



BEYOND BUDGET:

Cities Find Hidden Benefits in Energy Efficiency Projects

Ron San Angelo knows a thing or two about the struggles of municipal leaders, having served the public for almost 25 years, most recently as the town manager of Southbridge, Mass. “There are a lot of difficult situations in local government,” he says. “You’re making hard choices, including raising taxes and cutting spending.”

Recently, San Angelo came across an opportunity to not only save his municipality money, but also provide significant benefits to Southbridge citizens and government employees. That opportunity was a partnership with National Grid, the town’s electric and gas provider, to implement energy efficiency upgrades to 11 Southbridge government buildings.

Upgrades like LED lighting, energy management systems and variable speed drives (controllers that drive an electric motor by varying the frequency and voltage supplied to it) can help local governments reach established energy savings goals while also dramatically cutting costs. These cost savings are important because they can be used to supplement the operating budgets of vital citizen services such as local schools, health centers or public safety departments that may be running lean.

But the benefits of energy efficiency initiatives go beyond cost savings. For example, improvements such as LED lighting tend to boost employee morale and productivity and even improve community safety by better illuminating office spaces, parking lots and more.

“As a town manager, this is a huge layup in terms of bringing it before the town council, because I’m seen as a hero from almost the beginning of the process,” says San Angelo.

THE FAST-TRACK TO ENERGY UPGRADES: HOW IT WORKS

Southbridge, with its collection of old municipal buildings, is like many other small towns in America. While updating those buildings was not previously a high priority, the potential benefits of the energy efficiency upgrades and the simple process proposed by National Grid were too hard to pass up.

National Grid starts by conducting an audit in one or more facilities. Based on the audit findings, the utility creates an energy-savings proposal customized to the building’s needs. The proposal details costs and savings that would result from the upgrades.

Lighting projects, including energy-efficient bulbs and sensors that turn lights off when rooms are unoccupied, are the most common upgrades. Others include heating, ventilation and air conditioning; energy management systems and variable frequency drives.

One of the biggest advantages to a partnership with National Grid is the financial incentive the utility provides to municipalities to offset the cost of the evaluation, installation and equipment. This is important because, despite the benefits of better energy efficiency, many local leaders say they don’t have the resources or support needed to implement energy efficiency initiatives. According to a United States Conference of Mayors survey, 67 percent of respondents pointed to a lack of funding at the local level to implement energy saving initiatives, while over one-third cited limited or no available federal funding.¹

Due to its commitment to strong partnerships in helping municipalities improve energy efficiency, National Grid has been

recognized for its work. In 2013, the American Council for an Energy-Efficient Economy (ACEEE) released its National Review of Energy Efficiency Programs, selecting three of National Grid's programs as models for emulation by other governments and organizations.

THE UNEXPECTED BENEFITS OF ENERGY EFFICIENCY

This isn't San Angelo's first experience with energy efficiency upgrades – he also worked on an energy savings program in Hanson, Mass., as the town administrator. There he saw unexpected – but welcome – benefits.

"Municipal employees are used to old, outdated buildings," he says. "It's just the nature of local government. They have become accustomed to poor lighting with a dark atmosphere. (This lighting) has a very positive impact on morale. It changes the attitude of the people. That's an immediate change."

Eric Walker, director of energy development for Erie County, N.Y., saw similar results after the county began its energy efficiency upgrades with National Grid. The upgrades included replacing 15,200 bulbs with LED lighting in a 16-story building that is home to the county's executive offices, Department of Motor Vehicles and Department of Public Works, among others.

"We have noticed there is an instant sort of boost when you go from old fluorescents to LEDs," says Walker. "There's a general sense of openness once the lighting changes."

Research supports their observations. A study in the International Journal of Industrial Ergonomics found that even a simple upgrade to LED lighting can improve work performance by 8.3 percent and boost employees' moods by 33 percent.²

Better performance isn't the only perk. According to an International Energy Agency report, building energy upgrades can bring health benefits as well, including reducing symptoms of respiratory conditions and allergies as well as preventing workplace accidents – all which help lower medical costs. These types of benefits of energy efficiency upgrades can be three times the size of the energy savings themselves.³

The Bigger Picture

For Walker, the primary benefit of enhanced energy efficiency is reducing the county's carbon footprint, which he sees as a stepping stone to building a more sustainable government. As part of its economic development plan, the county created the inter-departmental Green Team funded through the New York State Energy Research and Development Authority to identify projects that will decrease greenhouse gas emissions, prevent pollution, reduce waste and save money throughout the county's daily operations.

Walker says projects like retrofitted lighting help drive greater behavior changes within personnel that bleeds into broad efforts around efficiency and sustainability. "I'm really excited about the synergy between these kinds of facilities improvements and the Green Team," he says. "I'm hopeful that we can drive behavior change around energy

conservation holistically and even impact individual's actions. We call it being caught 'green-handed.'"

Erie County's efforts are part of a shifting landscape in the way that counties and municipalities work with utilities and think of the utility industry. "It's about how we generate and distribute electricity so it's cleaner, more efficient and more reliable," says Walker.

"In all my years in government, this is one of the best win-win situations I have ever encountered."

– Ron San Angelo, Town Manager, Southbridge, Mass.

"We see ourselves in Erie County beginning to play a role in localizing the benefits of these kinds of statewide initiatives around making our power system more reliable while also addressing the realities of climate change," Walker continues. "So how do we do that? How do we see our future through the lens of sustainability? We see our work and our facilities as a way to connect to National Grid's Connect21 vision (which advocates connecting America's energy network to the 21st century) and this larger statewide vision toward a cleaner, more resilient power infrastructure."

CONCLUSION

While Southbridge and Erie County focused primarily on lighting, there are large savings to be had across a range of municipal buildings. Lighting upgrades can be a good first step toward more complex projects, including implementing energy management systems and variable speed drives as well as updating HVAC systems – all of which include financial incentives and rebates from National Grid.

"We can think of our energy efficiency work as a roadmap to larger projects like peak demand limiting or curtailment demand response, which mitigate the cost of improved infrastructure for utility but also make sure that we are saving energy and reducing costs for our local taxpayers as well," says Walker.

Ultimately, as local governments grapple with tough decisions, sometimes it can be good to have something to feel good about – and, as San Angelo says, "feel like a hero." "In all my years in government, this is one of the best win-win situations I have ever encountered."

This piece was developed and written by the Governing Institute custom media division, with information and input from National Grid.

ENDNOTES

- 1 <http://usmayors.org/2016energysurvey/16.14.USCM.Energy.Survey.MEC.pdf>
- 2 http://www.2030districts.org/sites/default/files/atoms/files/6_3_EEBHub_Long_Annual_report_CMU.pdf
- 3 <https://thinkprogress.org/18-trillion-windfall-health-and-productivity-benefits-of-efficiency-top-energy-savings-5011c78c0845#.bk6kyul0k>

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