STATE OF MARYLAND'S 16-AGENCY ENERGY COMPETITION

SOLUTION OVERVIEW

State of Maryland developed and launched a competition as one of its key strategies to mobilize the largest energy-consuming state agencies to reduce their energy use through a lead-by-example model. The Maryland Department of General Services (DGS) identified the competitors as 16 state agency participants with similar annual energy use that collectively accounted for 80 percent of the state government's energy consumption. The 16-Agency Energy Competition incorporates public recognition and technical assistance to keep agencies motivated toward the state's energy reduction goal.

GOAL

Achieve the state's EmPOWER Maryland goal of a 15-percent energy reduction by 2015, based on a 2008 baseline

BARRIER

Lack of incentive/recognition for individual state agencies to pursue cost-effective energy savings

SOLUTION

In 2011, Maryland launched the 16-Agency Energy Competition, a state-led initiative to incentivize the state building portfolio's largest energy consumers to reduce energy costs and consumption

OUTCOME

The Competition spurred action among the 16 largest energy-consuming agencies to reduce their energy consumption by nearly 20 percent (more than 500 TBTU) in five years. This reduction represents a significant share of the cumulative energy savings of approximately 21 percent the state has achieved in a 9-million-square-foot building portfolio as of the end of 2014

POLICIES

The Competition stemmed from two main policy drivers focused on improving state government energy efficiency and accountability:

EmPOWER Maryland Energy Efficiency Act of 2008

This legislation set a statewide target of 15 percent reduction in energy consumption by 2015. While EmPOWER Maryland does not explicitly call out state agencies, the Governor's office tasked them to adopt a lead-by-example model. Maryland's DGS Office of Energy Performance and Conservation works with state agencies to reduce energy use and costs through a series of strategies, including the 16-Agency Energy Competition. Partnering with DGS, the Maryland Energy Administration (MEA) manages the State Agency Loan Program (SALP) that makes zero-interest loans available to agencies to fund energy efficiency projects.

StateStat Program

In 2007, Maryland implemented the StateStat Program, a data-driven management approach that monitors state agency performance. Agencies must provide monthly reports on their progress toward the state's 16 strategic goals, including the EmPOWER Maryland energy efficiency goal and similar targets for renewable energy and greenhouse gas emissions.

Tools:

- EmPOWER Maryland Energy Efficiency Act of 2008
- StateStat Description

PROCESS

Creating the 16-Agency Energy Competition

As the agency responsible for StateStat reporting on progress toward the EmPOWER Maryland energy savings goal for state government, DGS needed energy performance data for all state facilities. More importantly, DGS relied on other state agencies to provide that data. In 2011 DGS devised an initiative built on friendly competition to encourage state agencies using the most energy to provide the necessary data and pursue maximum energy savings in their facilities. Using 2008 baseline year consumption data, DGS identified and selected the 16 highest energy-consuming departments to participate.

With data available, DGS built the Competition on three elements critical to its success:

1. Comprehensive Staffing Infrastructure

DGS embedded Competition operations into its existing staffing structure where possible. DGS already had on staff four full-time project managers/energy engineers who could offer technical assistance to agencies for continuous improvement over the course of the competition. They collaborate with two on-staff measurement and verification professionals for energy savings performance contract (ESPC) projects. The engineers work with the same agencies over time so they can understand the agency's staff, mission, and barriers, and are able to provide the appropriate technical assistance.

Because StateStat relies heavily on data and reporting, DGS reinforced its existing staff with data

expertise. In 2013, DGS hired a full-time Energy Data Program Manager to track and manage both Competition and statewide energy data and reporting. In the same year, DGS brought on a contract staffer to serve as the State Energy Coordinator, who assists agencies with energy planning. Since 2008, DGS contracts with an outside firm to maintain the State Energy Database and provide comprehensive services that include data auditing for quality and completeness.

The program required the participating agencies to name central points of contact for the Competition. Each of the 16 agencies appointed an Agency Energy Coordinator from existing staff who had direct access to senior management and a thorough understanding of the agency's energy use.

The following chart illustrates how DGS, the 16 agencies, and support contractors work together to run the Competition:

2. Data Management & Reporting Capability

Since 2008, Maryland has used the State Energy Database, a state-of-the-art comprehensive utility bill management system that runs on EnergyCAP software. The database allows analysis of billing data, building data, and energy consumption for all state-owned agencies to generate results for the 16-Agency Energy Competition. The state's energy consumption baseline for the Competition was set at 2008 to match EmPOWER Maryland reporting requirements.

The DGS Energy Data Program Manager manages the database and outside contractors on an ongoing basis. Currently, utilities provide 87 percent of the data in the State Energy Database electronically, and the outside contractors enter the remaining 13 percent manually.

Agency Energy Coordinators have daily, secure online access to their respective agency's utility data, enabling them to monitor, view, and analyze the ongoing energy consumption and expenses for their facilities.

DGS provides up to 70 hours of database training annually on an as-needed basis to Agency Energy Coordinators and other agency energy staff. During the course of the Competition, 111 representatives from 41 agencies or institutions of higher learning completed the training.

3. Motivational Program Design Elements

The Competition relies on friendly rivalry to motivate agencies to outperform their peer departments. DGS included two additional program design elements to maintain momentum for the 16 agencies throughout the Competition:

- Public Recognition

DGS publicly presents awards to agencies that perform best on four selected Competition metrics: data completeness and accuracy, energy reduction, electricity reduction, and greatest savings improvement. Agencies strive for public recognition by their peers, the Governor's Office, and the

general public.

- Customized Technical Assistance & Ongoing Support

DGS includes a technical assistance component for agencies, both before and after the Competition. Prior to the selection of awards, all 16 agencies receive training and assistance with performance contracting and other technical issues as needed. After the four awardees are selected, DGS data managers analyze the facility records for those agencies that did not receive an award and offer technical assistance tailored to their specific needs. Ongoing support ensures that all of the 16 high-energy-consuming agencies in the Competition see improvement and remain motivated.

How it Works

With the program infrastructure in place, the DGS Energy Director kicks off the competition with a personal e-mail urging cooperation from each agency. The Competition then proceeds with three key activities:

1. Data Entry and Evaluation

The 16 agencies in the Competition populate the database monthly with their facility energy performance data. Once a year, DGS conducts a four-month data cleansing and analysis to determine the Competition's high performers. First, the Energy Data Program Manager and the team of database contractors run EnergyCAP reports to identify missing utility bills and ensure data accuracy. The Program Manager then reaches out to individual Agency Energy Coordinators to verify and complete the data profiles.

Approximately two months later, the data is complete and performance analysis can begin. The Energy Data Program Manager compares the energy use numbers for each facility and agency to their established baseline numbers to determine energy use reduction per agency. Agencies are ranked according to percent savings.

2. Public Recognition

At the end of the Competition's first year, DGS presented an award for the best agency performance on each of the following success metrics:

- Highest total energy reduction
- Highest electricity reduction
- Most improvement in total energy savings
- Most accurate and complete data

Once the results were final, the DGS Secretary sent a personal e-mail to congratulate the four high-performing agencies and share the overall Competition results. DGS designed the heart of recognition, however, as the highly visible and public annual awards event called the Maryland Energy Competition for Ultimate Performance (CUP). All 16 participating agencies highlight their

energy reduction efforts and achievements in a slideshow that loops throughout the event. At the 2014 Energy CUP, there were more than 250 attendees, including legislators, agency leadership and staff, members of city and county energy offices, and energy vendors. The then-Governor's attendance at the CUP elevated both the event's profile and the importance of energy reduction in the eyes of the agencies, ensuring continued agency leadership support.

3. Customized Technical Assistance and Ongoing Support

Individual technical assistance plays a critical role in the Competition, both for achieving energy savings and sustaining all agencies' engagement. At the end of the year, the energy engineering team reviews the scrubbed data for all agencies to look for any red flags, such as an increase in facility energy consumption or a below-average annual improvement rate indicating the agency is not on track to meet the state's savings goal.

The energy engineers offer technical assistance to those participating agencies that do not receive an award. The DGS Energy Data Program Manager works with each of these agencies individually to share detailed analysis on the buildings with flags. The analysis provides a breakdown of monthly energy use by building and energy type during the baseline and one previous fiscal year to determine possible causes and next steps for energy savings. Some red flags have explanations, such as previous portfolio upgrades that have left few additional savings opportunities. In those cases, the DGS engineering team looks for smaller measures such as motion sensors that can still bring savings, and DGS even helps with implementation and arranging SALP funding.

In cases where more substantial potential energy savings exist, the technical assistance team determines the agency's needs and customizes its support services accordingly. Engineers may go onsite to help, depending on the project. For energy planning, the State Energy Coordinator meets with agencies regularly at their sites. In the case of ESPC, the DGS team works with the agency for the lifetime of the project, up to 15 years. When the ESPC vendor is onsite DGS is also there to supervise. Two of the agencies DGS worked with during the first year of the Competition now have one ESPC project underway and one under development, with total expected savings of about 500 thousand MMBTU total over the 12-13 remaining years on the contracts. Ongoing support ensures that all of the 16 high-energy-consuming agencies in the Competition see improvement and remain motivated.

Tools:

- MD Department of General Services homepage
- MD 16-Agency Energy Competition homepage
- Invitation to MD Energy CUP event
- Agency highlight reel from MD Energy CUP event

OUTREACH

DGS and the Maryland Energy Administration work together on three types of outreach to garner support from agency leadership and staff and market the success of the Competition in supporting the state's energy reduction goals:

- Personal agency communications

The DGS Secretary uses personal e-mails to encourage agency leaders and Agency Energy Coordinators throughout the program, congratulate the high-performing agencies, and share Competition results. Personal communications bolster agency support for the Competition.

- Public outreach

The Governor presents the Competition's awards at the annual Maryland Energy CUP, an event that serves as an important public showcase for the Competition's successes. The CUP promotes Competition results and generates public support for energy efficiency efforts within state facilities.

- Media coverage

Results of the 16-Agency Energy Competition appear online and in press releases. Press releases go to local news organizations in Washington, DC and Maryland, the Governor's Press Office, the DGS website, DGS social media (Twitter, Facebook), and via e-mail blast to DGS and all state agencies and universities in Maryland. Press coverage keeps the state's energy reduction efforts and successes visible to the general public.

Tools:

- MD 16-Agency Energy Competition press release

MEASURING SUCCESS

Maryland measures energy consumption and savings to monitor its progress toward the state's energy savings goals and meet StateStat annual reporting requirements on energy use and costs for all state agencies and facilities. The key reporting vehicle, the State Energy Database, tracks electricity, natural gas, water, sewer, steam, chilled water, and fuel oil for all 58 state agencies. The database now holds more than one million invoices and more than 22,000 state utility accounts. With support from the engineering staff, the DGS Energy Office Director manages the reporting process and releases data reports to the Governor's office through StateStat and to the public via the DGS website.

Tools:

- Data reporting on DGS website
- EnergyCAP Screenshots

OUTCOMES

Maryland's 16-Agency Energy Competition catalyzed action among the 16 largest energy-consuming agencies to reduce their energy consumption by nearly 20 percent (more than 500,000 MMBTU) by the end of 2013, from a 2008 baseline. This success comprises a substantial share of the state's cumulative energy savings of approximately 21 percent the state has achieved in a 9-million-square-foot building portfolio as of the end of 2014. Maryland exceeded its savings goal ahead of the 2015 target date, in large part by using competition and recognition as incentives.