New York has a long and proud history as a leader on energy efficiency policy, as evidenced by its recent designation as the third most energy efficient state in the nation. Not surprisingly, this policy leadership has also made New York a leader in green economic growth and job creation. Governor Andrew Cuomo has continued this leadership effort, recently overseeing the October 2011 renewals by the Public Service Commission (PSC) of the state’s Energy Efficiency Portfolio Standard (EEPS) and Systems Benefit Charge (SBC) programs. Through these and other actions, the Governor has embraced the state’s impressive goal of meeting 15% of its projected electricity demand in 2015 through energy efficiency, commonly referred to as “15 by 15.” These policies expand the New York economy and create jobs, while also reducing energy prices, delivering energy and economic security, and providing substantial environmental benefits. This

omy.pdf According to Brookings, the New York metropolitan area has the largest number of green jobs of any U.S. metropoli-
tan area, and the Albany area is also a hotbed for green jobs growth.
E2417D963477%7d “Order Authorizing Efficiency Programs, Revising Incentive Mechanism, and Establishing a Surcharge
aspx?DocRefId=%7BC0BD1A5B-6E4F-4C4A-A0E9-BC78799DAA23%7D
4 The New York State Energy Research and Development Authority (NYSERDA) has begun administering Green Jobs-Green
NY, a statutory program funded with $112 million in auction revenue from the Regional Greenhouse Gas Initiative (RGGI)
The analysis reveals that significant progress has been made toward its '15 by 15' energy efficiency goal. This report reviews publicly available information on the progress made by each entity responsible for contributing to that overarching target. The analysis below does not seek to identify every technical opportunity or the specific effects of individual policy decisions. Rather, it aims to provide an overview of progress to date, and to identify improvements that increase the likelihood that the state will meet its goal. The closer the state comes to its '15 by 15' goal, the more robust the state's green economy, the more savings enjoyed by energy consumers, and the more jobs for New Yorkers the Cuomo Administration will generate in the process.

The analysis reveals that significant progress has been made in some sectors, while less has been made in others. Overall, New York is not currently on track to meet the '15 by 15' goal, in part because of the slow progress to date. Nevertheless, there is ample evidence that substantial economic and environmental benefits are still achievable. And while recent improvements to program design and implementation are headed in the right direction, more must be done if the state is going to meet its goal. The final section of this report provides recommendations to improve performance.

### Background

#### Energy Efficiency: The Cost-Effective Resource that Grows the Economy

New York’s 2009 State Energy Plan prescribed five key objectives: (1) maintain reliability; (2) reduce GHG emissions; (3) stabilize energy costs and improve economic competitiveness; (4) reduce the state’s health and environmental risks; and (5) improve energy independence. To that end, the State Energy Plan identified “energy efficiency as the priority resource for meeting its multiple objectives.” Through the implementation of efficiency measures does address each of these five objectives, it is energy efficiency’s cost effectiveness that makes it such an attractive resource.

- **Economic growth:** Investments in energy efficiency result in significant energybenefits. Among the states participating in the Regional Greenhouse Gas Initiative (RGGI), each RGGI dollar invested in energy efficiency in 2010 resulted in $2.30 of total energy benefits.
- **Least cost resource:** The levelized cost ($/Megawatt-hour) of energy efficiency is far less than any other energy resource.
- **Biggest bang for the energy buck:** Energy efficiency is recognized as a low risk, high return investment. When compared to U.S. Treasury Bills, long term corporate bonds, common stocks and small-company stocks, investments in energy efficiency have the highest average annual return and have a lower risk index than all but U.S. Treasury Bills.
- **Jobs, jobs, jobs:** Meeting the state’s EEPS targets would create an estimated 37,000 sustained jobs and inject nearly $12 billion of benefits into the state’s economy by 2015.
- **Reliability—keeping the lights on:** Efficiency investments are the cheapest means to ensuring a reliable electric grid. For the first time in years, the recently released NYISO Reliability Needs Assessment (RNA) predicted some reliability problems with the grid over the coming decade—but concluded that the bulk of these reliability problems could be avoided if the state achieves its 15 by 15 target. Not achieving the goal will result in the need for more costly infrastructure investments that are ultimately borne by ratepayers.

### The June 2008 PSC Order

Recognizing these marked economic, reliability, and environmental benefits, in June of 2008 the New York PSC issued an Order establishing an Energy Efficiency Portfolio Standard (EEPS) for the state. This “EEPS I” Order set aggressive but achievable savings targets for ramping up energy efficiency across all service territories and end use sectors, presented a cost-benefit analysis of those goals and laid out a framework for implementation through year-end 2011; a subsequent October 2011 “EEPS II” order established budgets and targets through year-end 2015. At the core of the EEPS is the aforementioned 15 by 15 target of reduced forecasted statewide electricity usage 15% by 2015. To help achieve this goal, the PSC established collections on utility bills to fund programs and directed New York’s investor-owned utilities (IOUs) and the New York State Energy Research and Development Authority (NYSERDA) to design and implement energy efficiency programs. There are currently over 100 electric efficiency programs that have been approved by the PSC and are being administered by the utilities and NYSERDA, covering everything from single family home retrofits to large commercial and industrial facilities. In addition to these electric efficiency programs, NYSERDA and the IOUs are required by the PSC to implement extensive gas efficiency programs. These gas programs are robust; EEPS gas collections necessitate millions of ratepayer dollars to fund these critical investments. This report, however, will focus on electric efficiency efforts. The following figure shows the dollar budgets for these electric programs.

#### Figure 1. Electric Efficiency Budgets under Public Service Commission Orders

<table>
<thead>
<tr>
<th>Year</th>
<th>Utilities</th>
<th>NYSERDA</th>
<th>Total Collections</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-2011</td>
<td>$210,641,134</td>
<td>$298,906,527</td>
<td>$511,747,756</td>
</tr>
<tr>
<td>2012-2018</td>
<td>$734,598,776</td>
<td>$767,459,584</td>
<td>$1,502,058,360</td>
</tr>
</tbody>
</table>

In addition to the above programs, entities outside of the PSC’s jurisdiction were encouraged to implement energy efficiency programs of their own to contribute to the overall state target. These entities include the New York Power Authority (NYPAA), the Long Island Power Authority (LIPA) and the Department of State (DOS), which is responsible for promoting and overseeing the enforcement of building codes and appliance standards.

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13 A value of 0.469 based on 2015 forecasted electric sales of 186,902,280 MWh. A-15 reduction in electric energy usage results in 141,202,280 MWh.

14 The budgets presented in this table are the original budgets set forth in the June 2008 and 2011 PSC Orders. Modifications were made to program budgets following all of these orders, and PA budgets continued to the revised.


17 At the PSC’s direction, NYSERDA provides funding for certain initiatives that do not directly produce energy savings, such as workforce development, marketing and evaluation. It is important to keep in mind when comparing PA budgets to achieved efficiency savings.

In 2012 Rensselaer Polytechnic Institute (RPI) completed a new, high-efficiency sports arena on their campus in Troy, NY. In order to help RPI achieve Gold-Level LEED certification for the project, NYSERDA provided $404,491 in incentives for the implementation of efficiency measures, including high-efficiency lighting, demand-controlled ventilation, premium efficiency motors and more. With a payback of less than two years, RPI’s investment in efficiency is expected to result in an annual energy savings of 1,159 MWh and annual cost savings of $227,778.

Figure 2: Forecasted Electricity Usage vs. ‘15 by 15’ Usage

• Financial Savings
  • $6.5 billion: directly avoided energy payments
  • $2 billion: reductions in wholesale electricity prices from decreased statewide electricity demand, also known as the Demand-Reduction-Induced Price Effect (DRIPE)
  • $3 billion: avoided capacity payments due to reduced peak load demand

• Emissions Reductions
  • NOx: 6,644 tons
  • SO2: 9,040 tons
  • CO2: 9,123,570 tons

• Economic Development
  • Creation of 37,000 sustained jobs

However, during the first phase of EEPS through year-end 2011, NYSERDA and IOU electric programs have “acquired” 2,132 GWh of energy savings,28 compared to the June 2008 PSC Order goal through year-end 2011 of 3,943 GWh. 29,30 Figure 3 illustrates this shortfall.

Figure 4 provides a rough estimation of the foregone benefits from these shortfalls. This lost opportunity is estimated at over $2 billion in avoided energy payments. The loss of economic development benefits is estimated at $3 billion. The environmental benefits from not implementing EEPS during this phase are also estimated at nearly $3 billion in avoided CO2.

24 New York’s six IOUs are Central Hudson, Con Ed, National Grid, New York State Electric and Gas (NYSEG), Orange and Rockland (O&R) and Rochester Gas and Electric (RG&E).
26 “New York’s System Benefits Charge Programs Evaluation and Status Report,” NYSERDA, March 30, 2012. New York’s six IOUs are in various stages in the process of filing their own adjusted targets. At time of writing PSC had not yet issued a response.
27 As the time from the start of the ‘15 by 15’ program through 2011 represents approximately 45% of the program’s total duration, this column shows 45% of the total projected energy savings and associated benefits.
28 The total savings from EEPS I’s failure to achieve 2,132 GWh of energy savings is not an official calculation, and does not include retroactive, electrically related Tech Manual adjustments. In addition, some EEPS I programs that required larger load lifts than those larger and more complex commercial/industrial projects actually included savings targets that would be “acquired” after 2011.
29 This goal is the sum of the PSC-determined wedges for NYSERDA (3,499,995 MWh), with the IOUs (353,806), transmission and distribution (353,806), and the “jurisdictional gap” (7,687,095). The jurisdictional gap refers to all additional efforts carried out by entities under the jurisdiction of the PSC.
30 NYSERDA has filed a motion to reduce its EEPS savings target by 43%. “Petition for Modification of Energy Efficiency Portfolio Standard Budgets and Targets,” NYSERDA, March 30, 2012. New York’s six IOUs are in various stages in the process of filing their own adjusted targets. At time of writing PSC had not yet issued a response.
Figure 3: Energy Efficiency Portfolio Standard Electric Savings Through 2011

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Projected Savings and Associated Benefits Through 2011</th>
<th>Actual Savings and Associated Benefits through 2011</th>
<th>Lost Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Savings</td>
<td>3,424,379 MWh</td>
<td>2,132,093 MWh</td>
<td>1,292,286 MWh</td>
</tr>
<tr>
<td>Directly Avoided Energy Payments</td>
<td>$2.914 billion</td>
<td>$1.814 billion</td>
<td>$1.1 billion</td>
</tr>
<tr>
<td>DRIFE Savings</td>
<td>$897 million</td>
<td>$558 million</td>
<td>$338 million</td>
</tr>
<tr>
<td>Avoided Capacity Charges</td>
<td>$1.345 billion</td>
<td>$837 million</td>
<td>$508 million</td>
</tr>
<tr>
<td>Total</td>
<td>$5.16 billion</td>
<td>$3.21 billion</td>
<td>$1.95 Billion</td>
</tr>
<tr>
<td>Jobs Created</td>
<td>16,586</td>
<td>10,327</td>
<td>6,260 Jobs</td>
</tr>
</tbody>
</table>

Figure 4: Benefits Not Realized by Missing Energy Efficiency Portfolio Standard Targets

Benefits Projected Savings and Associated Benefits Through 2011 Actual Savings and Associated Benefits through 2011 Lost Opportunities

Electric Savings 3,424,379 MWh 2,132,093 MWh 1,292,286 MWh

Directly Avoided Energy Payments $2.914 billion $1.814 billion $1.1 billion

DRIFE Savings $897 million $558 million $338 million

Avoided Capacity Charges $1.345 billion $837 million $508 million

Total $5.16 billion $3.21 billion $1.95 Billion

Jobs Created 16,586 10,327 6,260 Jobs

These shortfalls are due to a number of factors, many of which were discussed at length in the July 2011 EEPS White Paper, prepared by a DPS Administrative Law Judge in an effort to inform the PSC as it pondered the next phase of the initiative. Beyond timing issues, the principal cause of the shortfall appears to be the economic downturn. These shortfalls are due to a number of factors, many of which were discussed at length in the July 2011 EEPS White Paper, prepared by a DPS Administrative Law Judge in an effort to inform the PSC as it pondered the next phase of the initiative. Beyond timing issues, the principal cause of the shortfall appears to be the economic downturn. Program administrators report a reluctance or inability of customers to invest in efficiency improvements. Other causes of the shortfall include: lack of cooperation among program administrators, counterproductive effects of shareholder incentive mechanisms, fuel restrictions and other eligibility restrictions.

Some of these factors—such as the recession and the challenge IOUs faced in ramping up after a long period of not being in the efficiency business—were beyond the control of regulators and program administrators, while other factors were within their control. While surrounding states also struggled with the economic downturn, the lack of flexibility afforded New York’s program administrators appears to have exacerbated that impact here. The following are some factors contributing to the shortfall, all of which can and should be addressed going forward:

- **Administrative delays:** In some instances it has taken more than 18 months from program proposal to ultimate PSC sign-off for implementation. The amount of time that it takes for a program administrator to make adjustments to an existing program, which often requires going through the State Administrative Procedures Act petition process, results in protracted delays. While positive steps have been taken to accelerate this process by affording DPS staff more latitude to approve changes within a certain threshold, more must be done to streamline these efforts. Furthermore, changes in reporting and screening requirements resulted in substantial uncertainty, causing additional delays for program administrators.

- **Customer confusion:** NYSERDA and IOUs chasing the same efficiency projects in the same market segments while offering different incentive designs results in customer confusion. The end result is that fewer projects are closed on, and fewer savings are acquired. One alternative would be to carve out certain markets for NYSERDA and leave others for IOUs to capture. Another more comprehensive change could entail shifting NYSERDA’s MWh goals to the utilities while retaining the overall goal—thereby offering a uniform statewide program co-branded by the utilities and administered by NYSERDA in close coordination with utility staff and contractors.
The final section of the report presents suggestions for how to build on that progress and ensure that working diligently to improve program performance. While the above factors and target shortfalls for Phase I of EEPS paint a somewhat disappointing picture, the PSC, NYSERDA, and IOUs have been working diligently to improve program performance. The final section of the report presents suggestions for how to build on that progress and ensure that Phase II of the program more successfully captures Efficiency gains through ELI have been on the rise. In 2009, acquired efficiency gains as a percentage of LIPA’s electricity sales were 0.6%. This figure rose slightly to 0.7% in 2010, and again to 0.8% in 2011. The PSC assumed ‘15 by 15’ target for LIPA through 2011 was 2,500,277 MW, LIPA’s own energy efficiency program goals culminate in 2018 with a target of 1,400,000 MW. To match the 2009-2011 EEPS I timeframe used by the PSC, LIPA’s proportional savings target through 2011 would be 420,000 MW—83% less savings than the PSC target. However, on the efficiency gains through ELI itself adopted, the 432,274 MW of savings that LIPA achieved through 2011 means they exceeded their adopted savings target by 2.9%. A similar dynamic exists under NYPA’s programs, which decline in the intention if ‘15 by 15’. Instead, efficiency programs have become more balkanized since 2008, which hampers the ability of the entire statewide suite of programs to deliver timely results.

### Long Island Power Authority (LIPA): Efficiency Long Island (ELI)

LIPA initiated Efficiency Long Island (ELI) in 2009, a continuation of the preceding Clean Energy Initiative. Through the ELI portfolio, LIPA aims to provide its customers with cost-effective energy efficiency measures that will substantially reduce electricity consumption and peak demand. The program’s goals are to reduce energy consumption by 1,400,000 MWh by 2018 from forecasted usage, and to reduce peak demand in 2018 by 520 MW. In order to achieve these goals, LIPA has set aside a budget of $924 million to be used over ELI’s ten year lifespan.37

En route to meeting its 2018 goals, LIPA has set aggressive annual reduction targets for ELI. Through the first three years of the program (2009-2011) the acquired reductions from ELI have fallen just short of the annual targets, but LIPA has made significant headway towards achieving ELI and its voluntary ‘15 by 15’ goals. Thus far, ELI has achieved 432,274 MW of electricity reduction (31% of the 2018 goal) and 87,118 MW of demand reduction (17% of the 2018 goal). Figure 5 shows the progress that LIPA has achieved towards its ELI goals through 2011.24,26,40

Efficiency gains through ELI have been on the rise. In 2009, acquired efficiency gains as a percentage of LIPA’s electricity sales were 0.6%. This figure rose slightly to 0.7% in 2010, and again to 0.8% in 2011.24,26 The PSC assumed ‘15 by 15’ target for LIPA through 2011 was 2,500,277 MW,43 LIPA’s own energy efficiency program goals culminate in 2018 with a target of 1,400,000 MW. To match the 2009-2011 EEPS I timeframe used by the PSC, LIPA’s proportional savings target through 2011 would be 420,000 MW—83% less savings than the PSC target. However, on the aforementioned target of 420,000 MW that LIPA itself adopted, the 432,274 MW of savings that LIPA achieved through 2011 means they exceeded their adopted savings target by 2.9%. A similar dynamic exists under NYPA’s programs (see next section), and illustrates the need to better align the many disparate efficiency efforts under one comprehensive regime, which was the intention if ‘15 by 15’. Instead, efficiency programs have become more balkanized since 2008, which hampers the ability of the entire statewide suite of programs to deliver timely results.

### New York Power Authority (NYPA)

The Authority’s existing energy services plan includes efficiency budgets of over $1.4 billion for 2008-2015, though these budgets are not restricted to electric and also include gas and oil efficiency.44

In April of 2012, Governor Cuomo announced NYPA’s goal to reduce energy consumption in state buildings by 20%.45 This effort will focus on improving the efficiency of state buildings and local governments. In order to achieve these savings, NYPA funding will be “directed toward the largest and most inefficient buildings.”46 As NYPA does not fall under the jurisdiction of the PSC, it is not required to meet the savings targets set forth in the 2008 PSC Order. While LIPA, which is also outside of PSC jurisdiction, has focused largely on acquiring electric efficiency savings, NYPA has, to date, put more of an emphasis on achieving gas and oil efficiency goals. As a result, at time of writing it is unclear whether NYPA will achieve the electric energy savings that were assumed in the original “wedge” analysis. From the ‘15 by 15’ planning perspective, the PSC assumed target for NYPA through 2011 was 2,059,543 MW. NYPA’s own projected energy efficiency savings from 2009 through 2015 are 436,000 MW. Thus, to match the 2009-2011 timeframe used by the PSC, NYPA’s proportional savings target through 2011 would be 186,857 MW—91% lower than what the original ‘15 by 15’ NYPA target assumed. However, based on their own target of 186,857 MW for the same time period, the 153,000 MW of savings that NYPA achieved through 2011 equates to achieving 82% of their self-proclaimed savings target.

As details of the ambitious efficiency effort for state buildings emerge, it will be possible to have a better sense of whether NYPA may ultimately meet the MW savings assumed for its part of ‘15 by 15’. One thing is certain: NYPA has the potential to play a massive part in the state’s efficiency efforts, and the state buildings initiative can be a national model if its ambitious goals are met through smart implementation and program design.
This is a key consideration, and these decisions have a huge impact on which programs ultimately receive funding. The metrics policymakers depend on to make funding decisions vary from state to state, and vary from agency to agency within New York. For example, the New York PSC imposes the Total Resource Cost (TRC) test at the measure level, which limits the ability of program administrators to implement efficiency measures whose benefits are not included in the current cost-effectiveness calculation. No other state applies the TRC at such a granular level.

**NYSERDA/IOUs**

All EEPS programs administered by NYSERDA and the IOUs must be reviewed and approved by Department of Public Service (DPS) staff and PSC to ensure they pass the TRC test. As described by DPS in the June 2011 EEPS White Paper, the TRC test "assesses the extent to which the cost of buying and installing an energy efficiency measure is exceeded by the savings associated with the traditional supply resources that the energy efficiency measure allows the utility system to avoid." In order to pass and be approved, a measure or program must score a 1.0 or higher. The TRC is a valuable tool for regulators and is widely used across the country. However, the inputs and assumptions built into the TRC formula can vary, along with how the outputs of the TRC are applied. The importance of proper choice and application of cost-effectiveness screening tests is one that has been receiving increased attention across the region and the nation. One major paper on the topic was recently released by the National Home Performance Council, with a second by the Regulatory Assistance Project forthcoming. The conclusion section of this paper presents some potential improvements to the PSC’s approach to cost-effectiveness screening, which would allow for more savings to be captured by NYSERDA and utility programs.

**Figure 6: ELI Cost Effectiveness**

<table>
<thead>
<tr>
<th>Year</th>
<th>S/MWh $/MWh</th>
<th>PA Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>$50</td>
<td>2.2</td>
</tr>
<tr>
<td>2010</td>
<td>$27</td>
<td>6.1</td>
</tr>
<tr>
<td>2011</td>
<td>$40</td>
<td>4.4</td>
</tr>
</tbody>
</table>

**LIPA**

LIPA measures the cost effectiveness of its ELI portfolio by using a Program Administrator (PA) test. The PA test determines the benefit/cost ratio for each ELI program, in terms of the costs incurred by LIPA. This contrasts with the TRC, which counts program participant contributions to an efficiency project as a "cost." Under the PA test, a score of greater than 1.0 indicates that a program’s benefits outweigh the administrator’s costs. As Figure 6 shows, the total ELI portfolio has been well above the 1.0 PA threshold in each of its first three years. LIPA also utilizes the TRC to screen programs and help inform policy decisions. It is important to note that some programs that do not pass the TRC are still being implemented, because LIPA decides there are sound policy reasons nonetheless. The flexibility to pursue more comprehensive projects on a case by case basis is essential to an effective state buildings initiative and any additional efforts NYPUSA undertakes.

**NYPUSA**

NYPUSA’s efficiency efforts encompass electric, natural gas, and oil savings, and focus mainly on the commercial/institutional sector—facilities such as state-owned buildings, schools, universities and hospitals. The authority’s approach to cost-effectiveness screenings differs from LIPA and the PSC in that it focuses more on an explicit TRC or PA formula rather than an explicit TRC or PA formula. Building owners participating in NYPUSA efficiency programs pay back 100% of a project’s cost but enjoy the turnkey service (from audit to design and installation) and financing terms that are more attractive than those available on the open market. Financing is typically for a ten-year period, though in capital intensive scenarios that timeframe can be up to twenty years. Thus, depending on the economics of a given work scope, NYPUSA has the flexibility to pursue more comprehensive projects on a case by case basis. Such an approach will be essential to an effective state buildings initiative and any additional efforts NYPUSA undertakes.

**Factors Limiting Savings from Codes and Standards**

- **Delays in codes and standards updates**
  - Under "15 by 15," new codes were assumed to be adopted, published and generating savings beginning in January 2013 — as it stands now that date has now slipped to December of 2014, which would result in nearly two years’ worth of foregone savings that would have otherwise been realized in all new construction and significant renovations.
- **Low compliance rates**
  - Energy savings from codes cannot be realized unless new construction and significant renovations in fact comply—cash strapped municipalities often struggle to provide adequate enforcement.
- **The energy components of building codes are complex and often difficult to understand, and as a result, builders, architects and engineers are less likely to comply**
- **Down economy**
  - The 2008 PSC Order made savings estimates based on higher new construction/renovation rates and faster appliance turnover rates. The economic downturn has significantly reduced savings on both fronts.
- **Exemptions**
  - Certain exemptions have drastically reduced the effectiveness of appliance standards.
The state can achieve ‘15 by 15’ only if certain steps are taken now to improve program design: reforming the Commission’s approach to cost-effectiveness, accelerating the deployment of programs, and confronting the challenges posed by the “non-jurisdictional wedges.”

The programs are moving in the right direction and a philosophy of “continuous improvement” is being adhered to both in word and in practice—particularly with respect to the efforts of the Evaluation Advisory Group (EAG) and the Implementation Advisory Group (IAG), which foster productive dialogue amongst the entities tasked with meeting these targets. These forums are vital to accelerating the deployment of programs, improving their design, and ensuring that savings can be tracked and verified—all of which are fundamental to the integrity of these programs. We commend the PSC and DPS Staff for these efforts, and urge that they be expanded and continue in the future, while also affording more opportunity for public forums and outside expert input.

The PSC and DPS Staff have indicated that they believe it is still possible to achieve the 2016 savings goals set for the regulated utilities and NYSERDA.54 However, based on this analysis, meeting these PSC jurisdictional targets, and particularly the broader ‘15 by 15’ goals that span NYPN, LIAPA and Codes, will be challenging. The state can achieve ‘15 by 15’ only if certain steps are taken now to improve program design: reforming the Commission’s approach to cost-effectiveness, accelerating the deployment of programs, and confronting the challenges posed by the “non-jurisdictional wedges.”

Recommendations

The following recommendations are designed to accelerate cost-effective investments in energy efficiency:

1. Update Codes & Standards more quickly, improve enforcement: The Department of State—working closely with NYSERDA and other state agencies—must adopt and enforce updated Energy Building Codes and Appliance Standards. Until this issue is addressed, every new construction project or significant renovation and each outdated-appliance sale results in a lost opportunity for highly cost-effective energy savings. The state should move quickly to update the code and increase funding to support code official training and enforcement efforts.

2. Ensure sufficient staff levels to implement ambitious goals and empower those staff to accelerate programs. In the past decade, the workload for which DPS staff is responsible has increased dramatically. Over the same time period staff levels at DPS and other agencies working on clean energy have declined significantly. Likewise, DOS must have sufficient staff and resources allocated to update, adopt, publish and ensure enforcement at the local level of building codes and standards. The state must ensure that these agencies have the personnel necessary to effectively implement these growing programs, and that protocols are put in place to provide them sufficient latitude to break through bureaucratic delays and deliver results.

3. Improve cost-effectiveness screening—and apply it as a tool, not the final word. The current PSC practice for cost-effectiveness screening of energy efficiency programs—New York’s version and application of the Total Resource Cost (TRC) test—must be updated. A number of parties have filed comments to this effect with the PSC.55,56 Under current DPS practice, the TRC test fails to fully account for the benefits and overstates the costs of energy efficiency programs. It is of utmost importance that ratepayer dollars be invested as effectively as possible; preserving a flawed TRC test to maintain the status quo jeopardizes the achievement of ‘15 by 15’ by leaving cost-effective savings on the table.

An improved TRC test should incorporate the following changes, and could be explored via a Technical Conference or other expert forum:

- Efficiency measures result in many societal benefits that are not reflected in the TRC test, such as public health, environmental benefits, and economic development.

Conclusions & Recommendations

New York is an energy efficiency leader. The well-intentioned efforts of the PSC, NYPN, LIAPA, DOS, NYSERDA and the utilities fell short of achieving the level of energy efficiency savings necessary to put the state on target to meet its ‘15 by 15’ goal. In the process, the state left significant energy efficiency savings on the table, along with the economic growth and jobs that would have accompanied that additional energy efficiency. The state must get better at capturing these cost-effective opportunities.

It is true that when New York embarked on its quest to achieve ‘15 by 15’, no one could have foreseen the impact that the economic downturn and historically low gas prices would have on the deployment of its energy efficiency programs.54 The energy efficiency portfolio standard (EEPS) programs have had a slower-than-hoped-for start, as exhibited by the savings shortfalls for EEPS I. The state must learn from the experiences of the past several years and step up the performance of the programs.

In addition to renewing robust dollar budgets, the October 2011 PSC “EEPS II” Order took stock of these program administration problems and other factors that were responsible for target shortfalls. That Order included some modest steps to improve program administration and performance, but left most of the EEPS structure intact for the sake of consistency. However, this need for program consistency must be balanced with the needed changes that can be taken now to increase energy savings—namely directing DPS staff to apply the TRC at the program level rather than the measure level. Doing so would immediately result in more effective programs, and has the support of nearly all program administrators.55

Utilities faced the additional challenge of ramping up energy efficiency programs after a decade of being out of the efficiency business.55 Joint Utilities and NYSERDA filed comments supporting the NRDC/Pace petition requesting the PSC and DPS to adhere to both in word and in practice—a philosophy of “continuous improvement” is being adhered to both in word and in practice—particularly with respect to the efforts of the Evaluation Advisory Group (EAG) and the Implementation Advisory Group (IAG), which foster productive dialogue amongst the entities tasked with meeting these targets. These forums are vital to accelerating the deployment of programs, improving their design, and ensuring that savings can be tracked and verified—all of which are fundamental to the integrity of these programs. We commend the PSC and DPS Staff for these efforts, and urge that they be expanded and continue in the future, while also affording more opportunity for public forums and outside expert input.

The PSC and DPS Staff have indicated that they believe it is still possible to achieve the 2016 savings goals set for the regulated utilities and NYSERDA.54 However, based on this analysis, meeting these PSC jurisdictional targets, and particularly the broader ‘15 by 15’ goals that span NYPN, LIAPA and Codes, will be challenging. The state can achieve ‘15 by 15’ only if certain steps are taken now to improve program design: reforming the Commission’s approach to cost-effectiveness, accelerating the deployment of programs, and confronting the challenges posed by the “non-jurisdictional wedges.”

The programs are moving in the right direction and a philosophy of “continuous improvement” is being adhered to both in word and in practice—particularly with respect to the efforts of the Evaluation Advisory Group (EAG) and the Implementation Advisory Group (IAG), which foster productive dialogue amongst the entities tasked with meeting these targets. These forums are vital to accelerating the deployment of programs, improving their design, and ensuring that savings can be tracked and verified—all of which are fundamental to the integrity of these programs. We commend the PSC and DPS Staff for these efforts, and urge that they be expanded and continue in the future, while also affording more opportunity for public forums and outside expert input.

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Recommendations

The following recommendations are designed to accelerate cost-effective investments in energy efficiency:

1. Update Codes & Standards more quickly, improve enforcement: The Department of State—working closely with NYSERDA and other state agencies—must adopt and enforce updated Energy Building Codes and Appliance Standards. Until this issue is addressed, every new construction project or significant renovation and each outdated-appliance sale results in a lost opportunity for highly cost-effective energy savings. The state should move quickly to update the code and increase funding to support code official training and enforcement efforts.

2. Ensure sufficient staff levels to implement ambitious goals and empower those staff to accelerate programs. In the past decade, the workload for which DPS staff is responsible has increased dramatically. Over the same time period staff levels at DPS and other agencies working on clean energy have declined significantly. Likewise, DOS must have sufficient staff and resources allocated to update, adopt, publish and ensure enforcement at the local level of building codes and standards. The state must ensure that these agencies have the personnel necessary to effectively implement these growing programs, and that protocols are put in place to provide them sufficient latitude to break through bureaucratic delays and deliver results.

3. Improve cost-effectiveness screening—and apply it as a tool, not the final word. The current PSC practice for cost-effectiveness screening of energy efficiency programs—New York’s version and application of the Total Resource Cost (TRC) test—must be updated. A number of parties have filed comments to this effect with the PSC.55,56 Under current DPS practice, the TRC test fails to fully account for the benefits and overstates the costs of energy efficiency programs. It is of utmost importance that ratepayer dollars be invested as effectively as possible; preserving a flawed TRC test to maintain the status quo jeopardizes the achievement of ‘15 by 15’ by leaving cost-effective savings on the table.

An improved TRC test should incorporate the following changes, and could be explored via a Technical Conference or other expert forum:

- Efficiency measures result in many societal benefits that are not reflected in the TRC test, such as public health, environmental benefits, and economic development.

Conclusions & Recommendations

New York is an energy efficiency leader. The well-intentioned efforts of the PSC, NYPN, LIAPA, DOS, NYSERDA and the utilities fell short of achieving the level of energy efficiency savings necessary to put the state on target to meet its ‘15 by 15’ goal. In the process, the state left significant energy efficiency savings on the table, along with the economic growth and jobs that would have accompanied that additional energy efficiency. The state must get better at capturing these cost-effective opportunities.

It is true that when New York embarked on its quest to achieve ‘15 by 15’, no one could have foreseen the impact that the economic downturn and historically low gas prices would have on the deployment of its energy efficiency programs.54 The energy efficiency portfolio standard (EEPS) programs have had a slower-than-hoped-for start, as exhibited by the savings shortfalls for EEPS I. The state must learn from the experiences of the past several years and step up the performance of the programs.

In addition to renewing robust dollar budgets, the October 2011 PSC “EEPS II” Order took stock of these program administration problems and other factors that were responsible for target shortfalls. That Order included some modest steps to improve program administration and performance, but left most of the EEPS structure intact for the sake of consistency. However, this need for program consistency must be balanced with the needed changes that can be taken now to increase energy savings—namely directing DPS staff to apply the TRC at the program level rather than the measure level. Doing so would immediately result in more effective programs, and has the support of nearly all program administrators.55
• Account for the wholesale price suppression effect
  Demand-Reduction-Induced Price Effect (DRYPE).
• Efficiency investments drive down demand for
electricity, which results in lower electricity and
capacity prices, resulting in significant savings to
all consumers.59
• Calculate benefit-cost ratios at the project/portfolio
  level—not the measure level.60
• Certain energy efficiency measures foster and
  encourage the implementation of other measures
  and lead to more comprehensive work scopes
  that save more energy. Cost-effectiveness
  applied at the level measure interferes with these
  more interactive building solutions. It also
  interferes with the sales process, inhibiting
  the ability of the installation contractors to package
  measures to suit their customers’ needs. The
  measure level application of the tests is resulting
  in significant lost opportunities in New York State.
  Another possibility would be to allow program
  administrators to rely on alternative tests (e.g.
  PAC) at the project level during implementation
  while continuing TRC at program level.
• Assign value to non-energy benefits (NEBs) of
  efficiency investments.
• Efficiency measures result in many societal
  benefits that are not reflected in the TRC test,
  such as public health, environmental benefits, and
economic development.
• Cutting greenhouse gas emissions was a major
  impetus for the introduction of New York’s
  aggressive EEPS program, yet climate benefits
  are not fully accounted for in the current TRC
  test. DPS staff currently applies a very conserva-
tive $15/ton benefit for CO2 reductions from EE
  investments; the number should be much higher
  in order to account for the threat posed by climate
  change. Recent research by Synapse suggests an
  $80/ton metric would be more appropriate.61
• A dollar saved on electricity by a New Yorker should
  be valued more than a dollar earned by an out-of-
  state generation owner.
  • The 2009 State Energy Plan estimates $1.4 billion
    in consumer electric savings as a result of EEPS,
    but TRC disregards this substantial sum on the
    grounds that this is merely a “transfer payment”
    from generation owners to electric customers.
    However, a core driver of the EEPS was to
    provide economic benefits to New Yorkers—not
to generation companies whose earnings are
    invested in large part outside of New York.
• The discount rate used by the TRC should be reduced.
• The current TRC real discount rate of 5.5% under-
  values the societal benefits of these investments;
  a lower rate would be more appropriate.
• Adopt the recommendations, as reasonable, of
  Best Practices in Energy Efficiency Program Screening
  Tim Woold, et al of Synapse Economics, Inc. for the
  National Home Performance Council, July 2012; to
  expand the portfolio of energy efficiency programs
  in the state while ensuring their cost-effectiveness.
  Many of those recommendations are listed above.

4. Leverage and coordinate the currently balkan-
ized suite of NY EE programs. Buffalo is a different
market than Manhattan or Long Island, and programs
should be tailored to the unique weather, electric
system conditions, and even contractor business
networks of these diverse regions. However, as this
report illustrates, consumers face a confusing alphabet
soup of multiple state authorities, state agencies
and investor-owned utilities that have different rules
governing their efficiency programs. If consumers and
contractors find it difficult or confusing to participate in
these programs, program administrators will have to
invest more in marketing and outreach to overcome
this obstacle, and long-term support for efficiency
collections may dwindle.

The Governor should ensure these disparate programs
actually obtain as much publicly-funded leverage as
possible rather than run the risk of over-incentivizing
or competing for the same projects. This will result in
reduced customer confusion and, in turn, more energy
efficiency projects being completed for the same dollar
investment. One step to this end would be to expand
the structure and role of the Implementation Advisory
Group to more than just DPS staff and program admin-
istrators, and provide opportunities for public forums
and outside expert input.

Additionally, ongoing work to better coordinate and
increase the effectiveness of marketing efficiency
should continue. Building consumer awareness
through promising initiatives such as the recently
launched unwasteNY website is essential.62 Reducing
the complexity of pursuing efficiency investments is
paramount, and more must be done in this area to
change consumer behavior and bridge the divide that
persists between most consumers and their energy use.

5. What happens after 2015? Begin the process
now. With both the EEPS and the Renewable Portfolio
Standard (RPS) scheduled to sunset in 2015, Governor
Cuomo, the PSC and all relevant state agencies and
authorities are faced with a monumental opportu-
nity to shape the future of clean energy in New York.

Preliminary results from an updated energy efficiency
potential study under the 2013 State Energy Plan
found that there is massive potential for incremental
economic electric efficiency above and beyond ‘15 by
15’—as much as 43% below forecasted demand
by 2030, as illustrated in Figure 7.63

58 This point is often countered with the claim that avoided electricity payments enjoyed
by consumers are equal to the losses from power plant owners. The TRC test is
designed to measure the economic impact on New York; savings for New Yorkers should be
valued more than losses for out-of-state power plant owners.

59 “Analysis of New York Cost Effectiveness Screening Methodology and Framework for
Commission/Meetings/20120706/EEPS_071212.pdf

60 While similar cost effectiveness methodologies... have been adopted in many of the
leading energy efficiency states... New York’s current version of the TRC test does not
sufficiently account for the full range of energy efficiency costs and benefits, and we
believe this is a somewhat high discount rate.

energyplan.com/meeting/NYSERDA%20Presentation%20July%209%202012%20
090520Meeting.pdf

62 http://www.unwasteNY.org/

energyplan.com/meeting/NYSERDA%20Presentation%20July%209%202012%20
090520Meeting.pdf
The Governor should initiate a proceeding in early 2013 to begin exploring what the next generation of energy efficiency (and renewable energy) programs will look like. Doing so under this timeframe will provide policymakers and stakeholders sufficient opportunities to provide feedback and design smart programs. Equally (if not more) important, charting a path early next year will provide sufficient lead time to the clean energy marketplace—thereby sending the signal that New York is “open for business” when it comes to energy efficiency and renewable energy investment, and all the job creation, economic development, and environmental benefits this growing sector create.

With the necessary hands-on leadership and vision on the part of Governor Cuomo, the state can meet not only ‘15 by 15’ but could also claim the honor of becoming the most energy efficient state in the Nation.

6. Don’t lose sight of the Big Picture. Regulators such as the PSC and DPS staff have a statutory obligation to ensure ratepayer dollars are invested prudently, and approach EEPS programs accordingly. However, in some instances regulatory micromanagement has hindered the deployment of this highly cost-effective resource. In order to ensure a more coordinated and cohesive suite of efficiency programs, the state should assemble a team or create a new position with the explicit purpose of overseeing all of the state’s energy efficiency efforts. The state—as well as the many parties with vested interests in the progress of the state’s efficiency efforts—would benefit greatly from a source of comprehensive information and updates on ‘15 by 15’ and future statewide efficiency initiatives.

‘15 by 15’ is not just about light bulbs, insulation and furnaces; it is about job creation, economic revitalization, and confronting the greatest environmental challenge of our time in climate change. Thus, overlaying these good faith efforts by DPS staff to oversee program design, approval, and deployment must be an engaged Commission and an Executive that together take those valuable inputs and make policy decisions regarding New York’s clean energy future. With the necessary hands-on leadership and vision on the part of Governor Cuomo, the state can meet not only ‘15 by 15’ but could also claim the honor of becoming the most energy efficient state in the Nation.
About Pace Energy and Climate Center

The Pace Energy and Climate Center is a legal and policy think tank seeking practical solutions to our energy and climate challenges. Our mission is to protect the earth’s environment through solutions that transform the ways society supplies and consumes energy so as to mitigate climate change, minimize pollution, and enhance society’s resilience to unavoidable climate change.

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