs associated with the abandonment of these projects to the extent the abandonment is due to circumstances

beyond NY Transco's control. As discussed below, each of these rate incentives is described in greater detail and supported by testimony of other witnesses.

NY Transco's filing also proposes to distribute the annual revenue requirement throughout New York State according to the following allocation (the "NY Transco Cost Allocation Method"): Con Edison/O&R Transmission District 41.7%; New York Power Authority ("NYPA") 16.9%; Long Island Power Authority ("LIPA") Transmission District 16.7%; National Grid Transmission District 10.4%; NYSEG/RG&E Transmission District 8.9%; and Central Hudson Transmission District 5.4%. As described below, the NY Transco Cost Allocation Method is supported by other witnesses. Finally, by a separate, contemporaneous filing, NY Transco is requesting that the Commission approve the transfer of the existing project assets from the applicable NYTO to the NY Transco pursuant to section 203 of the Federal Power Act ("FPA"), as more fully described therein.

Q. Please explain when the NY Transco anticipates acquiring the project assets.

A. The NY Transco will acquire the projects after all regulatory approvals are received including Section 203 approval from the Commission and approval to transfer the projects from the NYPSC. Therefore, NY Transco anticipates that the transfer of project assets will occur towards the end of 2015. For this reason, the NY Transco is not seeking the 100% CWIP incentive on the three Transmission Owner Transmission Solutions ("TOTS") projects, which has already been approved by the NYPSC, and will not request authority to begin recovery of any costs until January 1, 2016. As Mr. Heintz explains, the proposed formula rate protocols include a process that will begin September 30, 2015, to update the formula rate and forecast the rate that will go into effect on January 1, 2016.

The NY Transco will be involved in coordinating project development for these projects during 2015 and will acquire the projects subject to any project risks that exist at the time of transfer.

Q. Please describe the other testimonies that are being filed in support of the NY Transco and NYTOs' request.

A. In addition to my testimony, the NY Transco and the NYTOs are submitting the following testimonies in support of this filing. Mr. Paul Haering of Central Hudson and Mr. Richard Allen of National Grid are submitting joint testimony which provides a detailed description of the NY Transco's projects and describes the nexus between the risks and benefits of the NY Transco's projects and the incentives requested by the NY Transco. Ms. Ellen Lapson of Lapson Advisory, a division of Trade Resources Analytics, LLC, is submitting testimony which describes how the NY Transco's projects will be financed and how rating agencies view the risks of the NY Transco. Ms. Lapson's testimony also describes and supports the proposed hypothetical capital structure and the need for the ROE BP adder requests. Dr. William Avera and Mr. Adrien McKenzie, of FINCAP, Inc., are submitting testimony in support of the NY Transco's request for a base ROE and ROE BP incentive adders. NY Transco is also presenting a panel of witnesses, consisting of Ms. Marie Berninger of Con Edison, Mr. Raymond Kinney of NYSEG, and Mr. Bart Franey of National Grid (the "Cost Allocation Panel"), which describe and support the NY Transco's cost allocation and cost recovery proposal. The Cost Allocation Panel also describes NY Transco's request to recover prudently incurred costs associated with any abandonment of these five projects due to circumstances beyond NY Transco's control. The Cost Allocation Panel also describes the proposed tariff provisions under which the NYISO will bill and collect the

NY Transco revenue requirement. Finally, Mr. Alan Heintz, of Brown, Williams, Moorhead & Quinn, Inc., is submitting testimony which presents, describes and supports the proposed NY Transco formula rate and accompanying protocols as well as the accounting treatment applicable to the requested rate incentives.

The New York *Energy Blueprint*

Q. Why did the NYTOs initiate the development of the five projects that they propose to transfer to NY Transco?

A. As explained in more detail by Messrs. Haering and Allen, the five transmission projects are closely related in that they were conceived to serve a common purpose: to address the public policies enumerated by the State in the Governor's *Energy Blueprint*, including relieving long-standing transmission constraints between "upstate" New York and "downstate" New York. As those witnesses explain, the key bottlenecks on the transmission grid are near Albany where the Central East and UPNY-SENY constraints limit power flows. Transmission solutions to these bottlenecks did not emerge from the NYISO transmission planning processes. NY Transco's projects will relieve these congestion points, and "unbottle" constraints that prevent generators from delivering electricity into the wholesale marketplace to serve customer electricity needs. In this manner the projects will reduce congestion costs in southeastern New York, improve long-term electric service reliability, and provide greater access to the market by existing and new generators, including renewable energy projects that are more likely to be located in upstate regions. New York's Governor Cuomo identified these benefits as key public policy goals in his *Energy Blueprint*, in which he further explained how achieving these goals will promote long-term economic growth and improve the welfare of New York's citizens.

Q. Please describe the New York *Energy Blueprint*.

A. Witnesses Haering and Allen describe the efforts of the NYTOs and the NYISO to study the need for new transmission facilities in New York to address longstanding reliability and congestion constraints as well as the potential for generation retirements and the need to replace aging infrastructure. Those efforts culminated with the launch of the Energy Highway Initiative undertaken by New York Governor Cuomo to encourage the development of new energy infrastructure to upgrade and modernize the existing bulk power system, enhance reliability, promote economic development, and encourage renewable energy development. On April 11, 2012, Governor Cuomo's newly formed New York Energy Highway Task Force issued a Request for Information ("RFI") inviting parties to "submit information concerning projects that will advance one or more of the Task Force's specific objectives."[1] Additional information on the Energy Highway RFI is available at http://www.nyenergyhighway.com/. The RFI further states that "[w]e must modernize the transmission system and eliminate the bottlenecks."[2] In response to the RFI, 85 entities submitted 130 projects or ideas for upgrading and enhancing New York's energy infrastructure while, at the same time, promoting clean energy supplies, job creation and economic growth.

Q. Please continue.

A. On October 22, 2012, the New York Energy Highway Task Force issued its *Energy Blueprint*, which describes the State's energy infrastructure goals, its public policies, and its proposals to achieve those goals and policies. A copy is attached as Exhibit No. NYT-2. According to the *Energy Blueprint*, the "Energy Highway initiative focuses on the

[1] New York Energy Highway Task Force, Request for Information (April 11, 2012), at p. 6.
[2] *Id.*

generation and transmission to strengthen and enhance the foundation of New York's energy system."[3] The *Energy Blueprint* clearly articulates the public policy of New York State with respect to transmission:

> Ensuring the efficient transmission of power by reducing bottlenecks and deploying advanced smart technologies improves overall electric system operation and optimizes the use of existing assets in New York by allowing lower-cost and cleaner power to reach consumers. Investments in the transmission and distribution systems can reduce customer costs over the long-term, improve safety and reliability, and protect the environment while immediately creating jobs and economic development. Investment in cost-effective Smart Grid technologies and encouraging commercial innovation in the power sector is vital to continuing the reliable and efficient operation of the energy system.[4]

Q. Does the *Energy Blueprint* discuss the need to leverage the replacement of existing infrastructure?

A. Yes. The *Energy Blueprint* states that:

> New York has a reliable electric system, but it is a system consisting of transmission lines and power plants that are aging. Some of these facilities also have uncertain futures. The Energy Highway initiative leverages ongoing replacement in-kind of aging infrastructure and identifies specific areas to expand transmission capacity to move excess power from upstate power producers to downstate, while providing significant reliability, economic, and environmental benefits.[5]

Q. What actions did the *Energy Blueprint* propose?

A. The *Energy Blueprint* recommended several actions aimed at improving the infrastructure within New York State, many of which involve the development and construction of new transmission that will provide long term reliability and congestion benefits, operational flexibility, and the ability to meet clean energy, resiliency and economic development goals. Specifically, the *Energy Blueprint* called for the expansion of transmission facilities in order to transmit electricity between upstate and downstate; the development

[3] New York Energy Highway Task Force, *New York Energy Highway Blueprint* (Oct. 22, 2012), at p. 7.
[4] *Id.* at p. 10.
[5] *Id.* at p. 37.

of a plan to respond to the retirement of large generating stations; and economic development to create additional jobs as well as providing an increased opportunity for exiting generators to remain in service thereby preserving existing energy jobs.[6]

Q. Did the NYPSC implement the *Energy Blueprint*?

A. Yes. The NYPSC initiated the following two new proceedings aimed at adding transmission infrastructure in response to the state's *Energy Blueprint*: (1) the *Proceeding on Motion to Examine Alternating Current Transmission Upgrades* ("AC Proceeding") in Case 12-T-0502; and, (2) the *Proceeding on Motion of the Commission to Review Generation Retirement Contingency Plan* ("Reliability Contingency Plan Proceeding") in Case 12-E-0503.

In the NYPSC's order initiating the AC Proceeding in Case 12-T-0502 ("AC Order") on November 30, 2012, the NYPSC adopted several recommendations contained in the *Energy Blueprint* and specifically requested:

> written public Statements of Intent from developers and transmission owners proposing projects that will increase transfer capacity through the congested transmission corridor, which includes the Central East and UPNY/SENY interfaces as described above, and meet the objectives of the Energy Highway Blueprint.[7]

According to the AC Order, this congested corridor "includes facilities connected to Marcy, New Scotland, Leeds, and Pleasant Valley substations," and four major electrical interfaces (*i.e.*, groups of circuits) that are often referred to as Central East, Total East, UPNY/ConEd, and UPNY/SENY.[8] The AC Order further stated that "[u]pgrading this section of the transmission system has the potential to bring a number of benefits to New

[6] *Id.*
[7] Proceeding on Motion to Examine Alternating Current Transmission Upgrades, *Order Instituting Proceeding*, NYPSC Case 12-T-0502 (Nov. 30, 2012), at p. 2 (attached as Exhibit No. NYT-3).
[8] *Id.* at p. 1.

York's ratepayers."[9] The AC Order also indicated that these benefits include, but are not limited to:

> enhanced system reliability, flexibility, and efficiency, reduced environmental and health impacts, increased diversity in supply, and long-term benefits in terms of job growth, development of efficient new generating resources at lower cost in upstate areas, and mitigation of reliability problems that may arise with expected generator retirements.[10]

In the Reliability Contingency Plan Proceeding (Case 12-E-0503), the NYPSC allowed Con Edison, with the assistance of NYPA, to develop a contingency plan in case IPEC shut down at the end of its license term.

Q. How did the NYTOs, NYPA, and LIPA respond to the November 30, 2012 Order in the AC Proceeding?

A. On behalf of NY Transco, on January 25, 2013, the NYTOs, NYPA, and LIPA submitted a Statement of Intent to construct five new high voltage alternating current transmission projects: (1) the Marcy South Series Compensation and Fraser to Coopers Corners Reconductoring ("MSSC") project; (2) the Second Ramapo to Rock Tavern ("RRT") 345 kV Line; (3) the UPNY/SENY Interface Upgrade Project ("Staten Island Unbottling Project"); (4) the Second Oakdale to Fraser 345 kV Line project; and (5) the Marcy to New Scotland 345 kV Line project.

Q. How did Con Edison and NYPA respond to the Reliability Contingency Plan Proceeding?

A. The NYPSC became concerned that NYISO's planning process would not allow enough time to implement solutions to preserve reliable service to New York City and other portions of southeastern New York if the 2,040 MW IEPC retires at the end of 2015 when its operating license expires. To address this concern, Con Edison and NYPA

[9] *Id.* at p. 2.
[10] *Id.*

proposed to modify and accelerate three of the five projects proposed in the AC Proceeding. Those projects are the RRT, MSSC, and Staten Island Unbottling projects, collectively known as the TOTS projects. As was the case in the AC Proceeding, Con Edison and NYPA stated that these three projects would ultimately be transferred to and owned by the NY Transco.

Q. Did the NYPSC issue an order approving the TOTS projects?

A. Yes. In an order issued on November 4, 2013 ("November 4 Order"), the NYPSC approved the three TOTS projects and stated that the analysis of its staff shows that "the three proposed TOTS projects were found to provide net benefits both with and without IPEC in service."[11] As such, with respect to the TOTS projects, the November 4 Order finds that "net benefits for ratepayers are available even if IPEC is not retired."[12] A copy of the November 4 Order is attached as Exhibit No. NYT-7. The November 4 Order also described some of the benefits of the TOTS projects:

> for the first 15 years of asset life, DPS Staff estimated net benefits to have a net present value (NPV) of approximately $260 million in 2016 dollars. For the full 40 years of rate recovery, the NPV of net benefits was estimated to be approximately $670 million. DPS Staff indicates that if IPEC were retired, the estimated net benefits of the TOTS projects are expected to be higher.[13]

Q. What is the status of the two projects that remain subject to the AC Proceeding (the "AC projects")?

A. The NYPSC is continuing to evaluate those projects along with proposals submitted by other developers.

[11] Proceeding on Motion of the Commission to Review Generation Retirement Contingency Plans, *Order Accepting IPEC Reliability Contingency Plans, Establishing Cost Allocation and Recovery, and Denying Requests for Rehearing*, NYPSC Case 12-E-0503 (Nov. 4, 2013), at p. 32.
[12] *Id.* at p. 25.
[13] *Id.* at p. 24.

Q. Please describe the procedural differences between the three TOTS projects and the two AC projects?

A. The three TOTS projects are ahead of the curve in that they are currently under development and are expected to be available by June 2016. These projects, which provide the same public policy benefits as the rest of the NY Transco projects, were selected in the NYPSC's November 4 Order as solutions to the potential retirement of IPEC. The November 4 Order predates the implementation of the NYISO's Attachment Y tariff provisions, which implemented the public policy provisions of Order No. 1000. All three TOTS projects, which will be developed more quickly than the AC projects, either have state siting approval pursuant to Article VII or are exempt from such approvals.

The three TOTS projects were solicited, proposed and accepted in a statewide competitive planning process prior to the January 1, 2014, which is the effective date of the NYISO's public policy planning process. Indeed, by the time the NYISO is able to select projects from its public policy planning process, the TOTS projects will have completed their detailed engineering work, purchased long lead time equipment and broken ground. Because the TOTS projects were approved by the NYPSC on November 4, 2013, transitional rate treatment is needed for the TOTS projects. Accordingly, the three TOTS have been included in the base plan of the NYISO's transmission plan. RRT and the Staten Island Unbottling Project have been added to Con Edison's base plan and MSSC has been added to NYPA's and NYSEG's base plan. Each project's listing indicated that the project will be transferred to and completed by the NY Transco. Thus, all three projects have been considered and selected through a statewide competitive planning process conducted by the NYPSC, and each is incorporated into the NYISO's

base transmission plan. The two AC projects will require siting approval by the NYPSC and inclusion by the NYISO in its transmission plan.

Q. Based on the actions of NYPSC to implement the *Energy Blueprint,* what would you say is the public policy of New York State with respect to new transmission development?

A. Based on these actions, it is clear that New York State is looking to add new transmission facilities, primarily along existing rights of way and corridors, for the purpose of: (1) relieving congestion between upstate New York and downstate New York; (2) upgrading the state's bulk power transmission system in order to enhance the reliability of the state-wide grid; (3) preparing for the potential retirement of large generators; (4) providing economic development opportunities in the form of jobs and increased or stabilized local tax revenues, primarily in the upstate regions; (5) providing increased opportunities for renewable generation and bottled generation to reach the NYISO electricity markets; and (6) providing environmental benefits in the form of reduced emissions and more opportunities for renewable generation.

Q. Did the NYPSC or its staff provide any statements indicating that the NY Transco projects satisfy a public policy need?

A. Yes. In their July 10, 2013 Energy Highway AC Transmission Initiative Straw Proposal, in Case 12-T-0502, the Staff of the NYPSC stated that:

> Staff proposes that the Commission find that the Public Service Law requires action to relieve the congestion identified in Case 12-T-0502, for all of the reasons discussed above, and that this obligation qualifies as a Public Policy Requirement within the meaning of FERC Order 1000. Staff further proposes that the Commission find the Public Policy Requirement drives a need for transmission solutions.[14]

Q. Is it your opinion that the NY Transco proposal and the NY Transco projects satisfy the public policy goals of the state?

[14] Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades, *Straw Proposal*, NYPSC Case 12-T-0502 (July 10, 2013).

A. Yes. The five NY Transco's transmission projects would provide relief to the Central East and UPNY-SENY constraints and provide generating facilities on Staten Island access to the wholesale power market. All five projects thus relieve congestion and lower power costs to consumers, as Messrs. Haering and Allen explain in more detail. As those witnesses also explain, the projects also have the effect of making the bulk electric system more reliable. Further, the three TOTS projects are being developed specifically to address concerns surrounding the retirement of IPEC, and all of the projects will improve generator access to the market. These benefits —improving generator access and lowering power costs—will likely support economic growth in the State in the decades ahead. They will also provide environmental quality benefits by improving grid access for renewable generators located upstate.

The New York Transco Business Model

Q. Please describe the NY Transco's business model.

A. NY Transco's business model is to finance, construct, own and maintain the initial five transmission projects to meet the State's policy goals as I have explained, and to continue to develop transmission projects to meet those goals in the future. The NY Transco intends to focus on transmission development as an independent transmission company. The NY Transco will pursue this business model through a partnership to jointly develop and own transmission facilities in New York State, incorporating the latest technologies and transmission design as is available and feasible. The form of this partnership is the NY Transco, which is a LLC that is owned by affiliates of the investor-owned NYTOs. The NY Transco will acquire the initial five projects initiated by the NYTOs and will also pursue the planning, development, construction, and ownership of additional new

transmission projects that will enhance the current capabilities of the bulk power system within New York State to meet the public policy objectives identified by the State of New York. As discussed in the *Energy Blueprint* and explained by Messrs. Haering and Allen, New York's aging transmission infrastructure has many long-term needs. NY Transco will be focused on developing transmission solutions to those needs in the years ahead.

This NY Transco structure combined with the interconnected nature of the bulk power system creates synergies that will permit and encourage continued investment in the State's transmission infrastructure to improve statewide reliability, provide cost-effective infrastructure improvements, and meet the public policy objectives to benefit all New Yorkers. In fact, the NYTOs are hopeful that a similar structure could be used for future development of gas transmission facilities that would support electric system needs.

Q. Please describe the organizational structure of the NY Transco.

A. On November 14, 2014, the NYTOs created the NY Transco as a New York LLC that will be owned by affiliates of the NYTOs. Specifically, the owners of NY Transco are: (1) Consolidated Edison Transmission, LLC, an affiliate of Con Edison/O&R; (2) Grid NY LLC, an affiliate of National Grid; (3) Iberdrola USA Networks New York Transco, LLC, an affiliate of NYSEG/RG&E; and (4) Central Hudson Transmission LLC, an affiliate of Central Hudson.

Q. Did the NY Transco structure originally contemplate including NYPA and LIPA?

A. Yes. It was hoped that NYPA and LIPA, the state's public power entities, would be able to participate in the NY Transco as direct equity owners. However, state legislation is

required authorizing NYPA and LIPA to participate in NY Transco. Unfortunately, such legislation has not been enacted.

Q. Please describe the relationship of the NY Transco to the NYISO.

A. The NY Transco will become a member of the NYISO and will provide the NYISO with operational control of its transmission assets, consistent with the operation of the majority of the bulk power transmission system in New York State, pursuant to the terms of the Agreement Between The Independent System Operator and Transmission Owners ("ISO/TO Agreement"). This means that the NYISO will be responsible for transmission access and service, tariff administration, scheduling, OASIS operation as well as the billing and collection of the NY Transco's revenue requirement. The NY Transco will become a signatory to the NYISO Agreement and comply with all of the NYISO's applicable tariffs.

Q. Please describe the relationship of the NY Transco to the individual NYTOs.

A. As affiliates of the members of the NY Transco, the NYTOs will provide business support functions, as needed, to NY Transco for the administration of its business and the development of projects that will be built within a NYTO's respective transmission districts or corridors. All business support services will be provided consistent with the affiliate transaction rules of both the Commission and the NYPSC. As assets are placed into service, it is anticipated that the applicable NYTO will perform maintenance and physical operation of the NY Transco assets in that corridor consistent with the respective NYTO's existing operating and maintenance practices and pursuant to an operations and maintenance agreement between NY Transco and the applicable NYTO. Most substation assets will be operated and maintained by the respective NYTO, consistent with the

Commission's policies, including policies for affiliate transactions. The NY Transco will compensate each NYTO for all services provided at a cost consistent with the affiliate rules and requirements of both the Commission and the NYPSC.

Cost Allocation and Cost Recovery

Q. Please summarize the NY Transco's proposed cost allocation.

A. As described in more detail in the testimony of the Cost Allocation Panel, the NY Transco owners have agreed to allocate the revenue requirement of the NY Transco's initial five projects that are the subject of this filing based on the following cost allocation percentages: Con Edison/O&R Transmission District 41.7%; NYPA 16.9%; LIPA Transmission District 16.7%; National Grid Transmission District 10.4%; NYSEG/RG&E Transmission District 8.9%; and Central Hudson Transmission District 5.4%.

Q. Has the NYPSC endorsed the NY Transco cost allocation?

A. Yes. In the NYPSC Reliability Contingency Plan Proceeding, the cost allocation described above was proposed, and the NYPSC endorsed the NY Transco cost allocation proposal for the three TOTS projects. In its November 4 Order, the NYPSC stated that "we agree with the NYTOs that these solutions should also provide some reliability benefits statewide. Based on these factors, we find the proposed allocation of costs and benefits to be reasonable, and support the use of the proposed NY Transco cost allocation methodology."[15] While the Commission's November 4th Order was limited to the three TOTS projects that were approved by the NYPSC in the AC Proceeding, we believe that the same rationale applies to the use of the NY Transco cost allocation with respect to the

[15] Proceeding on Motion of the Commission to Review Generation Retirement Contingency Plans, *Order Accepting IPEC Reliability Contingency Plans, Establishing Cost Allocation and Recovery, and Denying Requests for Rehearing*, NYPSC Case 12-E-0503 (Nov. 4, 2013), at pp. 32-33.

two NY Transco AC projects. However, to date, the NYPSC has not issued any ruling in the AC Proceeding.

Q. **Is the cost allocation consistent with the Commission's policies?**

A. Yes, as discussed by the Cost Allocation Panel, the proposal is consistent with the cost allocation methodology approved by the Commission in Order No. 1000, which allows entities to propose alternatives to the default load ratio share.

Q. How will the NY Transco collect its revenue requirement?

A. As described in the testimony of the Cost Allocation Panel, once approved by the Commission, the NY Transco's revenue requirement will be recovered from *all* load serving entities ("LSEs") in the NYISO's control area. LSEs include energy supply companies ("ESCOs"), the NYTOs with respect to their full-service customers, public power, and municipal/cooperative entities. The NYISO will be responsible for billing and collecting NY Transco's revenue requirement from LSEs based on their energy consumption and location. The NY Transco will receive payments from the NYISO after the NYISO receives payments from the LSEs. The NYTOs, in their role as LSEs, will charge this NYISO-billed amount to their full service retail customers consistent with their existing NYPSC-approved retail tariffs or, where necessary, under newly approved NYPSC tariffs. In this regard, the NY Transco charge will be recovered through a mechanism that is similar to other NYISO charges, through which NYTOs recover costs, such as NYISO Rate Schedule 1 and the NYPA Transmission Adjustment Charge. Accordingly, NY Transco is proposing a new Attachment DD and Rate Schedule 13 for inclusion in the NYISO OATT to recover costs associated with the five projects through a Transco Facilities Charge. The NYISO, as administrator of its tariff, will submit this

filing to the Commission including proposed Attachment DD and Rate Schedule 13. The testimony of Mr. Alan Heintz describes the NY Transco formula rate and protocols, which are contained in Attachment DD, and include the process by which NY Transco's revenue requirement and tariff charges will be updated annually pursuant to its formula rate.

Overview of Rate of Return and Capital Structure

Q. Please describe the NY Transco's ROE request.

A. As supported by the testimony of Dr. William Avera, Mr. Adrien McKenzie, and Ms. Ellen Lapson, the NY Transco is requesting a base ROE of 10.6% and a 50 BP adder for joining the NYISO and turning over operational control of its assets to the NYISO, a 50 BP adder for forming the NY Transco, and a 50 BP ROE risk incentive adder for an overall ROE of 12.1%. As mentioned above, NY Transco recognizes that for some period of time the adders may not be entirely available if the high end of the zone of reasonableness remains at the 11.63% level, as calculated by Witnesses Avera and McKenzie. Ms. Lapson's testimony provides additional support for the ROE BP adders based on the nature of the NY Transco, its capital needs, and the related project risks.

Q. Please describe the NY Transco's proposed capital structure.

A. As described in detail in the testimony of Ms. Ellen Lapson, the NY Transco is requesting an initial capital structure of 60 percent equity and 40 percent debt at the outset and for the first five years of the NY Transco's operations. Thereafter, NY Transco will use its actual capital structure which will not exceed the 60 percent equity level.

Cost Estimate Risk Sharing Proposal

Q. Does the NY Transco's rate filing include a risk sharing proposal?

A. Yes, it does. The NYTOs understand that the Commission prefers transmission owners share the risk associated with increases in project cost, even if such costs are beyond any entity's control. The NY Transco is amenable to this concept. However, in considering NY Transco's request for ROE incentive adders, NY Transco requests that the Commission consider the substantial risk to which NY Transco is exposing itself by developing these projects.

Q. Please describe the NY Transco's cost estimate risk sharing proposal.

A. As part of this filing, the NY Transco proposes that if the costs of one of the five proposed projects exceeds 100% of that project's estimated cost, the NY Transco would not collect any of its ROE BP adders on the amount of the NY Transco's investment on that project that exceeds 100% of the estimated project costs. The NY Transco would still recover 100% of its project costs and earn its base ROE return on the entire cost of the project. To implement this risk sharing mechanism, NY Transco proposes to use the estimate of project costs adopted by the NY Transco at the commencement of construction, which is the point following receipt of final approvals necessary to move to construction and following completion of the detailed engineering design. This is important because there could be changes in project scope or design mandated by a number of different local, state, or federal governmental authorities and those costs should be properly included in the final cost estimate. Moreover, there are risks during construction related to unanticipated field conditions or findings that could delay construction or impact the costs of construction, either because of requirements under approved permits or because of the condition itself. To the extent that the actual costs are

less than the estimated costs, any such benefit will be flowed-through to ratepayers in its entirety.

Q. What is the relationship of this risk sharing mechanism to the transmission incentives requested in this filing?

A. As I explained, the NY Transco is requesting certain transmission incentives including ROE adders. These incentives are being sought in part to address the risks of developing several new transmission projects that all have significant challenges as described in the Haering and Allen testimony, and the Lapson testimony. The risk sharing mechanism adds significantly to those risks. These five projects will take several years to be constructed, and managing project costs over that time will be a challenge, as unanticipated costs may arise. The risk sharing mechanism increases the NY Transco's risk that it will not be able to achieve its allowed returns even as a result of cost increases beyond its control. This creates a risk that could impair NY Transco's cash flows, credit risk, and ability to achieve investment grade credit ratings, as explained by Ms. Lapson. That being said, the NY Transco is proposing to adopt a mechanism that shares the risks of cost overruns after the project approvals are received because we have confidence in our ability to proactively manage project costs.

Q. Does this conclude your testimony?

A. Yes, it does.

STATE OF NEW YORK)

) **ss**

COUNTY OF NEW YORK)

I, STUART NACHMIAS, being first duly sworn on oath depose and say as follows:

The foregoing "Prepared Direct Testimony of Stuart Nachmias on Behalf of New York Transco, LLC" was prepared by me and the other witnesses listed therein, or under the supervision of one or more of such witnesses, and the factual statements contained in such testimony are true and correct to the best of my knowledge, information and belief.

Further affiant saith not.

Stuart Nachmias

On this 1st day of December, 2014, before me, the undersigned notary public, personally appeared Stuart Nachmias and acknowledged to me that he signed the forgoing document voluntarily for its stated purposes. I identified Stuart Nachmias to be the person whose name is signed on the forgoing document by means of the following satisfactory evidence of identity (check one):

✓ Identification based on my personal knowledge of his identity, or

___ Current government-issued identification bearing his photographic image and signature.

Notary Public
My commission expires: 3/22/2015
(SEAL)

NEIL H. BUTTERKLEE
Notary Public, State of New York
Qualified in Suffolk County
No. 02BU5009938
Commission Expires 3/22/2015

Exhibit No. NYT-2

NEW YORK
ENERGY HIGHWAY
The time for powerful ideas

New York Energy Highway Blueprint

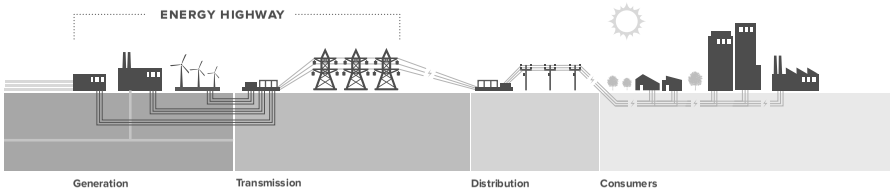
N.Y. GOVERNOR
Andrew M. Cuomo

NYEnergyHighway.com

Issued 2012 by the
New York Energy Highway Task Force

NEW YORK ENERGY HIGHWAY

The time for powerful ideas



Contents

4 Energy Highway Task Force
5 Letter to Governor Andrew M. Cuomo
6 Introduction
13 Executive Summary
27 Blueprint for the Future
33 A Four-Part Strategy
37 Expand and Strengthen the Energy Highway
38 Expand transmission to carry excess power from upstate to downstate
40 **ACTION →** Initiate Alternating Current transmission upgrades to increase the capacity to move excess power from upstate to downstate
42 Plan for possible power plant retirements
48 **ACTION →** Develop and implement Reliability Contingency Plans for potential large power plant retirements
50 Support public-private partnerships
50 **ACTION →** Provide public power authorities flexibility in contracting
51 Support workforce development for the energy industry
55 Accelerate Construction and Repair
56 **ACTION →** Accelerate investments in electric generation, transmission, and distribution to strengthen reliability, safety, and storm resilience
57 **ACTION →** Accelerate investments in natural gas distribution to reduce cost to customers and promote reliability, safety, and emission reductions
61 Support Clean Energy
62 Encourage the development of renewable generation
63 **ACTION →** Conduct a competitive solicitation for new renewable energy resources as part of the New York State Renewable Portfolio Standard
66 Provide long-term certainty for renewable energy development beyond 2015
67 Facilitate further development of upstate renewable energy projects
68 **ACTION →** Initiate transmission upgrades in Northern New York to help facilitate renewable energy development
69 Advance policies to encourage distributed renewable energy development; continue and build on the NY-Sun initiative
71 Advance offshore wind development in New York
72 **ACTION →** Characterize offshore wind resources and evaluate cost recovery opportunities
73 Support repowering of existing power plants to improve efficiency and protect the environment
76 **ACTION →** Initiate process for repowering of inefficient power plants on Long Island and support additional efforts to transition to a cleaner power generation fleet on Long Island
77 **ACTION →** Require utilities to evaluate repowering as an alternative solution for power plant retirements where the power plant is expected to be needed for reliability
78 **ACTION →** Establish a Community Support Plan and Greenhouse Gas Emissions Reduction Program in the electricity sector
79 Support energy efficiency and other demand-side measures
81 Drive Technology Innovation
82 Advance Smart Grid in New York
83 **ACTION →** Fund Smart grid demonstrations projects
85 **ACTION →** Develop an Advanced Energy Management System Control Center and pursue federal energy reserach grants
88 Ensure electric utility capital expenditure plans to implement cost-effective Smart Grid technologies
89 Evaluate policies to encourage technological and commercial innovation
91 Conclusion and Next Steps
94 Appendix A: Energy Highway Process
96 Appendix B: Summary of RFI Responses

LIST OF FIGURES

6 Figure 1 Energy System: Generation, Transmission, Distribution, Consumers
22 Figure 2 Timeline of Energy Highway Blueprint Impacts
31 Figure 3 Map of Energy Highway Actions
38 Figure 4 Expand and Strengthen the Energy Highway Timeline
41 Figure 5 New York State Transmission System, 230 kV and above, Including the Highest Area of Congestion
45 Figure 6 Recent and Planned Generator Retirements as of September 2012 (Retirements Since 2010)
56 Figure 7 Accelerate Construction and Repair Timeline
62 Figure 8 Support Clean Energy Timeline
64 Figure 9 Existing and Proposed Wind Capacity (as of September 2012)
74 Figure 10 Age of New York Generating Facilities
82 Figure 11 Drive Technology Innovation Timeline
110 Figure 12 Map of Transmission Responses
111 Figure 13 Map of Generation Responses

LIST OF TABLES

20 Table 1 Summary of Energy Highway Task Force Actions
24 Table 2 Summary of Energy Highway Task Force Policy Recommendations
43 Table 3 Environmental Protection Agency (EPA) Actions Applicable to the Electricity Sector
96 Table 4 Summary Matrix of All RFI Responses

"Key to powering our economic growth is expanding our energy infrastructure."

N.Y. GOVERNOR
Andrew M. Cuomo
2012 State of the State Address

ENERGY HIGHWAY TASK FORCE

TOP ROW

Gil C. Quiniones, (Co-Chair) President and Chief Executive Officer, New York Power Authority

Joseph Martens, (Co-Chair) Commissioner, New York State Department of Environmental Conservation

BOTTOM ROW

Kenneth Adams, President, Chief Executive Officer and Commissioner, Empire State Development

Garry A. Brown, Chairman, New York State Public Service Commission

Francis J. Murray, Jr., President and Chief Executive Officer, New York State Energy Research and Development Authority

NEW YORK ENERGY HIGHWAY
The time for powerful ideas

Honorable Andrew M. Cuomo
Governor of the State of New York
State Capitol
Albany, N.Y. 12224

Dear Governor Cuomo:

We are pleased to present the New York State Energy Highway Blueprint for your consideration. The Blueprint includes 13 recommended actions that we believe can effectively advance your far-reaching initiative to modernize New York's statewide energy system. The actions, including electric transmission and generation construction, development of renewable energy sources, and upgrades to electric and natural gas infrastructure, can make the New York Energy Highway a model of dynamic public-private investment. They stand to help modernize New York's aging energy infrastructure for the future, while spurring private-sector investment, promoting increased development of in-state energy resources, protecting the environment, and supporting jobs.

Consistent with these priorities and with your mandate to us, we established objectives to ensure the long-term reliability of the electric system, improve electricity flows from upstate to downstate, encourage development of renewable generation resources throughout the State, and deploy new technologies.

We selected these actions following a thorough review of responses to a Request for Information (RFI) issued on April 11, 2012 and of public comments that were accepted throughout July and August. We are pleased to report that 85 entities, including the State's investor-owned utilities, private developers, investors, and other parties, submitted 130 responses to the RFI. The substantive nature of many of these submittals, which included proposals for specific projects as well as discussion of energy issues and policies, demonstrated a widespread interest in confronting the State's energy challenges and the competence required to implement the recommended actions. We assessed all responses to the RFI in light of their ability to meet one or more of the objectives and to contribute to such vital goals as system reliability, customer benefit, environmental protection, job creation, and technology enhancement. The actions we recommend for your consideration will expand and strengthen the energy system, accelerate construction and repair, support clean energy, and drive technology innovation.

From the outset, the Task Force created a transparent process for participation and review by interested parties and the public. All responses to the RFI were posted on the Energy Highway website. The Task Force sponsored two major conferences—the Energy Highway Summit and a Conference of RFI Respondents and Interested Parties—that attracted a total of more than 670 attendees.

Thanks to all who are contributing to the Energy Highway, we are able to build a better future today with powerful ideas for tomorrow. It has been a privilege to serve on the Energy Highway Task Force and we look forward to continuing to work with you, potential project developers, and others to bring this critical public-private initiative to fruition and ensure that New York stands as a leader in energy development and reliability.

Gil C. Quiniones **Joseph Martens** **Kenneth Adams** **Garry A. Brown** **Francis J. Murray, Jr.**

Introduction

A modern, efficient, and environmentally sustainable electric power system in New York State is the lifeblood of a vibrant and growing economy, fueling job creation, innovation, and new technologies from mobile devices to electric vehicles. New York State is moving aggressively to ensure that its residents and businesses will have a safe, reliable, affordable, and clean energy supply in the years and decades to come. The power system in New York, comprising the generation, transmission, distribution, and consumer segments illustrated in Figure 1, is a complex network of hundreds of large and small power companies, producing and delivering electric energy along tens of thousands of miles of overhead and underground power lines to millions of residential, commercial, and industrial consumers. The Energy Highway initiative focuses on the generation and transmission systems to strengthen and enhance the foundation of New York's energy system.

FIGURE 1

“We can **build a new energy system** across our entire State.”

N.Y. GOVERNOR
Andrew M. Cuomo
2012 State of the State Address

Generation
New York's diverse sources of power generation include fossil fuels such as natural gas, oil, and coal; renewable resources such as hydropower, wind, solar, and biomass; and nuclear power. Governor Andrew M. Cuomo's Power New York Act of 2011 instituted a streamlined permitting process for construction of new and repowered power plants, while New York's Renewable Portfolio Standard (RPS) provides important financial incentives to develop renewable energy resources statewide. Modernizing our generation assets promotes environmental and efficiency goals and preparing well in advance for the potential closure of power plants is critical to safeguarding system reliability and protecting consumers.

Transmission and Distribution
Ensuring the efficient transmission of power by reducing bottlenecks and deploying advanced smart technologies improves overall electric system operation and optimizes the use of existing assets in New York by allowing lower-cost and cleaner power to reach consumers. Investments in the transmission and distribution systems can reduce customer costs over the long-term, improve safety and reliability, and protect the environment while immediately creating jobs and economic development. Investment in cost-effective Smart Grid technologies and encouraging commercial innovation in the power sector is vital to continuing the reliable and efficient operation of the energy system.

Consumers
Efficient consumption of energy reduces costs and benefits the environment, and is advanced by several major State initiatives. For example, Governor Cuomo's On-Bill Recovery Financing Program, implemented in January 2012, offers financing for home energy efficiency improvements through utility bills while creating jobs. The NY-Sun initiative, announced by Governor Cuomo in January 2012, encourages installation of solar technology, reducing fossil fuel consumption and emissions. In April 2012, the Governor announced a $450 million program to reduce energy consumption in State buildings by 20 percent. Ongoing investments through the Public Service Commission, New York State Energy Research and Development Authority, New York Power Authority, and Long Island Power Authority programs in the efficient use of energy provide benefits for all electricity consumers by keeping wholesale energy costs low during peak periods and improving the environment.

Energy Highway
The Energy Highway Task Force presents in this Blueprint immediate actions and policy recommendations to modernize the power generation and transmission systems to achieve vital safety, reliability, affordability, and sustainability goals on behalf of all New Yorkers.

In developing the Blueprint, the Energy Highway Task Force notes that New York's State Energy Plan is in development, with an expected release in 2013. The Blueprint will provide input to the development of the State Energy Plan's policies, strategies, and recommendations.

Executive Summary

The Blueprint of the Energy Highway advances a strong public-private initiative to improve the State's energy infrastructure, starting immediately, in order to enhance system reliability and efficiency, minimize environmental impacts, and generate long-term customer benefits. These actions are expected to result in approximately $5.7 billion[1] in public and private investments over the next five to 10 years, supporting jobs in New York during construction. The Blueprint provides for as much as 3,200 megawatts (MW) of additional electric generation and transmission capacity and renewable power generation.

The Blueprint's actions and recommendations will unify the State's efforts to create an energy infrastructure that will serve the State's residents and businesses in the decades to come. Construction of the new transmission capacity called for under the Blueprint would solve a decades-old problem: the limitations of the State's electric grid to transmit available, cheaper upstate power to downstate when demand is high. The Blueprint achieves this public policy goal with a first-of-its-kind solicitation of new transmission projects. The Blueprint's call for immediate development and initial implementation of detailed contingency plans to address potential power plant closures demonstrates the State's assumption of a new leadership role in challenging the market to prepare for and meet future uncertainties impacting the bulk electric system. Construction of the new renewable generation called for under the Blueprint, and the recommended extension of funding for the State's Renewable Portfolio Standard (RPS) to well beyond its current 2015 end date, signals the State's unequivocal commitment to a future sustainable power generation sector at a time when the expiration of federal tax credits as well as market conditions are

1. One megawatt (MW) equals 1,000 kilowatts (KW) and is enough power to meet the needs of 800 to 1,000 average homes.

working against such a vision. The Blueprint's call for repowering major power generation facilities on Long Island and elsewhere demonstrates the State's ongoing commitment to a cleaner environment. Accelerating utility capital and operation and maintenance spending on the State's electric and natural gas infrastructure will result in enhanced reliability and safety for utility customers while generating substantial economic development benefits for the State's overall economy. In addition, the Blueprint puts forward a coordinated public and private sector approach for Smart Grid to transition the aging existing electric system into the 21st Century grid.

In response to a Request for Information (RFI) issued in April 2012, the Task Force received a broad spectrum of responses ranging from specific project proposals and policy recommendations to advanced technologies suggestions. This variety of responses, from 85 private developers, investor-owned utilities, financial institutions, and other entities, encompassing 130 proposals and concepts, provided the Task Force an unprecedented insight into the availability of projects and interest of stakeholders in New York State. The projects proposed in RFI responses represent more than 25,000 MW of capacity from new and existing generation and transmission; by way of comparison, the State's current total installed generating capacity is 39,570 MW.

The Blueprint's actions and recommendations will unify the State's efforts to create an energy infrastructure that will serve the State's residents and businesses in the decades to come.

Thirteen specific actions involve State agencies and authorities with partners in the private sector and are grouped under the following areas to achieve the objectives set forth by the Task Force to advance Governor Andrew M. Cuomo's vision for the Energy Highway.

Expand and Strengthen the Energy Highway

- Build $1 billion worth of electric transmission projects totaling over 1,000 MW of capacity, providing an alternative to locally constructed generation of equal capacity, and allowing energy produced at upstate power plants, including wind farms, to reach downstate consumers.
- Develop Reliability Contingency Plans for potential power plant retirements in cases that could impact the reliability of the system.
- Support flexibility in contracting for public power authorities, to facilitate public-private partnerships.

Accelerate Construction and Repair

- Advance up to $800 million of investments in electric generation, transmission, and distribution to enhance reliability, safety, and storm resilience.
- Advance up to $500 million of investments in natural gas distribution to reduce costs to customers and enhance reliability, safety, and emission reductions.

Support Clean Energy

- Execute new contracts for up to $250 million within the next year with renewable energy developers under the Renewable Portfolio Standard (RPS) to leverage an additional $425 million in private-sector investment to build up to 270 MW; continue to invest annually with future contract solicitations in new large-scale renewable energy projects.
- Build up to $35 million worth of strategic transmission upgrades to remove a potential impediment to additional renewable energy development in Northern New York.
- Perform resource characterization[2] studies for offshore wind development in the Atlantic Ocean.
- Initiate process to repower existing inefficient power plants of approximately 750 MW on Long Island, at an estimated investment of $1.5 billion to $2 billion.
- Require utilities to evaluate repowering power plants as a potential solution when plants needed for reliability are scheduled for retirement.
- Create a new incentive fund for greenhouse gas emissions and particulate matter reductions in the electricity sector; institute mechanisms to mitigate impacts on select affected communities from retirements of fossil-fuel power plants.

Drive Technology Innovation

- Leverage the Smart Grid Program to advance the long-term goals of the Energy Highway with an investment of $110 million; provide additional support for Smart Grid technologies through an investment of $80 million focused on demonstration of new technologies in power grid system operations, security, and energy storage.
- Dedicate $10 million to further advance New York as a national center for Smart Grid technology and applications and to lead a statewide effort to house a federal Smart Grid Technology Hub in New York, in partnership with national laboratories and other industry partners; dedicate up to $50 million additional in funding and other resources in the near-term to help support an Advanced Energy Management System Control Center in New York, along with a Smart Energy Utility application program targeted at system operation.

2. Resource characterization studies provide more detailed information on the overall power generation potential, constructability, and permitting feasibility off the New York coast and can include the evaluation of wind speeds, ocean floor and geological conditions, environmental considerations, existing uses of the ocean area, and other factors.

The Task Force's recommended actions take New York beyond the business-as-usual replacement plans for aging infrastructure and lay the groundwork for a significantly improved energy system for the State's businesses and residents.

These actions are expected to have short-, medium-, and long-term positive environmental and economic development benefits across the State. Consumers are expected to experience lower energy costs in the long-term. Enhanced reliability of the energy system is anticipated due to increased transmission capacity and flexibility of operation. The increased utilization of more efficient power plants and development of new renewable energy sources is projected to reduce air pollution and contribute to the mitigation of climate change. The electricity system statewide will be cleaner, more reliable, and ready to support New York's growing economy in the 21st century.

In addition to actions spurring investment in infrastructure, the Task Force puts forward the following policy recommendations to further advance New York's leadership in the energy industry:

- Support workforce development for the energy industry.
- Provide long-term certainty for renewable energy development in New York beyond 2015.
- Advance policies to encourage distributed renewable energy development; continue and build on the NY-Sun initiative.
- Evaluate cost recovery opportunities for offshore wind.
- Support additional efforts to transition to a cleaner power generation fleet on Long Island.
- Support energy efficiency and other demand-side measures.
- Ensure electric utility capital expenditure plans include cost-effective Smart Grid technologies.
- Evaluate policies and regulatory mechanisms, such as the RIIO (Revenues = Incentives + Innovation + Outputs)[3] framework recently adopted in the United Kingdom, to encourage technological and commercial innovation.

Expediting Implementation

The Energy Highway initiative brought together the State's principal energy, environmental, and economic development agencies and authorities to partner in a unique forum to undertake a broad planning effort and chart concrete actions and implementation plans (see Appendix A for details on the Energy Highway process to date). This collaboration allows for expedited implementation of the recommended actions, some through existing processes and others through newly developed or expanded processes.

3. RIIO is the United Kingdom's new approach to regulating their electric and natural gas transmission.

Existing processes can be expedited, where possible, to ensure swift, efficient, and effective implementation of the proposed actions. The Blueprint recommends steps to significantly reduce the time required for development of energy infrastructure, including:

- Executing a first-of-its-kind solicitation of new transmission projects by the Department of Public Service to initiate private sector development to achieve public policy goals.
- Initiating reliability contingency planning years in advance of potential notices of closure by power plants to ensure solutions can be in place to maintain reliability.
- Accelerating investments in the public and private sector to immediately spur economic development in New York and achieve system benefits.

Under Governor Cuomo's leadership, State agencies and authorities are poised to immediately begin working with the private sector to pursue the outlined actions to realize the benefits for New York.

TABLE 1

Summary of Energy Highway Task Force Actions

ACTION	LEAD PUBLIC PARTNERS[4]	PARTNERS	ESTIMATED PUBLIC AND PRIVATE INVESTMENT POTENTIAL	INITIATE	ESTIMATED COMPLETION DATE
EXPAND AND STRENGTHEN THE ENERGY HIGHWAY					
Initiate Alternating Current transmission upgrades to increase the capacity to move excess power from upstate to downstate	DPS	NYPA, LIPA, NYISO, IOUs, Private Sector	$1 billion total for multiple projects totaling over 1,000 MW	By the end of 2012	In phases from 2015 to 2018
Develop and implement Reliability Contingency Plans to prepare for potential large power plant retirements	DPS	NYPA, NYISO, IOUs, Private Sector	$1 to $2 billion totaling approximately 1,200 MW if needed, additional as identified	By the end of 2012	Summer 2016 if needed, additional as identified
Provide public power entities flexibility in contracting for public-private partnerships	NYPA, LIPA	—	—	Early 2013	End of 2013
ACCELERATE CONSTRUCTION AND REPAIR					
Accelerate investments in electric generation, transmission, and distribution for reliability, safety, and storm resilience	DPS, NYPA	IOUs	$800 million	Early 2013	End of 2017
Accelerate investments in natural gas distribution to reduce costs to consumers and promote reliability, safety, and emission reductions	DPS	IOUs	$500 million	By the end of 2012	End of 2017
SUPPORT CLEAN ENERGY					
Conduct a competitive solicitation for renewable resources in New York as part of the State's Renewable Portfolio Standard	NYSERDA	DPS, Private Sector	$675 million for new capacity approaching 270 MW	By the end of 2012	Awards made summer 2013, projects in service by end of 2014
Initiate transmission upgrades in Northern New York to help facilitate renewable energy development	NYPA, NYSERDA	DPS	$35 million	By the end of 2012	Ongoing
Characterize offshore wind resources and evaluate cost recovery opportunities	NYSERDA	NYPA, LIPA, DEC, DOS, IOUs, Private Sector	$2 to $5 million	By the end of 2012	2014
Initiate process for repowering of inefficient power plants on Long Island and support additional efforts to transition to a cleaner power generation fleet on Long Island	LIPA	Private Sector	$1.5 to $2 billion to repower approximately 750 MW	Summer 2013	2019 to 2020
Require utilities to evaluate repowering as an alternative to power plant retirements when the plant is needed for reliability	DPS	IOUs, Private Sector	—	By the end of 2012	Ongoing, complete as needed
Establish a Community Support Plan and Greenhouse Gas Emissions Reduction Program in the electricity sector	DEC, NYSERDA	DPS, ESD	—	Early 2013	Ongoing, open programs for applications by 2014
DRIVE TECHNOLOGY INNOVATION					
Fund Smart Grid demonstration projects	NYSERDA	DPS	$190 million	Early 2013	Ongoing
Develop an Advanced Energy Management System Control Center and pursue a federal Smart Grid Technology Hub	NYSERDA, NYPA	NYISO, Academia, Federal Government, IOUs, Private Sector	$60 million	Early 2013	Ongoing
			Total Estimated Investment Potential up to $5.7 billion Potential Capacity Installed totals as much as 3,200 MW		

4. Definitions: New York State Department of Public Service (DPS); New York Power Authority (NYPA); Long Island Power Authority (LIPA); Investor-Owned Utilities (IOUs); New York Independent System Operator (NYISO); New York State Energy Research and Development Authority (NYSERDA); New York State Department of Environmental Conservation (DEC); New York State Department of State (DOS); Empire State Development (ESD).

FIGURE 2

Timeline of Energy Highway Blueprint Impacts

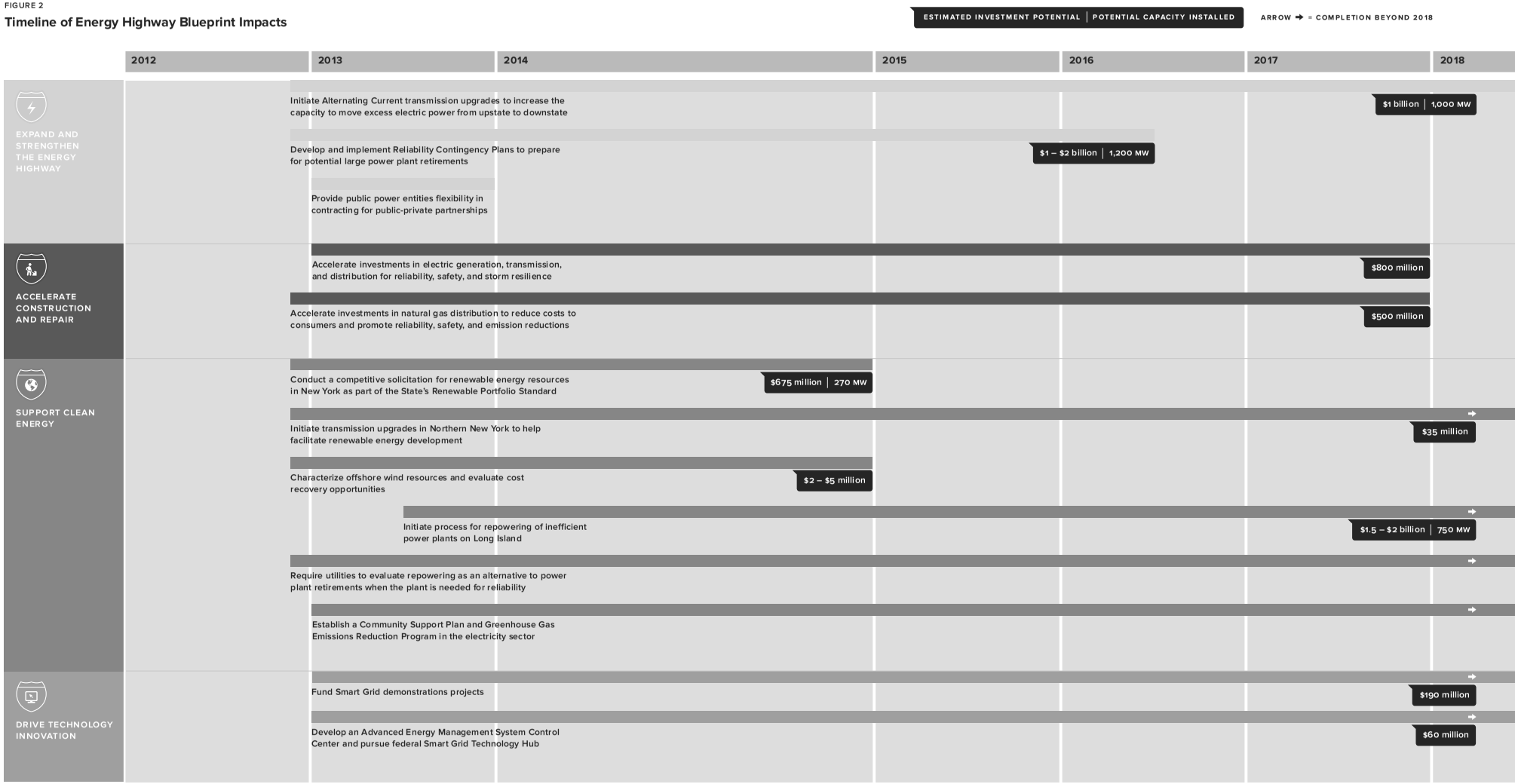


TABLE 2

Summary of Energy Highway Task Force Policy Recommendations

POLICY RECOMMENDATIONS	PARTNERS
EXPAND AND STRENGTHEN THE ENERGY HIGHWAY	
Support workforce development for the energy industry	NYSERDA, NYPA
SUPPORT CLEAN ENERGY	
Provide long-term certainty for renewable energy development in New York beyond 2015	NYSERDA, DPS
Advance policies to encourage distributed renewable energy development; continue and build on the NY-Sun initiative	NYSERDA, DPS
Evaluate cost recovery opportunities for offshore wind	NYSERDA, DPS
Support additional efforts to transition to a cleaner power generation fleet on Long Island	LIPA
Support energy efficiency and other demand-side measures	All
DRIVE TECHNOLOGY INNOVATION	
Ensure electric utility capital expenditure plans include cost-effective Smart Grid technologies	DPS
Evaluate policies and regulatory mechanisms, such as the RIIO (Revenues = Incentives + Innovation + Outputs) framework recently adopted in the United Kingdom, to encourage technological and commercial innovation	DPS, NYSERDA

Blueprint for the Future

The New York State Energy Highway Blueprint provides an action plan for implementing Governor Andrew M. Cuomo's bold proposal for a public-private initiative to rebuild and rejuvenate New York State's electric power system to meet the needs of a 21st century economy and society.

The Blueprint was developed by the Energy Highway Task Force, appointed by the Governor shortly after he announced the Energy Highway initiative in his January 2012 State of the State address. The Task Force, consisting of the State's principal energy, environmental, and economic development officials, issued a Request for Information (RFI) in April 2012 that elicited responses from 85 private developers, investor-owned utilities, financial institutions, and other entities encompassing 130 proposals and concepts. The projects proposed in RFI responses represent more than 25,000 MW of capacity from new and existing generation and transmission.

As summarized in Appendix B of the Blueprint, the responses covered a wide range of options, including proposals for new and upgraded transmission lines, the repowering[5] or upgrading of existing power plants, and the construction of new generating plants, including the development of new renewable resources. Rather than proposing individual projects, some submittals supported emerging technologies, such as energy storage and solar power, or advocated certain energy policies and priorities.

The Blueprint accounts for the various ideas and projects proposed by the respondents to the RFI, feedback and comments received by multiple stakeholders throughout the State, and relevant publicly available reports and analyses. The actions included in this Blueprint have benefits across New York

5. Repowering is a term used to describe the retirement of a power plant and the reconstruction of a new and more efficient plant with new equipment on the same property in its place.

State (see Figure 3: *Map of Energy Highway Actions*, which shows the region(s) tied to each action proposed by the Task Force).

The Energy Highway initiative is closely linked to Governor Cuomo's NY Works program, an effort to forge new partnerships with private enterprises to rebuild and modernize New York's infrastructure and to leverage the State's financial and technical resources to generate billions of dollars in private investment and support jobs. In keeping with these objectives, the Blueprint is designed to create an environment to spur private-sector involvement in carrying out the Energy Highway initiative and offers the potential for State assistance in addressing financial, regulatory, and other issues.[6] The actions should be implemented in a manner consistent with restructured[7] energy markets to deliver the most economical energy available to serve the power needs of all New Yorkers.

The Energy Highway initiative recognizes and responds to the following challenges:

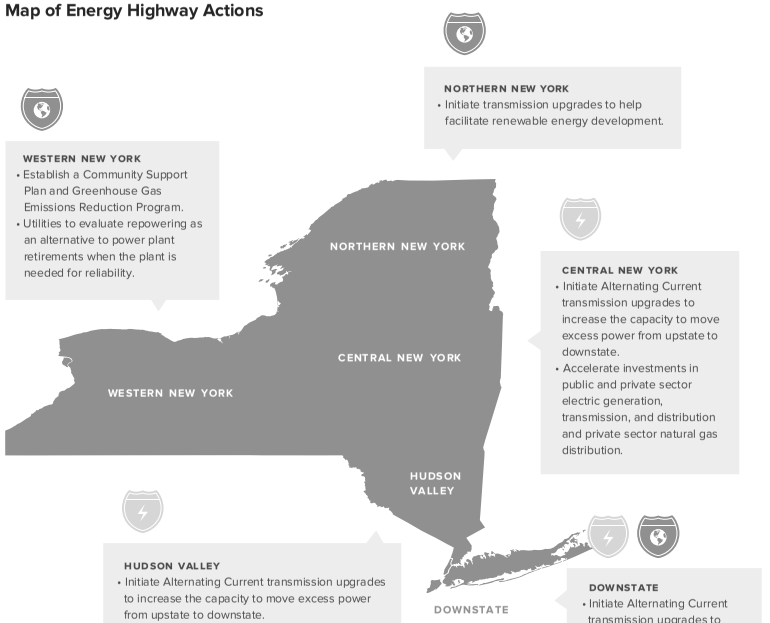
- Reliable, clean, and competitively-priced energy is essential for quality of life and economic growth and requires a reliable and efficient infrastructure to deliver energy.
- Excess power is available in upstate New York, while demand is increasing in the downstate area. The construction and operation of power plants is less expensive in the upstate region as compared to downstate.
- Congestion points, or bottlenecks, on the electric transmission system prevent lower-cost and/or cleaner power from flowing easily from upstate to downstate, increasing costs for consumers and preventing improvements in environmental quality because the older and less efficient power plants are forced to run more frequently than would otherwise be necessary.
- The significant potential to develop wind projects and other renewable energy sources in upstate New York may become impeded by transmission constraints that could prevent their full output from reaching consumers.
- The existing electric and natural gas infrastructure requires upgrades and repairs to ensure continued safe and reliable operation, to provide storm resilience, and to potentially lower costs for consumers.
- A number of factors, including the current low price of natural gas, pending environmental regulations, and uncertainty of federal licenses, impact the continued viability of certain power plants and could lead to their retirements, affecting power supplies and the communities where the plants are located.

While the challenges are formidable, this Blueprint demonstrates that they can be met in a manner that advances the State's energy, environmental, and economic development goals. In seeking a widespread response to the RFI, the Energy Highway Task Force termed this *The Time for Powerful Ideas*. Those ideas have now emerged, setting the stage for equally powerful actions.

6. System reliability issues continue to be managed and guided by the New York State Department of Public Service (DPS) and the New York Independent System Operator (NYISO), and this Blueprint is not intended to duplicate the reliability evaluation and responsibilities of the DPS and the NYISO.
7. Restructured energy markets were established in New York State in 1997 and 1998 to create competition in the supply of electricity.

FIGURE 3

Map of Energy Highway Actions



NORTHERN NEW YORK
- Initiate transmission upgrades to help facilitate renewable energy development.

WESTERN NEW YORK
- Establish a Community Support Plan and Greenhouse Gas Emissions Reduction Program.
- Utilities to evaluate repowering as an alternative to power plant retirements when the plant is needed for reliability.

CENTRAL NEW YORK
- Initiate Alternating Current transmission upgrades to increase the capacity to move excess power from upstate to downstate.
- Accelerate investments in public and private sector electric generation, transmission, and distribution and private sector natural gas distribution.

HUDSON VALLEY
- Initiate Alternating Current transmission upgrades to increase the capacity to move excess power from upstate to downstate.
- Develop Reliability Contingency Plans to prepare for potential large power plant retirements.

DOWNSTATE
- Initiate Alternating Current transmission upgrades to increase the capacity to move excess power from upstate to downstate.
- Characterize offshore wind resources and evaluate cost recovery opportunities.
- Initiate process for repowering of inefficient power plants on Long Island and support additional efforts to transition to a cleaner power generation fleet on Long Island.

STATEWIDE
- Develop Reliability Contingency Plans to prepare for potential large power plant retirements.
- Accelerate investments in public and private sector electric generation, transmission, and distribution and private sector natural gas distribution.
- Conduct a competitive solicitation and contract for new renewable resources as part of the New York State Renewable Portfolio Standard.
- Establish a Community Support Plan and Greenhouse Gas Emissions Reduction Program.
- Utilities to evaluate repowering as an alternative to power plant retirements when the plant is needed for reliability.
- Leverage existing programs to support the goals of the Energy Highway and increase funding for strategic demonstration.
- Pursue a federal Smart Grid Technology Hub and an Advanced Energy Management System Control Center.

A Four-Part Strategy

The Energy Highway Task Force has identified four main areas of focus in this Blueprint that address the objectives and goals identified by Governor Cuomo and in the RFI:

Expand and Strengthen the Energy Highway

Accelerate Construction and Repair

Support Clean Energy

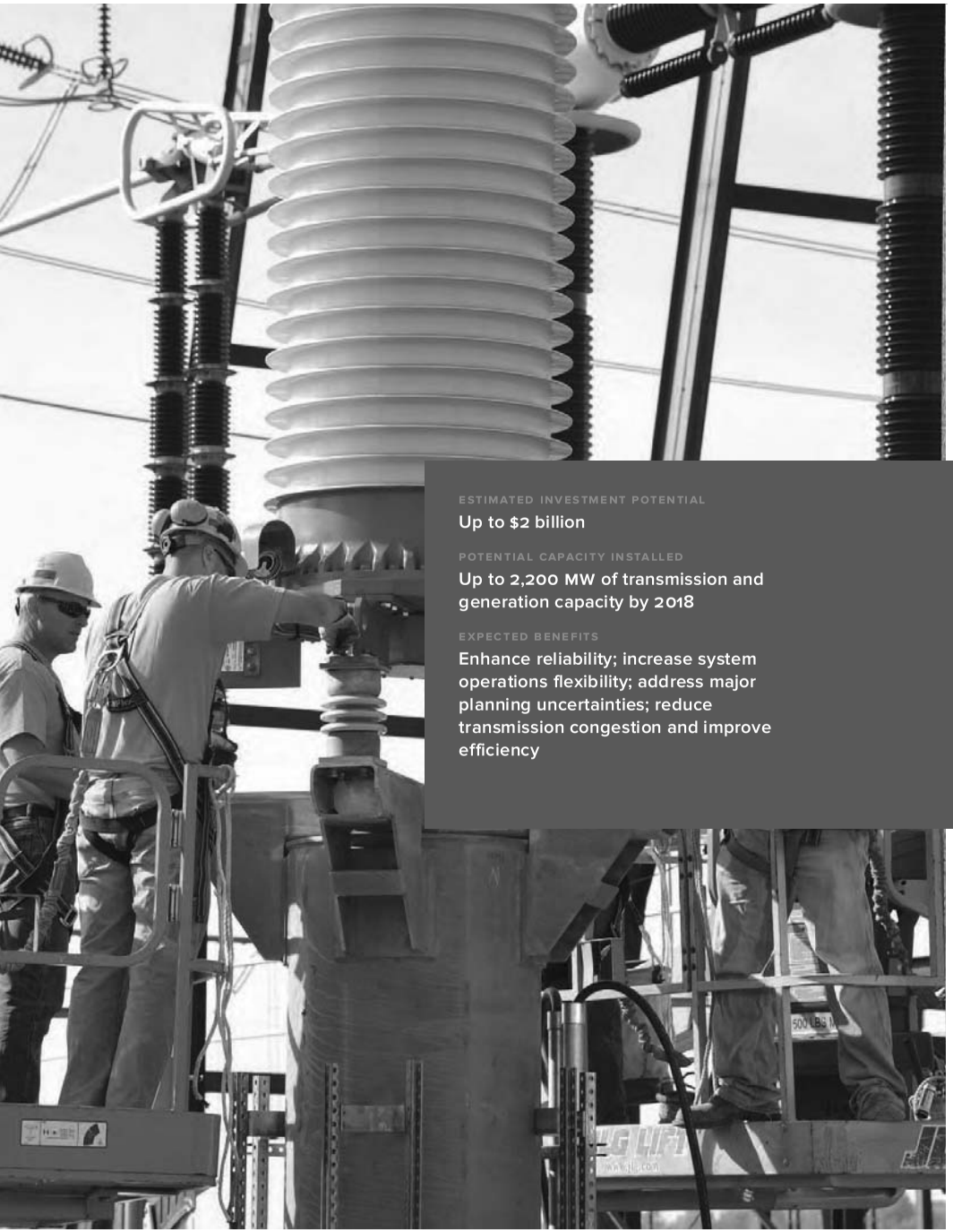
Drive Technology Innovation

The following recommended actions include short-, medium-, and long-term steps to build the path forward to achieve the stated public policy goals. These actions are specific, assigned to State entities for execution or implementation, and laid out on a timeline to ensure the mission of the Governor's Energy Highway initiative is achieved.[8]

The Energy Highway Task Force reviewed each RFI response and assessed the contribution of each to meeting the identified objectives. Collectively the responses provided substantial value to the preparation of the Blueprint by supplying useful information regarding both the public and private interests in various projects and issues.

8. Actions recommended by the Task Force are subject to all applicable regulatory and statutory requirements.

The Task Force's long-term view looks beyond the typical 10-year forecasts and projections in traditional energy system industry models. Infrastructure investments, especially those in electricity transmission, provide benefits for decades, requiring a vision that considers costs and benefits over a 40- to 50-year horizon.



ESTIMATED INVESTMENT POTENTIAL

Up to $2 billion

POTENTIAL CAPACITY INSTALLED

Up to 2,200 MW of transmission and generation capacity by 2018

EXPECTED BENEFITS

Enhance reliability; increase system operations flexibility; address major planning uncertainties; reduce transmission congestion and improve efficiency

Expand and Strengthen The Energy Highway

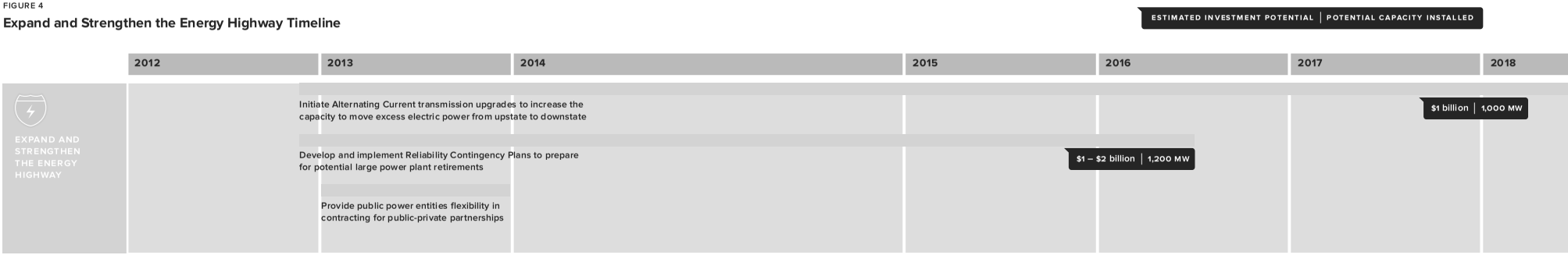
New York has a reliable electric system, but it is a system consisting of transmission lines and power plants that are aging. Some of these facilities also have uncertain futures. The Energy Highway initiative leverages ongoing replacement in-kind of aging infrastructure and identifies specific areas to expand transmission capacity to move excess power from upstate power producers to downstate, while providing significant reliability, economic, and environmental benefits. The following actions and recommendations improve the efficiency of the Energy Highway system and benefit New York residents and businesses:

- **Expand transmission to carry excess power from upstate:** initiate Alternating Current (AC) electric transmission upgrades to increase the capacity to move excess electric power from upstate to downstate by over 1,000 MW.
- **Plan for possible power plant retirements**: develop and implement Reliability Contingency Plans to prepare for potential large power plant retirements.
- **Support public-private partnerships**: provide public power entities flexibility in contracting for public-private partnerships that can benefit the State's energy infrastructure.
- **Support workforce development for the energy industry.**

The NYISO has in place both reliability and economic planning processes that forecast needs and upgrade opportunities looking out over 10 years. The Energy Highway initiative is not intended to replace these processes, but rather to supplement them. The confluence of aging infrastructure with multiple power plant retirements due to economics and fluctuating fuel prices, along with the anticipated or potential retirement of power plants due to increasing environmental restrictions or regulatory issues, calls for a broader planning

FIGURE 4

Expand and Strengthen the Energy Highway Timeline



effort guided by public policy. In addition to responding to each individual situation through the NYISO processes, New York requires a comprehensive view of how to best position the electric system to benefit ratepayers over the long-term.

Expand transmission to carry excess power from upstate to downstate

New York State's electric transmission system faces a longstanding problem of congestion at critical points on the pathways linking upstate and downstate New York. Together, New York City, Long Island, and Westchester County account for more than half of the demand for electricity in the State and this demand is increasing; however, in times of peak demand and high prices, lower-cost and/or cleaner power available from upstate cannot reach these densely populated areas because of the transmission bottlenecks. Congestion can have adverse environmental and economic consequences when older plants in urban areas run more frequently than they otherwise would if power from other sources of energy could reach these areas. The Energy Highway Blueprint addresses the challenges of a congested transmission system by calling for the upgrade of existing lines and the building of new lines following existing rights-of-way.

The AC electric transmission system is the backbone of a reliable transmission system. The AC system promotes reliability through its ability and flexibility to respond to emergencies on the system. Unlike Direct Current (DC) transmission lines, the AC system also allows for the interconnection of needed generation resources at multiple points on the system. DC lines serve the purpose of moving energy over long distances and interconnecting incompatible systems.

Prudent transmission planning evaluates all alternatives–AC transmission, DC transmission, generation, and energy efficiency–so as to identify new infrastructure to provide the most robust system at a reasonable cost to ratepayers. While congestion can also be reduced through generation or DC transmission investments, AC investments provide the additional benefit of contributing to a system that is more robust and flexible with increased reliability benefits, thereby increasing the area within which generation facilities can be placed to respond to future system needs.

The reduction of in-state transmission constraints and development of additional transmission capacity is expected to reduce air emissions in the New York City area, support the development of upstate renewable energy projects, and lower wholesale energy prices for downstate energy consumers. Further, upgrades should provide economic development benefits to upstate by enabling excess energy from upstate power plants to reach downstate markets, improving the financial viability of existing upstate power producers, and allowing existing and new wind farms and other renewable sources in that region to access higher-priced energy markets.

RFI RESPONSES

The Task Force received three proposals in support of AC transmission upgrades, accounting for 20 individual projects and demonstrating that the private sector is positioned to support the proposed action:

- Boundless Energy, LLC
- CityGreen Transmission, Inc.
- New York Transmission Company (Transco)

Additionally, LS Power Transmission submitted suggestions for facilitating AC transmission development.

ACTION → Initiate Alternating Current transmission upgrades to increase the capacity to move excess power from upstate to downstate

ASSIGNED AGENCY

New York State Department of Public Service

PARTNERS

New York Power Authority, Long Island Power Authority, New York Independent System Operator, Investor-Owned Utilities, Private Sector

INITIATE

By the end of 2012

ESTIMATED COMPLETION DATE

DPS permitting process complete in time to begin construction by 2014; projects to be completed in phases, expected from 2015 to 2018

ESTIMATED INVESTMENT POTENTIAL

$1 billion for a total of over 1,000 MW of increased capacity

The Energy Highway Task Force recommends that the DPS invite developers and transmission owners to file notices of intent to construct projects that would increase the capacity for transfer of electric power between upstate and Central New York and the lower Hudson Valley and New York City, thus relieving existing bottlenecks. These projects would also be expected to enhance system reliability into the future. Specifically, the DPS should call for projects that relieve congestion, including those benefiting the following transmission corridor consisting of: Central East–New Scotland–Leeds–Pleasant Valley between the Mohawk Valley Region, the Capital Region, and the Lower Hudson Valley (see Figure 5: New York State Transmission System, 230 KV and Above, Including the Highest Area of Congestion).

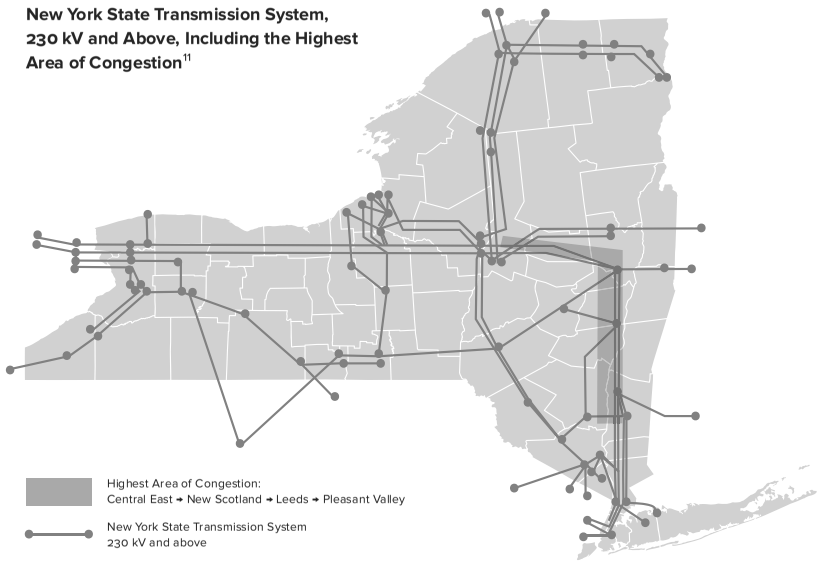
Based on the proposals received in response to the RFI, analysis conducted by the Task Force in cooperation with the NYISO, and review of published studies such as the New York State Transmission Assessment and Reliability Study (STARS) issued in April 2012, the Task Force estimates that approximately 1,000 MW of cost-effective opportunities exist to upgrade the AC transmission system.[9]

The DPS should call for each developer of a proposed project that meets these objectives to submit a letter of intent to the Public Service Commission (PSC) providing a detailed project description, including cost estimates, a target date for filing its Article VII[10] application and its approach to cost recovery

9. Transmission security and resource assessments were performed by Nexant and PowerGEM
10. Article VII of the New York Public Service Law sets forth the existing certification review process for siting major utility transmission facilities in New York State. Additional information about the siting process can be found on the DPS website: www.dps.ny.gov.

FIGURE 5

New York State Transmission System, 230 kV and Above, Including the Highest Area of Congestion[11]



Note: Projects that may relieve congestion in the highlighted area may not necessarily be physically located within this area.

and allocation. Following these submissions, DPS will initiate a pre-filing, multi-agency review, and evaluation process leading to establishing deadlines for applications, possibly phased according to which congested interfaces the proposed transmission projects would address. After complete applications for certificates have been received, a coordinated hearing and decision phase of the certification process will commence. The process will include an evaluation of the economic benefits and environmental impacts of each project. It is expected that, subject to a determination granting a certificate, projects meeting the objectives could begin construction in 2014.

The Task Force anticipates that significant benefits will result from upgrading the AC transmission system. DPS, in its invitation to developers and transmission owners, should emphasize a preference for projects developed along existing

11. Information adapted from the NYISO's *Power Trends 2012: State of the Grid*, page 31.

rights-of-way or that include upgrades to existing lines. By doing so, it is expected that this initiative will minimize environmental impacts and potential community opposition that could result from construction in new transmission rights-of-way. These targeted upgrades of the AC transmission system can strengthen the statewide power grid and provide significant reductions in nitrogen oxide (NO_X) and particulate matter emissions in the downstate region. The reduction of those emissions are particularly important because the downstate region is designated nonattainment[12] for the federal air quality standard for ozone, and NO_X emissions contribute to those elevated ozone levels.

Plan for possible power plant retirements

More than 40 percent of New York's existing power generating capacity is over 40 years old and more than 20 percent is over 50 years old.[13] Recent and pending environmental regulations (see Table 3: Environmental Protection Agency (EPA) Actions Applicable to the Electricity Sector) coupled with low natural gas prices could lead to accelerated retirements of some of these older facilities.

The potential retirement of power plants creates uncertainties for the future of the State's power supply. The Energy Highway Task Force recommends action to address two critical aspects of this uncertainty.

- The proposed closure of power plants that are required to maintain system reliability can potentially impose additional costs on customers when the closing plant must be kept online at above market prices.
- Either by virtue of plant size, location, or uncertainties regarding the timing of potential retirements, the electricity market may not be in a position to respond adequately to the shutdown of certain power plants once retirement is announced—as is the potential case with the Indian Point Energy Center, a 2,066 MW nuclear power plant located in the lower Hudson Valley.[14]

These realities justify enhancements to the current process for managing power plant retirements.

In most cases to date, the market has responded adequately to the retirement of plants by providing any needed capacity. Every two years the NYISO, the entity responsible for overseeing operations of the transmission system and

12. Areas that do not meet the federal Environmental Protection Agency's (EPA) health-based criteria for permissible levels of air pollutants are designed nonattainment areas.
13. See Figure 10.
14. The Task Force makes no assumption as to the probability of a closure of the Indian Point Energy Center, and makes no determination of future events in this regard. This process is intended to provide a solution to maintain reliability in New York State in case of power plant closures, including a closure of Indian Point, and is not intended to indicate any proposed decision with regard to such closure.
15. Information adapted from the EPA website: www.epa.gov.

TABLE 3

Environmental Protection Agency (EPA) Actions Applicable to the Electricity Sector[15]

CATEGORIES	EPA ACTION	OBJECTIVES	STATUS OF ACTION
CRITERIA POLLUTANTS	Cross State Air Pollution Rule	Reduce sulfur dioxide and nitrogen oxide emissions from fossil fuel power plants in the Eastern U.S.	Court vacated Cross State Air Pollution Rule on August 21, 2012, directed EPA to enforce current rules until it develops a substitute
	New Particulate Matter National Ambient Air Quality Standards	Evaluate tightening existing fine particulate standard	Final rule required by December 14, 2012
	New Sulfur Dioxide National Ambient Air Quality Standard	More stringent sulfur dioxide emissions standards	Promulgated June 2010
	New Nitrogen Dioxide National Ambient Air Quality Standard	More stringent nitrogen dioxide emissions standards	Promulgated February 2010
	New Ozone National Ambient Air Quality Standard	More stringent ozone emissions standards	Promulgated March 12, 2008
	Nitrogen Oxides Reasonably Available Control Technology	Maintain this level of control for both particulate matter and ozone, and to assist with attainment of both new ambient air quality standards	Promulgated June 2012; requires that sources meet new limits by July 1, 2014
	Best Available Retrofit Technology	Required under the federal regional haze provisions of the Clean Air Act	Promulgated April 2012; requires that sources comply with limits by January 1, 2014
MERCURY AND AIR TOXICS STANDARDS	Maximum Available Control Technology for Mercury and other pollutants	More stringent mercury emission standards for coal-fired power plants, and a range of other hazardous air pollutants emitted by coal- and oil-fired power plants	Promulgated February 2012
WASTE AND WATER	Coal Combustion Waste	Rule on disposal of coal combustion waste, phasing out existing surface storage methods	Expected 2013
	Wastewater Discharge Regulations	More stringent regulation of wastewater discharges from coal, oil, and gas powered units.	Expected April 2014
	Power Plant Cooling Water Intake Structures Rule	More stringent regulation on cooling water intake structures at existing facilities in order to limit harm to fish populations	Expected June 2013
GREENHOUSE GASES	Greenhouse Gas Reporting Rules for New Sectors	Oil and gas facilities must track greenhouse gas (GHG) emissions as part of EPA's GHG Report Program	Promulgated November and December 2010
	Tailoring Rule	Raised threshold for Best Available Control Technology for power plants emitting large amounts of carbon dioxide	Promulgated June 3, 2010
	New Source Performance Standards	More stringent GHG emission standards for new and modified power plants	Expected 2013
	Performance Standards for Existing Plants	GHG emission standards for existing power plants	Unknown

RFI RESPONSES

Multiple proposals were submitted in response to the RFI that could provide potential solutions in a Reliability Contingency Plan for the Indian Point Energy Center, such as adding additional generation capacity in the Hudson Valley or New York City regions and upgrading transmission into the Hudson Valley or New York City. In total, respondents to the RFI identified over 6,000 MW of generation, including repowering proposals, to be located in the Hudson Valley or New York City regions and 5,700 to 7,600 MW of DC transmission to terminate in the Hudson Valley or New York City. Many of the projects referenced in the previous section under AC transmission upgrades are also applicable. These responses demonstrate that the private sector is positioned to support proposed potential Reliability Contingency Plan for the Indian Point Energy Center. The certainty and timing of construction will be critical components in the Reliability Contingency Plan development. Proposals were submitted by:

- American Electric Power
- Boundless Energy, LLC
- CityGreen Transmission, Inc.
- Clover Leaf Power, LLC
- Cogen Technologies Linden Venture
- Competitive Power Ventures, Inc.
- Cricket Valley Energy Center, LLC
- GenOn Energy, Inc.
- Hydro-Quebec Production
- Iberdrola, USA
- New York Transmission Company (Transco)
- NextEra Energy Resources
- NRG Energy, Inc.
- NYC Energy, LLC
- Pure Energy Infrastructure, LLC
- Taylor Biomass Energy-Montgomery, LLC
- TransCanada Corporation
- Transmission Developer, Inc., Champlain Hudson Power Express Project
- US Power Generating Company (US PowerGen)
- West Point Partners, LLC

energy markets in New York, conducts a Reliability Needs Assessment. This assessment builds on the utilities' individual local transmission system plans and results in a Comprehensive Reliability Plan that relies first on market-based solutions, but also contains regulated avenues to provide solutions with rate recovery if the market solutions do not get implemented in time. The NYISO also examines scenarios that could respond to needs, such as those created by potential retirements of large coal and nuclear plants, but does not solicit solutions for such contingencies.

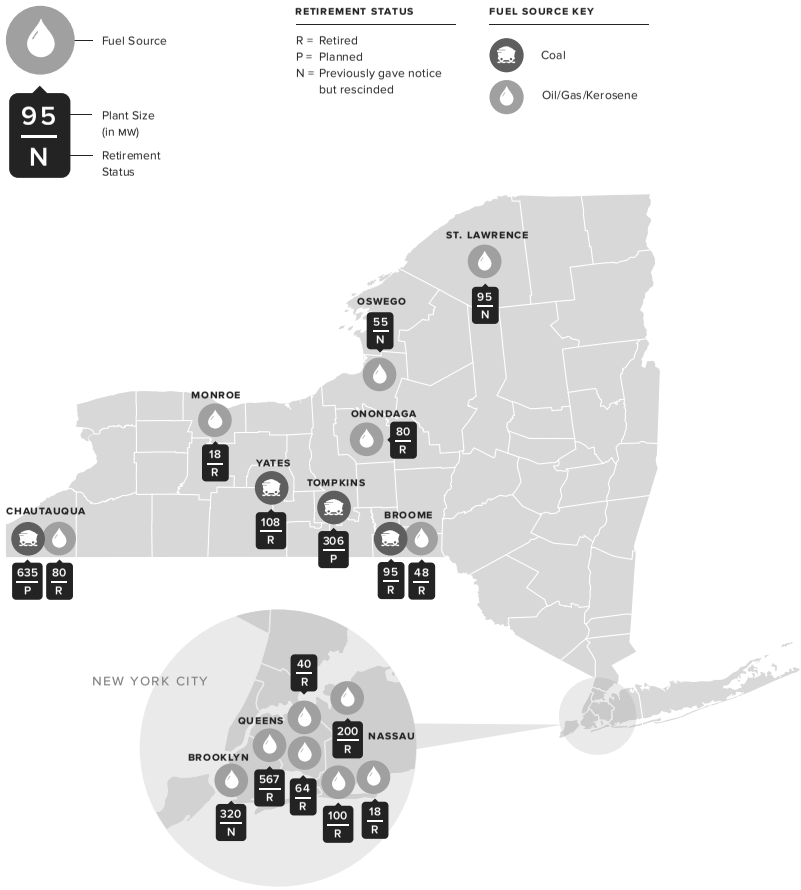
New York has a regulatory process for managing power plant retirements, once the retirement is formally announced, to ensure that system reliability is maintained. The State currently requires a power plant owner to provide six months' notice to system operators of its plans to temporarily cease operations (also referred to as mothballing) or to completely shut down and retire.[16] Both the NYISO and the utility that owns the transmission system surrounding the retiring power plant evaluate whether the pending loss of capacity would result in adverse reliability impacts. Under the existing process, if negative impacts are identified, the local transmission owner proposes investments in its transmission and/or distribution systems to solve the potential problem. In cases where reliability is at risk from the pending retirement, the power plant and utility may negotiate a Reliability Support Services contract, at above-market rates, to keep the power plant operating until the alternate solution is implemented. This contract provides the power plant owner compensation for a limited time to ensure reliability. Though only one instance to date has required a Reliability Support Services contract, executed in August 2012, this situation may arise again in the future, putting consumers at risk for additional costs.

The Energy Highway Task Force recommends that the existing process be enhanced to minimize the potential additional cost burdens on customers and to more proactively prepare for potential critical situations in advance of when power plants provide official notice of plans to retire (see Figure 6 for a map of Recent and Planned Generator Retirements as of September 2012 [Retirements Since 2010]). Dynamic and proactive scenario planning can provide many benefits. For example, preparations for replacement solutions years in advance can minimize the need for Reliability Support Services contracts to safeguard the power system and thus reduce costs to customers. This long-term view will also allow for longer-term alternative solutions, such as repowering of existing generators and construction of new power plants, transmission, or other infrastructure projects that require more than the formal six-month notice period to implement.

16. PSC 2005 Order issued in Case 05-E-0889, Order Adopting Notice Requirements for Generation Unit Retirements (December 20, 2005).

FIGURE 6

Recent and Planned Generator Retirements as of September 2012 (Retirements Since 2010[17])



17. Information adapted from the NYISO's website, using Retirement Notices provided under Planned Generation Retirements section, as well as recent Load & Capacity Data Reports.

ACTION → Develop and implement Reliability Contingency Plans to prepare for potential large power plant retirements

ASSIGNED AGENCY

New York State Department of Public Service

PARTNERS

New York Power Authority, New York Independent System Operator, Investor-Owned Utilities, Private Sector

INITIATE

By the end of 2012

ESTIMATED COMPLETION DATE

Proceed with project development by 2014 if needed, so that necessary new resources would be in place by summer 2016

ESTIMATED INVESTMENT POTENTIAL

Dependent on selected solution, estimated to be between $1 billion and $2 billion for approximately 1,200 MW of additional capacity if needed; additional requirements may be identified in the contingency plans

The Energy Highway Task Force recommends that DPS implement a process to develop Reliability Contingency Plans to avoid the possibility of additional costs to customers from Reliability Support Services contracts and ensure a reliable supply of electricity for cases in which the retirement of a power plant in New York raises significant risks and uncertainties. The Task Force also recommends that DPS immediately initiate the development of a Reliability Contingency Plan for the potential closure of the Indian Point Energy Center.

The potential retirement or unavailability of the Indian Point Energy Center presents a unique circumstance that obliges New York to plan well in advance for this contingency and immediately initiate a Reliability Contingency Plan.

The Indian Point Energy Center has two generating units, 1,026 MW and 1,040 MW respectively, located about 30 miles north of the State's major load center of New York City. The owner of Indian Point has applied to the U.S. Nuclear Regulatory Commission (NRC) for an extension of its operating licenses for the two units, which expire on September 28, 2013 and December 12, 2015, respectively. The NRC recently put a hold on final decisions on license applications while it evaluates nuclear waste storage issues, and it is unknown as of the issuance of this Blueprint when the NRC will make a decision on the future of the Indian Point Energy Center.

The NYISO estimates a portion of Indian Point's capacity would need to be replaced by summer 2016 to avoid system reliability impacts should the plant cease operations. Therefore the Energy Highway Task Force recommends DPS oversee development of a Reliability Contingency Plan to prepare for the facility's potential closure or unavailability.

The Task Force recommends that Reliability Contingency Plans include evaluation of incremental investment in energy efficiency, distributed[18] renewable generation, and other demand response measures. In the Reliability Contingency Plan development, DPS should take into account the status of proposed power plants, AC and DC transmission projects, and potential energy efficiency and combined heat and power projects. Proposed AC transmission projects should be considered, such as those included in the previous action recommended by the Task Force, as these are also expected to significantly reduce the need for new power plant capacity to meet reliability needs.

Repowering provides environmental benefits to New York State through reduced emissions and the use of previously developed land with transmission infrastructure already in place.

To limit any increased emissions of greenhouse gases and other pollutants resulting from the closure of Indian Point, the Task Force recommends that priority be given to projects that would benefit the environment, such as new sources of clean renewable energy (through generation or transmission) and cost-effective repowering of inefficient power plants. Repowering power plants can improve system reliability by replacing aging equipment. Repowering also provides environmental benefits to New York State through reduced emissions and the use of previously developed land with transmission and other infrastructure already in place.

The local transmission owner(s), at the direction of the DPS, and with the assistance of the New York Power Authority, as authorized by its Board of Trustees, should file a schedule and contingency plan for the potential closure of Indian Point with the PSC. The contingency plan should include the form of Request for Proposals (RFP) that would be issued to procure needed resources to address system reliability needs by the summer of 2016, along with halting mechanisms[19] planned in the event it becomes apparent that Indian Point will remain operational and replacement capacity is not required as of that time. The PSC should determine further administrative processes as needed.

The acute nature of the expected system impact, should Indian Point not be relicensed, requires the Reliability Contingency Plan to be developed on an expedited implementation schedule. The Contingency Plan should acknowledge

18. Distributed generation, either renewable or other, refers to small energy resources located near the energy consumer, such as solar panels installed on residential home roofs or fuel cells located in office buildings.
19. Halting mechanisms refer to steps built into development agreements for new power plants and/or transmission lines to cancel construction and provide cost recovery of certain pre-development activities.

the need to meet an aggressive timeline in the event of retirement, and include suggestions for opportunities to improve current regulatory processes to accelerate the development schedule.

Support public-private partnerships

The expansion and strengthening of energy infrastructure can be accomplished through various contracting arrangements, with each approach providing distinct benefits depending on the types of projects under development. The Energy Highway Blueprint includes actions with a focus on public financing, private financing, and a combination of public and private financing through partnerships. Such partnerships make sense because energy infrastructure in the State is owned by both public and private entities. The benefits of public-private partnerships can include lower financing costs to develop large-scale projects. The Task Force supports measures to encourage continued application of public-private partnerships as appropriate to achieve the objectives of the initiative.

ACTION → Provide public power authorities flexibility in contracting

ASSIGNED AGENCIES
New York Power Authority, Long Island Power Authority

INITIATE
Early 2013

ESTIMATED COMPLETION DATE
End of 2013

The Task Force recommends supporting the statutory changes necessary for public power authorities to participate in public-private partnerships. New York public power entities may require modifications to their existing statutory authority to clarify their authority to, for example, own equity in a public-private partnership arrangement. Increasing the flexibility of the State's power authorities to enter into public-private partnerships could lead to increased investment in transmission facilities by facilitating a fair cost sharing and ownership structure, and allow the partnerships to take advantage of tax-exempt financing for a portion of project costs.

NYPA and LIPA should evaluate their enabling statutes with respect to entering public-private partnerships and participating in new owner/operator models, such as the one proposed by the RFI respondent, Transco, a group of transmission owners that includes public and private entities. These authorities should propose legislation, if needed, in the 2013 legislative session to obtain the necessary flexibility to support public-private partnerships.

Support workforce development for the energy industry

As recommended in the New York State Transmission and Distribution Systems Reliability Study and Report approved by the State Energy Planning Board in August 2012, the Energy Highway Task Force supports continuing public and private efforts to train new technical utility workers and utility engineers, as well as update and expand the skills of the current workforce and professional trades supporting the energy industry. Particular attention should be paid to workforce development in the urban, environmental justice communities where power plants are often located.

While a declining skilled workforce has been an issue for a number of years, the need for introducing new skilled workers and cross-training existing workers grows more acute as the impending retirement of large numbers of experienced electric utility workers becomes a reality. As noted in the *Transmission and Distribution Systems Reliability Study* cited above, nationally, nearly 50 percent of the skilled utility workforce will be approaching retirement or attrition in the next three years. Despite utility advancements in workforce productivity, additional skilled workers are needed, and fully developing workers with the necessary skills requires several years of training. Utilities, labor organizations, and several community colleges have partnered to develop curricula to provide educational background that enables workers to be qualified to perform electric line work in a shorter time period.

Additionally, with the adoption of Smart Grid[20] advancements, existing employees may also require specialized training to become proficient at operating and maintaining these advanced technologies. The implementation of the Energy Highway is an opportunity for teachers, students, and trainees to obtain real-life experience concerning the components of the power system. Therefore, the Energy Highway Task Force recommends that utilities, labor organizations, and community colleges be provided access, where practical, to observe construction and operation of the Energy Highway. One approach is to integrate credit-based on-the-job learning experiences with college curricula through cooperative education programs. Universities have used such programs very successfully in technical fields like engineering and the computer sciences.

RFI RESPONSES

The Task Force received three submissions from gas transmission developers and one from a power plant developer with plans for gas expansion:

- Iroquois Gas Transmission System, LP
- Millennium Pipeline Company, LLC
- NRG Energy, Inc.
- Spectra Energy Corp.

20. According to the United States Department of Energy, Smart Grid generally refers to "a class of technology people are using to bring utility electricity delivery systems into the 21st century, using computer-based remote control and automation. These systems are made possible by two-way communication technology and computer processing that has been used for decades in other industries."

ESTIMATED INVESTMENT POTENTIAL

$1.3 billion

EXPECTED BENEFITS

Strengthen reliability, safety, and storm resilience; reduce costs to consumers; reduce emissions

Accelerate Construction and Repair

Through accelerating construction and repair on both the electric and natural gas delivery systems in New York, the Task Force sees the opportunity to promote increased safety and reliability while creating jobs and stimulating economic development in New York State. Some of these projects can also lead to immediate consumer benefits in terms of reduced fuel costs and reductions in air emissions. The Task Force calls for the following actions:

- Accelerate investments in electric generation, transmission and distribution to strengthen reliability, safety, and storm resilience.
- Accelerate investments in natural gas distribution to reduce costs to consumers and promote reliability, safety, and emission reductions.

During the past five years, New York investor-owned electric utilities have invested over $10 billion in transmission, distribution, and other related investments, and a similar level of investment is expected over the next five years. Similarly, public authorities have invested several billion dollars in capital and non-recurring operations and maintenance over the last five years. Also, the regulated gas utilities invested nearly $5 billion in natural gas infrastructure over the last five years and expect to invest over $5 billion over the next five. In general, recent investments in utility infrastructure have focused on the replacement of equipment at the end of its useful life and on system expansion to accommodate load growth. Through accelerated investment in the electric and natural gas delivery systems over the next five years, the Task Force seeks to upgrade energy infrastructure while at the same time promoting job creation and economic development in New York State.

FIGURE 7

Accelerate Construction and Repair Timeline

ACTION → Accelerate investments in electric generation, transmission and distribution to strengthen reliability, safety, and storm resilience

ASSIGNED AGENCIES
New York State Department of Public Service, New York Power Authority

PARTNERS
Long Island Power Authority, Investor Owned Utilities

INITIATE
Early 2013

ESTIMATED COMPLETION DATE
By the end of 2017

ESTIMATED INVESTMENT POTENTIAL
$800 million over five years

The Energy Highway Task Force encourages cost-effective utility initiatives to create near-term jobs and improve the electric generation and delivery system. DPS should work within existing and new rate cases and other proceedings to help accelerate specific projects that would improve system reliability and/or safety. Examples include spending to reduce repair backlog associated with a five-year inspection program of all transmission and distribution assets, and increasing responsible tree trimming. Reducing the repair backlog would lead to improved safety and reliability, while increased vegetation management, using best practices to minimize negative community impacts, leads to reduced frequency and duration of power outages and thus improved reliability.

The electric projects identified could accelerate utility spending by up to $500 million over five years. The spending would include capital expenditures and operation and maintenance elements. Where possible, utility budgets should be reprioritized to accomplish the economic development goals cited above and stay within existing rate plans, without sacrificing previously established goals. This initiative is intended to advance infrastructure enhancements, while also encouraging economic development and job creation.

In addition to the regulated utility initiative, the Energy Highway Task Force recommends that NYPA, with the consent of its Board of Trustees, consider accelerating spending in its 10-year capital plan and operations and maintenance budget over the next five years (the period of the 2013 budget to the 2017 budget), for a total increase over planned spending of up to $300 million over the next five years.[21]

The Long Island Power Authority (LIPA) should also evaluate similar opportunities in LIPA's long-term capital and operations and maintenance plans. LIPA and NYPA should seek opportunities to partner in operations, capital, maintenance, and procurement to promote efficiencies and, where possible, reduce costs to customers.

ACTION → Accelerate investments in natural gas distribution to reduce costs to consumers and promote reliability, safety, and emission reductions

ASSIGNED AGENCY
New York State Department of Public Service

PARTNER
Investor Owned Utilities

INITIATE
By the end of 2012, DPS to issue notice on natural gas expansion policies

ESTIMATED COMPLETION DATE
By the end of 2017

ESTIMATED INVESTMENT POTENTIAL
$500 million over five years

21. NYPA's capital and O&M budgets and spending are reviewed annually. NYPA's revised budget as a result of this action will increase spending through acceleration of up to $300 million of investments over the next five years.

Replacement of older pipes reduces potential for leaks, improves safety, and leads to reduced emissions of methane, a contributor to global warming when it is leaked into the environment.

Similar to the action discussed above for electric utilities, the Energy Highway Task Force calls for DPS to work with regulated natural gas utilities managing the natural gas distribution system to identify and implement near-term investments in construction and repair to help reduce costs to consumers, enhance safety, improve reliability, and reduce air emissions. DPS will issue a notice on natural gas expansion policies by the end of 2012. Such actions can include projects entailing enhanced spending on replacement of leak-prone natural gas pipes, and conversion of heating customers from oil to natural gas. Replacement of older pipes reduces potential for leaks, improves safety, and leads to reduced emissions of methane, a contributor to global warming when it is leaked into the environment.[22] DPS should work within existing and new rate cases and other proceedings to help accelerate specific projects.

The identified natural gas projects could accelerate utility spending compared to current plans by up to $500 million over five years. The spending includes primarily capital expenditure elements. Where possible, utility budgets should be reprioritized to accomplish the economic development goals cited above and stay within existing rate plans, without sacrificing previously established goals. The combination of increased utility revenue and contributions from new customers in support of construction should limit impacts on existing natural gas customers.

22. According to the U.S. Environmental Protection Agency, "methane is over 20 times more effective in trapping heat in the atmosphere than carbon dioxide (CO_2) over a 100-year period."

ESTIMATED INVESTMENT POTENTIAL

$2.2 to $2.7 billion

POTENTIAL CAPACITY INSTALLED

1,020 MW, renewable resources, and repowered power plants

EXPECTED BENEFITS

Reduce emissions; increase use of in-State clean resources

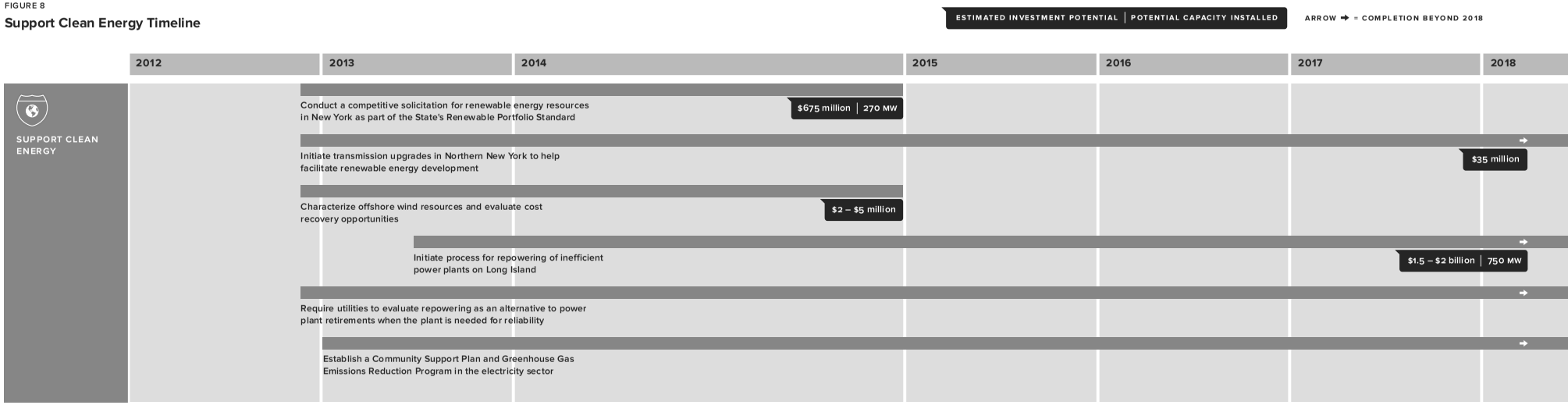
Support Clean Energy

A clean energy system is essential to an environmentally sustainable future for New York State. Restructured energy markets aim to deliver the lowest cost resource to consumers; however, the State must undertake additional measures to facilitate a more environmentally sustainable future within the restructured energy market. The Task Force calls for action to continue New York's commitment to growing the renewable energy industry and improving environmental quality:

- **Encourage the development of renewable generation:** conduct a competitive solicitation for renewable energy resources in New York as part of the State's Renewable Portfolio Standard (RPS); provide long-term certainty for renewable energy development in New York beyond 2025.
- **Facilitate further development of upstate renewable energy projects:** initiate transmission upgrades in Northern New York and other areas as needed to help facilitate renewable energy development.
- **Advance policies to encourage distributed renewable energy development; continue and build on the NY-Sun initiative.**
- **Advance offshore wind development in New York:** characterize offshore wind resources and evaluate cost recovery opportunities.
- **Facilitate repowering of existing power plants to improve efficiency and protect the environment:** initiate process for repowering of inefficient power plants on Long Island and support additional efforts to transition to a cleaner power generation fleet on Long Island; require utilities to evaluate repowering as an alternative to power plant retirements where the power plant is needed for reliability; establish a Community Support Plan and Greenhouse Gas Emissions Reduction Program in the electricity sector.
- **Support energy efficiency and other demand-side measures.**

FIGURE 8

Support Clean Energy Timeline



New renewable energy projects provide sustained environmental benefits through reduced local and state air emissions, and can also generate short- and long-term economic development through construction, operation, and maintenance jobs, expenditures for supplies and materials, and tax payments to local communities.

Encourage the development of renewable generation

New York State is a leader in renewable generation development. New York ranks fifth in the nation for installed renewable energy capacity, and is the only state east of the Mississippi River in the Top 5, and the only Northeastern state in the Top 10.[23] When looking at all renewable resources, including hydropower, New York's renewable energy capacity is comparable to the entire renewable capacity of the other eight states in the Northeast combined. Through the recommendations in this Blueprint, the Task Force encourages continued support for the development of utility-scale and smaller-scale distributed renewable generation resources throughout the State. In the longer-term, increased reliance on renewables helps support energy security and contributes to the diversity of the power supply while reducing greenhouse gas emissions and providing other important environmental benefits.

ACTION → Conduct a competitive solicitation for renewable energy resources in New York as part of the State's Renewable Portfolio Standard

ASSIGNED AGENCY
New York State Energy Research and Development Authority

PARTNERS
New York State Department of Public Service, Private Sector

INITIATE
By the end of 2012

ESTIMATED COMPLETION DATE
Announce awards by Summer 2013, new projects expected to be complete by end of 2014

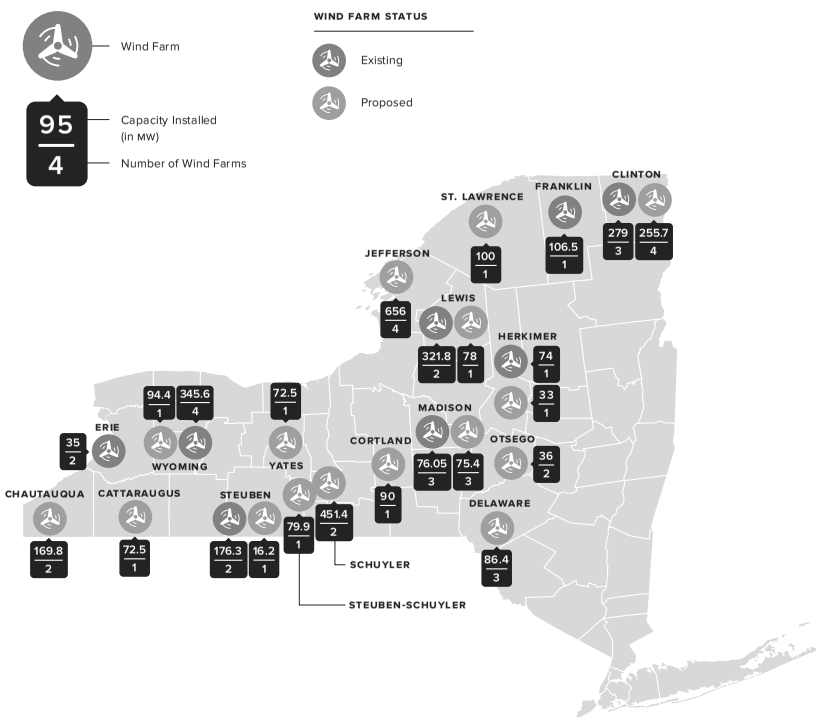
ESTIMATED INVESTMENT POTENTIAL
Up to $675 million for 270 MW[24]

23. NREL's *2010 Renewable Energy Data Book*, 2011. Produced by Rachel Gelman, edited by Scott Gossett, and designed by Stacy Buchanan of the National Renewable Energy Laboratory (NREL). www.nrel.gov/analysis/pdfs/51680.pdf.

24. Estimated capacity calculated using the assumption that existing federal tax incentives for renewable energy are available at the time contracts are signed.

FIGURE 9

Existing and Proposed Wind Capacity (as of September 2012)[25]



25. Information adapted from the NYISO's Load & Capacity Data Report, Existing Generating Facilities, Table III – 2 for existing wind capacity; NYISO interconnection queue as of September 26, 2012 for proposed wind capacity.

New York State is a leader in renewable generation development.

New York ranks fifth in the nation for installed renewable energy capacity, and is the only state east of the Mississippi River in the Top 5, and the only Northeastern state in the Top 10.

RFI RESPONSES
The Task Force received multiple submissions, totaling over 3,000 MW in proposed grid-connected renewable energy projects. Respondents included:

- BP Wind Energy North America Inc.
- Brookfield Renewable Energy Group
- Covanta Energy Corporation
- Deepwater Wind
- EDP Renewables
- Energize Ithaca, LLC
- ENTECCO, LLC
- Iberdrola Renewables, LLC
- Noble Environmental Power, LLC
- Petra Solar
- Ridgeline Energy, LLC
- Solar Energy Consortium
- Taylor Biomass Energy-Montgomery, LLC

Additional responses were received in support of wind, solar, or other renewable energy technologies.

New York's RPS program[26] is the centerpiece of the State's commitment to the development of renewable resources. It is often touted by renewable energy developers as being one of the most stable, reliable, straightforward, and transparent of all programs across the nation. The Energy Highway Task Force calls for the issuance of a new competitive solicitation through NYSERDA to dedicate up to $250 million in funding for 10-year contracts with renewable energy developers to advance projects that lower air emissions and stimulate economic development, and for the State to continue to invest annually with future contract solicitations in new large-scale renewable energy projects.

New York is well-positioned to demonstrate to the renewable energy community that it is committed to the continuity of the RPS program even in this challenging economic environment. Issuing a Main Tier solicitation for new large-scale projects supplying the electricity grid allows a number of power projects to further contribute to New York's RPS goal. It is estimated that hundreds of megawatts of in-State capacity are currently ready for development and could be eligible to participate in this Main Tier solicitation. By leveraging the $250 million in funding, the private sector is expected to contribute up to an additional $425 million through development of projects as part of this solicitation. Issuing this solicitation also allows energy policy makers to obtain important market data on cost and supply of renewable energy projects, especially in this period of uncertain federal support for renewable energy development.[27]

Provide long-term certainty for renewable energy development beyond 2015

The Task Force takes note that continued development of a renewable energy portfolio is critical to the State's energy, environmental, and economic future. Further, the Energy Highway seeks to maintain New York's leadership in renewable energy development, and further realize the energy, environmental, and economic benefits that result from a long-term commitment to develop these in-State resources. To maintain this leadership, the Energy Highway Task Force understands the need to provide developers with longer-term certainty regarding the State's continued support of this industry. New York cannot lose the investment opportunities presented in renewable energy development, and the Energy Highway is designed to preserve this investment potential.

Throughout the country, concerns have emerged regarding the future of renewable energy, due to a combination of forces. The forecast of sustained low natural gas prices poses a unique competitive challenge to renewable energy, and although increased reliance on natural gas is reducing carbon emissions in the electricity sector, continued investment in renewables is needed to maintain that downward trend in emissions. The federal government has not resolved extension of key supports for some of these advanced technologies, which may affect the ability of some projects to advance. While New York's RPS program is scheduled to extend through 2015, future policies in support of renewable energy must be considered now if the State is to maintain industry vigor for New York-based activities.

To demonstrate New York's continued commitment to renewable energy development, the Energy Highway Task Force recommends that the Public Service Commission initiate consideration of a continued RPS program, through its currently-scheduled program review to be initiated in 2013. Such program review, while assessing the successes of the program activities to date, should also examine opportunities to maintain the State's commitment to renewable energy development going forward. In order to provide longer-term certainty for the renewable energy industry in New York, the Task Force recommends that the Commission call for the future program to be a long-term, multi-year program, and that such a program be funded annually at a level comparable to the current RPS budget.

Going forward, the State should continue to pursue development of a portfolio of activities that access the State's diverse natural resources. An RPS program, with targeted initiatives that help energy consumers realize the value from solar, wind, water, and sustainable biomass resources, will provide signals to the renewable energy development community that the State is committed to realizing the benefits from our diverse resource base. In addition, the Task Force also recommends that the Public Service Commission conduct an assessment of policy options that foster activities to transform the market for these sustainable energy options, including an assessment of project investment models, cost recovery mechanisms, and associated contracting mechanisms, as well as procedures that can facilitate funding determinations that are responsive to near-term market demands, as well as foster continued diversity in the renewable energy portfolio.

Facilitate further development of upstate renewable energy projects

The Task Force supports additional cost-effective targeted investments in the transmission infrastructure in Northern New York to reduce bottlenecks affecting energy from renewable resources.

The NYISO's Growing Wind report[28] modeled all the existing and proposed wind projects at the time, totaling approximately 6,000 MW from land-based

26. New York's RPS was created in 2006 and comprises two main programs: the main tier for large-scale projects supplying the electricity grid directly and the customer-site tier for distributed renewable energy projects connected on the customer's side of the meter and supplying customers directly.
27. Federal incentives encouraging renewable energy across the country include the Investment Tax Credit (ITC) and the Production Tax Credit (PTC), which are scheduled to expire at the end of 2012 if the federal government does not take action to extend them. These incentives reduce the cost of renewable energy for New York consumers.
28. Growing Wind: Final Report of the NYISO 2010 Wind Generation Study, September 2010.

wind farms. The report concluded that with no upgrades to the existing transmission system, approximately 9 percent of the energy from wind resources would be constrained across the State. While there are other parts of the State where projects have been built and proposed that would not require system upgrades before their energy could be delivered to the market, there are some areas that would be severely constrained without upgrades. Figure 9 shows the current mapping of existing and proposed wind capacity in New York State, as of September 2012.

ACTION → Initiate transmission upgrades in Northern New York to help facilitate renewable energy development

ASSIGNED AGENCIES
New York Power Authority, New York State Energy Research and Development Authority

PARTNER
New York State Department of Public Service

INITIATE
By the end of 2012

ESTIMATED COMPLETION DATE
Ongoing

ESTIMATED INVESTMENT POTENTIAL
$35 million

Costs of new renewable energy development are minimized if developers are able to proceed with the confidence that transmission constraints will not prevent them from selling the power generated by their projects. Therefore, the Task Force recommends that transmission investments be undertaken to eliminate potential constraints where needed to achieve the State's renewable energy goals cost-effectively. Further, the State should also examine possible Smart Grid and advanced technology solutions to alleviate any potential constraints as new projects advance.

The NYISO's Growing Wind report concludes that investments in upgrades on transmission infrastructure owned by NYPA would facilitate the delivery of energy from proposed wind projects in Clinton and Franklin counties in Northern New York. The Task Force recommends that NYPA evaluate and, with the consent of its Board of Trustees, advance these upgrades as soon as practicable. NYPA has been preparing for the potential upgrade of one identified project on the Moses-Willis transmission line, and should take action to obtain the necessary approvals from its Board and the PSC for that project. Additional upgrades should be studied by NYPA and pursued if cost-effective.

With regard to other potentially constrained locations, the Task Force requests the DPS and NYSERDA to periodically revisit the need to reduce bottlenecks throughout the State associated with prospective projects that would be in the ratepayer and public interest. If responses to RPS solicitations and permitting applications now under way or commenced in the future raise the likelihood of transmission constraints that substantially limit renewable capacity, DPS and NYSERDA should determine the steps necessary to relieve these constraints where cost effective. Likewise, as energy infrastructure is rebuilt or replaced in local areas due to age or other factors, the local transmission owners should consider how those facilities can be used to enable the development of renewable energy resources.

Advance policies to encourage distributed renewable energy development; continue and build on the NY-Sun initiative

New York State's leadership in renewable energy policy and deployment is attributable to the State's strategic pursuit of policies designed to develop a diverse portfolio of renewable energy resources, including both grid-connected and distributed technologies. By focusing in a comprehensive manner on both large-scale renewable and smaller-scale distributed solar-photovoltaic, New York continues to tackle the difficult challenges with a coordinated and systematic top-down and bottom-up approach. This combined strategy is expected to yield the lowest-cost solution for consumers in the long-term.

Customer-sited solar photovoltaic energy is an opportunity to deliver renewable energy without requiring significant land development or new transmission investment. However, the upfront capital costs are substantial,

RFI RESPONSES
The Task Force received multiple submissions for distributed renewable energy and energy storage and from entities offering support for similar projects. Examples include:

- Alliance for Clean Energy New York, Inc.
- Bloom Energy
- Calpine Eastern Corporation
- Citizens Campaign for the Environment, National Wildlife Federation, Environmental Advocates of New York, Environment New York, Renewable Energy Long Island
- Liquid Metal Battery (now Ambri)
- Long Island Federation of Labor, AFL-CIO
- Natural Currents Energy Services
- NY Battery and Energy Storage Technology Consortium
- Northeast Clean Heat and Power Initiative
- Plug Power Inc.
- Sierra Club
- Silicon Solutions Joint Venture, LLC
- Sustainable Energy Developments, Inc.
- United Technologies Corporation

RFI RESPONSES

The Task Force received one submission for an offshore wind project in the Atlantic Ocean, from Deepwater Wind, along with supportive statements from multiple entities including:

- Alliance for Clean Energy New York, Inc.
- Citizens Campaign for the Environment National Wildlife Federation, Environmental Advocates of New York, Environment New York, Renewable Energy Long Island
- Long Island Federation of Labor, AFL-CIO
- Natural Currents Energy Services
- Natural Resources Defense Council and Pace Energy and Climate Center

although costs are expected to decrease over the next decade. New York is already taking notable steps toward encouraging solar energy. The NY-Sun initiative established by Governor Cuomo in 2012 includes a goal to install twice as much customer-sited solar photovoltaic capacity in 2012 as was added in 2011, and to quadruple the 2011 amount in 2013. Additionally, NYPA's Solar Market Acceleration Program and NYSERDA's Balance of System program will be integral components of the NY-Sun initiative, targeting solar research and project activity to reduce costs associated with the ancillary components and installation systems, which represent the majority of the cost of a new system. Together, these programs are providing approximately $50 million in research and project activity in innovation research grants, demonstration projects, and soft-cost reduction strategies.

In addition to transmission upgrades, policies governing the interconnection of distributed generation at customer-sited locations should be reviewed for consistency and to reduce barriers to new entrants.

There are several inconsistencies in policies governing development of various distributed renewable energy sources. Differing rules and cost-sharing responsibilities between distributed generation types can cause confusion and frustration for customers and developers attempting to interconnect to the system. For larger non-residential projects, the costs of interconnection and upgrades have become a point of contention and concern. Developers and customers believe these costs often act as barriers to interconnecting new projects to the lower-voltage electric grid. If a proposed project is in a more constrained area and large enough in size, those costs can be well over $500,000, depending on the specifics of the project and the affected electric distribution system.

The DPS and NYSERDA should review current laws and requirements,[29] utility tariffs, and processes that govern entry of small-scale renewable projects to the electric system. The agencies should identify barriers and opportunities for improvement, seek input from stakeholders as necessary, and make recommendations to the PSC by the end of 2013 to facilitate promotion of renewable projects, especially those sited at customer locations. The process should include evaluation of options for reforming net metering[30] policies where applicable.

29. Examples of such laws include Public Service Law (PSL) Secs 66k & 66l and the New York PSC Standardized Interconnection Requirements (SIR).
30. Net metering is achieved by allowing a customer's electric meter to measure the reverse and forward flow of electricity, allowing the meter to register when a customer is producing more energy on site than it is using (which will cause the meter to reverse), as well as when a customer is producing less energy than it is using (which will cause the meter to move forward). The combined effect, or *netting* of the reverse and forward flows, results in net metering.

As with the upgrade of local transmission lines, steps to streamline interconnection and cost-sharing policies would remove a barrier to renewable energy development in New York. Distributed renewable energy projects are supported through the RPS program, and similar to the large-scale projects, these will benefit from the Task Force recommendation to establish long-term certainty for State support for renewable energy, as described earlier in this section.

Advance offshore wind development in New York

Offshore wind has the potential to meet a significant portion of New York's electricity needs. Due to its high cost, however, wide-spread adoption of offshore wind is not expected in the near-term. The Energy Highway Task Force encourages continued support for offshore wind, and recommends actions that will facilitate future development of this resource, as beneficial to New York.

The Task Force sees an opportunity to take actions to strengthen New York's position in developing offshore wind. For example, New York State is working diligently to advance offshore wind as part of the Coastal Zone Management Amendment process being implemented by the New York State Department of State (DOS) and an Atlantic Ocean offshore wind project evaluation effort led by NYPA, LIPA, and Consolidated Edison Company of New York. In 2012, Governor Cuomo and other governors of states bordering the Great Lakes joined the Great Lakes Energy Consortium to evaluate opportunities for offshore energy development.

New York has almost a decade of experience with evaluation of offshore wind development opportunities along its Atlantic Ocean and Great Lakes shores. Past efforts included LIPA's proposal for a 150 MW offshore wind farm south of Jones Beach, Long Island, and NYPA's proposal soliciting up to 500 MW of offshore wind in Lakes Erie and/or Ontario. Neither effort, however, led to projects being developed, largely due to the high cost of development compared to other alternatives. To enhance the chances for success of future endeavors, New York must learn from these experiences. The LIPA Jones Beach project was very expensive and was perceived to be intrusive to the shore-line. The NYPA Great Lakes Offshore Wind project suffered from inadequate site and resource information along with premature issuances of a competitive solicitation. Neither project had a plan for recovering the substantial above-market price subsidy required to develop offshore wind. Therefore, the Task Force recommends concrete steps the State should take to assist in both resource characterization and evaluation of cost recovery opportunities in advance of proceeding with additional competitive solicitations.

ACTION → Characterize offshore wind resources and evaluate cost recovery opportunities

ASSIGNED AGENCY
New York State Energy Research and Development Authority

PARTNERS
New York State Department of Environmental Conservation, New York State Department of State, New York Power Authority, Long Island Power Authority, Private Sector

INITIATE
By the end of 2012

ESTIMATE COMPLETION DATE
Conduct studies 2013 to 2014

ESTIMATED INVESTMENT POTENTIAL
$2 million to $5 million

Offshore wind development in New York is best achieved by completing resource characterization, technical assessments, and policy and economic analysis for broad-scale, market-based development and delivery of this resource. Building from earlier preliminary feasibility site assessments of the offshore region bordering the State, New York should now pursue more targeted site assessment through field studies to gauge suitability for wind power and assemble data vital to the successful development of realistic and practical projects. These efforts should focus on obtaining valuable information and data that would benefit multiple potential offshore projects along New York's Atlantic Coast in order to best leverage limited state-level funding. Biological, environmental, meteorological, and geological studies could be conducted, along with those in other relevant areas. In addition, an understanding of the full spectrum of benefits and associated costs will better inform the state policy decisions that will be needed for large-scale development. A combined set of these analytical efforts will lay the groundwork necessary for easier permitting processes, and are designed to help accelerate the construction of offshore wind projects in the Atlantic Ocean.

The Task Force calls for NYSERDA to work with the DOS, DPS, DEC, the New York State Offshore Wind Task Force, the United States Departments of Energy and the Interior, and the State's electric utilities and private developers currently evaluating offshore wind in the Atlantic Ocean, to establish appropriate environmental and other research study protocols and initiate site assessment and other relevant research activities. NYSERDA should leverage funds to the maximum extent possible by seeking federal and private sector cost sharing wherever feasible.

As the wind resource characterization and other environmental studies take place, the Task Force also calls for NYSERDA to initiate an examination of the policy mechanisms and cost recovery mechanisms that could support offshore wind development. NYSERDA is proceeding with a comprehensive study of the potential economic and environmental effects of developing offshore wind. The outcome of this study will help to define the nature of the supports needed for projects to advance. Once understood, New York can then begin to evaluate which successful policy and regulatory mechanisms may facilitate development, including possible targeted RPS support as well as new financing models or supply purchase options as circumstances may warrant.

The above suite of studies is designed to foster development of this promising resource, knowing that one of the largest hurdles for offshore development is the lack of detailed field information and need for more comprehensive economic information. New York should also pursue other efforts targeted to overcome other barriers that address the high technology, development, and interconnection costs. For example, a transmission backbone has been proposed offshore for the Mid-Atlantic States south of New York; an examination of whether this backbone, or another alternative to direct radial connection to the NYISO system, could result in lower delivered costs. Also, reduction of development costs may be aided through the use of new technologies that could forego the installation of expensive stationary meteorological monitoring towers. New York should work with DOE to further develop alternative measurement approaches, to increase the confidence among the financial community to rely on the data captured by such methods in project finance decisions.

Taken together, the Task Force recommends these actions as the critical next step to realizing the potential of offshore wind development in New York.

Support repowering of existing power plants to improve efficiency and protect the environment

Repowering existing power plants can provide improved system reliability through increased resource adequacy and system security, and environmental benefits through reduced emissions, along with other benefits as noted previously in this report.

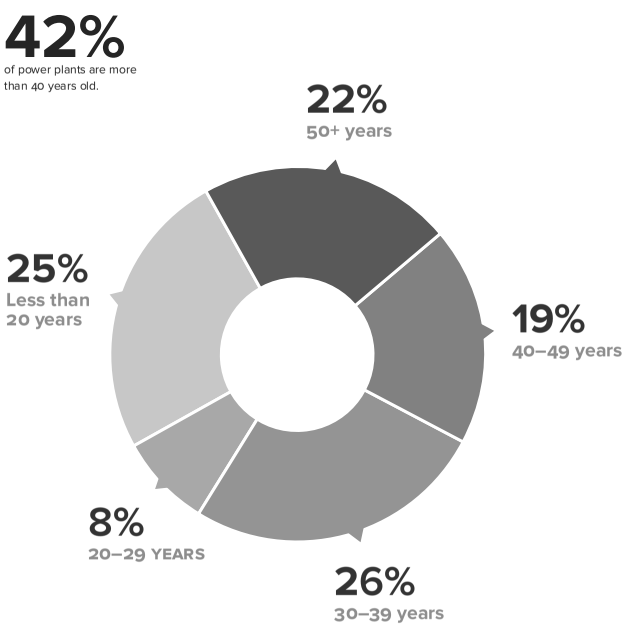
In particular, the combustion of fossil fuels for electricity generation results in emissions of greenhouse gases that contribute to global climate change and of other pollutants that cause elevated levels of urban smog (ozone) and soot (particulate matter). Although all fossil-fired plants are the source of some emissions, emissions from modern state-of-the-art natural gas-fired plants are much lower than from older gas-fired plants or from units fueled by coal or oil. Furthermore, as noted previously, more than 40 percent of the generating facilities in New York State are more than 40 years old, and as generating facilities age, they often become less efficient and can result in increased emissions of greenhouse gases (see Figure 10).

RFI RESPONSES
The Task Force received 10 submissions from six different developers or other entities recommending repowering of existing power plants, including those from:

- J-Power USA Development Co.
- NRG Energy, Inc.
- Pure Energy Infrastructure, LLC
- Town of Huntington, NY
- TransCanada Corporation
- US Power Generating Company (US Power Gen)

Achieving cleaner air is an important goal throughout the State, especially in environmental justice communities and other densely populated urban areas. Historically, low-income and minority communities have been overburdened by air pollution from energy generating facilities, a variety of other local pollution sources, and dense vehicular traffic. In New York City, for example, studies have demonstrated correlations between high asthma hospitalization rates and density of air polluting facilities, polluting land uses, and truck routes.[31] Based on these and other findings, it is clear that the degree to which environmental justice is achieved is also the degree to which all communities share comparable protection from environmental and health hazards. The Task Force therefore strongly supports the repowering or replacement of inefficient power plants throughout the State as a way of supporting an environmentally sustainable future and environmental justice for all of the State's citizens.

FIGURE 10
Age of New York Power Plants[32]



The replacement of inefficient power plants also provides system reliability enhancements because newer, modern equipment is less likely to experience unplanned outages, and the outages that are experienced are generally shorter. Also, depending on the location of interconnection to the grid, new capacity that replaces older units could provide other system operation benefits at critical points on the delivery system.

Despite the substantial expected benefits of repowering, the marketplace has not responded with many repowering projects. Proposed projects have languished because it is often difficult to justify them based strictly on economics, given the substantial initial capital investment that is needed and the general unavailability of long-term contracts. To further the goals of cleaner energy sources and lower emissions, the Task Force recommends the following steps to advance repowering projects: (1) targeted competitive solicitations for repowering of specific generating facilities, (2) review of repowering as a potential solution when retiring generators are needed for reliability, (3) the establishment of a new fund to provide incentives for greenhouse gas emission reductions in the electricity sector, including support of repowering, and (4) inclusion of repowering as a potential solution in Reliability Contingency Plans, including the Plan for the potential Indian Point closure as previously discussed.

The Task Force recommends that, in the development of NYISO market rules and related FERC decisions governing how power plant owners are compensated in the restructured electricity markets for the installation of capacity, repowering projects that are designed to address reliability concerns or provide significant enhancements to the environment should be exempt from buyer-side In-City Mitigation Rules.[33]

31. Corburn, Jason, Jeffrey Osleeb, and Michael Porter. Urban asthma and the neighborhood environment in New York City. Heath & Place. 12.2 (2006).
32. Information taken from the NYISO's Load & Capacity Data Report, Existing Generating Facilities, Table III – 2, percentages based on age of generator and capacity rating
33. The purpose of the In-City Mitigation Rule is to implement measures to avoid manipulation of the market prices of capacity by entities that improperly withhold or add capacity from/to the New York City market.

ACTION → Initiate process for repowering of inefficient power plants on Long Island and support additional efforts to transition to a cleaner power generation fleet on Long Island

ASSIGNED AGENCY
Long Island Power Authority

PARTNER
Private Sector

INITIATE
Summer 2013, initiate the process and issue a Request for Proposals working with National Grid Generation, LLC

ESTIMATED COMPLETION DATE
One or more legacy power plants could be repowered by 2019 to 2020

ESTIMATED INVESTMENT POTENTIAL
$1.5 billion to $2 billion for approximately 750 MW of repowered generating capacity

The Energy Highway Task Force recommends that LIPA proceed expeditiously working in a public-private partnership with National Grid to issue a Request for Proposals (RFPs) to initiate the repowering process for aging power plants on Long Island.

LIPA identified the E. F. Barrett, Port Jefferson, and Northport power plants on Long Island, as well as several peaking units at Barrett and Holtsville, as facilities where repowering may provide system reliability, economic development, and environmental benefits, provided repowering at these sites is found to be cost-effective for customers. These power plants were constructed 40 to 50 years ago and operate predominately on natural gas with some having fuel oil as back-up. The plants are significantly less efficient than newer generation and costly to operate.

The initiation of the process in 2013 and subsequent approval from the LIPA Board of Trustees, will facilitate the repowering of the E. F. Barrett project in 2019 and the Port Jefferson facility in 2020, and potentially also the Northport and identified peaking units sometime after 2020. Repowering of Port Jefferson requires that LIPA secure additional new generating capacity to meet load growth and to allow the plant to first retire and be removed from the site, to enable a new plant to be built on the existing site. LIPA should proceed with plans to add additional new generating capacity to its system in support of this longer-term energy strategy.

The Energy Highway Task Force also supports efforts of LIPA to transition to a cleaner power generation fleet on Long Island by updating and modernizing existing power plants and exploring the addition of new renewable energy resources to further diversify its energy supply portfolio. Specifically, the Task Force recommends that LIPA issue competitive solicitations for new renewable energy resources and to expand its existing feed-in-tariff program for renewable resources to be developed through the remainder of the decade, and to issue a competitive solicitation in 2013 to begin the process of updating and modernizing the fleet of peaking generation on Long Island that serves LIPA under long-term contracts.

ACTION → Require utilities to evaluate repowering as an alternative solution for power plant retirements where the power plant is expected to be needed for reliability

ASSIGNED AGENCY
New York State Department of Public Service

PARTNERS
Investor-Owned Utilities, Private Sector

INITIATE
By the end of 2012

ESTIMATED COMPLETION DATE
Ongoing as power plant retirements are announced or identified

The Energy Highway Task Force recommends that DPS require affected electric utilities to perform analyses of pending or potential power plant retirements specifically focused on the opportunity to repower the subject plants as an alternative to closure or system upgrade, where a plant is needed for reliability reasons.

There are multiple pending power plant retirements in New York State where this analysis can be immediately undertaken, including NRG Power Marketing's coal-fired Dunkirk facility and AES Eastern Energy's Cayuga coal-fired power plant. The affected local utilities should evaluate potential replacement options for the retiring facilities, including repowering the existing power plant with a new plant, and transmission and distribution upgrades. The analysis should include economic development, environmental, and customer impacts of each evaluated alternative.

ACTION → Establish a Community Support Plan and Greenhouse Gas Emissions Reduction Program in the electricity sector

ASSIGNED AGENCIES

New York State Department of Environmental Conservation, New York State Energy Research and Development Authority

PARTNERS

New York State Department of Public Service, Empire State Development

INITIATE

Early 2013

ESTIMATED COMPLETION DATE

Ongoing, open programs for applications by 2014

Power plants have substantial economic impacts on the communities in which they are located, including tax revenues, Payments in Lieu of Taxes (PILOTs), direct job creation, and multiplying effects on the local economy. The retirement of a power plant can result in a revenue loss to local jurisdictions, often by virtue of dramatic and sudden reductions in property taxes or PILOT payments.

In New York's 2012 legislative session, several proposals were advanced to try to ensure that upstate coal-fired generation remains online to protect jobs and tax revenues in local communities. The Energy Highway Task Force supports public policy to address community need, but does not support keeping uneconomic power plants online if they have not been deemed necessary for reliability purposes. To do so would undermine a significant benefit of the restructured energy markets, which is that investors, not consumers, bear the financial and operating risks of power generation.

To address the issue of community impacts from retiring power plants and also encourage improvements in operating power plants, the Energy Highway Task Force recommends that NYSERDA and DEC consult with ESD, DPS, and other appropriate agencies to develop plans by the summer of 2013 for these two initiatives: a Community Support Plan and a Greenhouse Gas Emission Reductions Program. The plans will identify eligibility requirements, and program administration responsibilities.

The purpose of the Community Support Plan is to mitigate the near-term strain on communities that demonstrate significant hardship arising from the retirement of a fossil-fuel power plant. In addition to support for communities with retiring plants, the Energy Highway Task Force recommends the creation of a new Greenhouse Gas Emissions Reduction Program to reduce emissions in the electricity sector, including support for repowering existing facilities.

One potential funding source for both the Community Support Plan and Greenhouse Gas Emissions Reduction Program could be proceeds generated from the auction of emission allowances under the Regional Greenhouse Gas Initiative (RGGI).[34] DEC should work with New York's partners in RGGI to explore lowering the current cap on carbon dioxide emissions to account for the substantial reduction in electricity sector emissions that has been realized. A reduced cap may result in additional auction proceeds, some of which could be used for establishing and financing these two actions. A cooperative approach with the legislature is needed to allow RGGI auction proceeds to reimburse communities for lost local revenues.

Support energy efficiency and other demand-side measures

While the core objective of the Blueprint is to modernize the State's transmission and generation systems, any energy plan would be remiss if it did not recognize the importance of energy efficiency in meeting our energy goals. New York State has devoted extensive effort to reaping the economic and environmental benefits of improved energy efficiency through a variety of programs, including the Energy Efficiency Portfolio Standard established by the PSC. Significant efficiency potential still exists and the preliminary results of a study prepared for the State Energy Planning Board demonstrate that there are considerable cost-effective energy efficiency investments beyond the current funded programs that can offer the potential to further reduce electricity demand.

The Energy Highway Task Force recommends a continued focus on demand-side and energy efficiency solutions. A comprehensive approach to meeting the State's energy needs includes policies directed toward using energy more efficiently and reducing the demand for electricity from the State's grid. The Task Force recognizes that improving energy efficiency can impact the need for, and magnitude of, supply-side solutions. It also acknowledges the other benefits of energy efficiency, including reducing the cost of energy, providing job opportunities, and improving the environment for all New Yorkers. The Task Force understands the importance of demand-side solutions, and supports a continued focus on these efforts.

The Energy Highway Task Force recommends a renewed focus on consumer education and outreach. DPS, NYSERDA, and LIPA should coordinate a statewide outreach and education program designed to motivate customers of New York's energy utilities to use energy efficiently, either by participating in Energy Efficiency Portfolio Standard programs or taking recommended do-it-yourself actions. It is designed to illuminate energy usage to help home and business owners eliminate energy waste. Program elements should include the full range of state-of-the-art marketing tools, including a new website, social media, community based outreach, and education.

34. RGGI is a mandatory, market-based effort to reduce greenhouse gas emissions in nine Northeastern and Mid-Atlantic States, including New York. It is implemented in New York by DEC and NYSERDA.

RFI RESPONSES

The Task Force received several submissions supporting energy efficiency, including those from:

- Alliance for Clean Energy New York, Inc.
- Citizens' Environmental Coalition
- Hudson River Sloop Clearwater, Inc.
- Natural Resources Defense Council and Pace Energy and Climate Center
- Northeast Energy Efficiency Partnerships, Conservation Services Group, and Pace Energy and Climate Center
- Plug Power Inc.
- Siemens Power Technologies International
- The New York Affordable Reliable Electricity Alliance

ESTIMATED INVESTMENT POTENTIAL

$250 million

EXPECTED BENEFITS

Reduce peak demand strains on the system; integrate intermittent resources, such as wind and solar; enable a smarter grid; improve system reliability and bulk power control capability

Drive Technology Innovation

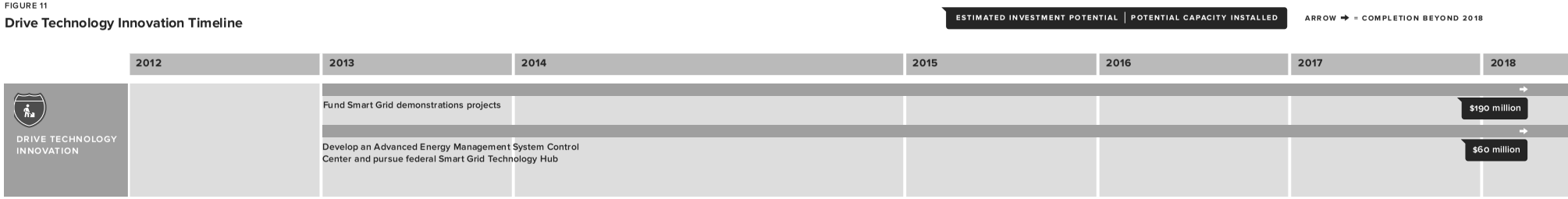
While the Energy Highway initiative is primarily focused on near-term actions to enhance the State's electric system, it is also complemented by a long-term vision that incorporates innovation and advanced technologies. The expanded use of the electric system to support the economy, such as through the widely-anticipated use of smart consumer devices and electric vehicles, will require improvements in the operations of the system, including the application of new technologies and operating practices. Much of the existing electric system was built over 50 years ago to deliver power in one direction from generators to customers. In many parts of today's system, information flow is still static and one-directional. The Smart Grid will provide two-way communications between customers, utilities, and grid operators, and according to the New York Smart Grid Consortium, "it will embody a network of devices as vast, interconnected, automated, and interactive as the internet."

The Energy Highway presents the opportunity for New York to further solidify its national stature in advanced energy technology development, as well as initiate other activities so that the system is prepared for widespread adoption of Smart Grid technologies once they prove their value to consumers. By developing new tools and applications for the energy system now, the Energy Highway initiative works toward the goal of advancing the 21st century grid that best benefits system performance and operations. The Task Force recommends the following actions and recommendations:

- **Advance Smart Grid in New York:** fund Smart Grid demonstrations projects; develop an Advanced Energy Management System Control Center and pursue federal energy research grants.
- **Strengthen ongoing systematic review of electric utility capital expenditure plans to ensure cost-effective Smart Grid technologies.**
- **Evaluate policies to encourage technological and commercial innovation.**

FIGURE 11

Drive Technology Innovation Timeline



RFI RESPONSES

The Task Force received multiple responses that support the application of advanced technologies or suggested demonstrations of new technologies such as Smart Grid and energy storage, including those from:

- Ambient Corporation
- Applied Materials
- Beacon Power, LLC
- ClearEdge Power, Inc.
- Demand Energy Networks, Inc.
- Electricity Storage Association
- Environmental Defense Fund
- Great Lakes Solar Partners, LLC
- Hitachi America, Ltd.
- IBM Corporation
- Massmotus, Inc.
- New Athens Generating Company
- New York Battery and Energy Storage Technology Consortium (NY-BEST)
- New York State Smart Grid Consortium
- Northern Westchester Energy Action Coalition
- Petra Solar Inc.
- PSEG Services Corporation
- Quanta Technology
- Siemens PTI
- The Hudson Renewable Energy Institute
- Urban Electric Power Incorporated

Advance Smart Grid in New York

The Energy Highway Advanced Technologies initiative adds new focus and attention to integrating Smart Grid technologies and operations into New York's transmission and distribution system, providing a new forum designed to apply these innovative technologies in the pursuit of reduced costs of delivered energy, improved environment, and enhanced reliability of the grid. The Energy Highway initiative, with its public and private involvement and increased funding, offers the opportunity to further develop, demonstrate, and learn from the application of new technologies that provide value to New Yorkers, and can provide a strong energy foundation for a growing economy. Applications of Smart Grid and energy storage technologies may help to reduce peak demand strains on the system and reduce associated costs, integrate intermittent resources, such as wind and solar, strengthen cyber security, and improve overall reliability. In the longer-term, a more data-driven technologically advanced power grid will facilitate increased reliance on renewable energy sources, a more rapid system restoration from storms and other disruptive events, increased delivery capacity, more efficient use of generation and delivery resources, and increased adoption of electric vehicles, helping to reduce greenhouse gas emissions from both the electricity and transportation sectors.

ACTION → Fund Smart Grid demonstrations projects

ASSIGNED AGENCY
New York State Energy Research and Development Authority

PARTNERS
New York State Department of Public Service, Private Sector

INITIATE
Early 2013

ESTIMATED COMPLETION DATE
Ongoing

ESTIMATED INVESTMENT POTENTIAL
$190 million

The Energy Highway Task Force recommends that the Smart Grid Technology and Market Development (TMD) Program, authorized by the PSC and administered by NYSERDA, be leveraged to achieve the long-term objectives of the Energy Highway to apply advanced technologies to further improve power flows throughout the system and contribute to a more environmentally sustainable power sector. The Smart Grid Program will invest nearly $30 million in current program funds to leverage an additional $80 million of private investment over the next four years. The goals of the Smart Grid program include accelerating the development, testing, and adoption of new and emerging technologies. These activities will be designed to demonstrate technologies on the New York grid which can lead to wide-scale adoption by utilities and support grid modernization. Ultimately, these program activities are designed to help build markets for new Smart Grid and energy storage technologies and best practices that should enhance system reliability, reduce service interruptions through better diagnostics and faster response, and help to integrate new uses of the electric grid, including grid-powered electric vehicles, more rapidly.

Applications of Smart Grid and energy storage technologies may help to reduce peak demand strains on the system and reduce associated costs, integrate intermittent resources, such as wind and solar, strengthen cyber security, and improve overall reliability.

The Task Force further calls for NYSERDA to allocate additional funds to augment the Smart Grid TMD program, for the demonstration of large-scale projects, as well as advanced technologies and systems that reinforce the reliability and performance of the bulk electric power transmission system. The Task Force supports dedicating $20 million from a recent settlement between Constellation Energy and FERC to this endeavor. These funds should support private demonstration initiatives competitively selected by NYSERDA. Private-sector investment is expected to be approximately $60 million. Through these recommendations, the Task Force hopes to increase Smart Grid technology research and development (R&D) and accelerate Smart Grid realization by expanding the State's efforts in the demonstration and adoption of the hardware and software associated with Smart Grid applications.

ACTION → Develop an Advanced Energy Management System Control Center and pursue federal energy research grants

ASSIGNED AGENCIES
New York State Energy Research and Development Authority, New York Power Authority

PARTNERS
New York Independent System Operator, New York State Smart Grid Consortium, United States Department of Energy, Investor-Owned Utilities, Academia, Private Sector

INITIATE
Early 2013

ESTIMATED COMPLETION DATE
Ongoing

ESTIMATED INVESTMENT POTENTIAL
$60 million to be leveraged by additional private-sector investments

The Energy Highway Task Force recommends that New York State pursue a federal energy research hub located in New York focused on energy storage and/or Smart Grid and an Advanced Energy Management System Control Center, to foster collaboration and product development among public and private sectors. New York State should seek to improve system functions through expansion of research and development capabilities, including the use of new system operations information collected through Smart Grid energy storage technologies, and pursue opportunities to make New York a national leader in Smart Grid technology development. This action involves collaboration between NYSERDA, NYPA, NYISO, NY-BEST, the New York Smart Grid Consortium utilities, national laboratories, and the State's universities.

In the near-term, the Task Force recommends establishing an Advanced Energy Management System Control Center in New York with a focus on transmission research and development (R&D), along with a Smart Energy Utility application program targeted at system operation. The Task Force further recommends supporting the effort with up to $50 million in funding and/or other resources from NYPA, contingent on the approval of its Board of Trustees. The purpose of the Advanced Energy Management System Control Center and the application program would be to create a research and development environment to design and verify new equipment for use in various power system applications and promote collaborative development and testing of new technology applications, that provide real time data for electric system controls.[35] The proposed facility would be capable of hosting full-scale simulations and tests for electric transmission, including testing of new components and development of operational guidelines. Additionally, while existing Smart Grid applications data are becoming available, no wide-spread effort has yet been implemented to make practical use of such information. The R&D work conducted at the Advanced Energy Management System Control Center could incorporate communications and cyber security research in the area of synchrophasor and in general system operation applications, providing the basis for this first-of-a-kind Center.

A major component of the Advanced Energy Management System Control Center would be Energy Management Systems (EMS), which are computer-based systems used today to balance the demand for electricity with generation sources. The rapid growth of renewable generation, the increasing use of electric vehicles, and the need to integrate more advanced energy management systems in buildings with the power system will challenge the capability of the current generation of EMS systems. The development of an advanced grid management system will allow New York State to receive the full value offered by technologies such as electric vehicles, electric energy storage, demand response, distributed resources, and large sources of renewables such as wind and solar. NYPA, NYSERDA, NYISO and several utilities have been engaged in numerous installations of PMUs over the last decade in the anticipation that this data could be leveraged by advanced Energy Management Systems in the future.

The NYISO, as part of a DOE funded project, is in the process of installing 39 additional PMUs during the 2011-2013 timeframe, on the systems of seven Transmission Owners across the New York State Grid. In addition, the project will also result in the installation of capacitor banks at various locations around the grid resulting in 932 MVARs[36] of additional capacitor bank capability across the state.

NYPA, whose own energy-related facilities would directly benefit from research and development at the Advanced Energy Management System Control Center, would provide funding and/or other resources to support the R&D work (for example, for the first five-year period), which in turn could attract support from other major stakeholders, including NYISO, EPRI, New York's private electric utilities and transmission owners, and system operators outside New York. One goal of the facility would be to attract interest from companies for initial research and development for their applications, as well as initial product testing in the facility. The successful NanoTech Complex at the State University of New York at Albany can serve as a model to explore opportunities

35. Examples of this technology include a Phasor Measurement Unit (PMU), or synchrophasor, which is a device measuring electrical waves on the electricity grid using a global positioning satellite (GPS) clock as a time source for synchronization. Time synchronization allows real-time measurements of many measurement points on the grid. PMUs are considered to be the next technological breakthrough in Smart Grid technology for the power system.
36. MVARs, Mega Volt Ampere Reactive, are a unit of measure for reactive power, a component of an alternating current power system.

to work with public resources, academia, and industry to further research and development in the electricity sector in New York.

The Task Force also recommends that New York State seek federal government engagement, and pursue creation of a U.S. Department of Energy (DOE) Smart Grid Technology Hub, or similar large-scale federal research activity, yielding a possible investment of up to $125 million over five years. Establishment of a technology hub will both elevate the status of the new Advanced Energy Management System Control Center, and further propel New York State into a national leadership role as the State would host the activities of a national R&D agenda to advance Smart Grid and other technologies and applications. NYSERDA will commit $10 million to pursue a statewide effort to attract a federal technology hub, leveraging the activities of the Advanced Energy Management System Control Center, and working with NYISO, national laboratories, New York utilities, and other private-sector partners such as the Electric Power Research Institute (EPRI) in this effort. The long-term goal is to develop and test grid-scale energy storage and Smart Grid technologies that can improve the operation, reliability, security, and environmental footprint of the State's Energy Highway, and help catalyze growth of New York's clean energy economy. If the federal government does not provide funding support for these research hubs in the near term, the $10 million seed funding can be redirected to conduct a broader series of strategic smart energy demonstration projects throughout all utility territories across the State that fully complement the Energy Highway initiative.

Ensure electric utility capital expenditure plans to include cost-effective Smart Grid technologies

The Energy Highway Task Force recommends that the Public Service Commission, as part of its ongoing, systematic review of utility capital expenditure plans, ensures that the regulated utilities are incorporating proven Smart Grid and other advanced technologies where cost-justified. Smart Grid investments should be an integral part of a utility's overall capital spending plan and should harmonize with its overall investment strategy. The PSC generally considers Smart Grid proposals as part of the utility's overall capital spending plan during rate cases and/or other utility-specific proceedings, where the reasonableness of particular investments can be determined in an appropriate context. It is also imperative to set priorities for Smart Grid deployment that maximize potential benefits and minimize costs, obsolescence, and lost opportunities. For this reason, the Public Service Commission in August 2011 issued a policy statement to establish regulatory policies and guidelines for utilities to follow when considering Smart Grid investments.

The PSC can build on this work, and further support the deployment of the Smart Grid, by applying more specific standards for authorization of Smart Grid expenditures. For example, the Commission should consider applying a policy whereby, prior to undertaking any investments in non-advanced grid technologies, a utility could be required to demonstrate that it considered an investment in a qualified Smart Grid system based on appropriate factors, including: total costs, cost-effectiveness, improved reliability, security, system performance, and societal benefit. In addition, the Commission should consider authorizing special rate recovery mechanisms for such Smart Grid investments, and/or any equipment rendered obsolete by the deployment of qualified Smart Grid systems.

Smart Grid investments that could potentially meet such standards include:

- Installation of monitoring and control equipment that would allow utilities to identify system problems before they cause service disruptions and avoid outages or restore power more quickly.
- Wider use of sensors and control devices on the transmission and distribution system substation automation.
- More precise voltage control and innovative demand management tools, such as dynamic load distribution, to provide efficiency gains.

Evaluate policies to encourage technological and commercial innovation

In addition to new technology development, the Energy Highway seeks new ways to evaluate policies that can further encourage the application and deployment of Smart Grid innovations. The DPS continually evaluates the regulatory framework for New York State's electric and natural gas transmission and distribution companies, and assesses new approaches, including looking at other agencies worldwide, to improve the State's processes. One such example may be the United Kingdom's new approach to regulating its electric and natural gas transmission and distribution companies that better advances a sustainable, low carbon energy sector. The new framework, RIIO (Revenues = Incentives + Innovation + Outputs), at its core, is a multi-year rate plan, currently an eight-year plan which is much longer than the typical one to three year plans here in the United States, with additional incentive mechanisms to encourage innovation in the power sector. The RIIO regulatory framework recognizes the need to have a longer term planning horizon to encourage research and development investments in the utility sector.

Similar to the RIIO structure, New York State's regulatory framework has a focus on energy efficiency, advanced technology, and innovation, and incorporates funding mechanisms to ensure support and awareness of these important objectives. In order to enable the State's infrastructure to adopt new technologies and adapt to a changing marketplace, it is necessary to continue to encourage innovation and ensure that the regulatory framework supports this goal. The DPS and NYSERDA should continue to evaluate RIIO, as well as other mechanisms, to most effectively encourage technological and commercial innovation in New York's electricity sector.

NEW YORK ENERGY HIGHWAY
The time for powerful ideas

Conclusions and Next Steps

The Task Force has recommended 13 actions in four categories to achieve Governor Cuomo's Energy Highway vision through partnerships between public and private entities. The Task Force expects significant benefits to accrue to New York State because of these actions, including improved reliability and increased efficiency, job creation, promotion of economic development through public-private partnerships, and a cleaner environment.

- Upstate power plants will gain access to the higher demand in the downstate markets by the development of an additional 1,000 MW of capacity in the AC transmission system.
- Reliability Contingency Plans will ensure system security in the face of potential power plant retirements.
- Public-private partnerships will be encouraged through increased contracting flexibility for public power authorities.
- Accelerated investments in public and private sector electric infrastructure will strengthen reliability, safety, and storm resilience among other benefits.
- Accelerated investments in the natural gas distribution system will reduce costs to consumers and reduce emissions among other benefits.
- An estimated 270 MW of new renewable energy projects will be constructed as a result of new contracts with New York State and more development could be encouraged through targeted upgrades in the transmission system and changes to regulations governing interconnections.
- New York State will move forward with offshore wind field studies and potential new cost recovery mechanisms.
- The repowering process will be initiated to repower inefficient power plants on Long Island.

- Utilities will be required to evaluate repowering of power plants as an option and potential solution to system reliability challenges.
- A new program will be created to fund reductions in greenhouse gas emissions in the electricity sector.
- Select communities demonstrating hardship will be sheltered from some of the financial insecurity associated with closure of local fossil-fuel power plants.
- Investments in Smart Grid demonstrations projects on the grid will enhance system reliability and help integrate new uses of the electric grid, such as electric vehicles.
- Development of a new Advanced Energy Management Control Center and pursuit of federal smart energy hubs will develop new tools for system operations and security.

Following the acceptance of this Blueprint by Governor Cuomo, assigned agencies stand ready to undertake actions immediately in the areas of transmission upgrades, repowering inefficient power plants, Reliability Contingency Plan development, and a competitive solicitation for renewable energy. The Task Force will work with all assigned agencies and partners to support implementation of the Blueprint actions. The Task Force will prepare an update for Governor Cuomo by January 2013 on the status of the implementation of the Blueprint. Following this January update, the Task Force will disband to allow each agency to focus on its areas of responsibility, as outlined in the Blueprint. Each responsible entity should provide periodic status reports to the Governor's Office until its actions are complete.

APPENDIX

A

Energy Highway Process

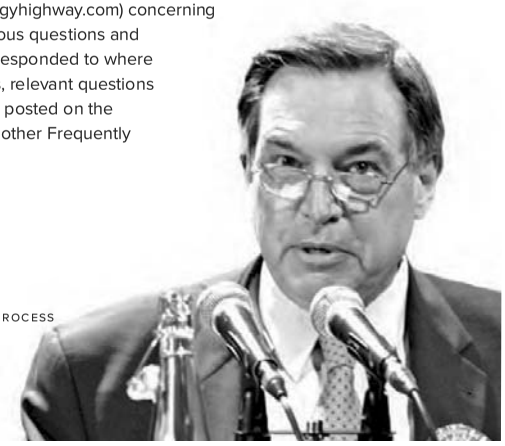
Governor Andrew M. Cuomo unveiled the Energy Highway initiative in his State of the State address on January 4, 2012. Shortly thereafter, the Governor appointed the Energy Highway Task Force, consisting of the heads of the principal state agencies and authorities concerned with energy, economic development, and the environment, to oversee and implement the program.

To formally begin the initiative, the Task Force held the Energy Highway Summit on April 4, 2012 at Columbia University. The Summit drew a large and diverse crowd, with over 400 people in attendance from nearly 230 companies and other entities. The event provided an informative and engaging program on strategies to upgrade and modernize New York State's energy system. In addition to the keynote address by Federal Energy Regulatory Commission Chairman Jon Wellinghoff, the Summit featured a distinguished lineup of panelists and speakers, including leaders from the electric power industry; government; and the financial, environmental, and academic communities. The Energy Highway Summit helped to set the stage for the next steps in the initiative.

The Energy Highway website (www.NYEnergyHighway.com) was launched following the Summit and provided ongoing updates to the public on the status of the initiative. The website has received a significant amount of traffic, contributing to the transparency of the Energy Highway process.

A Request for Information (RFI) was issued on April 11, 2012, and was the first step in the process of partnering with the private sector in proposing, financing, and developing the projects that will make the Governor's vision a reality. Experienced and knowledgeable parties, including the State's investor-owned utilities and other industry participants, were invited to submit information concerning projects that would advance one or more specific objectives, as outlined in the RFI.

Respondents were also invited to submit questions to the Energy Highway email address (info@nyenergyhighway.com) concerning the RFI through May 11, 2012. Numerous questions and comments were received and were responded to where appropriate. Throughout the process, relevant questions and answers from respondents were posted on the Energy Highway website, along with other Frequently Asked Questions and responses.



Keynote Summit speaker: Federal Energy Regulatory Commission (FERC) Chairman Jon Wellinghoff

More than 400 people attended the Summit at Columbia University on April 4, 2012

Following the issuance of the RFI, the Task Force held the Conference of RFI Respondents and Interested Parties in Westchester County on April 19, 2012, with over 270 people in attendance, representing 165 different companies and other organizations. The Conference provided an overview of the RFI and offered the opportunity for the audience to ask questions of the Energy Highway Task Force. Audience members asked the Task Force 24 questions related to the RFI submission process. A video of the Conference can be found on the Energy Highway website.

The responses to the RFI, which were due May 30, 2012, provided significant input into the Energy Highway Blueprint. The 130 responses and ideas varied immensely, and included information on various project proposals and policy suggestions. The summarized responses were posted on the Energy Highway website on June 29, 2012. The public was invited to provide comments and suggestions to the Task Force by August 31, 2012. The Task Force received 42 comments from 50 interested parties.

The Energy Highway Blueprint was developed with consideration of the responses to the RFI, as well as comments and input from the public throughout the process. The Blueprint includes Task Force recommendations and suggested action items designed to help create an environment that will spur private-sector involvement in carrying out the Energy Highway initiative.

APPENDIX

B

Summary of RFI Responses

In all, 85 private developers, investor-owned utilities, financial firms, and other entities submitted responses covering 130 ideas and proposals to upgrade and revitalize the energy infrastructure in New York State while promoting clean energy supplies, job creation, and economic growth. A summary of the responses is included in the following table.

TABLE 4

Summary Matrix of all RFI Responses

DEVELOPER	CATEGORY	CAPACITY MINIMUM (MW)	CAPACITY MAXIMUM (MW)	GENERATOR LOCATION	TRANSMISSION START LOCATION	TRANSMISSION END LOCATION	FUEL SOURCE	EXISTING/NEW /UPGRADE	CONTACT INFORMATION
Alliance for Clean Energy New York, Inc. (ACE NY)	Ideas	—	—	—	—	—	—	—	Carol E. Murphy cemurphy@aceny.org
Ambient Corporation	Ideas	—	—	—	—	—	—	—	Michael McCarthy mmccarthy@ambientcorp.com
American Electric Power	Transmission–DC	1000	1000	—	Oneida County	Not Specified	—	New	Robert Bradish RWBradish@aep.com
Applied Materials	Ideas	—	—	—	—	—	—	—	Paul J. Murphy Paul_Murphy@amat.com
AWR Energy, Inc	Ideas	—	—	—	—	—	—	—	Luis Eduardo (Ed) Marin ed.marin@awrenergy.com
Beacon Power, LLC	Ideas	—	—	—	—	—	—	—	Judith Judson McQueeney mcqueeney@beaconpower.com
Bloom Energy Corporation	Generation–Traditional	0.2	27	Not Specified	—	—	Natural Gas Fuel Cell	New	Charles Fox charles.fox@bloomenergy.com
Boundless Energy, LLC–Converting Existing Long Island Cables Project	Transmission–DC	2000	2000	—	Rockland and Westchester Counties	Zone K, Long Island	—	New	E. John Tompkins ejt@trmc.com
Boundless Energy, LLC–North River Express Project	Transmission–DC	1100	1100	—	Rockland County	Not Specified	—	New	E. John Tompkins ejt@trmc.com
Boundless Energy, LLC–Renewable Energy Transfer Project	Transmission–AC	—	—	—	Not Specified	Not Specified	—	New	E. John Tompkins ejt@trmc.com
Boundless Energy, LLC–Third Leeds Pleasant Valley Circuit Alternative	Transmission–DC	1000	1500	—	Ulster County	Orange County	—	New	E. John Tompkins ejt@trmc.com
BP Wind Energy North America Inc.	Generation–Renewable	285	285	Jefferson County	—	—	Wind	New	Richard Chandler richard.chandler@bp.com
Brookfield Renewable Energy Group	Generation–Renewable	700	700	Zones A, B, C, D, E, F, G, J	—	—	Hydropower	Existing	Mary Hemmingsen mary.hemmingseon@brookfieldrenewable.com

DEVELOPER	CATEGORY	CAPACITY MINIMUM (MW)	CAPACITY MAXIMUM (MW)	GENERATOR LOCATION	TRANSMISSION START LOCATION	TRANSMISSION END LOCATION	FUEL SOURCE	EXISTING/NEW /UPGRADE	CONTACT INFORMATION
Calpine Eastern Corporation	Generation–Traditional	50	275	Not Specified	—	—	Natural Gas	Not Specified	Champe Fisher Champe.Fisher@calpine.com
Citizens Campaign for the Environment, National Wildlife Federation Environmental Advocates of New York, Environment New York, Renewable Energy Long Island	Ideas	—	—	—	—	—	—	—	Ross Gould rgould@eany.org
Citizen's Environmental Coalition	Ideas	—	—	—	—	—	—	—	Barbara Warren warrenba@msn.com
CityGreen Transmission, Inc. –Project #1	Transmission–DC	—	—	—	Oneida County	Orange County	—	New	None Provided
CityGreen Transmission, Inc. –Project #2	Transmission–AC	—	—	—	Westchester County	Queens County	—	New	None Provided
ClearEdge Power Inc.	Ideas	Not Specified	Not Specified	—	—	—	—	—	William Pentland bpentland@clearedgepower.com
Clover Leaf Power	Generation–Traditional	200	200	Bronx County	—	—	Natural Gas	New	Jim O'Reilly Cloverleafpower@optonline.net
Cogen Technologies Linden Venture–Project #1	Generation–Traditional	800	800	Richmond County	—	—	Natural Gas	Existing	Tom Fogarty Thomas.Fogarty1@ge.com
Cogen Technologies Linden Venture–Project #2	Generation–Traditional	150	150	Richmond County	—	—	Natural Gas	New	Tom Fogarty Thomas.Fogarty1@ge.com
Cogen Technologies Linden Venture–Project #3	Generation–Traditional	180	180	Richmond County	—	—	Natural Gas	New	Tom Fogarty Thomas.Fogarty1@ge.com
Competitive Power Ventures, Inc.	Generation–Traditional	650	650	Orange County	—	—	Natural gas	New	Mr. Steven Remillard sremillard@cpv.com
Covanta Energy Corporation	Generation–Renewable	Not Specified	Not Specified	Not Specified	—	—	Waste	New	W. John Phillips jphillips@covantaenergy.com
Cricket Valley Energy Center, LLC	Generation–Traditional	1000	1000	Dutchess County	—	—	Natural gas	New	Matthew Martin mmartin@advancedpowerna.com
Deepwater Wind (includes DC Transmission)	Generation–Renewable	600	900	Zone K, Long Island	Bristol County, Massachussets	Suffolk County	Wind/Other	New	William M. Moore wmoore@dwwind.com
Demand Energy Networks, Inc.	Ideas	100	100	Zone J, New York City	—	—	—	New	Richard Wilson rwilson@demand-energy.com
EDP Renewables North America, LLC Build a new 345kV line from North Country	Ideas	—	—	—	Zone D, North	Zone E, Mohawk Valley	—	New	William Whitlock Bill.Whitlock@edpr.com
EDP Renewables North America, LLC Additional shunt stations and substations from Marcy to New Scotland	Ideas	—	—	—	—	—	—	New	William Whitlock Bill.Whitlock@edpr.com
EDP Renewables North America, LLC Encourage Champlain Wind Link	Ideas	600	600	—	Clinton County	Addison County, Vermont	—	New	William Whitlock Bill.Whitlock@edpr.com
EDP Renewables North America, LLC Move TDI on-ramp to upstate New York	Ideas	—	—	—	—	—	—	New	William Whitlock Bill.Whitlock@edpr.com
Electricity Storage Association	Ideas	—	—	—	—	—	—	New	Katherine Hamilton k.hamilton@electricitystorage.org

DEVELOPER	CATEGORY	CAPACITY MINIMUM (MW)	CAPACITY MAXIMUM (MW)	GENERATOR LOCATION	TRANSMISSION START LOCATION	TRANSMISSION END LOCATION	FUEL SOURCE	EXISTING/NEW /UPGRADE	CONTACT INFORMATION
Empire Generating Co., LLC	Generation–Traditional	635	635	Rensselaer County	—	—	Natural gas	Existing	Curtis Morgan cmorgan@eqpwr.com
Energie Bellator Inc.	Ideas	—	—	—	—	—	—	—	Christopher Anderson EnergieBellator@gmail.com
Energize Ithaca, LLC	Generation–Renewable	12	12	Tompkins County	—	—	Biofuel	New	David Parks David@Ithacalaw.com
ENTECCO LLC	Generation–Renewable	20	2000	Seneca County	—	—	Solar	New	John Bay JBay@EnteccoEnergy.com
Entergy Nuclear Power Marketing–Indian Point	Generation–Traditional	2069	2069	Westchester County	—	—	Uranium	Existing	Marc Potkin mpotkin@entergy.com
Entergy Nuclear Power Marketing James A. Fitzpatrick Nuclear Power Plant	Generation–Traditional	838	838	Oswego County	—	—	Uranium	Existing	Marc Potkin mpotkin@entergy.com
Environmental Defense Fund (EDF)	Ideas	—	—	—	—	—	—	—	Elizabeth B. Stein estein@edf.org
Exelon	Ideas	—	—	—	—	—	—	—	Martin V. Proctor
GenOn Energy, Inc.–Bowline 3 and Lovett Generation Projects	Generation–Traditional	775	775	Rockland County	—	—	Natural Gas	New	Gary Kubik gary.kubik@genon.com
Great Lakes Solar Partners	Ideas	—	—	—	—	—	Solar	New	Nora B. Sullivan norasullivan@glsolarpartners.com
Hitachi America, Ltd.	Ideas	—	—	—	—	—	—	—	Tadanari Miyatake tadanari.miyatake@hal.hitachi.com
Hudson River Sloop Clearwater, Inc.	Ideas	—	—	—	—	—	—	—	Manna Jo Greene mannajo@clearwater.org
Hydro-Quebec Production–Project #1	Ideas	—	—	—	—	—	—	—	Stephen Molodetz Molodetz.Stephen@Hydro.Qc.Ca
Hydro-Quebec Production–Project #2	Ideas	—	—	—	—	—	—	—	Stephen Molodetz Molodetz.Stephen@Hydro.Qc.Ca
Iberdrola Renewables, LLC Roaring Brook Wind Project	Generation–Renewable	78	78	Lewis County	—	—	Wind	New	Len Navitsky leonard.navitsky@iberdrolaREN.com
Iberdrola, USA (The Cianbro Companies Gilberti Stinziano Heintz & Smith, P.C.)	Transmission–DC	1000	1000	—	Oneida County	Zone J, New York City	—	New	Thorn Dickinson thorn.dickinson@iberdrolausa.com
IBM Corporation	Ideas	—	—	—	—	—	—	—	Betty Wall ewall@us.ibm.com
Independent Power Producers of New York (IPPNY)	Ideas	—	—	—	—	—	—	—	Sarah Conley sarah.conley@ippny.org
Iroquois Gas Transmission System, L.P.	Gas Pipeline	—	—	—	—	—	—	New	Scott E. Rupff scott_rupff@iroquois.com
J-Power USA Development Co., Ltd. Eastern Long Island Power	Generation–Traditional	398	398	Suffolk County	—	—	Natural Gas	New	Stephen Thome sthome@jpowerusa.com
J-Power USA Development Co., Ltd. Edgewood Energy	Generation–Repowering	20	20	Suffolk County	—	—	Natural Gas	Upgrade	Stephen Thome sthome@jpowerusa.com

DEVELOPER	CATEGORY	CAPACITY MINIMUM (MW)	CAPACITY MAXIMUM (MW)	GENERATOR LOCATION	TRANSMISSION START LOCATION	TRANSMISSION END LOCATION	FUEL SOURCE	EXISTING/NEW /UPGRADE	CONTACT INFORMATION
J-Power USA Development Co., Ltd. Shoreham Energy	Generation–Repowering	20	20	Suffolk County	—	—	Fuel Oil	Upgrade	Stephen Thome sthome@jpowerusa.com
Liquid Metal Battery Corporation (LMBC)	Ideas	—	—	—	—	—	—	—	Kristin Brief kbrief@lmbcorporation.com
Long Island Federation of Labor, AFL-CIO	Ideas	—	—	—	—	—	Wind	New	Roger Clayman www.longislandfed.org
LSP Transmission Holdings, LLC	Ideas	—	—	—	—	—	—	—	Lawrence Willick lwillick@lspower.com
Massmotus, Inc.	Ideas	18	18	Not Specified	—	—	—	New	Carmelito B. Tianchon tianchonps@gmail.com
Millennium Pipeline Company, LLC	Gas Pipeline	—	—	—	—	—	—	New	Stan Brownell Brownell@MillenniumPipeline.com
Natural Currents Energy Services Fishers Island Tidal Energy Project	Generation–Renewable	10	10	Zone E, Mohawk Valley	—	—	Hydropower	New	Roger Bason rbason@naturalcurrents.com
Natural Currents Energy Services Mohawk Valley MHK Project	Generation–Renewable	10	10	Zone K, Long Island	—	—	Hydropower	New	Roger Bason rbason@naturalcurrents.com
Natural Resources Defense Council (NRDC) and Pace Energy and Climate Center (Pace)	Ideas	—	—	—	—	—	—	—	NRDC: Donna De Costanzo ddecostanzo@nrdc.org Pace: Jackson D. Morris jmorris@law.pace.edu
New Athens Generating Company, LLC (NAGC)	Ideas	660	660	Greene County	Greene County	Greene County	—	Upgrade	John Breen jbreen@cpv.com
New York Battery and Energy Storage Technology Consortium (NY-BEST)	Ideas	—	—	—	—	—	—	New	William P. Acker acker@ny-best.org
New York State Smart Grid Consortium	Ideas	—	—	—	—	—	—	—	David Manning dmanning@nyssmartgrid.com
New York Transmission Company (Transco) 3rd Leeds–Pleasant Valley 345kV Line	Transmission–AC	—	—	—	Greene County	Dutchess County	—	New	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Marcy South Series Compensation and Fraser Coopers Corners Reconductoring	Transmission–AC	—	—	—	Delaware County	Sullivan County	—	Upgrade	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) 2nd Rock Tavern to Ramapo 345kV Line	Transmission–AC	—	—	—	Orange County	Rockland County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Marcy–New Scotland 345 kV Line	Transmission–AC	—	—	—	Oneida County	Albany County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) 3rd New Scotland–Leeds 345 kV Line	Transmission–AC	—	—	—	Albany County	Green County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Oakdale–Fraser 345 kV Line Upgrade	Transmission–AC	—	—	—	Broome County	Delaware County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Moses–Marcy 230 kV to 345 kV Upgrade	Transmission–AC	—	—	—	St. Lawrence County	Oneida County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Transmission to Un-bottle Staten Island Generation	Transmission–AC	—	—	—	Richmond County	Kings County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE

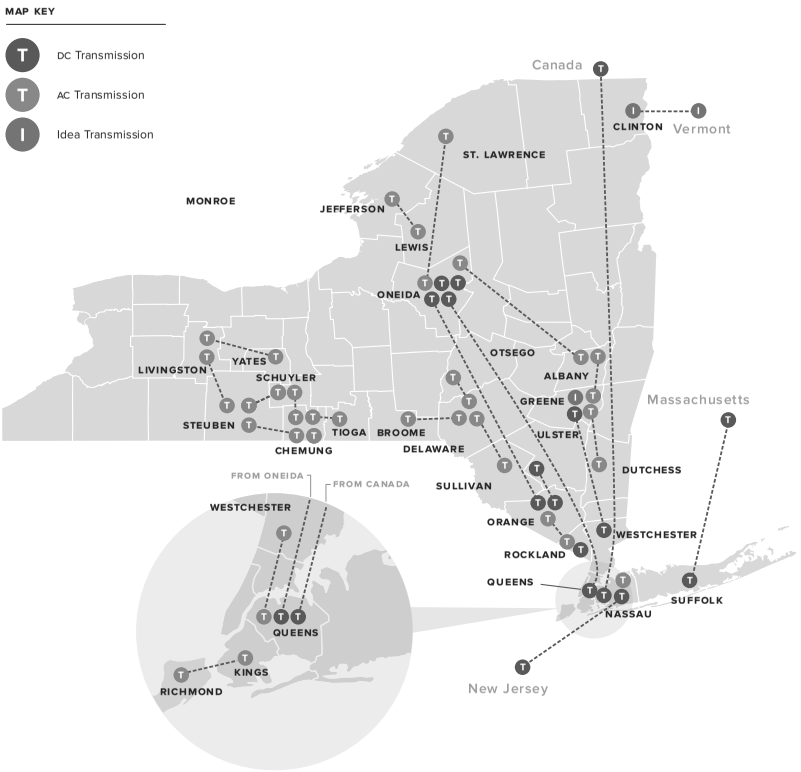
DEVELOPER	CATEGORY	CAPACITY MINIMUM (MW)	CAPACITY MAXIMUM (MW)	GENERATOR LOCATION	TRANSMISSION START LOCATION	TRANSMISSION END LOCATION	FUEL SOURCE	EXISTING/NEW /UPGRADE	CONTACT INFORMATION
New York Transmission Company (Transco) East Garden City–Newbridge 345 kV Upgrade	Transmission–AC	—	—	—	Nassau County	Nassau County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Canandaigua–Hillside and Hillside Watercure Road 230	Transmission–AC	—	—	—	Chemung County	Chemung County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Montour Falls–Hillside 115 kV Line Reconductoring	Transmission–AC	—	—	—	Schuyler County	Chemung County	—	New	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Hillside–North Waverly 115 kV Line Reconductoring	Transmission–AC	—	—	—	Chemung County	Tioga County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Canandaigua–Avoca–Hillside 230 kV Line Reconductoring	Transmission–AC	—	—	—	Steuben County	Chemung County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Delhi–Colliers 115 kV Line Reconductoring	Transmission–AC	—	—	—	Delaware County	Otsego County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Bennett–Howard–Bath–Montour Falls 115 kV Line Reconductoring	Transmission–AC	—	—	—	Steuben County	Schuyler County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Bennett–Moraine Road Meyer 115 kV Line Reconductoring	Transmission–AC	—	—	—	Steuben County	Livingston County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Meyer–Eel Pot Rd–Ecogen–Flat St. Greenidge 115 kV Line Reconductoring	Transmission–AC	—	—	—	Livingston County	Yates County	—	Existing	Mr. David Kimiecik Energy Services NYSEG/RGE
New York Transmission Company (Transco) Coffeen St.–Adirondack New 345 kV Line	Transmission–AC	—	—	—	Jefferson County	Lewis County	—	New	Mr. David Kimiecik Energy Services NYSEG/RGE
NextEra Energy Transmission, LLC, NextEra Energy Resources, LLC	Ideas	2000	2000	—	—	—	—	New	Eric S. Gleason Eric.Gleason@NextEraEnergy.com
Noble Environmental Power, LLC	Ideas	612	612	—	—	—	Wind	Existing	Harry Silton siltonh@noblepower.com
Northeast Clean Heat and Power Initiative	Ideas	—	—	—	—	—	—	—	Paul S. Lee plee@nechpi.org
Northeast Energy Efficiency Partnerships (NEEP), Conservation Services Group (CSG) and The Pace Energy and Climate Center	Ideas	—	—	—	—	—	—	—	Jackson Morris jmorris@law.pace.edu
NRG Energy, Inc–Project #1	Generation–Repowering	440	440	Queens County	—	—	Natural gas	Upgrade	Jon Baylor jonathan.baylor@nrgenergy.com
NRG Energy, Inc–Project #2	Generation–Repowering	450	600	Chautauqua County	—	—	Natural gas	Upgrade	Jon Baylor jonathan.baylor@nrgenergy.com
NRG Energy, Inc–Project #3	Generation–Traditional	380	380	Erie County	—	—	Natural gas/coal	Existing	Jon Baylor jonathan.baylor@nrgenergy.com
NWEAC	Ideas	—	—	—	—	—	—	—	mgordon@jouleassets.com

DEVELOPER	CATEGORY	CAPACITY MINIMUM (MW)	CAPACITY MAXIMUM (MW)	GENERATOR LOCATION	TRANSMISSION START LOCATION	TRANSMISSION END LOCATION	FUEL SOURCE	EXISTING/NEW /UPGRADE	CONTACT INFORMATION
NYC Energy LLC	Generation–Traditional	79	79	Kings County	—	—	Natural Gas	New	nyc@sefenergy.com
Petra Solar Inc	Generation–Renewable	100	100	Various Locations	—	—	Solar	New	Joe DeLuca joe.deluca@petrasolar.com
Plug Power Inc.–Fuel Cell Ground Support Equipment	Generation–Renewable	—	—	—	—	—	Hydrogen Fuel Cells	New	Sharalyn Savin sharalyn_savin@plugpower.com
Plug Power Inc.–Fuel Cell Remote Monitoring Equipment	Generation–Renewable	—	—	—	—	—	Hydrogen Fuel Cells	New	Sharalyn Savin sharalyn_savin@plugpower.com
Plug Power Inc.–Fuel Cell Truck Refrigerated Units	Generation–Renewable	—	—	—	—	—	Hydrogen Fuel Cells	New	Sharalyn Savin sharalyn_savin@plugpower.com
Plug Power Inc.–New York Hydrogen Highway	Generation–Renewable	—	—	—	N—	—	Hydrogen Fuel Cells	New	Sharalyn Savin sharalyn_savin@plugpower.com
Plug Power Inc.–New York State Fuel Cell Forklift Fleet Deployment	Generation–Renewable	—	—	—	—	—	Hydrogen Fuel Cells	New	Sharalyn Savin sharalyn_savin@plugpower.com
Plug Power Inc.–Onsite Hydrogen Fuel Generation and Delivery System	Generation–Renewable	—	—	—	—	—	Hydrogen Fuel Cells	New	Sharalyn Savin sharalyn_savin@plugpower.com
Poseidon Tranmission LLC	Transmission–DC	500	500	—	PJM	Zone K, Long Island	—	New	Edward N. Krapels ekrapels@anbaricpower.com
PSEG	Ideas	—	—	—	—	—	—	—	Scott Jennings scott.jennings@pseg.com
Pure Energy Infrastructure, LLC	Generation–Repowering	302	302	Not Specified	—	—	Natural Gas	Upgrade	Paul A. Barnett pabbarnett@gmail.com
Quanta Technology	Ideas	—	—	—	—	—	—	—	Dino Lelic dlelic@quantatechnology.com
Ridgeline Energy LLC	Generation–Renewable	18.45	18.45	Otsego County	—	—	Wind	New	Owen Grant www.ridgelineenergy.com
Saranac Power Partners, L.P.	Generation–Traditional	278	278	Clinton County	—	—	Natural Gas	Existing	Not Specified
Siemens PTI	Ideas	—	—	—	—	—	—	—	Baldwin Lam baldwin.lam@siemens.com
Sierra Club	Ideas	—	—	—	—	—	—	—	Joshua Berman Josh.Berman@sierraclub.org
Silicon Solution Joint Venture, LLC	Ideas	—	—	—	—	—	Solar	New	Randolph Horner randolphannhorner@aol.com
Spectra Energy Corporation Algonquin Incremental Market Expansion	Gas Pipeline	—	—	—	—	—	—	Upgrade	John Sheridan JPSheridan@spectraenergy.com
Spectra Energy Corporation NJ–NY Expansion Project	Gas Pipeline	—	—	—	—	—	—	Upgrade	John Sheridan JPSheridan@spectraenergy.com
Sustainable Energy Developments, Inc.	Ideas	—	—	—	—	—	Wind	—	Matt Vanderbrook matt@sed-net.com
Taylor Biomass Energy Montgomery LLC (TBEM)	Generation–Renewable	20	20	Orange County	—	—	Biomass	New	Allan R. APage@APageAssociates.com

DEVELOPER	CATEGORY	CAPACITY MINIMUM (MW)	CAPACITY MAXIMUM (MW)	GENERATOR LOCATION	TRANSMISSION START LOCATION	TRANSMISSION END LOCATION	FUEL SOURCE	EXISTING/NEW /UPGRADE	CONTACT INFORMATION
TDI – USA Holdings Corp.	Transmission – DC	600	1000	—	US – Canada Border	Queens County	—	New	William Helmer bill.helmer@transmissiondevelopers.com
The Hudson Renewable Energy Institute (THREI)	Ideas	—	—	—	—	—	—	—	Allan R. Page APage@THREI.org
Iberdrola Renewables, LLC Horse Creek Wind Project	Generation – Renewable	126	376	Jefferson County	—	—	Wind	New	Len Navitsky leonard.navitsky@iberdrolaREN.com
Iberdrola Renewables, LLC Stone Church Wind Project	Generation – Renewable	150	150	St. Lawrence County	—	—	Wind	New	Len Navitsky leonard.navitsky@iberdrolaREN.com
Iberdrola Renewables, LLC North Ridge Wind Project	Generation – Renewable	100	100	St. Lawrence County	—	—	Wind	New	Len Navitsky leonard.navitsky@iberdrolaREN.com
The New York Affordable Reliable Electricity Alliance (NY AREA)	Ideas	—	—	—	—	—	—	—	Patricia Kakridas Kakridas@area-alliance.org
The Solar Energy Consortium	Generation – Renewable	1	1	Albany County	—	—	Solar	New	Ben Klein bklein5050@gmail.com
Town of Huntington, New York	Generation – Repowering	388	440	Nassau County	—	—	Natural Gas	Upgrade	Lou Lewis www.lewisgreer.com
TransCanada Corporation – Option #1	Generation – Repowering	0	0	Queens County	—	—	Natural Gas	Upgrade	Tom Patterson tom_patterson@transcanada.com
TransCanada Corporation – Option #2	Generation – Repowering	49	49	Queens County	—	—	Natural Gas	Upgrade	Tom Patterson tom_patterson@transcanada.com
United Technologies Corporation (UTC Power)	Generation – Traditional	250	500	Not Specified	—	—	Natural Gas Fuel Cell	New	Lisa Ward lisa.ward@utcpower.com
Upstate New York Power Producers (UNYPP) Somerset and Cayuga Power Stations	Generation – Traditional	981	981	Niagara County and Tompkins County	—	—	Coal	Existing	Not Specified
Urban Electric Power Incorporated (UEP)	Ideas	50	50	Queens County	—	—	—	New	Eric McFarland ewmcfar@engineering.ucsb.edu
Iberdrola Renewables, N/A Bone Run Wind Project	Generation – Renewable	68	130	Cattaraugus County	—	—	Wind	New	Len Navitsky leonard.navitsky@iberdrolaREN.com
US PowerGen – South Pier Project	Generation – Repowering	100	100	Kings County	—	—	Natural Gas – Diesel backup	Upgrade	John Reese jreese@uspowergen.com
US PowerGen – Luyster Creek Project	Generation – Repowering	410	410	Queens County	—	—	Natural Gas – Diesel backup	Upgrade	John Reese jreese@uspowergen.com
J-Power USA Development Co., Ltd. Edgewood Energy	Generation – Repowering	20	20	—	Suffolk County	Not Specified	Natural Gas	Upgrade	Stephen Thome sthome@jpowerusa.com
West Point Partners, LLC	Transmission – DC	1000	2000	—	Greene County	Westchester County	—	New	Edward M. Stern estern@powerbridge.us

FIGURE 12

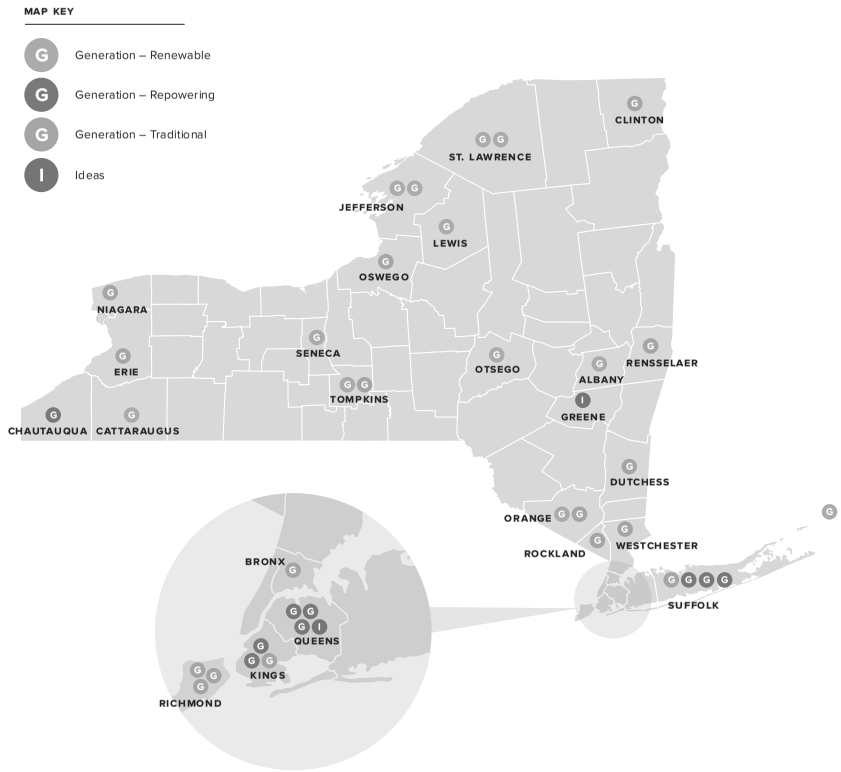
Map of Transmission Responses



Note: All RFI responses and locations (if given by county in RFI response) are **conceptual** and none have been endorsed by the Energy Highway Task Force.

FIGURE 13

Map of Generation Responses



Note: All RFI responses and locations (if given by county in RFI response) are **conceptual** and none have been endorsed by the Energy Highway Task Force.

New York Power Authority
Generating more than electricity

NYS DEPARTMENT
OF ENVIRONMENTAL
CONSERVATION

Empire State Development

NYS DEPARTMENT
OF PUBLIC SERVICE

nyserda
Energy. Innovation. Solutions.

Exhibit No. NYT-3

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held in the City of Albany on November 27, 2012

COMMISSIONERS PRESENT:

Garry A. Brown, Chairman
Patricia L. Acampora
Maureen F. Harris
James L. Larocca
Gregg C. Sayre

CASE 12-T-0502 - Proceeding on Motion to Examine Alternating Current Transmission Upgrades.

ORDER INSTITUTING PROCEEDING

(Issued and Effective November 30, 2012)

BY THE COMMISSION:

INTRODUCTION

Constraints on the State's electric transmission system can lead to significant congestion and contribute to higher energy costs and reliability concerns. Various studies, including those performed by the New York Independent System Operator ("NYISO") and the New York Transmission Owners ("NYTOs"), have identified the alternating current ("AC") electric transmission corridor that traverses the Mohawk Valley Region, the Capital Region, and the Lower Hudson Valley as a source of persistent congestion. The corridor includes facilities connected to Marcy, New Scotland, Leeds, and Pleasant Valley substations, and two major electrical interfaces (i.e., groups of circuits) that are often referred to as "Central East" and "UPNY/SENY." A schematic map illustrating the congested

transmission corridor and the two interfaces is attached hereto as an appendix.

Upgrading this section of the transmission system has the potential to bring a number of benefits to New York's ratepayers. These include enhanced system reliability, flexibility, and efficiency, reduced environmental and health impacts,[1] increased diversity in supply, and long-term benefits in terms of job growth, development of efficient new generating resources at lower cost in upstate areas, and mitigation of reliability problems that may arise with expected generator retirements. The recently-released New York Energy Highway Blueprint issued by the Governor's Energy Highway Task Force recommends upgrades to this corridor providing approximately 1,000 MW of additional transmission capacity and representing a total investment of $1 billion.[2] The Energy Highway Blueprint further suggests that some projects addressing the identified congestion issues should commence construction in 2014.

In pursuit of these important goals of congestion relief and reliability enhancement and the other ratepayer benefits described above, we institute this proceeding to solicit written public Statements of Intent from developers and transmission owners proposing projects that will increase transfer capacity through the congested transmission corridor, which includes the Central East and UPNY/SENY interfaces as described above, and meet the objectives of the Energy Highway Blueprint. Sponsors of proposals that will require

---

[1] Increasing the transmission capacity into high load areas downstate is expected to reduce nitrogen oxide ("NO_x") and other emissions contributing to the area's designation as "nonattainment" under the federal air quality standard for ozone.

[2] The New York Energy Highway Blueprint was issued in October 2012 and is available at http://www.nyenergyhighway.com/Blueprint.html.

certification from this Commission under Article VII of the Public Service Law should provide a schedule for the submission of a complete application. We also invite developers and transmission owners contemplating alternative transmission facilities that meet our objectives but do not require Article VII Certificates to submit Statements of Intent and schedules for the submission of any necessary permit applications. All Statements of Intent must be filed with the Secretary of the Public Service Commission electronically by January 25, 2013.

Following submission of Statements of Intent, Staff will undertake a multi-agency review and evaluation process to develop a structure and deadlines for making project-specific determinations. We expect Staff to consider whether phased reviews, perhaps on an interface by interface approach, will maximize the overall benefits to the public. We further direct Staff to perform coordinated hearings on a joint record wherever such an approach is likely to facilitate timely decision-making.

Statements of Intent should include the following:

(a) The respondent's name, address, and primary contact information including telephone number and e-mail address;
(b) A project description, including geographic location, bulk electric system location, proposed interconnection points, and transmission capability in energy and capacity;
(c) A concise discussion of the project's compatibility with the goals and benefits identified in this order;
(d) The projected in-service date and project development schedule including an estimate of the time needed to prepare and submit applications for any regulatory approvals necessary to begin construction;
(e) An identification of the general financial structure supporting the project and funding options, including whether the project would be supported by rates set under

our jurisdiction, Federal Energy Regulatory Commission rates, or in some other manner;

(f) A statement of the NYISO interconnection study status of the project;

(g) An identification of the extent to which the project would utilize existing rights-of-way and/or previously disturbed land; and

(h) Preliminary cost estimates for the project.

Following Staff's review of the proposals submitted in accordance with this order, and upon consideration of Staff's recommendations as to procedural matters, we will institute further proceedings under Article VII or other applicable provisions of the Public Service Law in order to make project-specific determinations. To the extent joint proceedings or combined records may be appropriate, we will undertake them.

TECHNICAL CONFERENCE

The Department of Public Service will host a public technical conference on December 17, 2012, commencing at 10:30 a.m. at the Department's offices at 3 Empire State Plaza, 19th Floor Board Room, Albany, New York, to provide technical assistance to potential developers and transmission owners contemplating the submittal of Statements of Intent.

The Commission orders:

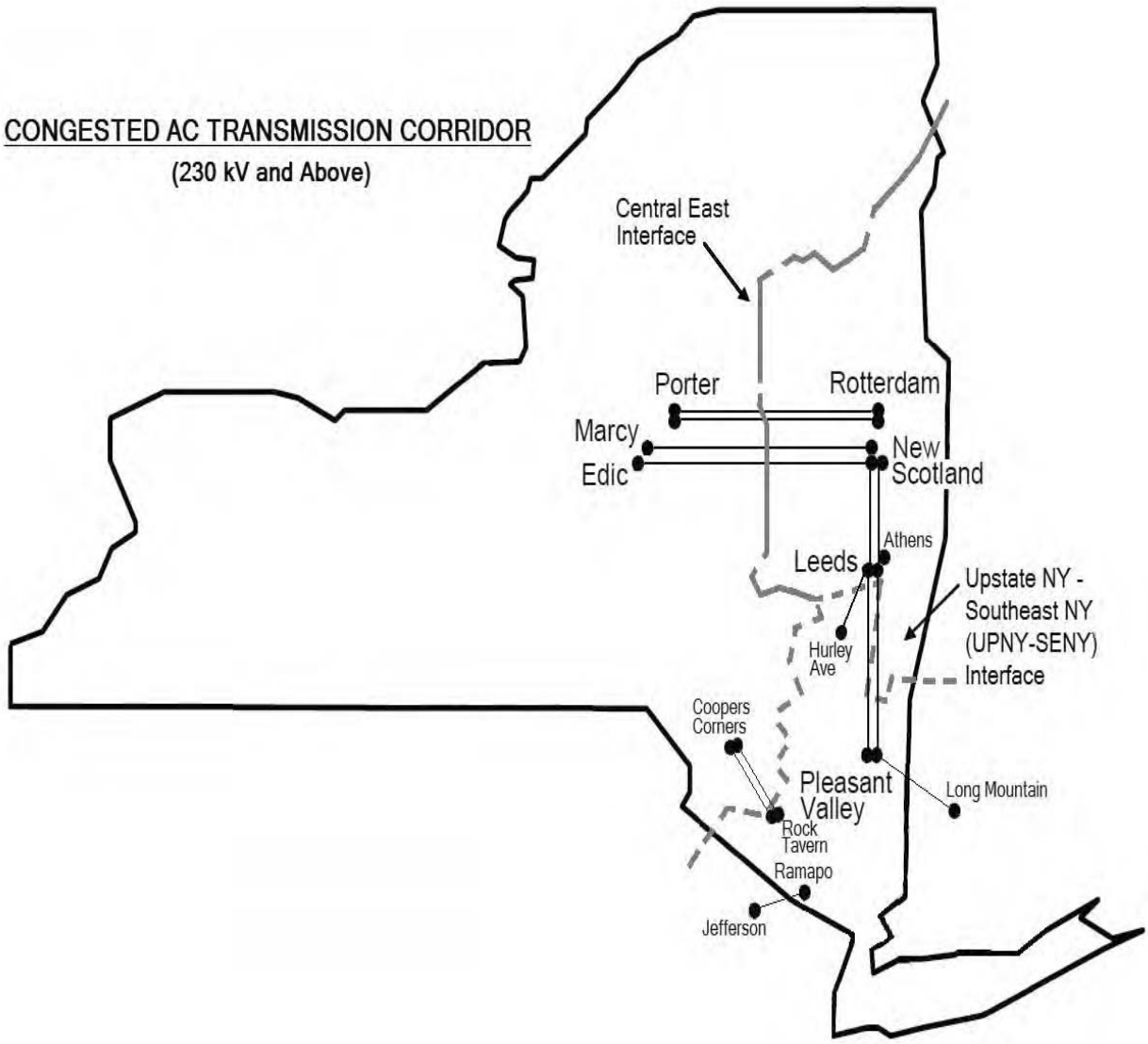
1. A proceeding is instituted to examine proposals that meet the congestion reduction objectives set forth in this Order.

2. This proceeding is continued.

By the Commission,

Jaclyn A. Brilling
Digitally Signed by Secretary
New York Public Service Commission

(SIGNED) JACLYN A. BRILLING
Secretary


CONGESTED AC TRANSMISSION CORRIDOR
(230 kV and Above)
Central East Interface
Porter
Rotterdam
Marcy
Edic
New Scotland
Athens
Leeds
Upstate NY - Southeast NY (UPNY-SENY) Interface
Hurley Ave
Coopers Corners
Pleasant Valley
Long Mountain
Rock Tavern
Ramapo
Jefferson