



# Power NY

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## The New NY Agenda

### Andrew Cuomo

*2<sup>nd</sup> in a Series*

# THE NEW NY AGENDA

The people of New York deserve a government that works, for a change — not a government paralyzed by partisan politics and plagued by ethical scandals.

We love New York and are willing to fight for the fundamental reforms necessary to restore competence and integrity in government and regain the public's confidence.

We are Democrats, Republicans and Independents. But we are New Yorkers first, foremost and always.

Today, I join with my fellow New Yorkers to actively support Andrew Cuomo's New NY Agenda. I pledge to vote in the upcoming elections, to urge my local elected officials to support this Agenda, and to organize and mobilize my community in November—and next year—to make a "New NY" a reality.

- 1. Clean Up Albany.** We must restore honor and integrity to government, with tough new ethics standards, expanded disclosure requirements, independent investigators to root out and punish corruption, and an overhaul of campaign finance laws. We must remove legislative redistricting from partisan elected politicians and place it in the hands of an independent commission that works only for the people. And we must hold a constitutional convention – A People's Convention – to rewrite the Constitution and make these changes immediately because we cannot wait any longer for the state legislature to act.
- 2. Get Our Fiscal House in Order.** We must get our State's fiscal house in order by immediately imposing a cap on state spending and freezing salaries of state public employees as part of a one-year emergency financial plan, committing to no increase in personal or corporate income taxes or sales taxes and imposing a local property tax cap. We must also eliminate mandates that make it impossible for school districts and localities to contain costs.
- 3. Rightsizing Government.** Government in New York is too big, ineffective and expensive. We must enlist the best private sector minds to help overhaul our more than 1,000 state agencies, authorities and commissions and reduce their number by 20 percent. We must make it easier to consolidate or share services among our more than 10,000 local governments.
- 4. NY Works.** We must make New York the jobs capital of the nation and get unemployed New Yorkers back to work. We will give businesses a tax credit of up to \$3,000 for each unemployed New Yorker hired for a new job. We must also replace New York's ineffective economic development efforts with a new strategy organized around regional industry clusters; reduce the high costs of doing business in the state; and support small businesses by increasing access to capital and streamlining regulatory barriers.
- 5. NY Leads.** New York has been a national leader in protecting and advancing individual rights and safeguarding the future of its citizens. To remain so, we must protect a woman's right to choose, achieve marriage equality, enact tough anti-discrimination laws, truly regulate Wall Street, attract the best and the brightest to government, leave our children a cleaner and greener world, and continue to oppose the death penalty.

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**The New NY Agenda**  

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**Power NY**



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## 5 TROUBLING ENERGY FACTS

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- 1.** New Yorkers pay nearly the highest energy costs in the nation. Residential electricity rates alone were 61 percent above the national average and second highest among the 13 most comparable states. Commercial rates were the highest among the same comparable states, and 65 percent above the national average.
- 2.** New York has experienced underinvestment in its energy infrastructures over the past decade (including natural gas, electricity, and oil) – keeping prices high, tightening supplies and leaving little margin for error.
- 3.** New York’s energy bureaucracy is complex with more than 20 entities administering different aspects of State energy policy.
- 4.** In 2004, 18 percent of New York’s energy came from renewable sources. The State’s goal is that 30 percent of its electricity would come from renewable sources by 2015. However, three years away from that deadline, New York has increased its share of renewable by only 4 percent—to 22 percent of the total.
- 5.** New York continues to experience high levels of transmission congestion rising from \$72 million in 2004 to \$243 million in 2008. As a result, New York electricity customers are prevented from buying power from the least expensive producers.

# 1

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## Power NY *Executive Summary*

**T**he generation of electrical power is an essential part of New York’s economy. New Yorkers need reasonably priced and reliable energy and governmental policies that affect our energy infrastructure affect every New Yorker. Consequently, New York’s energy policy must meet the interrelated goals of providing affordable and reliable energy, improving our environment and creating jobs and economic growth through energy policy as we transition to a more efficient, lower carbon and cleaner, greener energy economy.

In achieving these goals, our energy policy should be informed by the following guiding principles:

- **Affordability:** Even when pursuing other worthy goals, New York’s energy policy must take into account that New York’s energy rates are high relative to our neighbors and we must take steps that will serve to reduce energy costs.

- **Efficiency:** Measures that increase energy efficiency reduce energy costs, create jobs and economic growth and protect our environment. Because of the “win-win-win” nature of energy efficiency, these programs should be at the heart of New York’s energy policy.
- **Smart Transmission and Distribution:** Smart grid technologies and expanded transmission infrastructure can enable greater access to lower cost and renewable energy in places where it is hard to build low-cost generation, while being sensitive to the balance of interests of different regions. A smart-grid can distribute energy through a system in a way that lowers costs and conserves energy and supports economic growth.
- **Economic Development:** The transition to a more efficient and environmentally sustainable energy economy creates enormous opportunities for job creation and economic development. New York must be a leader in the new clean energy economy.
- **Environmental Quality:** Environmental quality and sustainability must be a prime consideration in New York’s energy policy. This means transitioning to cleaner fuels with less carbon emissions and renewable fuel

sources like wind and solar power and other alternative technologies.

- **Reliability:** New York must ensure that energy supply is reliable and dependable. Doing so means we also have to be prepared for emergencies—whether natural or otherwise.
- **Equity:** State energy policy must balance the goals and needs of New York’s diverse regions, neighborhoods and energy consumers. Equity demands that one region or neighborhood not bear most of the costs of a certain policy, while another receives most of the benefits.
- **Good Execution and Government’s Role:** State energy policy should, wherever possible, facilitate and encourage private sector investments that support our energy goals and these guiding principles. Where it is appropriate for government to take the lead in reaching our energy objectives, our State energy agencies must be focused, streamlined and coordinated to achieve the best execution of our energy policies.
- **Transparency and Accountability:** All governmental and quasi-public entities that are responsible for implementing energy policy in New York must be transparent in their activities and accountable to the public.

Andrew Cuomo’s Power NY Agenda is shaped by these guiding principles and offers concrete measures and proposals to achieve them. This Executive Summary highlights some of the challenges our energy policy must address.

***Affordability***

New Yorkers pay nearly the highest electricity, or “energy”, rates in the nation.<sup>1</sup> This limits the competitiveness of our business environment and places a significant burden on residents. According to a recent survey, New York’s residential electricity rates were 61 percent above the national average and second highest among the 13 most comparable states.<sup>2</sup> In the same year, New York’s commercial rates were the highest among the same comparable states, and 65 percent above the national average.<sup>3</sup>



***New Yorkers pay nearly the highest electricity, rates in the nation. New York’s residential electricity rates were 61 percent above the national average and commercial rates are 65 percent above the national average.***

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Our plans for improving energy policy in New York must take into account this high cost of energy. We should pursue policies that reduce the cost of energy while preparing for a time when fossil fuels will be even more expensive than they are today.

### ***Efficiency***

Improving energy efficiency is a “win-win-win” energy policy. It serves to reduce energy costs, stimulate job-creation and economic development and improve our environment.

Specifically, energy efficiency reduces the cost of energy in two distinct ways. First, energy efficiency initiatives such as building weatherization or more efficient lighting reduce costs by reducing the amount of energy used at the home, building or factory where the investment is made. In almost all cases, this savings results in a positive return on the investment in energy efficiency (e.g., the New York State Energy Research and Development Authority (“NYSERDA”) cites paybacks of 4.5 years for one of its key efficiency programs).<sup>4</sup>

Second, energy efficiency programs reduce the cost of energy for *all* energy users by lowering the total demand for energy in the market. Because of the nature of the law of “supply and demand” and New York’s competitive energy market, a reduction in the total demand for energy reduces the price that must be paid to suppliers for the delivery of energy, thereby saving all energy consumers money.

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***Energy efficiency programs reduce the cost of energy for all energy users by lowering the total demand for energy in the market.***

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New York has established an admirable goal for increased energy efficiency: a reduction in energy use by 15 percent by 2015 from what it would have been in the absence of efficiency measures.<sup>5</sup> But the State has not moved quickly enough to meet that goal.

There are a number of concrete steps that the State can take to accelerate the implementation of energy efficiency programs. Because of the positive return on investment that energy efficiency programs achieve, it makes sense to expand financing programs for energy efficiency improvements for both public

and private buildings. In addition, many believe that the PSC's micromanagement of energy efficiency programs unnecessarily delays implementation. This must be fixed. Finally, cost effective code enhancements—such as phasing in a requirement of efficient lighting for large office buildings—can significantly increase our energy efficiency.

***Smart Transmission and Distribution***

Another important step towards meeting New York's energy goals is to use our electric transmission system to import lower cost and predominantly renewable energy from the areas where it is produced to the areas where it is needed the most, as well as to export New York's renewable energy as

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***Transmission congestion prevents New York energy customers from buying and selling lower cost and green energy effectively.***

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part of a mutually beneficial relationship. Today, our transmission infrastructure faces significant bottleneck issues that not only hamper this mutually

beneficial flow of energy, but threaten the reliability of our energy supply. A recent federal Department of

Energy Report stated that New York is part of the nation that “continues to experience high levels of transmission congestion.”<sup>6</sup> As a result, New York energy customers are prevented from buying power from less expensive producers and from integrating new sources of renewable energy into the State’s supply.<sup>7</sup> Statewide, annual gross energy congestion costs—i.e. costs as a result of electricity transmission congestion—have risen from \$72 million in 2004 to \$243 million in 2008.<sup>8</sup>

There are several ways we can increase our transmission capacity. First, we should use cutting-edge cable technology to upgrade New York’s aging transmission infrastructure to carry more power on the existing transmission lines and towers.

Second, we should add new transmission capacity where necessary to meet our energy goals. An example of the type of transmission project that could meet our criteria is one that would build a transmission line that enables New York to purchase low-cost and renewable hydropower from Canada in the hot summer months (our peak usage time) while selling our excess energy—including unused wind

power—in Canada’s cold winter months. One of our priorities of our transmission policies should be to expand the market for wind power and other energy sources from Central and Western New York, thereby advancing both our renewable energy goals and economic development in that part of the State.

Our transmission policy must, however, be consistent with the guiding principles of *equity* and *environmental quality*, including fairly balancing regional concerns.

The way to achieve smart *distribution* of energy is what has come to be known as the “smart grid,” which is another important part of the Power NY Agenda. By increasing energy efficiency, the smart grid is another way to save consumers money and reduce energy costs.

The Federal Energy Regulatory Commission characterizes the smart grid as a system that applies “digital technologies to the [electrical] grid, and enable[s] real-time coordination of information from generation supply resources, demand resources, and distributed energy resources,” including both traditional and renewable sources of energy.<sup>9</sup> By

facilitating communication between every segment of our energy infrastructure, the smart grid enables the whole system to operate more efficiently and effectively, thereby reducing costs and increasing energy efficiency. The smart grid will also facilitate “distributed generation,” which increases energy capacity in a cost effective way.

***Economic Development***

The transition to a more efficient and environmentally sustainable energy economy offers enormous opportunities for job creation. Many energy efficiency programs have the advantage of creating jobs immediately for workers in construction and related trades that have been particularly hard



***The transition to a more efficient and environmentally sustainable energy economy offers enormous opportunities for job creation.***

hit by the economic slowdown. Achievement of the State’s other energy goals in a manner consistent with our guiding principles

offers even greater opportunities for long-term economic development.

With strong leadership and enlightened policies, New York can be a leader in this transition to a more efficient and greener energy economy. New York hosts major “cleantech” businesses such as General Electric and Corning that are leaders in sectors such as wind power, high tech glass insulation that improves energy efficiency, and the burgeoning field of battery technologies that can support electric and hybrid cars. Already, solar technology component manufacturers have set up operations in Western New York and the Hudson Valley, offering the prospect of a growing base of high-skilled jobs in solar energy.<sup>10</sup>

New York can accelerate the growth of our cleantech businesses by harnessing the power of our unparalleled higher education institutions and research facilities that are working at the forefront of energy research and development. An important element of the Power NY Agenda is ensuring that our industry and university efforts in pursuing clean energy are coordinated.

While new energy technologies offer the promise of creating new jobs and even industries

within the State, New York's use of the cheap hydropower under its control has significant implications for economic development, especially upstate. New York needs to enact a permanent Power for Jobs law that directs this power to the upstate businesses for which it was intended so that they have predictable, low-cost power on which to base their business decisions. As described below, another way to maximize economic development is to provide an efficient and equitable mechanism for siting new power generation facilities. New York needs a new power plant siting law that can help bring this form of economic development to the State.

### ***Environmental Quality***

Expanding the State's use of renewable fuels such as wind and solar power, as well as repowering power plants so that they operate more efficiently and produce fewer harmful emissions, reflect our commitment to environmental quality. In 2004, New York obtained 18 percent of its energy from renewable sources. Governor Pataki promised that New York would obtain 25 percent of its energy from renewable sources by 2013.<sup>11</sup> This target was later

raised to call for New York to obtain 30 percent of its energy from renewable sources by 2015.<sup>12</sup> These policies can have other important benefits for New York—the 2009 New York State Energy Plan estimated that 50,000 jobs would be created if renewable energy policies already embraced by State policy were implemented.<sup>13</sup>



***An estimated 50,000 jobs would be created if renewable energy policies already embraced by State policy were implemented.***

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New York's interest in increasing its use of renewable and sustainable fuels reflects a global trend caused by concerns about global warming, energy security and other environmental considerations. The recent disaster in the Gulf of Mexico arising from deepwater drilling is likely to accelerate the focus of policymakers worldwide on the need for a more environmentally sustainable source of energy. New York must become a leader in this regard.

As with energy efficiency, the State has laudable ambitions for the growth of renewable energy, but action has not matched the rhetoric. Three years from the “30 by 15” deadline, New York has increased its use of renewable fuels as a percentage of its total energy use by only 4 percent from when the target was set in 2004—to 22 percent of the total, the overwhelming majority of which is attributable to hydropower.

The Power NY Agenda offers a number of proposals for actually reaching the ambitious goals New York has set for renewable energy. It also calls for increasing the opportunities for use of solar power, which will enhance the growing solar industry in New York and is particularly suitable for the downstate region where other forms of renewable energy are less accessible. The Power NY Agenda also calls for a new power plant energy siting law, which can increase both renewable energy and the repowering of conventional power plants to reduce emissions.

Finally, an issue that affects both environmental quality and many other guiding

principles of our energy policy is the future of the Indian Point power plant. Andrew Cuomo has long been a supporter of closing the Indian Point nuclear power plant in Westchester and has argued that the federal government should not renew the plant's operating license when it expires in 2013. We must find and implement alternative sources of energy generation and transmission to replace the electricity now supplied by the Indian Point facility.

***Good Execution and Government's Role***

State energy policy should, wherever possible, facilitate and encourage private sector investments that advance our energy goals. Andrew Cuomo remains committed to the philosophy of encouraging greater market competition through the restructuring of energy markets that New York began in 1998. Indeed, this restructuring makes it all the more important for State government to effectively execute its vital role in developing and managing energy policy.

However, the State's energy bureaucracy—a labyrinth of regulatory bodies, state agencies and authorities and quasi-governmental bodies—has not

worked as effectively as it needs to. For example, many argue that the State’s central regulator, the Public Service Commission (“PSC”) often delays approval of noncontroversial and effective energy efficiency programs, has not taken all actions necessary to expedite investment in the Smart Grid and has failed to directly address the State’s transmission needs.



***The State’s energy bureaucracy—a labyrinth of regulatory bodies, state agencies and authorities and quasi-governmental bodies—has not worked as effectively as it needs to.***

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Other parts of the State’s energy bureaucracy have failed to seize the available opportunities as effectively as they should. To pick one example that is illustrative of a larger problem, the enrollment processes for many of the State’s energy efficiency programs administered by NYSERDA are reportedly overly complex and prone to lengthy delays, keeping many small businesses from taking advantage of these programs.<sup>14</sup>

One problem with the State’s energy management infrastructure is that it is balkanized among more than 20 entities that all have some role in administering State energy policy. This is symptomatic of the larger problem in our State government that led Andrew Cuomo to call for a plan to “Rightsize Government” in his New NY Agenda.<sup>15</sup>

The Power NY Agenda calls for improvements to our State energy bureaucracy, including reducing overlapping responsibilities and agencies as part of a broader goal of Rightsizing Government. In particular, the Spending and Government Efficiency Commission that Andrew Cuomo called for in The New NY Agenda should examine overlapping responsibilities and missions of NYPA, LIPA and NYSERDA and make recommendations for change.

### ***Transparency and Accountability***

It is vital that the State’s energy bureaucracy—as well as quasi-governmental bodies that play a central role in energy policy—be transparent in their activities and accountable to the public. This is true for all parts of our government, but it is especially important in the energy area, where governmental

decisions can create so many economic winners and losers. Only when there is transparency and accountability will the public have confidence that our energy policy serves the public interest.

The Power NY Agenda calls for increasing transparency and accountability by taking a fresh look at the policies and structure of the New York Independent System Operator (“NYISO”). NYISO is a private not-for-profit body that was formed pursuant to New York’s deregulation of its energy system more than a decade ago. NYISO operates the transmission grid in New York and sets the price paid for wholesale energy through a complex set of rules and programs. While the NYISO system has many strong advocates, it also has critics who maintain that it could be improved in ways that reduce electricity costs and enhance public confidence. A new Cuomo Administration will conduct an objective review of the NYISO to ensure that it is optimally structured to meet New York’s needs.

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The Power NY Agenda describes these issues in more detail and includes a series of strategic

initiatives that advances the guiding principles described above. These strategic initiatives and the tactical recommendations to implement them are presented in the following chapters of the Power NY Agenda: (1) Power NY: Executive Summary; (2) Background: the Structure of New York’s Energy Market; (3) Maximize Energy Efficiency; (4) Build the “Smart Grid;” (5) Use Energy Policy to Drive Economic Development; (6) Improve Environment Quality Through Renewables and Clean Energy; (7) Upgrade and Expand the Transmission Grid; and (8) Reform New York’s Energy Bureaucracy.



# 2

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## **Background:** *The Structure of New York's Energy Market*

**A**n appreciation of the current structure of New York's energy market is helpful to understand the strategic initiatives of the Power NY Agenda.

### *The Sources of New York State's Electrical Energy Supply*

Currently, New York State needs nearly 34,000 megawatts ("MW") of capacity to meet peak demand, although hourly demand exceeds 25,000 megawatt hours ("MWh") only about five percent of the hours in a typical year.<sup>16</sup> From 1998 through 2008, New York State's use of electricity grew on average by 1 percent each year.<sup>17</sup> In addition, statewide electric peak demand—the amount of electricity needed during the moments of highest demand –grew on average by 1.4 percent each year.<sup>18</sup> To meet this demand, approximately 7,600 MW have been added to New

York's in-state generation sources of electrical power since 2000.<sup>19</sup>

Although certain groups contend that with significant gains in efficiency New York's current sources of electricity will provide reliable power for close to another decade, without such gains, new supplies of electricity could be needed far sooner. The recent record heat wave, causing brownouts in New York City, illustrates that the "*far sooner*" is now.<sup>20</sup>

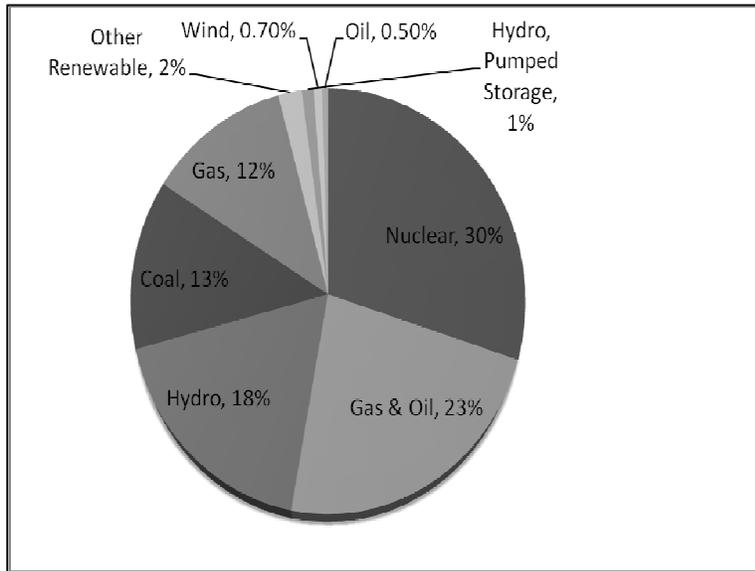
As discussed below, New York State is failing to achieve its efficiency goals by a wide margin. Moreover, new supply must be planned far in advance to ensure that it is available when consumer demand requires it. Accordingly, even if we are able to jumpstart critical and necessary improvements to our efficiency, the State will need substantial additional electricity generation in New York City and other areas within the next five to ten years.

Determining which types of generating capacity to be put in place is also an important question. Certain types of power (sometimes referred to as "baseload supply"), which in New York

are provided by nuclear, coal, natural gas and hydropower, are available in essentially the same amounts night and day and form the necessary foundation to meet large-scale demand. The State must ensure that its generation sources include both sufficient baseload supply as well as other sources that, although may be less consistent in producing electricity, supplement the baseload supply, such as wind turbines that produce greater amounts of electricity at night and under windier conditions.

The State currently relies upon a diverse mix of electricity generation sources, including natural gas, nuclear, coal, oil, hydro-electric, wind, and other renewables. In the last decade, natural gas has increased in importance as a source of New York's electricity, while coal and oil have declined.

**Chart 1. Sources of Electricity**



New York is a major hydroelectric power producer, and its hydroelectric generation is the highest of any State east of the Rocky Mountains. As shown in Chart 1, non-hydroelectric renewable energy sources currently contribute only minimally to the State’s power grid, although New York is one of the U.S.’s top generators of electricity from municipal solid waste and landfill gas.

In 2004, New York adopted its renewable portfolio standard (“RPS”) to encourage the development of renewable energy generation.<sup>21</sup> The

original RPS goal was to expand the amount of electricity produced by renewable resources to 25 percent of the State's electricity use by 2013. At the time it was adopted, approximately 18 percent of the State's electricity generation came from renewable resources. Today, only about 22 percent of the State's electricity generation is from renewable sources, and 90 percent of that power is drawn from hydro-electric.<sup>22</sup> In New York City alone, out of 10,400 MW of installed capacity, only 6 MW are now drawn from renewable sources.<sup>23</sup>

In January 2009, a new "45 by 15" renewable energy goal was announced,<sup>24</sup> under which the State would need to reduce its electricity end-use by 15 percent from what it would be in the absence of energy efficiency programs and meet 30 percent of its electricity needs from renewable resources by 2015.<sup>25</sup>

### ***High Demand for Electricity in NYC and LI***

Significantly, the areas with highest demand in the State are New York City and Long Island. In 2008, New York City and Long Island accounted for 47

percent of the total statewide electric energy demand.<sup>26</sup>



***New York City and Long Island account for 47 percent of the total statewide electric energy demand.***

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This means that, in order to meet the demands for power downstate, the electricity generated upstate typically flows towards southeast New York. The primary transmission lines across the State are separated by “interfaces” that can, when congestion increases, cause bottlenecks in transmission and higher electricity costs. As discussed in more detail below, the State’s need for adequate transmission infrastructure to bring electricity reliably to New York City and Long Island is one of the most critical challenges facing the State’s leadership.

### ***The Market Players***

After almost a century of vertically-integrated utilities, i.e. utilities controlling the generation, transmission, and distribution of electricity for their

specified regions, Congress passed the Energy Policy Act<sup>27</sup> in 1992 to open up wholesale electricity markets to new, non-utility power generators with the goal of increasing competition and ultimately reducing retail prices.

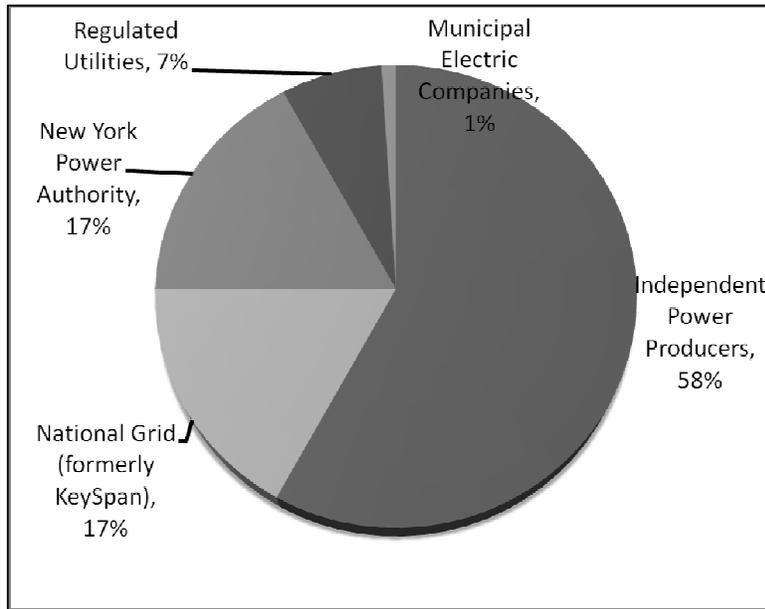
In 1996, the Federal Energy Regulatory Commission (“FERC”) issued Order 888,<sup>28</sup> which required all utilities that owned or operated transmission lines to allow their competitors that generated power to use those lines at non-discriminatory rates. That Order led to the creation of Independent System Operators (“ISOs”) in many states to help create and facilitate a competitive wholesale market for power.

In 1998, New York began restructuring its electricity markets with a goal of achieving greater competition for consumers and encouraging new private investments in power generation.<sup>29</sup> In 1999, New York created its own ISO, the New York Independent System Operator (“NYISO”).<sup>30</sup> NYISO oversees the operation of the State’s high voltage transmission system, administers the purchase and sale of electricity, and schedules and dispatches

power plants throughout New York to ensure that the State's power needs are met in real-time. Through the NYISO market, generation companies and load serving entities (i.e., investor-owned utilities and energy service companies) bid to buy or sell electricity and related services. The NYISO sets the price these entities will pay for electricity at any moment taking into account supply and demand, system constraints and other factors.

The electricity industry in New York is now comprised of a diverse set of entities serving different yet sometimes overlapping functions: regulated investor-owned utilities, public authorities such as NYPA<sup>31</sup> and LIPA,<sup>32</sup> private electricity generation companies known as independent power producers, and energy service companies or "ESCOs" that provide retail electricity services to consumers. Chart 2 shows the breakdown of power generation sources in New York State among these different entities.

**CHART 2. Who Provides NY's Electricity?**



The transmission and distribution of electricity is conducted on a statewide system of high-voltage power lines referred to as “the grid,” regulated by the PSC and the Federal Energy Regulatory Commission (“FERC”). As with power generation, the function of transmission and distribution in New York is performed by a mix of major investor-owned utilities, as well as by NYPA and LIPA. Such investor-owned utilities include National Grid, Central Hudson Gas & Electric Corp., Consolidated Edison Company of NY Inc., Orange & Rockland Utilities Inc., New York State

Electric & Gas Corp., and Rochester Gas & Electric Corp. Several small municipal and rural electric systems, primarily located upstate, also own distribution systems. In addition, small-scale producers of electrical power at or near the point of use—which is referred to as distributed generation—are in certain circumstances able to connect to the grid not only to purchase additional power for their own use but also to sell excess power back into the grid for others' use.

### **New York State's Complex and Overlapping Energy Bureaucracy**

New York has a complex energy bureaucracy that oversees its electricity markets and administers many of the efficiency and other programs related to energy. Retail sales made by investor-owned utilities are regulated by the PSC.<sup>33</sup> As part of its statutory obligation, the PSC “has a broad mandate to ensure that all New Yorkers have access to *reliable* and *low-cost* utility services.”<sup>34</sup>

The PSC sets utility retail rates for gas and electricity, reviews and permits the siting of major

gas and electric transmission facilities, monitors service quality, and ensures the safety of natural gas and liquid petroleum pipelines. The PSC has no regulatory jurisdiction over NYPA and LIPA, both of which are effectively regulated by their government appointed Trustees.

Moreover, the PSC must approve all requests by investor-owned utilities for reimbursement for various types of expenditures, including energy efficiency programs, infrastructure maintenance, and other improvements to the energy system. Complaints of the PSC include delays—over a decade in some cases—in acting on utility customer complaints and failure to perform its mandated duties with maximum effectiveness.<sup>35</sup> For example, many believe that New York’s relatively slow progress in meeting its Energy Efficiency Portfolio Standard (“EEPS”) benchmarks has been caused at least in part by micromanagement and administrative delays of the PSC and its Department of Public Service (“DPS”) to which NYSERDA and utilities seeking to implement efficiency programs are subjected.<sup>36</sup> All administrative proceedings before the PSC are

conducted by an independent administrative law judge who sets the schedule, administers the hearing process, and recommends policy rulings to the PSC for adoption. DPS staff represents all ratepayers and the public interest in Commission proceedings, sets service and operating standards for utilities, and administers regulations issued by the PSC.

The NYISO operates several energy markets in the State, including clearing price auctions to set the price of energy and so-called “capacity” charges. Capacity markets are intended to reflect the value of generating capacity, which will be needed throughout the day and at peak times, by requiring utilities to pay energy generators an amount set by auction for making their capacity available when needed.<sup>37</sup>

In New York, as in most other states, energy prices are set by what is known as a “uniform clearing price” (sometimes called the “market clearing price”) auction managed by the NYISO under which all suppliers receive the same market-clearing price paid to the supplier with the highest bid needed to “clear” the market of the amount of energy needed at a particular point in time. The bids made by market

participants are not disclosed for a significant period of time after the auction (although this period was recently shortened by NYISO) and the identity of the bidders is never disclosed. The arguments for and against aspects of this system are discussed in Chapter 8 of the Power NY Agenda.

NYPA is a public-benefit corporation that provides low-cost electricity to government agencies, community-owned electric systems, rural electric cooperatives, private utilities (for resale without profit) and neighboring states, for the purpose of promoting economic and job development, energy efficiency, environmental and safety initiatives.<sup>38</sup> NYPA currently operates 17 generating facilities and approximately 1,400 circuit miles of transmission lines.<sup>39</sup>

LIPA is a public authority, authorized and created in 1985 under the Long Island Power Act.<sup>40</sup> LIPA became Long Island's primary electric service provider in 1998.<sup>41</sup> Although LIPA no longer directly provides electric or gas service to Long Island, it establishes policies for the management and operations of the electric system, sets electric rates,

and issues debt as necessary to fund the electric system.<sup>42</sup> All retail electric and gas service to Long Island, as well operations and maintenance is currently provided by National Grid, formerly KeySpan Corporation, under contract with LIPA.<sup>43</sup>

Another State authority, NYSERDA, also plays a critical role in the State's energy policy, administering the bulk of the State's efficiency and renewable energy programs. Created in 1975, NYSERDA's earliest efforts focused solely on research and development.<sup>44</sup> Today, NYSERDA not only conducts research but also receives the majority of the funds collected from rate payers through the roughly \$175 million a year in System Benefits Charges ("SBC") for energy efficiency and the roughly \$100 million a year in "Renewable Portfolio Standard" ("RPS") surcharge that is used to support renewable energy.

In addition to these entities, many other State agencies play some role in administering different aspects of the State's approach to energy policy.

One of the critical challenges that will be faced by the next governor of New York is how best to streamline and integrate the roles of these numerous

regulatory bodies, agencies and authorities, as well as NYISO, to ensure that when it comes to ensuring affordable energy, increasing energy efficiency, developing clean energy, and fostering job creation and economic development, New York speaks with one clear voice and achieves its objectives without bureaucratic delays, turf wars, or excessive costs.

**Table 1. NY Agencies and Authorities That Administer Parts of the State’s Energy Policy**

New York Power Authority
Long Island Power Authority
New York State Energy Research and Development Authority
New York State Public Service Commission (Department of Public Service)
New York Independent System Operator <sup>45</sup>
New York State Department of Environmental Conservation
New York State Department of State
Empire State Development Corporation
Dormitory Authority of New York State of New York
New York State Department of Housing and Community Renewal
New York State Department of Transportation
New York City School Construction Authority
New York State Department of Education
State University of New York
City University of New York
New York State Department of Health
New York State Department of Agriculture and Markets
New York State Office of General Services
New York State Consumer Protection Board
New York State Office Temporary and Disability Assistance

# 3

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## **Maximize Energy Efficiency** *A “Win-Win-Win” Way to Lower Energy Costs, Create Jobs and Improve the Environment*

**E**xperts agree that investments in effective energy efficiency programs are a win-win-win for the State, lowering costs for consumers and businesses, creating jobs and economic development, and improving the environment. The benefits of gains in efficiency that reduce demand for electricity are well documented:

- Energy efficiency investments reduce the amount of energy used by the homeowner, business, or public facility that is undertaking the energy efficiency program. Depending on the type of investment, energy efficiency initiatives produce a strong positive return on investment with average payback periods of 4.5 years for a typical investment supported by NYSERDA,<sup>46</sup> with some initiatives such as smart lighting systems providing an even faster payback.<sup>47</sup>
- What may be less obvious is that energy efficiency reduces the cost of electricity for

*all* energy users, not just those making the efficiency investment. This is because the cheapest power plant is the power plant that doesn't need to be built because overall demand has been reduced through efficiency programs. By reducing the need for new power plants or investments in transmission and other infrastructure, greater efficiency lowers the cost of electricity for all users of electricity.

According to economic models used in the New York State Energy Plan, the effect of reducing energy demand by 15 percent from trend line levels by 2015 would result in a decrease in average wholesale electricity prices by 10 percent below the value they would otherwise be—a benefit to *all* consumers of roughly \$4 billion annually given the forecasted level of energy purchases in New York State.<sup>48</sup>

- Efficiency gains reduce harmful emissions in two ways. Less power used means less pollution from the power plant that makes that power. In addition, postponing the need for the construction of new fossil-fuel fired generation allows time to develop and enhance the low-carbon-intensity electric generation technology necessary to reduce greenhouse gas emissions. A recent study by McKinsey & Co. found that up to 870 megatons in greenhouse gas (“GHG”) emissions could be prevented nationally by

2030 through energy efficiency improvements at a *negative cost* over the useful life of the improvements, i.e., the economic benefit outweighs the costs.<sup>49</sup>

- Investments in efficiency improvements such as building weatherization and better energy use by apartments and office buildings can lead to thousands of jobs across multiple sectors and boost the State's economy.



***Reducing energy demand by 15 percent from trend line levels by 2015 would result in a decrease in average wholesale electricity prices by 10 percent below the value they would otherwise be...***

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The following are the Power NY Agenda's recommendations for maximizing energy efficiency in New York.

### **Increase the Availability of Financing for Energy Efficiency Investments**

There are two major strategies that should be used to increase financing for energy efficiency projects so that we can dramatically accelerate our

progress in achieving greater energy efficiency. The first is what is known as Property Assessed Clean Energy (“PACE”) financing and the second is known as “on-bill recovery” financing. In both strategies, up-front financing is provided to pay for the cost of the energy efficiency improvement, which is then paid back with a portion of the energy savings. Because the annual payments to repay the financing are lower than the annual energy cost savings from the efficiency improvement, the party repaying the financing receives immediate savings from the energy efficiency improvement.

### ***PACE Financing***

PACE programs eliminate up-front costs for energy improvements by allowing property owners to pay for improvements over a 15 to 20 year period through a small increase in annual property tax payments—an increase that is designed to be less than the annual savings from lower energy costs.<sup>50</sup>

Here is how a PACE program works. A municipality will provide financing to a homeowner or operator of a multi-family housing unit for the

energy efficiency improvements, with funding provided by either federal grant assistance or municipal bonds. The PACE loans are repaid over an extended period of time that matches the useful life of the measures installed (usually 15 to 20 years) through a separate charge on the property owner's tax bill that is less than the energy savings realized annually by the homeowner or apartment owner. Because the obligation "runs" with the property, owners can finance measures with payback periods that last beyond their individual ownership of the property.<sup>51</sup> In most case, the savings are 20 to 40 percent of the energy bill, producing a payback period that is far shorter than the maturity of the PACE loan.<sup>52</sup>

In November 2009, a new law was signed allowing counties, towns, cities and villages to offer sustainable energy loan programs to pay for energy audits, cost-effective, permanent energy efficiency improvements, renewable energy feasibility studies and the installation of renewable energy systems.<sup>53</sup> This spring, the U.S. Department of Energy awarded New York communities \$40 million in federal

stimulus funds to help property owners implement energy efficiency and small-scale clean energy projects. These federal funds will be used to support PACE financing programs by municipalities. However, PACE legislation in New York should be further expanded to include other forms of funding, including state and municipal bond funds and private capital.<sup>54</sup>

The use of PACE municipal bond financing could be stimulated dramatically if the U.S. Congress approves legislation that would authorize the Department of Energy to provide a 100 percent federal loan guarantee to localities' PACE programs.<sup>55</sup> That guarantee would lower interest rates significantly and thus extend the reach of the program in New York State. If Congress has not passed that legislation before 2011, our next governor must advocate aggressively for its passage in Washington in order to increase energy efficiency and bring much-needed jobs to this State.

In addition, a significant obstacle to the widespread use of PACE financing must be addressed in Washington with the assistance of the next

governor of New York. When PACE financing is granted to a property owner, the lender is granted a senior tax lien on the property benefited by the loan. Recently, Freddie Mac and Fannie Mae have stated that such energy-related liens may not be senior to any mortgage delivered to Freddie Mac. As a result, there is concern that mortgage lenders may now start requiring that the liens be paid off before issuing a new mortgage loan.<sup>56</sup> This policy is misguided, especially at a time when our economy is weak and badly needs the economic stimulus that investments in energy efficiency would provide. Our Congressional delegation should work with the Obama Administration to resolve this issue immediately so that PACE financing programs for homeowners can continue.

### ***“On-Bill” Recovery Financing***

The way that “on-bill” recovery financing works is that utilities or ESCOs provide up-front financing for efficiency measures that is repaid by the customer through a surcharge on his or her monthly electric bill. As with PACE financings, the amount of

the surcharge is designed to be lower than the projected monthly savings from the energy efficiency improvements so that the customer realizes immediate savings in energy costs.

In 2008, the PSC authorized the use of on-bill recovery, noting that it “can eliminate a major barrier to participation in energy efficiency programs for customers that lack the necessary access to capital,” and “can, in the long-run, reduce reliance on ratepayer-funded programs to achieve the State’s efficiency goals, thereby mitigating any disparities between total bills of participants and non-participants.”<sup>57</sup>

In a pilot program run by National Grid, numerous benefits—but also some hurdles to implementation—were identified. Among the benefits of on-bill recovery were indications that third-party financing could be fairly readily obtained for such improvements at below-market rates for customers. To fully take advantage of this opportunity, however, the State must work with utilities to address several concerns that have arisen. These concerns include whether the on-bill recovery

debt obligation “runs with the meter” (and so will be picked up by a subsequent homeowner) or is solely the obligation of the customer, and the circumstances under which service can be cut off if a customer fails to pay the on-bill recovery surcharge.<sup>58</sup>

While certain utilities have considered on-bill financing for efficiency improvements to be useful if designed properly, others have resisted these programs based on concerns about the cost of upgrading billing systems to facilitate on-bill financing and the potential liability for losses if the customer fails to pay his or her utility bill. These challenges are real, but do not outweigh the substantial benefits to New York of significantly increasing our energy efficiency. As Governor, Andrew Cuomo will ensure that these types of problems are solved and not allowed to derail the “win-win-win” benefits of energy efficiency improvements.

## **Accelerate Energy Efficiency Improvements to Public Buildings by Leveraging State Funds with Private Capital and/or Federal Guarantees**

New York has failed to tackle energy efficiency improvements in its public buildings on the scale that is necessary to achieve our ambitious goals. One study found that just 12 percent of the floor area of state government facilities had been retrofitted for efficiency improvements between 2001 and 2008.<sup>59</sup> Even where efficiency renovations have occurred, they have rarely gone beyond lighting measures.

An analysis conducted by Lawrence Berkeley National Labs indicated that remaining energy efficiency opportunities in larger facilities in the national “MUSH” markets—municipal and state government buildings, universities and colleges, K-12 schools, and hospitals—could support tens of billions of dollars in additional energy efficiency investment. With roughly 10 percent of that opportunity located in New York the opportunity for additional efficiency improvements with a positive return on investment is large.<sup>60</sup>

Executive Order 111<sup>61</sup> requires, among other things, that State agencies reduce energy consumption in both their buildings and vehicles, and tasked NYSERDA with responsibility for assisting those agencies with meeting the requirements.<sup>62</sup> Some agencies have had some success, but most have not and, significantly, there is no reliable data to measure their performance.

One reason New York has not moved more aggressively to implement efficiency retrofits in public buildings is simply the lack of availability of financing.

New York should explore several strategies to attract private capital so that available State funds can stretch further to finance energy efficiency improvements. First, the State should explore using some of the money that it currently issues in grants to establish a reserve fund for private capital that is made available for energy efficiency investments. This could significantly increase the amount of private capital available and leverage State dollars.

An even more attractive idea from the State's perspective would be federal guarantees of State debt

used to finance energy efficiency programs that met certain criteria and a positive return on investment. Given the long and demonstrated record of energy efficiency programs paying for themselves with energy cost savings, encouraging states to accelerate their efforts in this area would be one of the most cost effective ways for the federal government to stimulate the economy and realize the Obama Administration's own energy goals.

### **Use Code Enhancements to Improve Energy Efficiency**

Code enhancements for buildings and appliances can also result in significant energy efficiency improvements. For example, nearly 20 percent of New York City's total energy use is used for lighting. Installing energy-efficient lighting can significantly reduce that amount. The U.S. Department of Energy has indicated that it would provide additional funding for energy efficiency programs to states whose building energy code standards for residential buildings equal or exceed certain international standards. New York State

should review its Energy Code and other code requirements to phase in over time cost effective code enhancements that can meaningfully improve our energy efficiency.

### **Optimize the Mix of Efficiency Efforts Conducted by Utilities and Public Authorities**

Some believe that one way to increase the number of efficiency projects in private homes is to move further away from our “central procurement model” under which most efficiency initiatives are implemented by NYSERDA and other State authorities to a more distributed approach in which utilities play a greater role. Other states rely almost exclusively on private utilities to manage efficiency programs by having regulatory bodies mandate energy efficiency goals for utilities to meet while providing incentives and penalties to ensure utilities’ performance.<sup>63</sup> The results of that approach have, by some accounts, been better than New York’s due, in large part, to the streamlined and aggressively marketed process that using a multitude of private parties allows.<sup>64</sup>

As with other aspects of government, Andrew Cuomo will put in place a strong performance management system, with clear metrics and measures of success for both State authorities charged with energy efficiency and the private utilities and other energy companies who are also implementing efficiency programs. This objective approach will enable the State to determine the optimum mix of using State authorities and private sector participants to implement our energy efficiency policies.

# 4

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## **Build the “Smart Grid”** *Empowering Customers to Reduce their Energy Costs and Increase Efficiency*

One of the most promising ways we can empower customers to lower their energy costs while achieving greater energy efficiency is what has come to be known as a “smart grid.” The Federal Energy Regulatory Commission characterizes the smart grid as a system that applies “digital technologies to the [electrical] grid, and enable[s] real-time coordination of information from generation supply resources, demand resources, and distributed energy resources,” including both traditional and renewable sources of energy.<sup>65</sup> By facilitating communications between every segment of our energy infrastructure, the smart grid can make the whole system operate more efficiently and effectively—thereby reducing costs for all energy users.

To the customer, a smart grid will mean easy and immediate access to choices and information that

can lower his or her energy costs significantly. For example, through smart grid technology a homeowner could inform a utility that he or she wishes to run a dishwasher every other evening at the lowest possible cost, an air conditioner only when the heat rises to a certain degree and during certain hours, and other appliances using similar parameters. Each of these “smart appliances”—technology that is already available to consumers through appliance manufacturers—will be able to communicate directly with the utility’s command center and receive instructions from the utility based upon the consumer’s stated preferences.<sup>66</sup> Using those preferences, the utility will then be able (subject to changes in State law that contains appropriate protections for consumers) to run or “cycle” each appliance at those times that provide the consumer with the lowest cost and the lowest electricity usage possible.

Smart meters are a significant part, though certainly not the most significant part, of the smart grid of the future. By monitoring energy usage, customers and providers can make educated

decisions on the best use of resources. A test project by the Pacific Northwest National Laboratory provided 112 homes with real-time electricity price information through advanced meters and programmable thermostats. The test participants saved approximately 10 percent on their energy bills and most wanted to keep the appliances when the test period had finished.<sup>67</sup> By giving consumers real-time information about their energy costs, smart meters can empower them to manage their household energy use to reduce their costs.



***Northwest National Laboratory smart grid test participants saved approximately 10 percent on their energy bills and most wanted to keep the appliances when the test period had finished.***

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A smart grid also will permit utilities to charge less for electricity during off-peak hours, which allows consumers to save money by using electricity during those hours while reducing energy usage at peak times.<sup>68</sup> Consumers could, for example, receive

instant e-mails or texts from their utilities indicating when the rate for electricity usage has reached its lowest point and could use that information to run their appliances or charge their plug-in car. Such real-time pricing information, combined with pricing that rewards consumers for their decisions with lower costs, benefits both consumers and the State.

Further, a smart grid allows excess energy from companies and homeowners that produce their own electricity (known as distributed generation) to connect more easily to the grid and sell their excess power to other customers. This, in turn, will help encourage greater renewable energy generation. The cumulative result of these smart grid developments is expected to be far greater efficiency in our production and use of energy.

Finally, smart grid technology will allow utilities to obtain real-time information remotely from a customer's home or business to facilitate more timely and effective repairs and upgrades. Currently, when a customer complains of a problem with electricity service, the utility must send out a technician to assess the nature of the problem and

repair it. With a smart grid, the utility will be able to diagnose many problems remotely and instantly, and even repair some of them without the added delay, cost, and emissions associated with sending a repair truck to the site. For this and other reasons, the smart grid will significantly improve customer service.

The American Recovery and Reinvestment Act recently made \$4.5 billion available through the U.S. Department of Energy for smart grid initiatives. New York has received several grants, including \$37.8 million to NYISO for a statewide phasor measurement network and capacitor banks—state-of-the-art technologies that measure electricity flow on the grid and store such electricity—to enhance the reliability and efficiency of the grid.<sup>69</sup>

New York has been slowly inching its way towards exploration of the smart grid. In 2008, a Smart Grid Consortium of utilities and other major stakeholders was founded in New York State to bring smart grid technology to the State.<sup>70</sup> Con Ed launched a smart meter test program in Queens in 2009.<sup>71</sup> In April of 2010, the State was awarded \$4.975 million

to train electrical workers in the State on smart grid technologies, and National Grid was awarded \$2.19 million for training materials for its workforce in New York and Massachusetts.<sup>72</sup> However, New York must move beyond these small pilot programs and take meaningful steps to build the smart grid.

### **Ensure that the PSC Promptly Approves and Facilitates Smart Grid Projects**

So far, most of the implementation work to create a true smart grid for New York State has yet to be done.<sup>73</sup> The PSC has been slow to approve and facilitate even most pilot projects proposed by utilities, much less large-scale implementation of technologies that are already available. While New York State remains in planning stages, California, Texas, and Massachusetts have moved forward with smart grid implementation in dramatic ways.

California's primary utilities, SCE, SDGE and PG&E, have each developed best practice studies and frameworks for implementing a smart grid and have started rolling out smart meters to customers.<sup>74</sup>

In Texas, CenterPoint Energy, Oncor, and Austin Energy are at the forefront of smart grid initiatives.<sup>75</sup> Austin Energy, over a period of five years, completed the first stage of its smart grid program, which consisted of distributing 500,000 devices (thermostats, smart meters, sensors, computers, servers and network gear).<sup>76</sup> The second phase is called the “Pecan Street Project” and consists of integrating consumer assets like distributed generation, electric storage, electric vehicles, and smart appliances into the grid.

In Massachusetts, National Grid is commencing implementation of advanced smart grid technologies in the Worcester area, including an extensive two-way communication interface between consumers and the utility to facilitate the consumers’ control over their electricity usage, and, in turn, over their energy expenses.<sup>77</sup>

If it can overcome its slow start, New York has several strategic advantages in the movement toward a smart grid. Among these is the fact that New York is the home of the “Smart Grid Consortium,” including five DOE Energy Frontier Research Centers, GE and

IBM research facilities, NYSTAR and NYSERDA, and numerous academic research centers that focus on energy. All of these entities are working on projects that have some application to smart grid technologies.

The State should work with the utilities to approve and implement a smart grid statewide as soon as is practicable. By 2020, every one of the State's ratepaying homes and buildings should be part of a smart grid in which consumers can use the information and choices provided to lower their own costs and save electricity.



***By 2020, every one of the State's ratepaying homes and buildings should be part of a smart grid in which consumers can use the information and choices provided to lower their own costs and save electricity.***

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With the right leadership, the smart grid can make a real difference in the lives of New Yorkers, empowering individuals to manage their energy needs and lowering their costs. It will also mean a more stable, better managed electricity grid that will

require less total capacity. As such, the smart grid fits perfectly with several of our most important guiding principles—affordability, efficiency and reliability—and is therefore a key element of the Power NY Agenda.



# 5

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## **Use Energy Policy to Drive Economic Development**

### ***Make New York a Leader in the New Cleantech Economy and Use Low Cost Power to Create and Preserve Jobs***

**N**ew York's energy policy plays a direct and important role in economic development in three fundamental ways. First, the global transition to a more efficient and greener energy economy presents tremendous opportunities to create new jobs and even new industries. Second, the low cost hydropower that is produced principally in Niagara Falls and the North Country and managed for the benefit of the public by NYPA is a powerful tool for creating and retaining jobs. Third, generation of electricity in New York State creates jobs and economic activity while strengthening the tax base here.

The Power NY Agenda describes how New York can take advantage of each of these opportunities so that energy policy is a significant

part of our job creation and economic development strategy.

### **Make Cleantech a Priority in Our Economic Development Efforts**

Cleantech is the term sometimes used to describe the range of new technologies being developed to transition the United States toward a greener and more efficient use of energy resources. As described above in “Maximize Energy Efficiency,” the State’s drive to improve energy efficiency can result in significant job creation and economic development through relatively low technology means. New York may have an even greater opportunity to create jobs in the long-run by becoming the leader in emerging technologies that promise to transform our energy economy.

#### ***Support Cleantech Businesses***

In early 2010, General Electric Co. opened a new global headquarters in Schenectady, New York. GE’s new campus, now one of the greenest buildings in the Capitol Region after a \$45 million renovation of an existing facility, is not only home to GE’s

renewable energy global headquarters, but also to its remote operations center where technicians monitor GE's active wind turbines around the country.

As part of the 2009 American Recovery and Reinvestment Act, GE was awarded a tax credit in the amount of \$25.5 million to add a manufacturing facility to its Schenectady headquarters for the development and manufacture of battery technologies for the next generation of electric cars. In addition to creating 350 new jobs, the battery facility will eventually produce approximately 10 million cells capable of generating 900 MWh of energy per year. At the plant's full capacity, the battery power generated at the GE facility will power approximately 45,000 plug-in hybrid electric vehicles with an 80-mile range or will provide enough energy to support 1,000 GE Evolution® Series hybrid locomotives.

Globe Specialty Metals, Inc. in Niagara Falls, New York, is a good example of how New York Companies are participating in the solar power industry. Globe develops and manufactures metallurgical and solar grade silicon and will produce approximately 4,000

tons of silicon annually for the solar cell industry.<sup>78</sup> In addition, Globe will set aside 25 percent of its solar silicon production for the help bring new solar panel manufacturers to New York State.

Already, solar technology component manufacturers have set up operations in the Hudson Valley with the goal of establishing a growing base of high-skilled jobs in solar energy.<sup>79</sup> The Hudson Valley Photovoltaic Alliance, part of the Hudson Valley Economic Development Corporation, represents a consortium of solar development companies in the Hudson Valley, facilitates cooperation among companies and resources such as IBM, GE Global Research, and Rensselaer Polytechnic Institute, and provides training resources for smaller companies and the local workforce.<sup>80</sup> In addition, The Solar Energy Consortium (“TSEC”), a not-for-profit organization, seeks to build the Hudson Valley cluster of solar energy businesses and promote solar energy.<sup>81</sup> With these resources, new solar tech companies are generating new opportunities for the creation of jobs and advancements in clean energy technology.

## ***Harness the Cleantech Research of New York's Universities and Research Institutions***

The State has an incredible wealth of higher education institutions and research facilities that are working at the forefront of energy research and development. The newly created NY Battery and Energy Storage Technology (“BEST”) Consortium of businesses, universities and the State seeks to build upon the State’s already significant battery technology research cluster. The hope is that BEST can emulate the State’s successful nanotechnology research cluster that now runs from the Hudson Valley through Albany to the new \$4 billion fabrication facility under construction in Malta, New York.

This year, research institutions in New York State, led by Syracuse University, have applied to the U.S. Department of Energy to be awarded one or more of the new federal research centers devoted to clean energy under the Energy Regional Innovation Cluster (“E-RIC”) program, in “green” building systems design and solar technology, respectively.<sup>82</sup>

The E-RIC competition is a good illustration of how important State energy policy is to securing New York's position as a leader in the Cleantech economy. As it did in education with the "Race to the Top" competition, the Obama administration is seeking to use its awards of energy funding to incentivize state policies that it supports. Accordingly, New York's commitment to green energy policies will be an important factor in winning this competition to become one of the E-RIC centers. If awarded one of these centers, New York State will be positioned to translate promising research and development into a generator for high-quality jobs.

The New York Energy Policy Institute, launched in late 2009, will bring together 18 of New York's academic research centers to support interdisciplinary energy research, technology, and policy analysis and provide guidance for the State's energy policy makers.<sup>83</sup> In addition, NYSERDA has several programs that invest in late-stage clean energy technology companies to help bring products to market and incentivize manufacturing in the State.

The Power NY Agenda will continue and expand these initiatives.

### **Use New York's Valuable Low Cost Power to Create and Retain Jobs and Spur Economic Development**

New York State produces a substantial amount of low cost hydropower through NYPA for the benefit of the public. While some of this power is used to reduce residential energy bills, the balance is used for economic development through several different programs, the most important of which is the Power for Jobs program.

The Power for Jobs ("PFJ") program provides low-cost energy to job-creating businesses and non-profits across New York State. Created over a decade ago, PFJ supplies low-cost power or cash rebates to companies that retain and create jobs. However, the program expired in June of this year and hundreds of businesses and non-profit companies have lost access to discounted power, or cash rebates that reduce utility bills. Although this power was intended to be used to create jobs upstate, where the low cost power

is generated, a portion of this valuable asset has been diverted to support a range of activities, including not-for-profits, instead of being used to preserve upstate manufacturing jobs, where the cost of energy is critical to competitiveness.

The program, which must be reauthorized annually, has been extended on an annual basis for the last five years. This approach has not served anyone well. During this time, the programs have not been open to participation by new businesses and existing beneficiaries have been reluctant to invest in their facilities without the assurance that the benefits will continue for multiple years. The year-to-year extensions have also hampered NYPA's ability to effectively administer the programs and execute long term budgeting and hedging strategies. In addition, the last incarnation of the PFJ program lacked critical incentives to reward participating companies that increase their energy efficiency, thereby saving valuable energy and resources not only for themselves, but also for all New Yorkers.

Under the Power NY Agenda, the PFJ program will be reformed to ensure predictability and stability

of supply with long-term contracts and will incorporate efficiency incentives to reward such improvements. This will ensure that businesses can invest with confidence that this program will continue to be available to them and encourage efficiency programs. But given the current deadlock over reforms to the PFJ program, it is vital that, at the very least, the Legislature extend the program for another year while permanent reforms are being developed by a new administration.

New York imports approximately 19,000 MWh of power each year.<sup>84</sup> While New York should continue to import power when it lowers energy costs and improves the environment, in many cases these goals can be achieved through power generated in New York. Our policies should support local generation when it is cost competitive and meets our environmental goals, since New York power generation creates jobs and economic activity and supports our State and local tax base.



# 6

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## **Improve Environment Quality Through Renewables and Clean Energy** *Expand Wind and Solar Power and Repower Old Plants to Make them Cleaner and More Efficient*

**T**he programs and initiatives described in “Maximize Energy Efficiency” above will reduce the need for additional power generating capacity. But even with that reduced demand, New York State will need new generation capacity to ensure reliability and support an economy that increasingly relies on electric power, as well as to improve environmental quality.

A significant portion of new generation capacity should come from renewable energy, which is key to improving environmental quality. Each form of renewable energy presents specific benefits and challenges. On-shore wind power is generally cost competitive, but its greatest output often comes when demand is low. Solar-photovoltaic (“PV”) systems are the most useful in densely populated areas and

produce the greatest output during peak usage times, but solar-PV remains relatively costly in certain circumstances.<sup>85</sup> However, by using all of these renewable power sources strategically and in tandem, New York can meet its energy objectives while creating thousands of new, high-quality jobs.

As noted earlier, New York has made bold promises to increase the share of our energy supply that comes from renewable sources, but our rhetoric has not been matched by action. The Power NY Agenda describes how we can meet these worthy goals with effective leadership and innovative policies. Achieving these goals will also help to create jobs and spur economic development. For example, the 2009 New York State Energy Plan estimated that 50,000 jobs would be created when renewable energy policies already embraced by State policy are implemented.<sup>86</sup>

However, even as the State increases its use of renewable energy, it must ensure that it has a sufficient supply of electrical power that can be dispatched when needed at any time—a quality that wind and solar power do not yet have because they

generate electricity only when those resources are available. More conventional technologies, including the latest combined cycle natural gas power plants, can serve this need for more “baseload” capacity while being more efficient and environmentally friendly than the power plants they replace or “repower.”

### **Make New York the Nation’s Leader in Wind Power**

Wind is the most promising renewable resource for large-scale energy generation in New York. While up-front costs remain significant, recent developments in wind power generation technology—including increases in the size of available turbines—have substantially lowered such costs.<sup>87</sup> Over the last 20 years, the cost of electricity from utility-scale wind systems has dropped by more than 80 percent. In the early 1980s, when the first utility-scale turbines were installed, wind-generated electricity cost as much as 30 cents per kilowatt-hour. Now, with the support of the federal production tax credit for wind power generation, state-of-the-art

wind power plants can generate electricity for less than 5 cents/kWh, a price that is competitive with new gas-fired power plants. The next generation of wind turbine technology is expected to lower this cost even further.

Unfortunately, in recent years some unscrupulous developers of wind power engaged in unethical and illegal behavior. That's why, as Attorney General, Andrew Cuomo established a Wind Industry Ethics Code ("Code").<sup>88</sup> The Attorney General's Code prohibits conflicts of interest between municipal officials and wind energy companies and establishes public disclosure requirements on wind companies. This code is the result of investigations of the relationship between wind energy companies and local government officials who control local zoning and land use decisions. The Code is monitored by a Wind Energy Task force made up of representatives of local government, good government advocates and the wind industry.

The robust development of wind power generation in New York requires that we overcome some significant barriers. We must work hard to

address the lack of adequate transmission capacity for renewable energy from upstate areas to the high-demand downstate region, while remaining sensitive to the guiding principle of equity among regions of the State. In addition, we must reform the State's regulation of both siting and financing of such projects to ensure that unnecessary delays and uncertainty do not prevent power producers and utilities from investing in upgrades to the transmission infrastructure. The Power NY Agenda will achieve these goals through the measures outlined below.

***Promote On-Shore Wind Projects and Facilitate Siting***

There are various wind generation projects that have been proposed in New York State and are currently awaiting development with the assistance of strong leadership in Albany.<sup>89</sup> With existing subsidies from the Renewable Portfolio Standard ("RPS") that is included in ratepayers' bills and federal tax incentives, on-shore wind power is now cost-competitive with other forms of generation and thus has the potential to increase dramatically if the

State takes the proper steps. As described in other sections, the State should promote smart transmission investments that expand the market for wind power. Next, as described in sections below, the State needs a new energy siting law that will create an accelerated siting process—allowing for necessary community input and protecting critical community interests—that ensures that sound projects are approved and permitted expeditiously. A new siting law should include an expedited review and approval for renewable energy.

***Enter Into Power Purchase Agreement for Off-Shore Wind When Economically Feasible***

In 2009, NYPA issued a request for proposals for developers to build the nation’s first freshwater wind farm in the Great Lakes—a utility-scale project that would produce as much as 500 MW of new electric power to be purchased by NYPA.<sup>90</sup> NYPA has also set up a “Great Lakes Offshore Wind Business Registry” to involve local companies in the project and create a list of companies to draw upon in the construction and development of the project.<sup>91</sup>

In addition, several responses were received to the Request for Information issued by the LIPA, NYPA, and Con Edison (the “Collaborative”) for a new off-shore wind facility off of the Rockaway Peninsula (the “Long Island-New York City Offshore Wind Project”) in the Atlantic Ocean.<sup>92</sup> Because of its location, the Long Island-New York City Offshore Wind Project would help address the difficult transmission problems associated with bringing sufficient power to customers downstate.

Because off-shore wind projects produce energy at a higher cost than the current market price, we must be mindful of the impact on the affordability of energy. We cannot have renewable energy irrespective of cost. But if these projects can be delivered at a cost that has only a minimal impact on total energy costs, building these projects will serve to hedge against unforeseen future increases in fossil fuel prices, create significant economic development opportunities and serve as a strong endorsement of New York’s commitment to environmental quality and the new energy economy.

## **Make New York State a Leader in Solar Energy**

New York has the opportunity to become a leader in the emerging solar power industry. As this technology matures and solar production has begun to reach a mass scale, we are already seeing dramatic reductions in the cost of solar power. Neighboring states such as New Jersey have established aggressive goals for the implementation of solar power. New York has the opportunity to become a leader in this industry, but will fall sharply behind if we do not take steps to invest in this sector. One of the distinct advantages of solar energy is that, unlike wind turbines and other sources of renewable energy, solar energy can be implemented in New York City and other downstate regions such as Long Island where the demand for energy is greatest. Solar power can provide these downstate areas with new sources of power without requiring new hard-to-site power plants or transmission lines.



***Already, solar technology component manufacturers have set up operations in the Hudson Valley with the potential to establish a growing base of high-skilled jobs in solar energy.***

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Today, solar energy represents less than 0.01 percent of New York’s electricity generation. At the same time, other states have acted far more aggressively to stimulate solar generation projects. New Jersey, for example, has already installed more than five times as much solar capacity as New York and is second only to California in this area. New Jersey has committed to producing over 2 percent of its electricity from solar generation sources by 2026 (over 5,000 MW).

The cost of installing solar photovoltaic (“PV”) modules is declining rapidly. In 2009 alone, PV module prices—half the installed cost of PV solar—fell 40 percent.<sup>93</sup> Indeed, in what some have described as a “historic crossover,” the costs of solar photovoltaic systems have declined to the point where they are lower than the rising projected costs

of new nuclear plants, according to an academic paper published earlier this month.<sup>94</sup> Experts expect that the costs of solar energy will continue to decline significantly.

We must be smart and financially disciplined in our support for solar energy, but we cannot afford to let New York fail to participate in this strategically important renewable energy technology.

### ***Create NY-Sun Solar Renewable Energy Credits***

The time has come for New York to embrace solar power on a larger scale than we do today, but with controls to protect against an increase in energy costs if the cost of implementing solar energy does not decline as rapidly as expected. To accomplish this goal, the State should establish specific targets for the amount of solar energy that utilities and ESCOs must acquire, with provisions to suspend that requirement if solar costs do not come down as rapidly as expected. A programmatic commitment to solar power would go a long way toward stimulating the growing solar industry in New York. When Arizona

and California each made similar commitments to promote an expansion of solar power, they inspired two global solar manufacturers to locate within their borders (China's Suntech Corp. in Arizona, and SunPower Corp. in California).<sup>95</sup>

The burgeoning solar technology component manufacturing cluster has emerged in the Hudson Valley and Western New York that will benefit tremendously from this new commitment to solar power. New York already possesses significant academic research centers focusing on related clean energy technology, which will also help to attract and build a solar energy manufacturing base in New York.

With a commitment to producing solar power in New York, the State can provide the critical mass of demand for new technology and skilled workers to make New York attractive to new businesses in this field. With greater participation in the solar industry, New York will no longer be forced to watch as other states with stronger commitments to solar power are able to persuade such companies to set up plants within their borders.

### ***Jumpstart the Use of Solar Thermal Technology for Water Heating***

Solar thermal projects are already cost-effective for both commercial and residential uses and can help decrease fossil fuel use. Solar thermal technologies have the potential to provide over half of the energy required for water heating in a typical home in New York at a fraction of the cost of traditional electric heating.<sup>96</sup> For example, New York City Transit Complex in Coney Island installed a solar thermal system in 2009 costing \$550,000 that is expected to lower energy costs by \$170,000 per year.<sup>97</sup> As that project demonstrates, the payback period for solar thermal installations is typically five years or less. This technology has matured and can now be implemented on a much larger scale.

Heating water accounts for approximately 20 percent of household energy use.<sup>98</sup> Solar hot water heaters can reduce costs associated with hot water heating by two-thirds. A solar heating system typically costs \$2,000 to \$10,000, but this is partially offset by a federal tax credit for 30 percent of the cost of the system, and New York already offers a 25

percent tax credit up to \$5,000.<sup>99</sup> As a result, the payback period for solar hot water heaters in New York is generally only 3-7 years,<sup>100</sup> while the systems have the lifespan of conventional heaters, as long as 30 years.

Under the Power NY Agenda, we will establish an aggressive program to facilitate solar thermal systems in public facilities, private residences, and commercial buildings so long as the financial payback periods are attractive. As with our other energy efficiency initiatives, New York should use both existing loan programs, as well as new financing approaches such as PACE financing, to accelerate the installation of solar thermal water heating systems on a larger scale.<sup>101</sup>

### **Repower Older Power Plants With Modern Plants to Increase Capacity and Reduce Emissions**

Repowering involves upgrading older, less efficient technology with newer, cleaner, more efficient technology. Alternatively, “virtual” repowering refers to the building of a new, more efficient (usually combined-cycle natural gas) plant

on the same site to replace an older, dirtier plant. Where repowered plants are located in high demand areas such as New York City or Long Island, repowering promises less waste associated with delivering power over long distances and less congestion across the grid. Repowering also creates new construction and other jobs to complete the necessary technology upgrades.

The State should facilitate the repowering of existing electric generation plants to increase efficiency and reduce emissions, particularly in communities that have more than their fair share of polluting plants. This is a matter of good economics as well as environmental justice. In particular, the State should work with the relevant stakeholders to plan for and if necessary, help assemble financing for the repowering of technologically obsolete power plants in Long Island City and elsewhere. Through repowering, those plants can substantially boost generation capacity.

## **Enact a New Power Plant Generation Siting Law**

An important element of increasing the availability of new power generation from renewable fuel sources and other advanced technologies is enacting a simplified regulatory process to site new energy plants. Previously, the State had a streamlined energy siting law, known as Article X, which allowed for the siting of “major” electric generating facilities, i.e., facilities sized 80 MW or larger, that was handled by a multi-agency Siting Board that included public representatives. However, Article X expired on January 1, 2003 and now power providers, who fall under the jurisdiction of multiple State and local agencies, must deal with local governments with differing protocols.

Now that Article X has expired, New York State is without a key tool to ensure both expedited development of new generation sources and robust community input into siting decisions. Since the expiration of Article X, there have been various efforts to reinstate a new streamlined process. However, these efforts have stalled for several reasons,

including the fact that they allow only a streamlined process for renewable-energy producers, but not other types of producers and they fail to address the cumulative effects of building new generation in poor communities and communities of color.

As governor, Andrew Cuomo will see to it that a new comprehensive electric generation siting law is enacted—one that is rational, balances competing concerns, and results in new projects getting built.

That law will include:

- a one-stop siting process that combines State and local authorizations into a single approval for all projects;
- a date-certain framework for rendering a decision on an application and opportunities for extensive public input;
- an analysis of health and cumulative impacts of emissions in the affected area; and,
- the availability of intervenor funding for expert witnesses and consultants.

Although the siting law should be fuel-neutral in that it must apply to all sources of power generation, it should provide a fast-track review and

approval process to those plant proposals that will provide the greatest amount of electrical power, use the most efficient technology, and be located on industrial brownfields or inside existing plant facilities.

In addition, the State should create an expedited review process for renewable energy projects that rewards investors with an efficient, non-burdensome site approval and permitting process. The environmental benefit of these projects is the reason that the State should encourage such projects by eliminating unnecessary red tape and delays.

### **Expand Distributed Generation to Increase Capacity and Empower Consumers**

Distributed Generation (“DG”) is a form of “smart distribution” of energy. It involves the use of small electrical power generation equipment (typically less than 30 MW) located near consumers and centers of electricity demand by residential and non-residential stakeholders, and is an important way to add renewable energy capacity to the system. DG systems allow their owners not only to meet their

own electrical power needs fully or in part without drawing electricity from the grid, but in certain cases to obtain compensation for the extra power their systems feed into the grid for others' use. If expanded over time, DG projects also have the potential to reduce the need for additional generation capacity, such as peaking power plants in load pockets.<sup>102</sup>

Owners of DG systems and net metering will permit customers with solar-PV, wind, or waste-to-energy (known as "anaerobic digester") systems to get credit for energy they send to the electric grid from their DG systems. Currently, residential net metering is limited to 25 kilowatts ("kW") and non-residential net metering is limited to the lesser of 2 MW or the customer's peak demand. Farm-based wind and anaerobic digestion systems are limited to 500 kWh.<sup>103</sup> Moreover, smaller producers have experienced some technical, cost and regulatory difficulties with the existing system. For example, many non-residential DGs do not have demand meters, resulting in disagreements with the utilities about the level of the DG owner's peak demand, which determines the size of the system to be

metered. Other customers have experienced difficulties connecting to the electricity grid.<sup>104</sup>

The experience in other states like New Jersey—one of the first states to streamline its interconnection rules to ensure that customers with on-site renewable energy systems could easily connect to the grid and gain compensation for their extra power—demonstrates the importance of creating simple, clear rules for DG system owners to follow. The State must enforce its interconnection rules for opportunities to streamline and resolve any potential barriers to DG.

The benefits of DG for industrial and commercial customers in lowering energy costs have not been well publicized. To promote DG, the State should establish several demonstrations of DG at customer sites to document and publicize these benefits. By showing the tangible benefits of DG, such demonstrations could help make DG adoption more widespread. This will help not only these DG customers, but all consumers of energy in the State, by increasing the supply of electrical power where it is most needed. As governor, Andrew Cuomo will

work with NYPA, LIPA and participating utilities and use a competitive application process to choose the best sites for such a demonstration project and will ensure that the results are used to refine and more fully develop the State's DG programs.

### **Increase Capacity Through Combined Heat & Power Cogeneration**

Combined Heat & Power ("CHP"), also known as cogeneration, is the use of a heat engine or a power station to simultaneously generate both electricity and useful heat. It is an efficient, clean, and reliable approach to generating power and thermal energy from a single fuel source. CHP uses heat that is otherwise discarded from conventional power generation to produce additional thermal energy.

A growing market exists for CHP technologies in the context of DG set-ups, which enable customers—primarily commercial and industrial—to use natural gas on their premises to generate electricity and use the waste heat for space and water heating. Under the Power NY Agenda, we will expand CHP to increase the supply of cleaner electrical

power, focusing on applications in schools, hospitals and supermarkets, where such technologies are developing most rapidly and economically.

**Any Drilling in the Marcellus Shale must be Environmentally Sensitive and Safe**

Because so much of our supply of energy is based on natural gas fuel, ensuring a supply of low-cost natural gas is important to New York. The Marcellus Shale could contribute to New York's natural gas supply, but development needs to be highly sensitive to environmental concerns. The economic potential from the Marcellus shale could provide a badly needed boost to the economy of the Southern Tier and even many environmentalists agree we want to produce more domestic natural gas that reduces the need for environmentally damaging fuel sources such as coal.<sup>105</sup>

We need to explore how drilling can be done in a way that is consistent with environmental concerns. The State's Department of Environmental Conservation, as well as the federal Environmental Protection Agency, are currently studying the effects

of drilling in the Marcellus Shale region. Through that assessment, New York State must ensure that, if and when the Shale's natural gas is obtained, it does not come at the expense of human health or have adverse environmental impacts. In particular, it is critical that no drilling be conducted that might negatively affect any existing watershed and that best practices in drilling are adopted and enforced by the State.

Therefore, any drilling in the Marcellus Shale must be environmentally sensitive and safe. These reviews must demonstrate that health and environmental risks are adequately addressed and protected. However, existing watersheds are sacrosanct and Andrew Cuomo would not support any drilling that would threaten the State's major sources of drinking water.

### **Close Indian Point**

Andrew Cuomo has long been a supporter of closing the Indian Point nuclear power plant in Westchester and has argued that the federal government should not renew the plant's operating license when it expires in 2013. We must find and

implement alternative sources of energy generation and transmission to replace the electricity now supplied by the Indian Point facility.



# 7

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## **Upgrade and Expand the Transmission Grid**

*Improve Reliability and Reduce Costs by Updating our Transmission Infrastructure and Bringing Reliable, Low Cost Clean Energy to Areas Where it is Needed Most, While Maintaining Regional Equity*

**T**ransmission lines in New York State form the backbone of our electricity grid. Without sufficient reliable capacity on such lines, the electricity needed by consumers across the State either cannot reach the locus of such demand or can do so only at an unnecessarily high cost. If a generation source is available but the transmission capacity to transport the power is not, that source is rendered unusable outside of its immediate area. Aging transmission infrastructure can also lead to system failures that can threaten public safety and cost businesses and residences hundreds of millions of dollars.

New York State's existing transmission grid is antiquated and inadequate to provide all of the electricity to New York City and Long Island that is necessary to ensure reliability and improve the affordability of energy.<sup>106</sup> As previously stated in the "Executive Summary," statewide annual gross congestion costs (reflected as bid production costs) have risen from \$72 million in 2004 to \$243 million in 2008. Moreover, as the State pursues increased use of renewable resources, transmission assets need to be expanded to capitalize on New York's own natural wind resources and hydropower development in neighboring areas, such as Quebec.

Transmission infrastructure enhancements will serve to both lower prices and increase reliability downstate.<sup>107</sup> As important as these benefits are, however, they need to be balanced against other considerations. Some transmission proposals from Central New York—such as the New York Regional Interconnect ("NYRI") power line which was initially proposed in 2006—would have left upstate New York with the environmental and economic costs of new transmission, while downstate received much of the

benefits. New York's transmission policies must fairly balance these regional concerns.

The Power NY Agenda is based on the belief that new transmission can be built that addresses both issues of regional equity and environmental concerns. First, we can upgrade lines with the most effective new technology using existing rights of way. Second, in order to fully take advantage of the potential for wind power and other renewable fuels, we should build new transmission lines along existing rights of way where feasible, and with new underground or underwater lines that do not harm the environment.

### **Use Cutting-Edge Cable Technology to Upgrade New York's Aging Transmission Infrastructure to Carry More Power on the Same Towers**

In the last few years, the State's major utilities have sought and obtained approval from the PSC to fund investments to repair and restore aging transmission lines. While that work is critical to preserving our existing infrastructure, much more

needs to be done to improve transmission even along existing lines.

Fortunately, new conductor cable technologies are becoming available and allow the replacement of existing high-voltage electricity cables on transmission lines with far more efficient and effective alternatives. For example, high-temperature conductor cable—of the type made by 3M and other companies—has a dense core of ceramic fibers wrapped in aluminum-zirconium and carries 1.5 to 3 times the current of conventional steel-core power lines at the same voltage. These new cables not only withstand heat much better, but also do not sag into trees and telephone poles when they are heated by the current and the sun.

These new conductor technologies allow existing transmission lines to be upgraded to carry more electrical current across the grid without requiring the identification of new rights of way or the cutting of new lines near or through areas where residents are opposed to such lines. In essence, existing transmission can be “super-sized” to meet

the growing need for electricity in high-demand areas far away from generation sources.

The State must ensure that upgrades using such technologies are made by utilities where additional transmission capacity is needed. This will allow us to relieve congestion inexpensively while enhancing reliability and avoiding the otherwise substantial barriers to siting new transmission lines.

**Spur Investment in New Transmission Lines along Existing Rights of Way, Underground or Underwater**

Expanding transmission capacity is one of the most attractive options for bringing lower cost clean energy into the downstate region to increase the affordability and reliability of our energy supply. Some of the main obstacles to building new transmission capacity are environmental concerns and objections from residents who do not want new transmission lines or towers built near them. One way to address these concerns is to spur investment in transmission projects that either use existing rights of way or are built underground or underwater.

Another important reason to support appropriately sited transmission projects is to ensure that renewable energy is distributed cost effectively throughout the State. Certain areas that hold promise for wind energy production do not currently have the bulk distribution capabilities to capitalize on their natural resources. In addition, without improvements to transmission lines, as New York adds renewable energy capacity, renewable energy facilities may inefficiently displace output from each other if they both need space on the same congested transmission distribution system.<sup>108</sup>

A number of transmission projects have been proposed that should be carefully evaluated to determine if they meet the criteria adding new transmission capacity in New York. One such project contemplates building a transmission line that would enable New York to purchase low-cost and renewable hydropower in the hot summer months (our peak usage time) while selling our excess energy including unused wind power to Canada during the cold winter months (their peak usage period).

To determine where and what types of new transmission infrastructure should be built, the State should build on the ongoing work of the State Transmission Assessment and Reliability Study (“STARS”) task force, a multi-stage analysis of the State’s transmission needs and plans for addressing those needs. The STARS process is currently addressing the enhanced transmission that will be needed to bring future wind power into the bulk transmission system.<sup>109</sup>

To get appropriately sited transmission lines built, however, we will either have to rely on public entities, such as NYPA, or address several barriers to private investment. The two major regional power markets neighboring New York State, the 13 states governed by a Regional Transmission Organization (“RTO”) called PJM and the New England grid governed by the ISO-NE, have each invested billions of dollars over the last decade to build new transmission lines to decrease congestion and facilitate new renewable supply. In contrast, New York State has not built a major new above-ground transmission line in more than 20 years, leading not

only to increased congestion and aging infrastructure but also a lack of capacity to bring new wind power downstate.

While other states have addressed the need for new transmission by using different types of joint ownership models to share the enormous risks and “lumpy” costs of such projects, New York has failed to bring the relevant stakeholders together to embrace new models that could spur investments in needed transmission. An alternative approach that should be explored in New York is a consortium in a public-private partnership such as the one created in Wisconsin. In Wisconsin in 2000, as the result of such a stakeholder consultation, the state’s four investor-owned utilities transferred their transmission assets to a new entity known as ACT pursuant to state legislation in exchange for ownership interests in proportion with the value of the assets transferred. ATC became the only multi-state, transmission-only utility in the country.<sup>110</sup> Since its founding, ATC has added more than 20 members and invested over \$1.7 billion in new transmission facilities, with

approximately \$2.8 billion in additional investment planned over the next 10 years.

Improving our transmission infrastructure is a difficult energy challenge that must be met in order to ensure that New York's energy needs are satisfied in a way that lowers energy costs, ensures reliability of supply and expands the market for New York's growing renewable energy industry. The next Governor must take a leadership role in balancing the competing considerations the transmission proposals present and find the most effective and fair way to upgrade our transmission lines to meet New York's energy needs.



# 8

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## **Reform New York’s Energy Bureaucracy** *For Transparency, Accountability and Greater Effectiveness*

**A**s even this brief review of energy policy makes clear, the government’s role in energy policy is crucial. The State’s energy bureaucracy—a labyrinth of regulatory bodies, state agencies and authorities and quasi-governmental bodies—has not worked as effectively as it should to achieve our energy goals. New York expects and deserves stronger leadership on energy policy.

A foundation for energy planning and policy was established with the creation of the State Energy Planning Board through Executive Order 2, which tasked the Board with preparing a State Energy Plan that was issued in December 2009 (“2009 Energy Plan”).<sup>111</sup> The 2009 Energy Plan reflects the policy choices of the current Administration, but nevertheless provides a starting point for future

actions. In September 2009, the State Energy Planning Board became a permanent entity that is required to complete an energy plan on or before March 15, 2013, with updated plans at least every four years thereafter. This formal structure for energy planning, which existed under Governors Carey and Cuomo but was abandoned by Governor Pataki, is a good idea and will help to ensure that New York's energy policy is critically reviewed and updated on an ongoing basis in consultation with all stakeholders.

**Ensure that Energy Policy is Fully Integrated with Economic Development, Housing, Transportation and Environmental Policy**

The next Governor must not approach energy policy as a stand-alone issue. Energy lies at the nexus of several different policy areas that have traditionally been approached as separate and have developed their own bureaucratic and political constituencies. For example, longstanding policy decisions in transportation, housing, economic development, and environmental protection have had

dramatic impacts on both the usage and available types and supplies of available energy. A fundamental lesson of sustainable development research over the last 20 years is that failure to understand and heed the interconnected nature of these different policy areas will result in missed opportunities for synergy and coordination. It is time for New York to development a cohesive and integrated approach to energy policy that fully takes into account the related areas of transportation, housing, economic development, and environmental protection. The large number of separate agencies with oversight roles over different pieces of the State's energy policy and programs makes this coordination all the more important.

**Evaluate the Overlapping Responsibilities of NYPA, LIPA, NYSERDA and Other Agencies and Authorities**

Changes in the structure of government will not by themselves produce the substantive policies that New York needs to ensure a sound energy future. But unnecessary fragmentation of policy areas and

the officials responsible for them can hinder such leadership from getting things done.

With respect to energy policy, the challenge is twofold. First, as in other areas of State government, we must reduce redundant and potentially wasteful bureaucracy by streamlining agencies with overlapping missions and responsibilities. In this regard, the Spending and Government Efficiency Commission that Andrew Cuomo called for in The New NY Agenda should examine the overlapping responsibilities and missions of NYPA, LIPA and NYSERDA, among other agencies, and make recommendations for change.

### **Reform the PSC by Requiring More Accountability**

The next Governor must ensure that the State's existing regulatory structure performs at the highest levels of efficiency and facilitates, rather than impedes, progress on key State goals such as greater efficiency, new renewable energy and upgraded transmission. The PSC has, in many cases, failed to meet these important objectives. Among other complaints, the PSC has been criticized for failing to

address petitions and consumer complaints in a timely fashion,<sup>112</sup> of lacking sufficient expertise and background in energy,<sup>113</sup> and of delaying approval of critical energy efficiency programs proposed by utilities and NYSERDA to meet the State's EEPS standard. These critics argue that the PSC has been slow and incremental in its approach to integrated resource planning, supporting investments in new generation and transmission development, energy efficiency, renewable energy, and smart grid technology. While proposed regulatory oversight of such investments is necessary for public accountability, the PSC needs to demonstrate more creativity and innovation in moving quickly to embrace and further advance the State's transition to the new energy economy envisioned in the Power NY Agenda.

By contrast, and as an example of greater transparency and accountability, other states provide annual reports to the Legislature and Governor on a series of the most critical state objectives in energy.<sup>114</sup> In such reports, these agencies disclose their substantive progress, or failures, in meeting those

objectives during the year.<sup>115</sup> While the PSC's independence is important and should be preserved, it should not be exempt from the performance-driven approach that will be applied to State government as a whole in a Cuomo Administration.

### **Take a Fresh Look at NYISO**

When New York State restructured its energy market in 1996, it created a marketplace for buying and selling electricity that is operated by an organization called the New York Independent System Operator ("NYISO"). NYISO is a private not-for-profit corporation established by the businesses that participate in the energy market. NYISO has a self-perpetuating board of directors with no public representation. Every day, utilities and other customers that need to buy electricity, on the one hand, and the power producers that generate electricity, on the other hand, engage in auctions run by NYISO that set the price paid by these customers for wholesale electricity. These auctions operate using what economists call a "Uniform Clearing Price"—often referred to as the Market Clearing

Price—which means that the buyers in the auction pay to *all* sellers the price (calculated by a complex computer program at NYISO) that is paid to purchase the last “marginal unit” of electricity. In other words, all sellers get paid the highest price that is needed to clear the market for the amount of electricity that is being purchased. NYISO does, however, impose some important exceptions to the operation of the Uniform Clearing Price model. For example, NYISO uses what is called a “market mitigation” mechanism to limit bids in the New York City market because it has concluded that an unfettered auction would result in overpayments to energy producers in that market.

In an effort to avoid collusion among market participants, NYISO system does not disclose the clearing price for an extended period of time and then masks the identity of the bidders. Until recently, bids were not disclosed for six months, although this period has been shortened by NYISO.

Many economists advocate the Uniform Clearing Price system on the grounds that it produces lower prices in the long run by encouraging additional investment in power generation and

increases economic efficiency by steering power purchases to producers with the lowest marginal costs of production. About half the states in the U.S. use an “administered” market structure similar that employed by NYISO, while the other half of the states have a so-called “open” system that is based on bilateral negotiations between energy producers and utilities.<sup>116</sup> Both the PSC and NYISO—as well as most economists—vigorously defend the current system employed NYISO.<sup>117</sup>

However, some economists, consumer advocates and elected officials argue that New York’s energy market structure with its Uniform Clearing Price system and lack of transparency in disclosing the identity of bidders or the bids themselves in a timely fashion results in a windfall to power producers at the expense of consumers.

At legislative hearings in 2009, the economic consulting firm McCullough Research estimated that the Uniform Clearing Price system could be costing New Yorkers up to \$2.2 billion a year in additional energy costs that they would not face if New York had a traditional regulated energy market. The

McCullough Report contended that New York could capture some or all of these benefits if New York were to adopt a more traditional auction market structure known as “Pay as Bid,” in which market sellers whose bids are accepted in the auction receive the price that they bid (as opposed to the higher market clearing price). These critics argue that the United Kingdom saw prices for electricity fall in 2001 when it switched from a Uniform Clearing Price model to a Pay-as-Bid auction as one element of a number of market design changes, although NYISO experts dispute the reason for the drop in prices and even that the UK really does have a Pay-as-Bid system.<sup>118</sup> The McCullough Research report also suggested that some States, such as Texas, have imposed greater transparency on the auction market with positive effects.<sup>119</sup>

This technical debate cannot be fully evaluated in the context of a campaign. And it is not suggested that New York should return to a “cost-plus” energy regulation model, thereby eliminating many of the benefits of deregulation. However, the optimum functioning of New York’s energy markets is sufficiently important that it makes sense to conduct

an objective review of the NYISO system by a group of independent experts who are not invested in the current system and who also do not have strong preconceptions about the validity of alternative market structures to NYISO.

While the strong support among economists and industry participants for the current NYISO system must be given great weight, we have learned from the recent financial crisis that the consensus of economists and industry participants about the market functioning in the way that protects the public as economic theory would suggest is not always correct. The overwhelming consensus of economists and the financial services industry was that complete financial deregulation was appropriate based on an economic theory that the market would work efficiently and serve the public interest—yet this proved not to be the case.

It is possible that the energy market is not functioning efficiently in accordance with the theory on which the NYISO system is based. For example, a primary rationale for the market clearing price model is that it will result in payments to producers

sufficient to generate new investment in power generation. Yet experience and anecdotal evidence suggests that much, if not most, significant new generation capacity is being built with long-term power purchase agreements at negotiated prices. Indeed, NYISO's significant use of market mitigation mechanisms in the New York City market suggests that a measure of price regulation is already occurring under the NYISO system, albeit without the transparency and accountability one would expect in a regulated environment.

While a fresh look at NYISO might well conclude that the current structure is appropriate and that no changes are necessary, it might also conclude that because of the central role in energy policy that NYISO plays, public representation or some other structural changes are appropriate. In any event, the stakes involved for New Yorkers are sufficiently high that we should not leave the status quo unchallenged by an objective and unbiased review.



# The Power NY Agenda

## Summary of Proposals

### Chapter 3: Maximize Energy Efficiency *A “Win-Win-Win” Way to Lower Energy Costs, Create Jobs and Improve the Environment*

- **Increase the Availability of Financing for Energy Efficiency Investments**
  - **PACE Financing.** Expand Property Assessed Clean Energy (“PACE”) programs that provide financing to cover the up-front costs of efficiency improvements, with the financing paid back by a small annual increase in the property tax bill that is less than the annual energy savings—thereby delivering immediate energy cost savings. Push for the passage of legislation pending in Congress that would authorize the Department of Energy to provide federal loan guarantees to localities’ PACE programs and work with the Obama Administration to resolve issues with Freddie Mac and Fannie Mae that threaten to limit the viability of PACE financing.
  - **“On-Bill” Recovery Financing.** Ensure that rules are established for on-bill recovery financing, under which energy

efficiency improvements are financed by utilities and repaid by a small surcharge in the customer's bill that is less than the amount of the annual energy savings.

- **Accelerate Energy Efficiency Improvements to Public Buildings by Leveraging State Funds with Private Capital and/or Federal Guarantees**

In order to maximize New York's energy efficiency improvements in public buildings, the State's existing financing programs must be augmented to attract private capital for energy efficiency improvements. We can do this by using existing State funds for energy efficiency to create a reserve fund to attract private capital. Work to establish federal guarantees of State debt that is used to finance energy efficiency initiatives, since this is one of the most cost effective ways to stimulate the economy and achieve both State and federal environmental goals.

- **Use Code Enhancements to Improve Energy Efficiency**

Implement cost effective amendments to the State's Energy Law, such as mandating the phasing in of increased lighting efficiency in large office buildings that will reduce energy demand and increase energy efficiency.

- **Optimize the Mix of Efficiency Efforts Conducted by Utilities and Public Authorities**

Some believe that one way to increase the number of efficiency projects in private buildings is to move further away from our “central procurement model” under which most efficiency initiatives are implemented by NYSERDA and other State authorities to a more distributed approach in which utilities play a greater role. As with other aspects of government, Andrew Cuomo will put in place a strong performance management system, with clear metrics and measures of success for both State authorities charged with energy efficiency and the private utilities and other energy companies who are also implementing efficiency programs. This objective approach will enable the State to determine the optimum mix of using State authorities and private sector participants to implement our energy efficiency policies.

**Chapter 4: Build the Smart Grid**  
*Empowering Consumers to Reduce their Energy Costs and Increase Efficiency*

- **Ensure that the PSC Promptly Approves and Facilitates Smart Grid Projects**

The “smart grid” empowers consumers to reduce their energy costs by being smarter

about the use of electricity and helps the State meet its energy efficiency goals in a way that reduces costs for all energy users. By 2020, every home and business should have access to a smart meter that is connected to the electric grid.

## **Chapter 5: Use Energy Policy to Create Jobs and Drive Economic Development**

### ***Make New York a Leader in the New Cleantech Economy and Use Low Cost Power to Create and Preserve Jobs***

- **Make Cleantech a Priority in Our Economic Development Efforts**
  - **Support Cleantech Businesses.** Our economic development efforts should support the Cleantech business of established companies like GE and Corning and emerging industries like wind power, high tech glass insulation and the burgeoning industries in battery technology and solar power.
  - **Harness the Cleantech Research of New York's Universities and Research Institutions.** Our economic development efforts should connect the research being done in our higher education institutions and research facilities to continue and expand energy research and development to help New

York become a leader in the Cleantech economy.

- **Use New York's Valuable Low Cost Power to Create and Retain Jobs and Spur Economic Development**

Enact a permanent Power for Jobs bill to ensure that this valuable resource supply is predictable and used by the types of companies for which the program was originally designed.

## **Chapter 6: Improve the Environment Through Renewables and Clean Energy**

### ***Expand Wind and Solar Power and Repower Old Plants to Make them Cleaner and More Efficient***

- **Make New York the Nation's Leader in Wind Power**
  - **Promote On-Shore Wind Projects and Facilitate Siting.** Work to advance cost-competitive on-shore wind projects by promoting an expedited siting process for renewable energy projects.
  - **Enter Into Power Purchase Agreement for Off-Shore Wind When Economically Feasible.** To create more wind energy than can be readily sited on-shore, the State should pursue off-shore wind projects provided the projects are economically feasible.

- **Make New York State a Leader in Solar Energy**
  - **Create NY-Sun Solar Renewable Energy Credits.** Create new NY-SUN Solar Renewable Energy Credits to stimulate the investment in solar energy and mandate a certain amount of solar power that utilities should purchase. However, since solar energy today is more expensive than other renewable energy sources, we will establish a circuitbreaker that will limit the amount of solar power that utilities are required to purchase if the costs do not become competitive as solar technology achieves greater scale.
  - **Jumpstart the Use of Solar Thermal Technology for Water Heating.** Facilitate the installation and widespread use of solar thermal water heating systems in public, private and commercial buildings through existing loan programs and new financing programs.
- **Repower Older Power Plants With Modern Plants to Increase Capacity and Reduce Emissions**

Work with stakeholders and communities to plan for and, where appropriate, help to secure

financing to repower existing power plants in order to increase generation capacity and reduce harmful emissions.

- **Enact a New Power Plant Generation Siting Law**

Promote a new comprehensive electric generation siting law that will streamline and expedite the approvals process, while providing analyses on emissions and impact in affected areas, and the availability of funding for experts and consultants. The new siting law will be fuel-neutral, but will provide for a fast-track review and approval process for efficient plants that provide the most power and are located on existing plant facilities and for renewable energy projects.

- **Expand Distributed Generation to Increase Capacity and Empower Customers**

Streamline interconnection rules to help customers connect to the grid and to develop incentives to support and facilitate distributed generation (“DG”) production and expand net metering. In addition, the State should promote and publicize DG benefits through demonstrations in order to expand the adoption of DG around the State.

- **Increase Capacity through Combined Heat & Power Cogeneration**

Develop and promote incentive programs to encourage the inclusion of combined heat & power technology in DG generation systems in order to increase the supply of clean energy while lowering power transmission burdens.

- **Any Drilling in the Marcellus Shale must be Environmentally Sensitive and Safe**

We need to explore how drilling can be done in a way that is consistent with environmental concerns. The State's Department of Environmental Conservation, as well as the federal Environmental Protection Agency, are currently studying the effects of drilling in the Marcellus Shale region. Through that assessment, New York State must ensure that, if and when the Shale's natural gas is obtained, it does not come at the expense of human health or have adverse environmental impacts. In particular, it is critical that no drilling be conducted that might negatively affect any existing watershed and that best practices in drilling are adopted and enforced by the State.

- **Close Indian Point**

Andrew Cuomo has long been a supporter of closing the Indian Point nuclear power plant in Westchester and has argued that the federal government should not renew the plant's

operating license when it expires in 2013. We must find and implement alternative sources of energy generation and transmission to replace the electricity now supplied by the Indian Point facility.

## **Chapter 7: Upgrade and Expand the Transmission Grid**

***Improve Reliability and Reduce Costs by Upgrading our Transmission Infrastructure and Bringing Reliable, Low Cost Clean Energy to Areas Where it is Needed Most While Maintaining Regional Equity***

- **Use Cutting-Edge Cable Technology to Upgrade New York's Aging Transmission Infrastructure to Carry More Power on the Same Towers**

Encourage and facilitate utilities' investment in and implementation of the most technologically advanced, high-power cables to help relieve transmission congestion and enhance power reliability.

- **Spur Investment in New Transmission Lines along Existing Rights of Way, Underground or Underwater**

We must overcome the bureaucratic challenges that have hindered efforts to update our existing transmission system. We must work with utilities, NYISO and other stakeholders to develop a plan for the implementation and financing of new

transmission in the State to help bring lower-cost energy to New York’s consumers, consistent with environmental concerns and the principle of regional equity.

**Chapter 8: Reform New York’s Energy Bureaucracy**  
*For Transparency, Accountability and Greater Effectiveness*

- **Ensure that Energy Policy is Fully Integrated with Economic Development, Housing, Transportation and Environmental Policy**

Develop a cohesive and integrated approach to energy policy consistent with the State’s other policies and programs.

- **Evaluate the Overlapping Responsibilities of NYPA, LIPA, NYSERDA and Other Agencies and Authorities**

Consolidate and streamline redundant State agencies while minimizing fragmented policy expertise and bureaucratic authority. The Spending and Government Efficiency Commission that will be created as described in the New NY Agenda should determine whether any of the operations of the major energy public authorities—NYPA, LIPA and NYSERDA, among other agencies, should be merged or operationally consolidated.

- **Reform the PSC by Requiring More Accountability.**

Take a performance-driven approach to its evaluation of the PSC to ensure that the State’s regulatory structure performs at the highest level of efficiency and facilitates, rather than impedes key State energy goals.

- **Take a Fresh Look at NYISO**

Appoint an independent group of experts to examine the structure and practices of the New York Independent System Operator (“NYISO”) to determine whether reforms are appropriate.



## **Appendix**

### ***A History of Energy Innovation***

On many occasions in its history, New York has led the nation in developing innovative and forward-looking energy technology and the policies necessary to serve its people. For example:

- **1882.** New York City was the birthplace of electricity itself. Thomas Edison began operations of the Edison Electric Illuminating Co. at his Pearl St. Generating Station (see below) and lit 800 incandescent light bulbs in lower Manhattan with that power.
- **1896.** High-voltage transmission also originated in New York State. George Westinghouse built an 11,000 volt AC line to connect a hydroelectric generating station at Niagara Falls to Buffalo, 20 miles away.<sup>120</sup>
- **1907.** New York and Wisconsin became the first states to establish state regulatory commissions to oversee electric utilities.<sup>121</sup>
- **1931.** Governor Franklin Delano Roosevelt created the New York Power Authority (“NYPA”), which soon became the primary model for both federal and state authorities to produce and distribute low-cost power to underserved communities. Today, NYPA

provides more power to consumers than any other publicly-owned utility in the country, and has provided critical low-cost power to businesses and homeowners in the State.

- New York State has led the world in the development of large-scale hydroelectric power. The first hydroelectric generating station was built on the Niagara River in 1881, and the oldest continuously operated commercial hydroelectric plant in the United States was built on the Hudson River. In 1961, New York opened the largest hydroelectric generation facility in the Western World near Niagara Falls, which still produces more electricity than any other facility of any type in the State.
- In the **1980s** and early **1990s**, New York State became the nation's leader in energy efficiency investments and the State Energy Office created under Governor Carey provided planning expertise that was virtually unparalleled across the country.
- More recently, New York has led the formation of the Regional Greenhouse Gas Initiative ("RGGI"), the first mandatory, market-based effort in the United States to reduce greenhouse gas emissions. Ten Northeastern and Mid-Atlantic states have capped and will reduce CO<sub>2</sub> emissions from the power sector 10 percent by 2018.

## NOTES

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<sup>1</sup> New York also has among the highest energy taxes in the nation. According to the Ernst and Young New York, Texas and California lead the country in energy tax burdens. According to the Public Policy Institute of New York State, “Fully 26.68 percent of New Yorkers’ electric bills support state and local taxes and fees.”

One of the central energy taxes in New York is known as “18-a.” Section 18-a of the Public Service Law authorizes the state to impose a fee on electric bills from public utilities to fund the operations of energy-related agencies and authorities. 18-A yields an estimated \$600 million a year. Many business organizations have been critical of the 18-A fee. The Business Council has called on eliminating the 2009 increases or allowing it to sunset in 2014. *See Short-Circuiting New York’s Recovery How Energy Taxes Contribute to High Electric Rates in New York* (March 2010), at 6, 8 & 11.

<sup>2</sup> *See* New York State Energy Plan 2009, Vol III, *Issue Briefs: Energy Costs and Economic Development*, at 11, available at [http://www.nysenergyplan.com/final/Energy\\_Costs\\_Economic\\_Dev\\_IB.pdf](http://www.nysenergyplan.com/final/Energy_Costs_Economic_Dev_IB.pdf).

<sup>3</sup> *Id.*

<sup>4</sup> *See* [http://www.nyserda.org/programs/Green\\_Buildings/default.asp](http://www.nyserda.org/programs/Green_Buildings/default.asp).

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<sup>5</sup> See Governor Paterson, *State of the State Address 2009*, “Our Time to Lead” (January 7, 2009), available at, [http://www.ny.gov/governor/keydocs/speech\\_0107091.html](http://www.ny.gov/governor/keydocs/speech_0107091.html).

<sup>6</sup> See United States Department of Energy, *National Electric Transmission Congestion Study*, (December 2009) at x.

<sup>7</sup> *Id.* at 46.

<sup>8</sup> See New York State Energy Plan 2009, Vol. II *Electricity Assessment: Resources and Markets*: at 11, available at [http://www.nysenergyplan.com/final/Electricity Assessment Resource and Markets.pdf](http://www.nysenergyplan.com/final/Electricity_Assessment_Resource_and_Markets.pdf).

<sup>9</sup> See <http://www.ferc.gov/industries/electric/industry-act/smart-grid.asp>.

<sup>10</sup> See [http://www.midhudsonnews.com/News/2010/May/08/SpectraWatt\\_GO-08May10.html](http://www.midhudsonnews.com/News/2010/May/08/SpectraWatt_GO-08May10.html).

<sup>11</sup> See Governor George Pataki, *2003 State of the State Address*.

<sup>12</sup> See [http://www.state.ny.us/governor/press/factsheet\\_0107092.html](http://www.state.ny.us/governor/press/factsheet_0107092.html).

<sup>13</sup> New York State Energy Plan 2009, Vol. I, *Objectives and Strategies*, at 82, available at

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[http://www.nysenergyplan.com/final/New York State Energy Plan Volumel.pdf](http://www.nysenergyplan.com/final/New_York_State_Energy_Plan_Volumel.pdf).

<sup>14</sup> Center for an Urban Future, *Energizing New York's Small Businesses* (February 2010), available at [http://www.nycfuture.org/images\\_pdfs/pdfs/EnergizingNYSB.pdf](http://www.nycfuture.org/images_pdfs/pdfs/EnergizingNYSB.pdf).

<sup>15</sup> See *The New NY Agenda: A Plan for Action*, available at [http://www.andrewcuomo.com/issues\\_and\\_agenda](http://www.andrewcuomo.com/issues_and_agenda).

<sup>16</sup> See New York State Energy Plan 2009, Vol. I, *Objectives and Strategies*, at 33, available at [http://www.nysenergyplan.com/final/New York State Energy Plan Volumel.pdf](http://www.nysenergyplan.com/final/New_York_State_Energy_Plan_Volumel.pdf).

<sup>17</sup> See New York State Energy Plan 2009, Vol. II *Electricity Assessment: Resources and Markets*: at 27-28, available at [http://www.nysenergyplan.com/final/Electricity Assessment Resource and Markets.pdf](http://www.nysenergyplan.com/final/Electricity_Assessment_Resource_and_Markets.pdf).

<sup>18</sup> *Id.* at 29.

<sup>19</sup> *Id.*

<sup>20</sup> See <http://wcbstv.com/topstories/coned.power.heat.2.1792484.html>.

<sup>21</sup> *Id.* at 45.

<sup>22</sup> See NYISO, *2010 Load & Capacity Data "Gold Book,"* (April 2010) at 57, available at

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[http://www.nyiso.com/public/webdocs/services/planning/planning\\_data\\_reference\\_documents/2010\\_GoldBook\\_Public\\_Final\\_033110.pdf](http://www.nyiso.com/public/webdocs/services/planning/planning_data_reference_documents/2010_GoldBook_Public_Final_033110.pdf).

<sup>23</sup> See James Gallagher, *Fostering a Renewable Energy Market in NYC*, Powerpoint Presentation, NYC Economic Development Corp. (March 17, 2010), at 3, available at [http://app.coe.drexel.edu/energy/Energy percent20Conference percent20Presentations/James percent20Gallagher.ppt](http://app.coe.drexel.edu/energy/Energy%20Conference%20Presentations/James%20Gallagher.ppt).

<sup>24</sup> See [http://www.state.ny.us/governor/press/factsheet\\_0107092.html](http://www.state.ny.us/governor/press/factsheet_0107092.html).

<sup>25</sup> *Id.* at 48.

<sup>26</sup> See, New York State Energy Plan 2009, Vol. II, *Electricity Assessment: Resource and Markets*, at 27, available at [http://www.nysenergyplan.com/final/Electricity Assessment Resource and Markets.pdf](http://www.nysenergyplan.com/final/Electricity_Assessment_Resource_and_Markets.pdf).

<sup>27</sup> See 102<sup>nd</sup> Congress H.R.776.ENR, abbreviated as EPACT92.

<sup>28</sup> See Federal Energy Regulatory Commission Order No. 888 *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, available at <http://www.ferc.gov/legal/maj-ord-reg/land-docs/order888.asp>.

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<sup>29</sup> The PSC, in 1996, issued a “vision” order, charting a deregulatory policy. *See* Opinion 96-12 (May 20, 1996).

<sup>30</sup> The NYISO was initiated in 1998 in response to a directive by the PSC that electric supply and transmission be unbundled pursuant to an order by the U.S. Federal Energy Regulatory Commission (“FERC”), which encouraged the creation of independent state entities to administer wholesale electricity markets and the transmission grid. *See, Lighting the Way, New York Independent System Operator, A Decade of Progress: 1999-2009*, at 1, available at [http://www.nyiso.com/public/about\\_nyiso/nyisoataglance/history/index.jsp](http://www.nyiso.com/public/about_nyiso/nyisoataglance/history/index.jsp).

NYISO currently operates New York’s transmission network and dispatches power generators over approximately 11,000 circuit miles of transmission lines, administers and monitors wholesale energy markets and manages the bulk electricity system. *See Id.* at 3. *See also*, [http://www.nyiso.com/public/about\\_nyiso/nyisoataglance/index.jsp](http://www.nyiso.com/public/about_nyiso/nyisoataglance/index.jsp).

<sup>31</sup> The Power Authority of the State of New York (“PASNY” or “NYPA”) was created in 1931. *See* N.Y. Art 5, Title 1 of the Power Authority Act. NYPA is a non-profit, public-benefit energy corporation, which provides low-cost electricity to government agencies, community-owned electric systems, rural electric cooperatives, private utilities for resale (without profit) and neighboring states, for the purpose of promoting economic and job development, energy efficiency, environmental and safety initiatives. *See* <http://www.nypa.gov/about/history1.htm>.

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<sup>32</sup> LIPA, a public authority, is a non-profit municipal electric provider initially created in 1985 under the Long Island Power Act, which became Long Island's primary electric service provider in 1998. *See* N.Y. Pub Auth L. Art 5, Title 1-A. In 1998, LIPA acquired the assets of the Long Island Lighting Company ("LILCO"), a public corporation that was the prior sole supplier of retail electric and gas service to Long Island.

Although LIPA does not directly provide electric or gas service (LIPA contracts with National Grid to maintain the system), it establishes policies for the management and operations of the electric system, sets electric rates, and issues debt as necessary to fund the electric system. *See Id.* at 2-2. All retail electric and gas service to Long Island, as well as oversight of operations and maintenance is currently provided by National Grid, formerly KeySpan Corporation. *See LIPA Draft Energy Resource Plan 2009-2018* (March 18, 2009), Appendix B, *Energy Primer* at 2-1, available at [www.lipower.org/pdfs/company/projects/.../energyplan09-b.pdf](http://www.lipower.org/pdfs/company/projects/.../energyplan09-b.pdf).

<sup>33</sup> The PSC was created in 1907. *See* N.Y. PSL Art. 1, Section 4. In 1970, the PSC was transformed into its current form: a bipartisan government agency that regulates various utilities of the state of New York, including electric, gas, steam, telecommunications, and water utilities. *See* [http://www.dps.state.ny.us/New\\_aboutpsc.html](http://www.dps.state.ny.us/New_aboutpsc.html).

The PSC is a body of up to five Commissioners (formerly seven), each appointed by the Governor and confirmed by the State Senate for a term of six years or to complete an unexpired term of a former Commissioner. The Chairman, designated by the

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Governor, is the chief executive officer of the Department and also serves as the Commissioner of the Department of Public Service (“DPS”), which is the staff arm of the PSC.

Wholesale electricity sales and transmission services are regulated by the Federal Energy Regulatory Commission (“FERC”).

<sup>34</sup> *See*

[http://www.dps.state.ny.us/New\\_aboutdps.html](http://www.dps.state.ny.us/New_aboutdps.html).

<sup>35</sup> *See*

<http://pulpnetwork.blogspot.com/2010/04/citing-delays-pulp-asks-for-review-of.html>; *See also* [http://www.pulp.tc/html/complaint\\_process.html](http://www.pulp.tc/html/complaint_process.html).

<sup>36</sup> *See* Letter to NYS Energy Secretary (April 2, 2010), by Alliance for Clean Energy New York, Association for Energy Affordability, Building Performance Contractors Association of New York, Environmental Advocates of New York, Natural Resources Defense Council, New York Energy Consumers Council and Pace Energy and Climate Center, at 3-5.

<sup>37</sup> *See*

<http://pulpnetwork.blogspot.com/2007/08/nyiso-capacity-market-faulted-at-ferc.html>.

<sup>38</sup> NYPA was created in 1931. *See* N.Y. Art 5, Title 1 of the Power Authority Act. *See also* <http://www.nypa.gov/about/history1.htm>.

<sup>39</sup> *See*

<http://www.nypa.gov/about/whoweare.htm>.

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<sup>40</sup> See N.Y. Pub Auth L. Art 5, Title 1-A.

<sup>41</sup> In 1998, LIPA acquired the assets of the Long Island Lighting Company (“LILCO”), a public corporation that was the prior sole supplier of retail electric and gas service to Long Island.

<sup>42</sup> See *Id.* at 2-2.

<sup>43</sup> See LIPA *Draft Energy Resource Plan 2009-2018*, Appendix B, *Energy Primer* at 2-1 (March 18, 2009), available at [www.lipower.org/pdfs/company/projects/.../energyplan09-b.pdf](http://www.lipower.org/pdfs/company/projects/.../energyplan09-b.pdf).

<sup>44</sup> NYSERDA is a public authority. See N.Y. Pub. Auth, L. Art 8, Title 9. NYSERDA was initially created for the purpose of engaging in research and development to help reduce New York’s petroleum consumption. Currently, NYSERDA is working to help New York meet its energy goals, including: reducing energy consumption, promoting the use of renewable energy sources and protecting the environment. See <http://www.nyserda.org/About/default.asp>.

<sup>45</sup> NYISO is a private not-for-profit.

<sup>46</sup> See [http://www.nyserda.org/programs/Green\\_Buildings/default.asp](http://www.nyserda.org/programs/Green_Buildings/default.asp).

<sup>47</sup> See <http://www.usgbc.org/News/USGBCInTheNewsDetails.aspx?ID=4374>.

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<sup>48</sup> See

[http://www.dps.state.ny.us/gbpresentations/nema\\_remarks\\_042809.pdf](http://www.dps.state.ny.us/gbpresentations/nema_remarks_042809.pdf).

<sup>49</sup> See McKinsey and Company, *Reducing Greenhouse Gas Emissions: How Much at What Cost?* (2007), at xiv, referenced in James M. Van Nostrand, *Legal Issues In Financing Energy Efficiency: Creative Solutions for Funding the Initial Capital Costs of Investments in Energy Efficiency Measures*, George Washington University Journal of Environmental and Energy Law (forthcoming).

<sup>50</sup> “New York State Passes PACE Finance Enabling Legislation,” *PR Newswire* (November 17, 2009), available at <http://www.prnewswire.com/news-releases/new-york-state-passes-pace-finance-enabling-legislation-70276767.html>.

<sup>51</sup> See James M. Van Nostrand, *Legal Issues In Financing Energy Efficiency: Creative Solutions for Funding the Initial Capital Costs of Investments in Energy Efficiency Measures*, George Washington University Journal of Environmental and Energy Law (forthcoming), at 4-5.

<sup>52</sup> As shown in a pilot study conducted in Westchester, New York, an average retrofit achieved 30 percent energy savings, which, if financed through PACE bonds over 20 years at seven percent interest, would require annual property tax assessments of \$1,132. Based on typical energy usage within the Town of Bedford, a 30 percent reduction in electricity and natural gas bills would produce savings of \$1575,

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producing a positive cash flow of \$443 in the first year. See James M. Van Nostrand, *Legal Issues In Financing Energy Efficiency: Creative Solutions for Funding the Initial Capital Costs of Investments in Energy Efficiency Measures*, George Washington University Journal of Environmental and Energy Law (forthcoming), at n.17 (summarizing M. Thielking, *PACE Financing – Scaling Up Energy Efficiency in Our Economy: Town of Bedford PILOT/Northern Westchester Energy Action Consortium Retrofit Program – A Case Study* (April 23, 2010), at 10).

<sup>53</sup> See Chap. 497 of the N.Y. Laws of 2009.

<sup>54</sup> Alisa Valderrama, “PACE program helps New Yorkers with energy efficiency, renewable energy projects,” *NRDC Switchboard* (March 24, 2010), available at [http://switchboard.nrdc.org/blogs/avalderrama/pace\\_program\\_helps\\_new\\_yorkers.html](http://switchboard.nrdc.org/blogs/avalderrama/pace_program_helps_new_yorkers.html).

<sup>55</sup> See H.R. 3836 (2009). See also [http://pacenow.org/documents/News\\_percent20Release.pdf](http://pacenow.org/documents/News_percent20Release.pdf).

<sup>56</sup> See <http://www.huffingtonpost.com/steven-cohen/the-federal-government-at-b-639420.html>.

<sup>57</sup> New York Public Service Commission, Case 07-M-0548, *Order Establishing Energy Efficiency Portfolio Standard and Approving Programs* (June 23, 2008), at 3.

<sup>58</sup> James M. Van Nostrand, *Legal Issues In Financing Energy Efficiency: Creative Solutions for Funding the Initial Capital Costs of Investments in Energy*

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*Efficiency Measures*, George Washington University Journal of Environmental and Energy Law (forthcoming) at 21-29.

<sup>59</sup> R. Bharvirkar, C. Goldman, D. Gilligan, T. Singer, D. Birr, P. Donahue, and S. Serota, *Performance Contracting and Energy Efficiency in the State Government Market*, (November 2008), Lawrence Berkeley National Laboratory (LBNL-1202E), at 17.

<sup>60</sup> *Id.*

<sup>61</sup> See Governor George Pataki, *Executive Order No. 111*, (June 10, 2001) (Directing State Agencies to be More Energy Efficient and Environmentally Aware: “Green and Clean State Buildings and Vehicles”).

<sup>62</sup> See <http://www.nyserda.org/programs/exorder111orig4.asp>. Arguably, this is an area where NYPA should have a leading role because we have the statutory authority to finance and implement energy efficiency programs in state and local governmental buildings and facilities.

<sup>63</sup> California, for example, has fully entrusted its private utilities with management of efficiency programs subject to the California Energy Commission’s review of their success in meeting expected performance targets.

<sup>64</sup> S. Cohen, “Promoting Energy Efficiency: Comparing New York State to California,” *New York Observer* (Sept. 17, 2008), available at <http://www.observer.com/2008/green/promoting->

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<sup>65</sup> *See*

<http://www.ferc.gov/industries/electric/industry-act/smart-grid.asp>.

<sup>66</sup> *Id.*

<sup>67</sup> Angela Neville, "Boulder to be first 'Smart Grid City,'" *Power Magazine* (May 15, 2008), available at [http://www.powermag.com/smart\\_grid/Boulder-to-be-first-Smart-Grid-City\\_173.html](http://www.powermag.com/smart_grid/Boulder-to-be-first-Smart-Grid-City_173.html).

<sup>68</sup> *Id.*

<sup>69</sup> "NYISO Gets \$37.8 Million in Stimulus Money to Deploy Smart Grid Technology," (May 11, 2010), *Smart Grid News.com*, available at [http://www.smartgridnews.com/artman/publish/Deliver\\_Transmission\\_News/NYISO-Gets-37-8-Million-in-Stimulus-Money-to-Deploy-Smart-Grid-Technology-2324.html](http://www.smartgridnews.com/artman/publish/Deliver_Transmission_News/NYISO-Gets-37-8-Million-in-Stimulus-Money-to-Deploy-Smart-Grid-Technology-2324.html).

<sup>70</sup> The members of the Consortium are the Advanced Energy Research and Technology Center ("AERTC"), Brookhaven National Laboratory, Central Hudson G&E, City of New York, Clarkson University, Computer Associates, Consolidated Edison ("Con Ed"), General Electric, IBM, Long Island Power Authority ("LIPA"), National Grid, New York Department of Public Service, New York Independent System Operator, New York Power Authority ("NYPA"), New York State Business Council, New York State Electric & Gas ("NYSEG"), New York State Energy Research and

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Development Authority (“NYSERDA”), New York State Foundation for Science, Technology and Innovation (“NYSTAR”), New York State Governor’s Office, New York University Poly, Rochester Gas & Electric (“RG&E”), Rochester Institute of Technology, State University of New York at Stony Brook and University of Rochester.

<sup>71</sup> *See*

[http://www.coned.com/newsroom/news/pr20090804\\_2.asp](http://www.coned.com/newsroom/news/pr20090804_2.asp).

<sup>72</sup> *See*

[http://nyssmartgrid.com/download/pressreleases/nys\\_sgc\\_04092010.pdf](http://nyssmartgrid.com/download/pressreleases/nys_sgc_04092010.pdf).

<sup>73</sup> *Strategic Smart Grid Vision and Technical Plan Report*, Draft v. 2.0 (October 2009), at 9, available at [http://www.nyssmartgrid.com/download/general/StratVis\\_TechPlan\\_Draft\\_v2\\_Oct2009.pdf](http://www.nyssmartgrid.com/download/general/StratVis_TechPlan_Draft_v2_Oct2009.pdf).

<sup>74</sup> Jesse Berst, “Smart Grid Leadership: The Top Ten ‘Smartest’ States in 2009,” *Greentech Media News* (April 30, 2009), available at <http://www.greentechmedia.com/articles/read/smart-grid-leadership-the-top-ten-smartest-states-in-2009-5927/>.

<sup>75</sup> *Id.*

<sup>76</sup> Andres Carvallo, “Lightson: Austin Energy Delivers First Smart Grid in the US,” *Electric Energy Publications Inc.*, available at [http://www.electricenergyonline.com/?page=show\\_article&mag=60&article=451](http://www.electricenergyonline.com/?page=show_article&mag=60&article=451).

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<sup>77</sup> See [http://www.nationalgridus.com/aboutus/a3-1\\_news2.asp?document=5023](http://www.nationalgridus.com/aboutus/a3-1_news2.asp?document=5023).

<sup>78</sup> New York State Energy Plan 2009, Vol. I, *Objectives and Strategies*, at 81-82, available at [http://www.nysenergyplan.com/final/New York State Energy Plan VolumeI.pdf](http://www.nysenergyplan.com/final/New_York_State_Energy_Plan_VolumeI.pdf).

<sup>79</sup> See [http://www.midhudsonnews.com/News/2010/May/08/SpectraWatt\\_GO-08May10.html](http://www.midhudsonnews.com/News/2010/May/08/SpectraWatt_GO-08May10.html).

<sup>80</sup> See <http://www.hv-pv.com/about>.

<sup>81</sup> See <http://thesolarec.org/AboutUs.php>.

<sup>82</sup> New York's E-RIC team leverages unique capabilities from Upstate and the New York City Metropolitan Area. The statewide NYE-RIC consortium is led by New York's Center of Excellence at Syracuse University in partnership with RPI, City University of New York ("CUNY"), NYSTAR, and the SUNY Research Foundation. The Partnership for New York City and CenterState CEO joined forces to unite support from Downstate and Upstate, engaging 116 partners (and growing) from the government and private sector spanning utilities, construction firms, engineering and architecture firms; labor organizations; finance and insurance institutions; real estate owners and developers; advocacy organizations; marketing and media firms; workforce development and innovation organizations; and state and local governments across the State.

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<sup>83</sup> See [http://www.ny.gov/governor/press/press\\_1005092.html](http://www.ny.gov/governor/press/press_1005092.html).

<sup>84</sup> See U.S. Energy Information Administration, *State Electricity Profiles 2008: New York 2008 Summary Statistics*, Table 10, available at [http://www.eia.doe.gov/cneaf/electricity/st\\_profiles/new\\_york.pdf](http://www.eia.doe.gov/cneaf/electricity/st_profiles/new_york.pdf).

<sup>85</sup> *Id.* at 44.

<sup>86</sup> New York State Energy Plan 2009, Vol. I, *Objectives and Strategies*, at 82, available at [http://www.nysenergyplan.com/final/New\\_York\\_State\\_Energy\\_Plan\\_Volumel.pdf](http://www.nysenergyplan.com/final/New_York_State_Energy_Plan_Volumel.pdf).

<sup>87</sup> See <http://www.clearwater.org/news/renewable.html>.

<sup>88</sup> See [http://www.ag.ny.gov/media\\_center/2008/oct/oct30a\\_08.html](http://www.ag.ny.gov/media_center/2008/oct/oct30a_08.html).

<sup>89</sup> In all, it is estimated that projects totaling approximately 8,000 MW of new power from wind generation have been proposed in New York.

<sup>90</sup> Five responses were received for this Great Lakes Offshore Wind Project, and NYPA anticipates selecting a preferred developer in late 2010 or early 2011. See <http://www.nypa.gov/press/2010/100604a.html>.

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<sup>91</sup> See

[http://www.syracuse.com/news/index.ssf/2010/06/central\\_new\\_york\\_companies\\_sig.html](http://www.syracuse.com/news/index.ssf/2010/06/central_new_york_companies_sig.html).

<sup>92</sup> See

<http://www.nypa.gov/NYPAwindpower/LINYCwind.htm>.

<sup>93</sup> See Solar Energy Industries Association, *US Solar Industry, Year in Review 2009*, at 6, available at <http://seia.org/galleries/default-file/2009percent20Solarpercent20Industrypercent20Yearpercent20inpercent20Review.pdf>.

<sup>94</sup> See John Blackburn, Sam Cunningham, *Solar and Nuclear Costs – the Historic Crossover*, prepared for NC Warn (July 2010), available at [http://www.ncwarn.org/wp-content/uploads/2010/07/NCW-SolarReport\\_final1.pdf](http://www.ncwarn.org/wp-content/uploads/2010/07/NCW-SolarReport_final1.pdf).

<sup>95</sup> *Id.* at 4.

<sup>96</sup> See New York State Energy Plan 2009, Vol. I, *Objectives and Strategies*, at 42, available at [http://www.nysenergyplan.com/final/New\\_York\\_State\\_Energy\\_Plan\\_VolumeI.pdf](http://www.nysenergyplan.com/final/New_York_State_Energy_Plan_VolumeI.pdf).

<sup>97</sup> More information on the project is available at <http://www.nypa.gov/press/2010/100603b.html>.

<sup>99</sup> Gwendolyn Bounds, "Cheap Hot Water? Just Add Sunshine" (January 28, 2010), *The Wall Street Journal*, available at

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<http://online.wsj.com/article/SB10001424052748703906204575027012258855730.html>.

<sup>100</sup> See <http://www.gosolargreenny.com/solar-water-heating.html>.

<sup>101</sup> California recently approved rebates of \$1,500 for solar hot water heaters with the goal of installation of 300,000 systems over an 8 year period. See <http://www.renewable-energy-news.info/california-rebate-program-solar-water-heating-systems/>.

<sup>102</sup> *Id.* at 51.

<sup>103</sup> *Id.* at 47.

<sup>104</sup> *Id.* at 52.

<sup>105</sup> The State's natural gas production is expected by experts to more than double over the next decade, due in large part to the projected production from the Marcellus Shale formation. If those projections prove correct, in-state production could provide about 11 percent of the State's natural gas requirements by 2020.

<sup>106</sup> See New York State Energy Plan 2009, Vol. II, *Electricity Assessment: Resources and Markets*, at 33-36, available at [http://www.nysenergyplan.com/final/Electricity Assessment Resource and Markets.pdf](http://www.nysenergyplan.com/final/Electricity_Assessment_Resource_and_Markets.pdf).

<sup>107</sup> In New York, electricity generally flows east from the Niagara Falls area and then south to New York

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City and Long Island. This direction of flow results primarily because only about 40 percent of the State's electric generating capacity is located in the New York City and Long Island while the peak demand there was 50 percent of the statewide end-use consumer needs in 2008, and end-use consumer load was about 47 percent of the statewide needs. Additionally, the higher operating cost associated with generating electricity in downstate regions, as compared to the costs of generating upstate, makes it more cost effective to import electric power into the downstate areas much of the time. See *Id.* at 5.

<sup>108</sup> New York State Energy Plan 2009, Vol. I, *Objectives and Strategies*, at 50, available at [http://www.nysenergyplan.com/final/New York State Energy Plan VolumeI.pdf](http://www.nysenergyplan.com/final/New_York_State_Energy_Plan_VolumeI.pdf).

<sup>109</sup> See *STARS Overview*, Powerpoint Presentation (May 20, 2010), at 18-28.

<sup>110</sup> See <http://www.atcllc.com/A9.shtml>.

<sup>111</sup> See Governor David A. Paterson, *Executive Order No. 2 Establishing a State Energy Planning Board and Authorizing the Creation and Implementation of a State Energy Plan*, available at [http://www.state.ny.us/governor/executive\\_orders/exeorders/eo\\_2.html](http://www.state.ny.us/governor/executive_orders/exeorders/eo_2.html).

<sup>112</sup> For example, in February 2009, Assemblymember Richard Brodsky proposed a bill that would require the PSC to take action on petitions submitted by parties in a more expeditious manner. See [http://assembly.state.ny.us/leg/?default\\_fld=&bn=A04](http://assembly.state.ny.us/leg/?default_fld=&bn=A04)

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[472&Summary=Y&Text=Y](#). Assembly Committee staff, based on data provided by the PSC, found the following statistics regarding open complaints:

- \* 69 cases filed in 2002 are still open,
- \* 95 cases filed in 2003 are still open,
- \* 143 cases filed in 2004 are still open,
- \* 321 cases filed in 2005 are still open, and
- \* 665 cases filed in 2006 are still open.

See Legislation Sponsor's Memorandum in support of bill, available at [http://assembly.state.ny.us/leg/?default\\_fld=&bn=A04472&Summary=Y&Memo=Y&Text=Y](http://assembly.state.ny.us/leg/?default_fld=&bn=A04472&Summary=Y&Memo=Y&Text=Y). The Public Utility Law Project ("PULP") has documented similar problems. See, e.g., <http://pulpnetwork.blogspot.com/2010/04/citing-delays-pulp-asks-for-review-of.html>; [http://www.pulp.tc/html/complaint\\_process.html](http://www.pulp.tc/html/complaint_process.html).

<sup>113</sup> See <http://readme.readmedia.com/Groups-Call-on-Governor-to-Put-the-Public-Back-in-Public-Service-Commission/359679>; See also <http://www.timesunion.com/ASPStories/story.asp?StoryID=765125>.

<sup>114</sup> California's Energy Commission and the California Public Utilities Commission provide annual reports to the Legislature and the Governor.

<sup>115</sup> See, e.g., CPUC, *Impacts of Distributed Generation* (Jan. 2010), available at [ftp://ftp.cpuc.ca.gov/OGA/reports/2010/Impacts percent20of percent20Distributed percent20Generation-AB percent20578](ftp://ftp.cpuc.ca.gov/OGA/reports/2010/Impacts%20of%20Distributed%20Generation-AB%20578)

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[percent20100129.pdf](#). See also <http://www.cpuc.ca.gov/PUC/legislation/reports/> (listing CPUC's reports to the California Legislature).

<sup>116</sup> Susan F. Tierney, "An Evaluation of the McCullough Research Report on New York's Power Market," *Analysis Group* (March 25, 2009).

<sup>117</sup> *Id.*

<sup>118</sup> Susan F. Tierney, Todd Schatzki, "Uniform-Pricing versus Pay-as-Bid in Wholesale Electricity Markets: Does it Make a Difference?" (March 2008), (report prepared on behalf of NYISO).

<sup>119</sup> McCullough Research, *The New York Independent System Operator's Market-Clearing Price Auction is Too Expensive for New York*, (March 3, 2009) at p. 5, n.5, available at <http://www.mresearch.com/pdfs/375.pdf>.

<sup>120</sup> See National Council on Electricity Policy, *Electricity Transmission: A Primer* (June 2004), at 2, available at <http://www.oe.energy.gov/primer.pdf>.

<sup>121</sup> *Id.* at 3.



