

EFFICIENCY SMART 2017 ANNUAL REPORT

A TAILORED APPROACH TO DELIVERING CONSISTENT VALUE



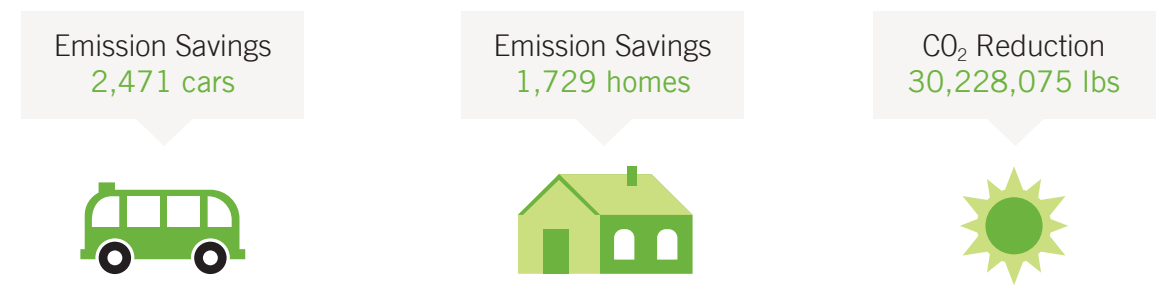
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A message from the Executive Director:

When a community decides to join Efficiency Smart, it does so with the confidence that the energy efficiency services will bring value to their entire community. It is our job at Efficiency Smart to provide the expertise and guidance to each participating community and their electric customers to create that value.

Fundamentally, we help residents and businesses in American Municipal Power, Inc. (AMP)'s participating communities reduce energy consumption and save on electric bills. In 2017, we're proud to report that our services helped complete 17,129 residential and 182 business upgrades. These energy efficiency transactions resulted in 15,503 megawatt-hours (MWh) of energy savings, which is roughly equivalent to:



These energy savings were achieved cost effectively, as participating communities received, on average, a return of \$3.36 per every dollar spent on energy efficiency in 2017.

We are committed to providing additional benefits for our participating communities beyond the energy savings we deliver and report. We've heard from many communities that their customers value the energy efficiency expertise and guidance we provide as much as the incentives we offer through our programs.



One piece of that is our engineering expertise, where our team remains committed to identifying emerging industry trends and continuously growing its technical skills. In 2017, our engineering staff conducted 35 on-site facility reviews in addition to the projects they helped complete. During these visits, our engineers metered equipment, analyzed data, prioritized projects for businesses, and provided energy-saving recommendations, including those that require little or no upfront costs.

For example, one company contacted Efficiency Smart to review the energy use of its new, larger air compressor. This air compressor was equipped with a variable frequency drive (VFD) to match demand, and the company had been using this system for all of its production shifts.

Efficiency Smart metered the energy use of the compressor, and discovered that despite having a VFD, the company should only use this air compressor during its peak production times. At off-peak times, it would be less expensive for them to use their older and smaller air compressor. This is an example of a low-cost recommendation that we provided, and although we don't report energy savings from behavioral changes, implementing this recommendation is expected to result in big energy savings for the business.

In addition, our energy engineers used advanced metering infrastructure (AMI) data to help inform our recommendations. This data requires expert interpretation from our engineers, who can then identify potential energy saving opportunities even before they visit a facility. It can also help them identify peak demand reduction opportunities, and verify that equipment is operating as expected. By having this data available, the engineering and account management teams can decrease the time needed to complete a project for the businesses we serve.



Another piece of providing value through our industry knowledge can be found through our residential program team.

Energy efficiency programs often use third-party organizations to review products and use their recommendations as guidelines on what models to make eligible for rebates. However, in 2017, Efficiency Smart launched a rebate on an advanced thermostat prior to ENERGY STAR® creating a certified product list for this category. Our team reviewed multiple thermostat models and created a baseline of specifications and features required for our rebate. We did this to help increase the adoption of this technology in our communities, while still ensuring that residential customers could use our list of qualifying products as a guide to select a thermostat that would meet their expectations and protect their investment.



One of our most effective residential initiatives to date has been the lighting markdown. Through this initiative, Efficiency Smart provides LED lightbulbs at a discounted price, while driving business to local retailers. In 2017, an estimated 14,500 customers went to these local retailers and purchased more than 58,000 LEDs, an increase of 5,000 bulbs sold from the lighting markdown in 2016.

The lighting markdown has created more access to LED technology in participating communities. Prior to participating in the initiative, some of the retailers did not stock LEDs in their stores. Due to the success of the initiative, many of these stores now keep LEDs in their inventory year-round. This is partially due to the increase in demand for LED lightbulbs from customers who have now been introduced to this technology. Efficiency Smart's residential team recognizes the importance of working with a reputable LED vendor who manufactures a quality lightbulb. This can prevent residents from having a poor initial experience with LEDs, which could hinder the demand and adoption of them in the communities we serve.

“Since the promotion ended, I’ve noticed that we are now selling more lightbulbs than before, even at regular prices. I believe this is due to the positive experiences customers had with the efficient lightbulbs they purchased during the promotion.”

Jerry Anderson
Owner of Watson's Hardware
Oberlin, Ohio





Another example of the guidance we provide can be seen through our meter loan program, which allows residents to borrow a free electric meter to see how much energy their household products use. Our customer support team is available to review their results and compare them with the average electric consumption of household devices. One such example was a customer who metered his refrigerator and realized it was using much more energy than an average unit that size.

He discovered that his condenser coils were dirty and were making the fridge work harder than needed. He thoroughly cleaned the coils, re-metered his fridge, and saw a dramatic decrease in its energy use, all without any extra cost for the resident. The use of the meter and the assistance from our customer support team helped him to realize his fridge was using more energy than expected, and led to him making this small improvement that will result in energy savings.

Many communities have also expressed a desire for Efficiency Smart to work with their vulnerable populations. Energy efficiency programs often struggle to serve hard-to-reach populations such as senior citizens, low-income residents, and others with special needs.

To cost-effectively reach these populations and help remove barriers to energy efficiency, Efficiency Smart's community outreach team identifies and develops partnerships with community organizations that have the infrastructure and credibility within participating communities.



Partnering with these organizations allows Efficiency Smart to accelerate the process of identifying opportunities, and ultimately, creating energy savings for those who need them the most. In 2017, we partnered with community organizations to provide more than 9,000 free lightbulbs in 21 participating communities.



9,000 free LEDs
in participating communities

Additionally, we developed a new partnership with a local electric union whose members volunteered their time to install LEDs throughout a homeless shelter and at a food pantry. Without these partnerships, neither organization would have been able to afford the new lighting upgrades.

The energy savings from these projects have allowed the organizations to allocate more of their resources to serving those in need. In the example of the homeless shelter, the lighting upgrade is expected to save \$4,700 in annual electric costs, which is the equivalent of them serving an additional 361 individuals in need.

With this focus on providing guidance and our technical expertise, it should be no surprise that when our savings results are annually evaluated by an independent evaluation, measurement, and verification (EM&V) company, we continue to receive high scores. In 2017, our 2016 energy savings claims were verified and we attained a 98 percent realization rate. Since 2011, Efficiency Smart has averaged a realization rate of 97 percent.

These high quality services have allowed participating communities to earn money back from the sale of capacity savings. Efficiency Smart participants' qualified energy efficiency projects produced a total of 9.69 megawatts (MW) of capacity savings that were sold into the PJM market in 2017, and the 2017-2018 revenue from this sale totaled \$138,500.



At the utility level, Efficiency Smart has also worked to provide more value to AMP member communities by offering additional program choices through its new service model. This service model gives communities more choice than ever before in picking the service or series of services that best fit their needs.

We've worked with our participating communities on recommending the right level of services based on their needs. This has resulted in communities being enrolled at different participation levels for the first time in our history. In addition, the new rolling subscription periods have allowed for communities to join at any time, such as Montpelier, Ohio, which began services in October 2017.

To accommodate this new model of services, Efficiency Smart launched a new website in 2017, which features community-specific landing pages for each participating community. Each of the pages are customized with elements specific to that community, including photos, utility and municipal website links, and logos. These webpages are designed to display information about the community's available services, while also providing local Efficiency Smart news, promotions, and events.

Although there was much to celebrate in 2017, we have several improvements and announcements planned for 2018, including:

- Expanding our lighting markdown in 2018 to include several new LED products
- Increasing our reach by establishing partnerships with more agencies that serve vulnerable populations
- Updating our Business Energy Rebates (BER) form to make applying for rebates easier for small businesses
- Welcoming four new communities to Efficiency Smart: Clayton, Milford, New Castle and Seaford in the state of Delaware

We remain excited about what the future holds for energy efficiency, and finding new ways to help communities with their current and future energy needs. We invite anyone interested in learning more about how we can help create value for their community to visit our website at www.energysmart.org/municipal-subscription for more information about our services.

We take great pride in working alongside AMP, and serving as a trusted energy efficiency advisor for its participating communities. We look forward to building more sustainable communities together.



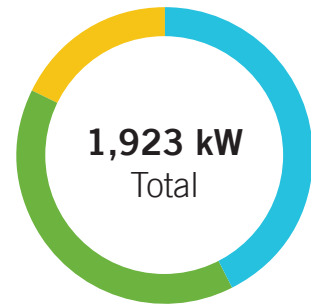
On behalf of the entire Efficiency Smart team,

Everett Woodel, Jr.
Everett Woodel, Jr.



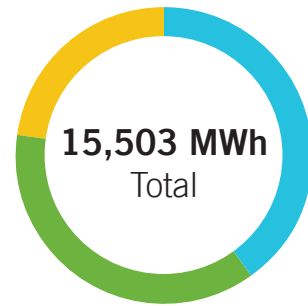
2017 Results

Coincident Peak Kilowatt Savings



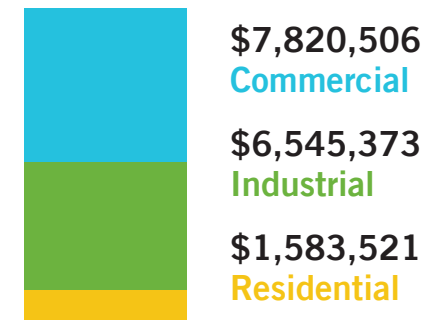
820 kW - Commercial
765 kW - Industrial
338 kW - Residential

Annual MWh Savings



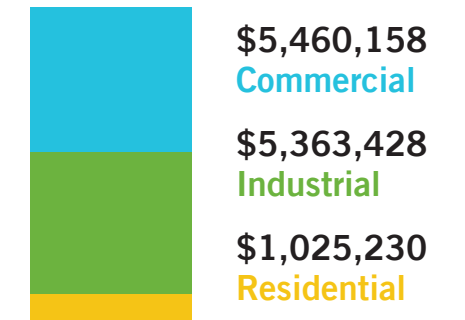
6,232 MWh - Commercial
5,747 MWh - Industrial
3,524 MWh - Residential

Lifetime Customer Savings



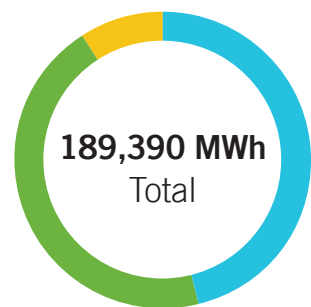
\$15,949,400
Total

Total Resource Benefits²



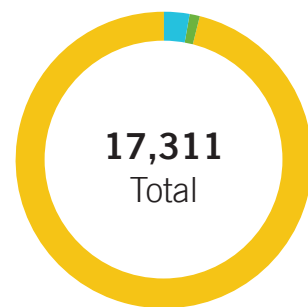
\$11,848,816
Total

Lifetime MWh Savings



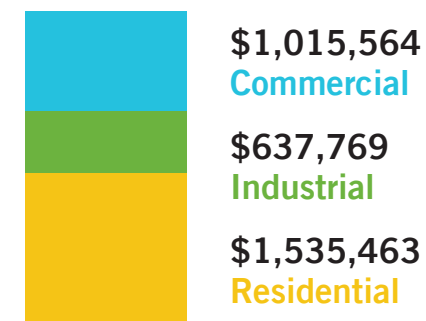
87,676 MWh - Commercial
84,739 MWh - Industrial
16,975 MWh - Residential

Project Completions



150 - Commercial
32 - Industrial
17,129 - Residential

Efficiency Smart Expenditures



\$3,188,796
Total

Emission Reductions

30,228,075 lbs
Carbon Dioxide (CO₂)
3,141 lbs
Methane (CH₄)
26,836 lbs
Nitrogen Oxide (NO_x)
463 lbs
Nitrous Oxide (N₂O)
85,917 lbs
Sulfur Dioxide (SO₂)

Net Lifetime Economic Benefits¹

\$8,603,523

Aggregate Benefits **\$11,848,816** ÷ **\$3,524,812** = **3.36:1**
Total Resource Benefits Participant Cost Paid Benefit-to-Cost Ratio

¹ Net Lifetime Economic Benefits is equal to Total Resource Benefits plus operation and maintenance savings, minus the cost paid by Efficiency Smart to operate the program and the implementation of cost paid by participants.

² Total Resource Benefits represents the present value of lifetime avoided electrical energy and demand charges as well as fossil fuel and water savings that result from energy efficiency measures.

