

2018

EFFICIENCY SMART
ANNUAL REPORT

Enhancing the Customer Experience



Enhancing the Customer Experience

For Efficiency Smart, serving American Municipal Power, Inc. (AMP)'s participating communities isn't just about offering energy efficiency services— it's about making those services accessible, customer-focused, and successful in generating the savings our communities expect.

As a result, Efficiency Smart works closely with our partnering communities to listen, learn, and then improve services to better meet their electric customers' needs. Through this process, Efficiency Smart ensures that its services can help businesses, residents, and municipalities understand and control their energy usage.

Due to this approach and the value energy efficiency services brings to communities, Efficiency Smart expanded its impact in 2018 to the state of Delaware, where four Delaware Municipal Electric Corporation (DEMEC) communities—Clayton, Milford, New Castle and Seaford—became the first communities from the state to elect to receive services. Through 2018, Efficiency Smart has now served 58 of AMP's member utilities in four states.

2018 Key Highlights:

In 2018, Efficiency Smart worked with participating communities to complete 14,378 residential and 164 business upgrades. These energy efficiency transactions resulted in 13,787 megawatt-hours (MWh) of energy savings, which is roughly equivalent to:

Emission Savings*
2,070 cars



Electricity Savings*
1,700 homes



CO₂ Reduction
26,668,448 lbs



Milford, Delaware (pictured here), was one of the first four communities in Delaware to join Efficiency Smart.

These energy savings were achieved cost effectively, as participating communities received, on average, a return of more than \$3 for every dollar spent on energy efficiency in 2018.

The energy savings claimed were also reliable. Efficiency Smart's results are evaluated annually by an independent evaluation, measurement, and verification (EM&V) company, and the results have been consistently proven to be accurate. In 2018, the 2017 energy savings claims were verified, and Efficiency Smart attained a 98 percent realization rate. Since 2011, Efficiency Smart has had an average realization rate of 97.5 percent.

Efficiency Smart's high-quality engineering services and reliable savings claims have allowed participating communities to earn money back from the sale of capacity savings. Efficiency Smart participants' energy efficiency projects produced a total of approximately 6.5 megawatts (MW) of capacity savings that were sold into the PJM market in 2018, and the 2018-2019 revenue from this sale totaled \$116,540.

* Based on the EPA Greenhouse Gas Equivalencies Calculator: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>



Thanks to Efficiency Smart's guidance, the Georgetown Church of Christ moved forward with energy efficiency improvements in 2018.

Enhancing Services for Small Businesses

Small businesses often face challenges that can prevent them from completing energy efficiency projects. In 2018, Efficiency Smart implemented numerous improvements to the Business Energy Rebates (BER) Program designed to improve the experience for small business customers and facilitate more savings for this market.

Small businesses were able to access an improved application form to apply for BER Program incentives. The form was simplified to feature the most common energy efficiency improvements, making it even easier for small businesses owners who preferred to complete the rebate application form themselves.

Alternatively, Efficiency Smart's technical staff—its key account managers and energy consultants—worked directly with businesses who were seeking to complete more complex improvements, or those customers who were unsure where and how to start with energy efficiency projects. Energy consultants identified and prioritized energy saving opportunities, reviewed vendor proposals, and calculated potential energy savings for small business customers throughout the year.

This shift to a more hands-on approach through the BER Program has helped some businesses and organizations complete projects they may not have otherwise. One example was the Georgetown Church of Christ in Georgetown, Ohio, which was interested in making its building more energy-efficient, despite having limited financial resources and technical know-how to make improvements.

An energy consultant worked with a volunteer from the church and reviewed the list of improvements that were under consideration. Efficiency Smart evaluated the plan and advised against projects that weren't cost-effective and explained the trade-offs between cost and performance of different lighting options, creating a feasible approach for the church to follow. This unbiased review of potential projects gave the church the confidence it needed to move forward with improvements.

After completing the recommendations from Efficiency Smart, the church is expected to save approximately \$700 annually and more than \$10,000 over the lifetime of the products installed, funds it can reinvest in the community through its various outreach programs. The church now views Efficiency Smart as a resource it can turn to for future projects.

The Georgetown Church of Christ was not unique in its need of additional help to move forward with projects. Efficiency Smart helped other small businesses and organizations bridge the knowledge gap by providing the information and guidance they needed to make energy efficiency improvements. This assistance, coupled with other improvements to the BER program, contributed to a 25 percent increase in incentives and a 45 percent growth in energy savings for BER customers compared to 2017.



Uncovering Savings for Large Businesses

During 2018, Efficiency Smart emphasized helping large businesses understand the energy use of their equipment and the impact it has on electric bills. This knowledge allows businesses to make smart decisions when planning for future energy efficiency improvements, and often leads to benefits beyond savings from energy efficiency investments.

An example of this is Efficiency Smart's ability to review advanced metering infrastructure (AMI) data to help make behavior change recommendations for businesses to follow. Efficiency Smart energy consultants reviewed the AMI data of a large manufacturer and discovered that the company had higher than expected electric use during its off-hours. An Efficiency Smart energy consultant provided a report that detailed the electric use by time of day and recommended that the company have staff walk through the plant during off-hours to see if any of their equipment was unnecessarily left on.

While walking through the facility, workers discovered equipment that was left on and using electricity during the night. Since then, they have made an effort to turn off equipment during off-hours. After making this simple behavioral change, the company has reported savings of thousands of dollars, without having to invest in energy efficiency upgrades or new equipment.

Additionally, Efficiency Smart has metered equipment—such as lighting circuits, compressed air units, and other systems—to verify operating hours and to measure the energy use of the equipment. This can help municipalities and businesses alike. In 2018, a business noticed unexpectedly high energy bills in its newly-built facility. The village sought Efficiency Smart's assistance to discover what was causing the high bills.

Efficiency Smart deployed meters on the main lighting circuits and on the new air compressor. The measured data confirmed inconsistencies with the data from the village's electric meters.

With Efficiency Smart's help, the village determined that its electric meters at the facility were faulty and replaced them with new meters. The village appreciated Efficiency Smart's efforts to confirm there was an error and help find a solution, while the business was relieved to know the higher than expected electric bills were an anomaly.



Efficiency Smart helped drive an estimated 12,000 customers to local retail stores such as Ace Hardware in Bowling Green, Ohio, in 2018.

Making Savings Accessible

Efficiency Smart continued to adjust its services to meet the varying product and shopping preferences of residential customers. In 2018, Efficiency smart expanded the availability and product diversity of LED lightbulbs through the lighting markdown. For the first time, residents were able to purchase both standard and dimmable specialty lightbulbs for \$0.99 each. These new options, such as candelabra and globe lights, allowed residents to replace more of the lights in their home with energy-saving LEDs at a discounted price. In addition, more stores than ever before participated in the initiative, with lightbulbs available at 27 partnering retailers.

By offering more LED options at more retailers, Efficiency Smart drove an estimated 12,000 customers to local retail stores to purchase nearly 49,000 LEDs in 2018.

Efficiency Smart also revised the products available through the Online Product Store, so that customers who prefer to make purchases online had access to the newest technology at discounted prices. In addition, Efficiency Smart partnered with manufacturers to offer special promotions on power strips and smart thermostats through its online store.

A continuing effort for Efficiency Smart and for participating communities is serving vulnerable populations. Efficiency Smart's community outreach team identifies and establishes partnerships with community organizations that work directly with hard-to-reach populations such as senior citizens, low-income residents, and others with special needs.

Partnering with these organizations accelerates the process of creating energy savings for those who need them the most. In 2018, these partnerships resulted in nearly 5,800 free LEDs distributed to residents in 23 communities.

Efficiency Smart also understands the importance of providing residents with the knowledge they need to reduce their electric usage. As a result, two new services were piloted this past year to allow residents a convenient way to learn more about saving energy in their homes.

Efficiency Smart staff met with residents in-person and offered energy saving tips during informational events held at hardware stores. During these events, residents had the opportunity to ask questions and receive specific recommendations on saving energy. These events were scheduled on weekends, when many residents would typically be visiting these stores.

Additionally, Efficiency Smart piloted a service to guide residents through identifying causes of high electric usage in their homes over the phone. Efficiency Smart's customer support team discussed various scenarios with callers to understand their unique circumstances, such as housing type and size, number of occupants, and if the high energy usage was seasonal or a one-time spike. The customer service team was able to provide specific recommendations to reduce energy use based on the information provided by residents.

Looking Forward to 2019

Looking into 2019, Efficiency Smart will continue its focus on delivering a better experience for participating communities and their electric customers. There are several improvements already underway for 2019, including:

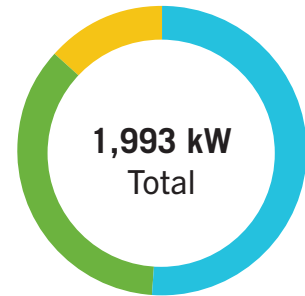
- A new "Resources" webpage that will provide residential customers with helpful guides and tips for saving energy in their home
- The full launch of a high usage bill service, meant to help guide customers through potential causes for high energy usage and provide recommended solutions
- The development of a peak demand reduction option for communities that wish to target summer peak savings, while still receiving the technical assistance and customer service that Efficiency Smart is built upon

Efficiency Smart is proud to work together with AMP to continuously improve the customer experience, and to serve as the energy efficiency guide for its member communities. Those communities interested in learning more about how Efficiency Smart can work with them to meet their evolving energy needs can visit www.energysmart.org/municipal-subscription for more information.



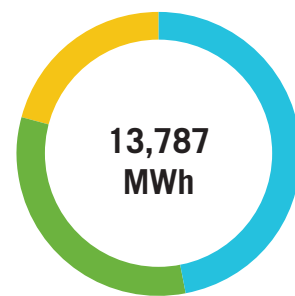
2018 Results

Summer Peak Kilowatt Savings



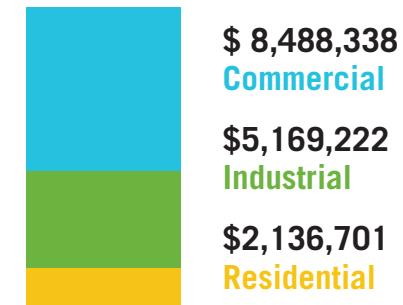
1,019 kW - Commercial
710 kW - Industrial
264 kW - Residential

Annual MWh Savings



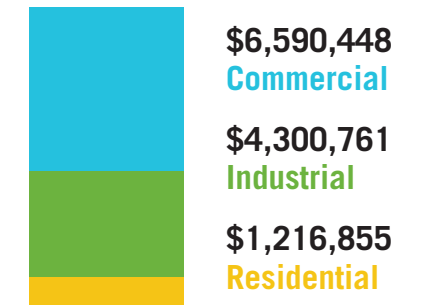
6,485 MWh - Commercial
4,450 MWh - Industrial
2,852 MWh - Residential

Lifetime Customer Savings



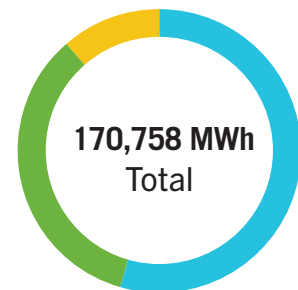
\$15,794,260
Total

Total Electric Benefits¹



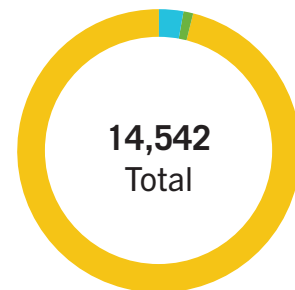
\$12,108,064
Total

Lifetime MWh Savings



93,037 MWh - Commercial
58,119 MWh - Industrial
19,602 MWh - Residential

Project Completions



125 - Commercial
39 - Industrial
14,378 - Residential

$$\text{Aggregate Benefits} \quad \$11,848,816 \quad \div \quad \$3,699,030 \quad = \quad 3.20 : 1$$

Total Electric Benefit Member Cost Benefit-to-Cost Ratio

$$\text{Levelized Cost of MWh Saved} \quad \$3,699,030 \quad \div \quad 170,758 \text{ MWh} \quad = \quad \$21.66 / \text{MWh}$$

Member Cost Lifetime MWh Savings Levelized Cost

Emission Reductions

26,668,448 lbs Carbon Dioxide (CO₂) 2,371 lbs Methane (CH₄) 20,983 lbs Nitrogen Oxide (NO_x) 400 lbs Nitrous Oxide (N₂O) 30,124 lbs Sulfur Dioxide (SO₂)

Net Lifetime Economic Benefits² **\$6,310,175**

¹ Total Electric Benefits represents the present value of lifetime avoided electrical energy and demand charges that result from energy efficiency measures.

² Net Lifetime Economic Benefits is equal to Total Resource Benefits plus operation and maintenance savings minus the cost paid by members and the implementation of cost paid by participants.



smart energy solutions. powerful savings.

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