# STATE OF NEW YORK: STATE INITIATIVE TO COORDINATE EFFICIENCY ACTION

## SOLUTION OVERVIEW

Seeking 20 percent savings in a building portfolio managed by scores of agencies with varying levels of expertise and capacity, New York implemented BuildSmart NY, a state-led initiative to drive energy efficiency action across state buildings. The largest state electric utility in the nation, the New York Power Authority (NYPA), led this successful initiative by coordinating disparate agency efforts, mobilizing them with a concrete action plan and timeline, and supporting them with a comprehensive infrastructure of resources and technical assistance.

## ORGANIZATION TYPE

State Government

## GOAL

Improve the energy efficiency of state-owned facilities by 20 percent by April 2020, based on FY 2011 levels

## BARRIER

Varying resources, capacity, and framework for state agencies to pursue energy efficiency retrofits

## SOLUTION

New York created BuildSmart NY, a state-led initiative to centralize state building energy management, set a blueprint for action, and provide project technical assistance and support

## OUTCOME

New York recorded a 4.3 percent reduction in EUI as of the 2015 reporting period. This reduction also represents an avoided cost of $20 million and more than 38,000 tons of GHG avoided.

## POLICIES

New York's long history of encouraging energy savings at state facilities includes two Executive Orders directing state agencies to reduce their energy consumption. Following a 2011 study identifying the potential for 20 percent energy cost savings in state buildings, New York adopted Executive Order 88 (EO 88) in late 2012, which built on previous policy to drive increased energy

efficiency action in the portfolio.

EO 88 mandates a 20-percent improvement in the energy performance of state buildings by April 2020. The Executive Order assigns accountability for program results to the largest state electric utility in the nation, the New York Power Authority (NYPA). Further, EO 88 outlines a series of deadlines and minimum requirements for state agency participation.

## PROCESS
### Putting BuildSmart NY in Place

BuildSmart NY achieved results by centralizing state building energy management, setting concrete milestones and timeline, and organizing tools and resources into a framework that enables and drives agencies to take real retrofit action. As the BuildSmart lead, NYPA spent one year developing the three elements critical to the success of the program:

1. **Centralized program management**

NYPA coordinated the disparate resources and capacity residing in almost 60 agencies across the state to drive unified action toward the state's energy efficiency target. NYPA centralized management of these efforts in three BuildSmart teams:

a. **NYPA management team**

NYPA brought four new staff onboard to establish the BuildSmart NY Team, responsible for administering program operations. Each staff took on critical and complementary roles. The Director managed communications and reporting to the Governor's Office, while the Manager led program operations and stakeholder communications. The Specialist oversaw target areas specified in the EO, i.e. retro-commissioning, bringing on additional consulting expertise when necessary. Rounding out the Team was the Analyst, who directed data and program administration.

As the program leveled off into standard operation, the Team combined roles and stabilized at two staff. The Manager assumed the responsibilities previously held by the Director, and the Analyst assumed the responsibilities of the Specialist. Today the BuildSmart NY Team continues to enhance compliance guidelines, develop annual milestones, assist and oversee the state agencies, and report program progress and results to the Governor's Office and the public.

b. **Agency representatives**

The BuildSmart NY Team actively and formally engaged with individual state agencies. The Governor's Office requires that all agencies officially designate two key implementation roles:

- Executive Sponsors must report directly to the agency head and are responsible for program compliance
- Responsible Leads serve as the central and day-to-day contacts to NYPA's BuildSmart NY Team

c. **Executive Steering Committee (Committee)**

Another body critical to the launch and development of the BuildSmart NY program was the Executive Steering Committee. NYPA established this 14-member committee to ensure stakeholder input and support for the program, especially in its critical early months.

NYPA's President and CEO chairs the Committee, which includes key policy and operations staff from the Governor's Office and the Executive Sponsors from each agency. Initially meeting quarterly, the Committee now provides general program oversight, addresses risks and emerging issues, and advises on implementation policy on an as needed basis.

2. **Blueprint for action**

NYPA established a BuildSmart action plan with short-term, concrete milestones and associated timeline to mobilize state energy efficiency action:

a. **Program Guidelines**

The BuildSmart NY Team established a detailed action plan and timeline to clarify and direct agency efforts toward the general goal and deadlines set in EO 88.Together with more than 50 state agency general and technical managers, the BuildSmart NY Team developed the *Executive Order 88 Program Guidelines*, a 40-page document that is the administrative and procedural backbone of BuildSmart NY. Guidelines collaborators meet regularly to assess progress on EO 88 and determine whether the Guidelines need to be modified to advance the state toward the larger goals of BuildSmart NY.

b. **Individual agency targets**

The BuildSmart NY Team further drove agency action by setting short-term, concrete milestones and deadlines for each agency. In 2013 New York completed its first effort to benchmark the energy use of its state government buildings, compiling the results in a report called *Baseline Energy Performance of New York State Government Buildings*.

The BuildSmart NY Team used the report results to develop the first annual and cumulative agency savings targets toward the state's energy savings goal. Agency targets add up to a weighted average target of 23 percent to include contingencies and ensure the state achieves at least the overall 20 percent goal. The BuildSmart NY Team reviews the targets annually and updates them as needed.

3. **Support framework**

The final piece of BuildSmart's success is a comprehensive framework of resources and technical assistance to support real action by the agencies. Four elements comprise the permanent BuildSmart infrastructure:

a. **Strategic and technical assistance**

NYPA provides strategic and technical assistance and oversight to state agencies through tools and publications. Some examples of assistance provided by the BuildSmart NY Team include:

- Data-driven decision-making tools via *NY EnergyManager (NYEM)*, NYPA's in-house energy management tool that also serves as the EO 88 database of record.
- An *Operations and Maintenance Toolkit*, along with *Retro-commissioning Guidelines,* which suggest best practices and implementation tactics for retro-commissioning, required by BuildSmart NY to help agencies capture all potential savings in their facilities.
- Data management best practices and the facilitation of information-sharing between agencies.

b. **Low-cost financing**

Low-cost financing is a critical support for energy efficiency retrofit projects. Driven by EO 88, NYPA offers low-cost financing to agencies to implement energy efficiency and renewable energy projects, thereby improving facility energy performance. The financing is in the form of loans repaid through energy savings achieved by the project. This assistance helps agencies make energy-efficient choices in facility planning, and can help expand their capital budgets by financing projects using operational savings

c. **Recognition**

Recognition of progress is important to keep agencies engaged in the process and motivated to continue their energy efficiency momentum. New York held its first annual BuildSmart NY Awards event in the fall of 2014 and in the past two years has awarded 12 agencies and nine individuals for leadership and excellence in building energy performance and innovative uses of clean energy solutions in public facilities.

d. **Data management**

New York created a New-York-specific data management platform to track BuildSmart NY's progress and evaluate the program's results.NY EnergyManager is a commissioned data platform customized as the central system for continuous monitoring, analysis, forecasting, and energy management to track EO 88 data progress on a statewide basis.

**How It Works**

On March 5, 2013, the New York Governor's Office issued a memo to state agencies to communicate senior-level support for BuildSmart NY and encourage agency cooperation. Agencies implemented BuildSmart following the steps laid out by the Program Guidelines:

1. **Data and benchmarking**

By October 1 of each year, agencies must submit building and energy performance data to NYPA to track progress toward energy reduction targets. Agencies must measure energy use in individual buildings with an area larger than 20,000 square feet. Buildings on master meters can be benchmarked at the campus level until they get sub-meters. The BuildSmart NY Team benchmarks

all covered facilities on at least an annual basis.

2. **Plans**

Agencies must document planned measures in two areas:

- Operations & Maintenance (O&M)

The BuildSmart NY Team required state agencies to develop O&M plans as encouragement to consider O&M as a vehicle for savings. Each plan includes the agency's long-term vision for O&M, the challenges and opportunities, immediate actions, and priorities for implementation. The BuildSmart NY Team uses these plans to provide technical assistance and feedback to agencies. Each agency submitted a preliminary plan in late 2013, following by a more detailed plan the following year.

- Sub-metering

In response to the benchmarking report's findings that more than 90 percent of New York state buildings are master-metered, The BuildSmart NY Team established a plan to increase the number of state buildings individually metered. By December of 2016, agencies with buildings larger than 100,000 square feet that are connected to a master-meter must sub-meter those buildings. In addition, they must implement building monitoring and control systems to receive real-time energy data from smart meters, accomplished by connecting sub-meters to NY EnergyManager.

3. **Audits and retro-commissioning**

EO 88 requires the lowest-performing quartile of an agency's buildings to undergo an ASHRAE Level 2 energy audit. The remaining three-quarters of the agency's buildings will be retro-commissioned, a process to restore building systems and operational parameters to design setting or setting optimal for building needs. The goal is for all covered buildings to be either audited or retro-commissioned by 2020.

4. **Required Capital Projects**

At the end of each year, agencies must identify and initiate a set of high-impact projects and set an implementation schedule. Retrofits going through the state capital program need to consider onsite generation (co-generation or renewable energy), improved facility commissioning standards, and O&M procedures to focus on energy efficiency.

Each state entity must implement cost-effective measures (using lifecyle cost analysis) identified by the BuildSmart NY Team and complete or make significant progress towards completion within two years of the audit. Agencies that improve the energy efficiency of buildings outside of the EO 88-required facilities are eligible to receive credits towards their energy reduction targets.

5. **Reporting**

In addition to annual building data, state agencies must file quarterly reports that provide progress updates on key EO 88-required activities, including:

- Energy audits and retro-commissioning
- Operations and maintenance plans
- Capital project implementation
- Sub-metering

**OUTREACH**

BuildSmart NY launched with a comprehensive outreach campaign to build agency support and continues to engage the marketplace, network with EO 88 agencies, and showcase progress and projects online.  The BuildSmart NY Team uses a dedicated program website with a wide range of features to accomplish outreach with a diverse set of stakeholders.

The website communicates program news, progress, results, and plans to BuildSmart NY stakeholders and the general public.

- State agencies can view their most recent energy savings numbers and promote success. The site also facilitates interactions between agencies and the private market through social media.
- Contractors and consultants can see what kind of work is being done and identify potential clients..
- All visitors can search projects by agency, geography, technology, and contractor.

**MEASURING SUCCESS**

New York tracks the energy use intensity (EUI) of its state buildings as the primary metric of BuildSmart progress toward the state's 20-percent savings goal. Closely related are the annual and cumulative energy savings targets for individual agency and statewide. The program also tracks and monitors progress toward sub-metering, audits, retro-commissioning, O&M planning, and metrics for the broader impacts of cost savings and greenhouse gas emissions reductions.

The BuildSmart NY Team uses NYEM analytics to generate annual reports detailing progress on all these metrics for the Governor's Office and the BuildSmart Executive Steering Committee. The Team also posts the reports on the website to inform other stakeholders and the general public. The first annual report summarized results for 2013, the first year of activity in the program.

**OUTCOMES**

As of the 2015 reporting period, New York recorded a 4.3-percent reduction in state building EUI. This reduction also represents an avoided cost of $20 million and more than 38,000 tons of GHG avoided. In addition, 95% of all required energy audits have either been completed or are underway, 60% of buildings over 100,000 square feet have been sub-metered for all fuels, and 77% have been sub-metered for electricity. More than two-thirds of state agencies have implemented key activities as identified in their operations and maintenance plans.