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MidAmerican Energy Company

Energy Efficiency Plan

Docket No. EEP-2012-0002

&

Docket No. EEP-2018-0002

2019 Annual Report

to the

Iowa Utilities Board

May 1, 2020



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MIDAMERICAN ENERGY COMPANY
2019 IOWA ENERGY EFFICIENCY ANNUAL REPORT

EXECUTIVE SUMMARY

MidAmerican Energy Company ("MidAmerican") presents its 2019 Annual Report on energy efficiency programs and activities. The 2019 Annual Report includes results recorded in both MidAmerican's 2014-2018 Iowa Energy Efficiency Plan as modified by Iowa Utilities Board ("Board") order issued April 12, 2018,[1] in Docket No. EEP-2012-0002 ("Plan") and its 2019-2023 Energy Efficiency Plan approved by Board order issued February 18, 2019 in Docket No. EEP-2018-0002 ("New Plan") which included an effective date of April 1, 2019. The inclusion of the effective date of April 1, 2019 for the 2019-2023 New Plan resulted in the continuation of MidAmerican's 2014-2018 Plan until March 31, 2019 and why this report includes separate results for both the 2014-2018 and 2019-2023 Plans.

Performance Overview for 2014-2018 Plan

During the first quarter of 2019, customers' uncertainty about whether energy efficiency programs would continue to be offered after 2018 and whether MidAmerican's New Plan would be approved by the Board before March 31, 2019, resulted in higher levels of participation, program spending and savings achieved due to customers' implied sense of urgency to complete equipment improvements and submit applications before March 31, 2019 due to their uncertainty of rebate availability after that date.

Program savings and spending summaries for supplemental 2019 activities associated with MidAmerican's 2014-2018 Plan are provided below.

[1] *In Re: MidAmerican Energy Company*, Order Approving Settlement Agreement and Modification of Energy Efficiency Plan and Requiring Filing, April 12, 2018 (Docket Nos. EEP-2012-0002, TF-2019-0025).

2019 Supplemental Electric and Natural Gas Savings Totals for the 2014-2018 Plan

- Supplemental electric savings were 107,470,190 kWh, which were 230 percent of overall estimated 2019 savings.
- Supplemental electric Peak kW savings were 22,569 kW, which were 212 percent of overall estimated 2019 savings.
- Supplemental natural gas therm savings were 2,878,611 therms, which were 200 percent of overall estimated 2019 savings.
- Supplemental natural gas Peak therm savings were 36,266 therms, which were 217 percent of overall estimated 2019 savings.

2019 Supplemental Spending Totals for the 2014-2018 Plan

- Supplemental electric program spending was $16,594,648, which was 166 percent of overall estimated 2019 spending.
- Supplemental natural gas program spending was $6,876,662, which was 172 percent of overall estimated 2019 spending.
- Total supplemental electric and natural gas program spending was $23,471,310, which was 168 percent of total estimated 2019 spending.

2019 Supplemental Savings/Spending Results for Residential Programs for the 2014-2018 Plan

- Total supplemental electric and natural gas savings for residential programs were 41,357,778 kWh and 2,216,247 therms respectively, which represented 148 percent of the residential 2019 estimated electric savings and 220 percent of the residential 2019 estimated natural gas savings.
- Total supplemental spending for residential programs was $12,662,574, which represented 180 percent of the residential estimated 2019 spending.

2019 Supplemental Savings/Spending Results for Nonresidential Programs for the 2014-2018 Plan

- Total supplemental electric and natural gas savings for nonresidential programs were 66,112,411 kWh and 662,365 therms respectively, which represented 350 percent of the nonresidential 2019 estimated electric savings and 154 percent of the nonresidential 2019 estimated natural gas savings.
- Total spending for nonresidential programs was $10,642,908, which represented 152 percent of the nonresidential 2019 estimated spending.

Cumulative Plan Results for 2014-2018 and Supplemental 2019 Period

- Total electric savings for 2014-2018 plus the supplemental 2019 electric savings were 1,726,147,603 kWh, which were 115 percent of the overall planned electric savings, while electric savings for residential programs were 626,980,267 kWh and 1,099,167,337 kWh for nonresidential programs respectively, which represented 89 percent and 137 percent of the total planned electric savings for the Plan.
- Total natural gas savings for 2014-2018 plus the supplemental 2019 natural gas savings were 38,680,900 therms, which were 103 percent of the overall planned natural gas savings, while natural gas savings for residential programs were 28,692,510 therms and 9,988,390 therms for nonresidential programs respectively, which represented 109 percent and 88 percent of the total planned natural gas savings for the Plan.
- Total electric spending for 2014-2018 plus the supplemental 2019 period was $430,174,405, which was 101 percent of the overall planned electric spending, while electric spending for residential programs was $145,545,857 and $284,628,547 for

nonresidential programs respectively, which represented 84 percent and 113 percent of the total planned electric spending for the Plan.

- Total natural gas spending for 2014-2018 plus the supplemental 2019 period was $164,398,434, which was 92 percent of the overall planned natural gas spending, while natural gas spending for residential programs was $124,693,408 and $39,705,025 for nonresidential programs respectively, which represented 107 percent and 64 percent of the total planned natural gas spending for the Plan.

Performance Overview for 2019-2023 New Plan

The Final Order for Docket No. EEP-2018-0002 was issued on February 18, 2019 and included a New Plan effective date of April 1, 2019. Immediately after the Final Order was issued, MidAmerican began preparing to finalize contracts with selected contractors for implementation of its New Plan, vendor transition plans for program delivery, program materials and tools to be used with customers during the delivery of programs in 2019. Programs were launched as planned on or shortly after April 1, 2019, with few exceptions.

Overall electric and natural gas program spending and savings achieved by MidAmerican's programs in 2019 were lower than projected. This was due in part to the effective date of April 1, which allowed for program implementation for only nine months of 2019 while the budgets were created based on the programs being available for the entire year or 12 months. Additionally, project pipelines were slow to be reestablished after a significant number of equipment improvements were completed prior to April 1, 2019 due to customer uncertainty about whether energy efficiency programs would be available after March 31, 2019. Some large industry customers also chose not to participate in programs due to the new project and customer's rebates caps which they suggested were not sufficient enough to offset the time necessary to participate in energy efficiency programs in 2019 and after.

Program savings and spending summaries for the 2019-2023 New Plan are provided below.

2019 Electric and Natural Gas Savings Totals (New Plan)

- Total electric savings were 71,170,107 kWh, which were 44 percent of the overall planned electric savings. Individually, the electric savings for Energy Efficiency programs were 70,845,306 kWh and 324,801 kWh for Demand Response programs, which represented 44 percent and 10 percent of the program's planned electric savings.
- Total peak demand kW savings were 267,133 kW, which were 85 percent of overall planned 2019 year-end savings, while peak demand kW savings for Energy Efficiency programs were 18,252 kW and 248,881 kW for Demand Response programs, which represented 43 percent and 92 percent of the program's planned peak demand kW savings.
- Total natural gas therm savings were 628,884 therms, which were 48 percent of overall planned 2019 year-end savings.
- Total natural gas Peak therm savings were 9,858 therms, which represented 56 percent of overall planned 2019 year-end savings.

2019 Spending Totals (New Plan)

- Total electric program spending was $31,475,510, which was 74 percent of overall planned 2019 spending. Individually, the electric spending for Energy Efficiency programs were $20,298,003 and $11,177,506 for Demand Response programs, which represented 66 percent and 94 percent of the program's planned electric spending. Administrative costs accounted for 24 percent of the total 2019 electric program

spending. See Exhibit D – Spending by Cost Category for additional details related to individual program's administrative costs.

- Total gas program spending was $4,047,992, which was 67 percent of overall planned 2019 spending. Administrative costs accounted for 36 percent of the total 2019 natural gas program spending.
- Total electric and natural gas program spending was $35,523,502, which was 73 percent of total planned 2019 spending. Administrative costs accounted for 26 percent of the total 2019 actual New Plan spending.

2019 Savings/Spending Results for Residential Programs (New Plan)

- Total electric and natural gas savings for residential programs excluding demand response programs were 30,731,652 kWh and 583,000 therms respectively, which represented 70 percent of the residential 2019 planned electric savings and 72 percent of the residential 2019 planned natural gas savings.
- Total spending for residential programs excluding demand response programs was $6,853,990, which represented 58 percent of the residential 2019 planned spending. See Exhibit D – Spending by Cost Category for additional details related to individual program's administrative costs.

2019 Savings/Spending Results for Nonresidential Programs (New Plan)

- Total electric and natural gas savings for nonresidential programs excluding demand response programs were 40,113,653 kWh and 45,884 therms respectively, which represented 34 percent of the nonresidential 2019 planned electric savings and nine percent of the nonresidential 2019 planned natural gas savings.
- Total spending for nonresidential programs excluding demand response programs was $15,206,988, which represented 66 percent of the nonresidential 2019 planned

spending. See Exhibit D – Spending by Cost Category for additional details related to individual program's administrative costs.

2019 Successes for Residential Programs (New Plan)

- 5,330 natural gas furnaces were rebated through the Residential Equipment program in 2019, which was 114 percent of goal. Natural gas furnaces provided 478,298 therms of natural gas savings or 134 percent of the planned total natural gas savings for this measure.
- Starting July 1, 2019, MidAmerican successfully implemented online fillable rebate applications for all residential prescriptive measures to be utilized by trade allies. Approximately 1,063 residential HVAC online applications were received in 2019. During the first quarter of 2020, over 1,018 residential HVAC online applications have already been received.
- 7,747 online assessments were completed through the Residential Assessment program in 2019, resulting in 4,136 Energy Efficiency kits being distributed to customers. Results from customer survey cards shows customer satisfaction with the online assessment and the energy efficiency kit to be positive.
- Over 10,000 customers logged in to the online home energy assessment for the first time in 2019. Of those logins, 75 percent began the home energy assessment and interacted with the energy-saving 18,800 tips.
- 274,181 Home Energy Reports were mailed to Iowa customers; reducing the report frequency to two reports per year has not significantly decreased savings rate compared to prior years.
- Successful development of an online self-scheduling tool for the Appliance Recycling program.

- $1,345,000 in funding was provided to Iowa Department of Human Rights for residential weatherization services. The Green Iowa AmeriCorps' supplemental weatherization program reached 128 low-income households to perform assessment and weatherization services.
- 38,312 Home Energy Reports were mailed to over 16,000 low-income customers.

2019 Successes for Nonresidential Programs (New Plan)

- Trade Ally Ambassadors conducted outreach to over 1,000 trade allies about Small Business Express and the opportunities available to trade allies to become a Qualified Service Provider for the Nonresidential Energy Solutions program.
- Designed and developed the Small Business Express Mobile Assessment Tool, enabling Qualified Service Providers to perform assessments and provide customers immediate visibility into incentives and economics for identified opportunities.
- 34 large building projects with over 50,000 square feet and 36 small building projects completed construction and received a rebate through the Commercial New Construction program in 2019.
- 75 new projects enrolled in the Commercial New Construction program in 2019, 33 of which were large building projects over 50,000 square feet, and 42 were small building projects. Of those enrollments, 45 projects received consulting on natural gas savings strategies with over 239,000 therms of savings identified.
- The multifamily and mixed use sector saw growth with 13 projects enrolled in the Commercial New Construction program in 2019. A new incentive scale for multifamily projects was implemented. The new incentive scale will provide an incentive per dwelling unit and is based on an economic metric familiar to multifamily housing developers.

- 99 nonresidential customers participated in the Nonresidential Load Management program. All 99 were returning participants and the total enrolled capacity for the 2019 program was 263,372 kW.

Key Challenges and Administration Issues in 2019 (New Plan)

- Uncertainty as to what rebates would be available in the New Plan motivated customers and trade allies to install as many projects by the end of the first quarter of 2019 as possible, leaving a smaller-than-normal pool of projects for installation over the remainder of 2019.
- Transition to a new implementation contractor, establishing new processes and adapting the New Plan's delivery model resulted in unexpected additional administrative costs to the program. MidAmerican does not anticipate the additional administrative cost will continue in 2020 and beyond.
- Addressing customer and trade ally confusion regarding the program changes that were implemented including project caps, customer caps and equipment eligibility changes, and other, similar questions slowed program participation.
- Launching the Small Business Express offering took longer than anticipated, due to longer-than-expected program and software design/development phases and slower than anticipated recruitment of contractors into the Qualified Service Provider network.

Key Activities Planned for 2020

- Air-source heat pumps, with specific qualification for units used for both heating and cooling, will be added to the Residential Equipment program as an eligible measure for 2020.
- Finalize discussions with the Office of Consumer Advocate related to ductless mini-

split air-source heat pumps being included as an eligible measure starting mid-year 2020.

- Expand the use of the online applications through outreach with HVAC and lighting trade allies.
- Promotional strategy for programs will include use of the Power + customer email newsletter. The average open rate for Power + email newsletter is 34 percent.
- Finalize procedure and capabilities for integrating the calculation of conversion rates for rebated measures for customers that completed the online home energy assessment.
- Launch of the Appliance Recycling online self-scheduling tool.
- Green Iowa AmeriCorps will launch a blitz-style supplemental weatherization program to target four to six lower income communities. Blitz events will take place over the course of a week and Green Iowa has the capacity to perform 30 – 40 weatherization visits per event.
- Increase customer awareness of Small Business Express by promoting the offering through multiple channels (e.g. MidAmerican Energy website, social media, e-newsletters, program hotline, etc.).
    - Six facility energy assessments have been conducted in the first quarter of 2020.
- Maximize natural gas savings by conducting targeted outreach to specific customer segments and/or end uses that have significant natural gas-savings potential (e.g., dry cleaner steam traps, advanced rooftop unit controls, food fryers at convenience stores and restaurants, etc.).
- Identify training and outreach strategies to educate new and low/non-participating

trade allies on program and rebate structures.

2019 REGULATORY COMPLIANCE FILINGS

- January 4, 2019: MidAmerican Reply Brief
- January 29, 2019: Appearance
- January 29, 2019: Request for Waiver of 199 IAC 35.12(2)
- February 19, 2019: Service List Addition
- March 5, 2019: Appearance
- March 20, 2019: Compliance Filing per February 18, 2019 Board Order –
  - Exhibit 3 Benefit cost
  - Exhibit 11 Savings 1 of 2)
  - Exhibit 4 Budget Accounting for Costs
  - Exhibit 11 Savings (2 of 2)
- March 20, 2019: Resistance to Motion for Reconsideration filed March 11, 2019
- March 27, 2019: Amendment to Exhibit 11 Savings (2 of 2) Revised
- April 30, 2019: 2019 1st Quarter Report filed with stakeholders
- April 30, 2019: 2018 Energy Efficiency Annual Report and Exhibits
- July 31, 2019: 2019 2nd Quarter Report filed with stakeholders
- October 30, 2019: 2019 3rd Quarter Report filed with stakeholders

EVALUATION, MONITORING AND VERIFICATION PLAN

MidAmerican worked with Tetra Tech on two key evaluation projects in 2019: 1) Residential HVAC Incremental Cost Study, which included a billing analysis of residential central air source heat pumps; and 2) Phase 2 of the Multifamily Air Infiltration Reduction Pilot. MidAmerican has continued to engage Iowa Stakeholders at various levels throughout these EM&V activities, including:

- In November of 2018, the Incremental Cost Study plan was shared with Iowa stakeholders for their review and comment. In part, the billing analysis of residential central air source heat pumps was designed to address concerns shared by the Office of Consumer Affairs in a filing related to this particular measure's ability to deliver cost-effective natural gas savings in cold climates.
- In June of 2019, incremental cost data collected by Tetra Tech was shared with the Iowa TRM Oversight Committee in order for the Committee to determine if the data were appropriate for use in updating the Iowa TRM. In August, September, and October of 2019, there were additional discussions with the Iowa TRM Oversight Committee and Technical Advisory Committed (TAC) about the data and findings.
- In November of 2019, MidAmerican and Tetra Tech staff met with the OCA to review the findings of the central air source heat pump billing analysis.
- Outcomes related to the Iowa TRM from the 2018 Multifamily Air Infiltration Reduction Pilot have been brought forward to the Iowa TRM TAC.

Additionally, as planned, MidAmerican issued an Evaluation, Monitoring and Verification Request for Proposal in September of 2019. In January 2020, MidAmerican contracted with Tetra Tech to perform process and impact evaluations of its Iowa programs included in the 2019-2023 New Plan. As with the past evaluation cycle, MidAmerican plans to engage Iowa Stakeholders at various levels throughout the EM&V activities to date. To date, that has included:

- On February 12, 2020, MidAmerican and Tetra Tech staff met with the OCA to provide an overview of both the Strategic Evaluation Plan (SEP) and timing of program-level evaluations. An updated Strategic Evaluation Plan, incorporating stakeholder comments, was provided on March 20, 2020.

- Tetra Tech is working on providing access to Iowa Stakeholders again to Tetra Tech's EM&V SharePoint site. Documents that Tetra Tech will share with Iowa Stakeholders on SharePoint include the SEP, monthly status reports, final program-level Detailed Evaluation Plans (DEPs), and final program-level reports.
- The SEP provides a high-level, multiyear evaluation framework for MidAmerican's energy efficiency portfolio of programs. As such, the SEP notes that this "is a living document, serving as a reference for all parties, but with an expectation that the plan may change over time to meet MidAmerican's evaluation goals, needs, and/or evaluation findings."

In collaboration with MidAmerican and the OCA, the following schedule was created as to when each program's evaluation will start and the projected draft report date indicating when Tetra Tech plans to deliver draft Iowa program reports to MidAmerican (and simultaneously to the Iowa Stakeholders for review). Some changes may be necessary to this schedule based on other activities or initiatives.

Reference. Program-Level Evaluation Timing

Phase[2]	Program to be Evaluated	Program Evaluation Start Month	Estimated Draft Report Delivery Date
Phase 1	Residential Assessment	March 2020	September 18, 2020
	Residential Equipment	March 2020	October 2, 2020
	Commercial New Construction	March 2020	October 16, 2020
	Nonresidential Equipment	March 2020	October 30, 2020
Phase 2	Residential Low Income	October 2020	April 23, 2021
	Income Qualified Multifamily	October 2020	May 7, 2021
	Residential Behavioral	October 2020	May 21, 2021
Phase 3	Appliance Recycling	March 2021	September 17, 2021
	Trees	March 2021	October 1, 2021
	Nonresidential Energy Solutions	March 2021	October 15, 2021
Phase 4	Education	June 2021	October 22, 2021
	Residential Load Management	July 2021	November 5, 2021
	Curtailment	July 2021	November 19, 2021

[2] MidAmerican, the Tetra Tech team, and key stakeholders recognize that there is some flexibility in the draft report delivery date for the Phase 1, Phase 2, and Phase 3 program evaluations.

SETTLEMENT AGREEMENT UPDATES

MidAmerican continued its efforts in 2019 to address and implement the additional New Plan commitments included in the Revised Stipulation and Agreement filed with the Board on November 16, 2018, in Docket No. EEP 2018-0002 with its stakeholders. Exhibit I – Revised Stipulation and Agreement and Order Requirements provides a summary of MidAmerican's progress toward each item in the Revised Stipulation and Agreement and Order as of December 31, 2019.

PILOTS AND RESEARCH AND DEVELOPMENT UPDATES

In 2019, MidAmerican's energy efficiency group implemented zero pilot programs or research and development initiatives.

ENERGY EFFICIENCY PROGRAMS

Residential Equipment

The Residential Equipment program promotes the purchase of energy-efficient equipment by residential customers in new and existing homes. The program provides customers with rebates to offset the higher purchase cost of efficient equipment. Targeted equipment includes heating, cooling, and smart thermostat measures.

2019 Results Compared to Plan and Budget

Total electric and natural gas savings for the Residential Equipment program were 1,724,873 kWh and 529,330 therms respectively. These figures were 51 percent of total 2019 electric savings and 87 percent of total natural gas savings. Total spending for the Residential Equipment program was $2,738,890, which is 57 percent of the 2019 budgets. Administrative costs accounted for 33 percent of the total 2019 Residential Equipment spending. The higher-than-anticipated administrative costs were primarily due to unanticipated start-up costs associated with transitioning to a new implementation contractor.

Key Program Successes and Activities in 2019

Residential Equipment program highlights for 2019 include the following:

- 5,330 natural gas furnaces were rebated in 2019, which was 114 percent of goal. Natural gas furnaces provided 478,298 therms of natural gas savings or 134 percent of the planned total natural gas savings for this measure.
- Starting July 1, 2019, MidAmerican successfully implemented online fillable rebate applications for all residential prescriptive measures to be utilized by trade allies. Approximately 1,063 residential HVAC online applications were received in 2019. During the first quarter of 2020, over 1,018 residential HVAC online applications have already been received.

- With only five weeks from the final order issue date to implementation date, MidAmerican successfully transitioned to a new program implementation contractor for rebate processing and the customer service call center.

Key Program Challenges in 2019

- Uncertainty as to what rebates would be available in the New Plan motivated customers and trade allies to install as many projects by the end of the first quarter of 2019 as possible, leaving a smaller-than-normal pool of projects for installation over the remainder of 2019.
- Transition to new implementation contractor, establishing new processes and adapting the New Plan's delivery model caused unexpected additional administrative costs to the program. MidAmerican does not anticipate the additional administrative cost will continue in 2020 and beyond.

Promotion

MidAmerican promoted the Residential Equipment program as follows:

- Customer newsletters, bill inserts, social media such as Facebook and Twitter and MidAmerican's website.
- Home shows, various customer and community safety/health fairs and other events sponsored by trade associations.
- Lunch and learn sessions conducted by Trade Ally Ambassadors throughout the year.

Key Activities Planned in 2020

- Air-source heat pumps, with specific qualification for units used for both heating and cooling, will be added back to the program as an eligible measure for 2020.
- Finalize discussions with the Office of Consumer Advocate related to ductless mini-split air-source heat pumps being included as an eligible measure in mid-2020.

- Expand the use of the online applications through outreach with HVAC trade allies.

Residential Assessment

The Residential Assessment program promotes energy efficiency strategies for existing residential customers. The program is delivered through two components that assist residential customers in reducing energy usage: 1) an Online Home Energy Assessment; and 2) an Energy Efficiency Kit. The online home energy assessment gives all residential customers access to an interactive home assessment. Residential customers who complete the online home assessment are eligible for a free energy efficiency kit containing simple energy efficiency measures. There are three different types of kits offered based on the customer's answers to the online home energy assessment and the fuel source provided by MidAmerican. For example, a dual-fuel or all-electric customer would receive a kit with all-electric and water-saving measures. A gas only customer would only receive a kit with water-saving measures. A customer who only receives electric service from MidAmerican and does not have an electric water heater would only receive a kit with electric measures. Every energy efficiency kit contains educational material, information on other energy efficiency programs, installation instructions, and a customer survey.

2019 Results Compared to Plan and Budget

Total electric and natural gas savings for the Residential Assessment program were 455,970 kWh and 15,998 therms respectively. These results are eight percent of total 2019 electric savings and ten percent of total 2019 natural gas savings. Total spending for the Residential Assessment program was $339,334 which was 17 percent of the 2019 budgets. Administrative costs accounted for 22 percent of the total 2019 Residential Assessment Online spending.

2019 Key Program Successes and Activities

Residential Assessment program highlights for 2019 include the following:

- 7,747 online assessments were completed in 2019, resulting in 4,136 Energy Efficiency kits being distributed to customers. Results from customer survey cards shows customer satisfaction with the online assessment and the energy efficiency kit to be positive.
- Over 10,000 customers logged in to the online home energy assessment for the first time in 2019. Of those logins, 75 percent began the home energy assessment and interacted with the energy-saving 18,800 tips.
- The energy efficiency call center assisted 49 customers with the online home energy assessment.

Key Program Challenges in 2019

- Plan approval, contracting delays, and program development challenges pushed the launch of this program to mid-July.
- Program promotion efforts in 2019 helped increase participation, but ramp-up was significantly longer than anticipated.

Promotion

MidAmerican promoted the Residential Assessment program as follows:

- Social media including Facebook and Twitter
- Bill messaging
- At Your Service printed customer newsletter
- Customized modules promoting the program in Home Energy Reports
- Rotating web banner on MidAmericanEnergy.com

Key Activities Planned in 2020

- Promotional strategy for the program will include use of the Power + customer email newsletter. The average open rate for Power + email newsletter is 34 percent.
- Explore opportunities to cross promote within other energy efficiency programs.
- Finalize procedure and capabilities for integrating the calculation of conversion rates for rebated measures for customers that completed the online home energy assessment.

Residential Behavioral

The Residential Behavioral program is designed to encourage energy savings through behavioral modification. The program provides customers with Home Energy Reports that contain personalized information about their energy use and provide smart ways to make their homes more efficient. Customers are randomly chosen by MidAmerican to participate in the program, but may "opt-out" if they do not wish to participate. The Home Energy Reports compare the customer's energy usage to 100 similarly-situated homes in their area. The reports engage customers and lead them to take action to bring their energy usage in line with similar homes. Customers participating in the program receive two paper reports annually and can opt-in to a monthly emailed report.

The program empowers customers to understand their energy usage better and act on this knowledge, resulting in changed customer behavior. Additionally, participation in this program encourages participation in other programs by using the Home Energy Report as a promotional vehicle. By helping customers become more energy efficient and lower their utility bills, the program helps customers understand that decisions they make regarding energy usage are important and relevant to their total monthly energy usage.

2019 Results Compared to Plan and Budget

Total electric savings for the Residential Behavioral program were 25,002,863 kWh which represents 85 percent of total 2019 electric savings. Total spending for the Residential Behavioral program was $983,464 which is 66 percent of the 2019 budgets. Administrative costs accounted for 23 percent of the total 2019 Residential Behavioral spending.

Key Program Successes and Activities in 2019

Residential Behavioral program highlights for 2019 include the following:

- Over 176,000 customers were active in the program at the end of 2019.

- Reducing the report frequency to two reports per year has not significantly decreased savings rate compared to prior years.
- 274,181 Home Energy Reports were mailed to Iowa customers
- 16,194 emails were sent to customers who opted-in to the monthly email version of the report. The email open rate was 55 percent.
- Both the print and email Home Energy Reports were used to cross promote the Residential Assessment, Residential Equipment and Appliance Recycling programs throughout the year.
- The customer opt-out rate continues to be below national standard.

Key Program Challenges in 2019

- With the reduction of paper reports, we have not seen as many customers opt-in to the monthly emailed report as anticipated.

Promotion

- The Home Energy Report is an “opt-out” rather than “opt-in” program. Therefore, no promotional efforts were utilized to obtain participants. The Home Energy Reportss themselves promote energy saving tips and behaviors, other MidAmerican energy efficiency programs, and utilization of a customer Web portal which allows for more in-depth energy savings planning and provides additional strategies and tips.

Key Activities Planned in 2020

- The program will perform a backfill, randomly selecting new customers who were not previously included in the program to increase recipient counts which have decreased over time due to natural attrition.
- The program implementer has planned to launch an updated report experience in late 2020.

- Both the print and email Home Energy Reports will continue to be used to cross promote other energy efficiency programs throughout the year.
- Continue to promote the opt-in monthly email report via customized print modules.

Residential Appliance Recycling

The Appliance Recycling program encourages customers to stop using old, inefficient refrigerators and freezers and helps them dispose of the old units in an environmentally responsible manner. The program provides rebates to customers participating in the program and provides free pick up and disposal of old working appliances. The program is available to residential electric customers and multi-family building only.

2019 Results Compared to Plan and Budget

Total electric savings for the Residential Appliance Recycling program were 3,372,293 kWh, which was 64 percent of the total 2019 electric savings. Total spending for the Residential Appliance Recycling program was $713,270, which was 66 percent of the 2019 budget. Administrative costs accounted for 23 percent of the total 2019 Residential Appliance Recycling spending.

Key Program Successes and Activities in 2019

Appliance Recycling program highlights for 2019 include the following:

- 3,465 residential appliances were recycled, which was 64 percent of the total goal.
- Successful development of an online self-scheduling tool.

Key Program Challenges in 2019

- Promotional strategy was not as effective as anticipated, likely contributing to the lower-than-anticipated program participation rate.

Promotion

MidAmerican promoted the Appliance Recycling program as follows:

- Social media such as Facebook and Twitter, MidAmerican's website, customer and employee newsletters and bill messaging.
- Spring home shows, Iowa State Fair and other community events.

- Direct outreach to property managers and landlords during association meetings that were held across the service territory.

Key Activities Planned in 2020

- Launch of the online self-scheduling tool.
- Continue outreach to property managers and landlords.
- Implement a revised promotional strategy to improve participation and specifically promote the use of the self-scheduling tool.

Residential Low-Income Program

The Low-Income program provides financial incentives and education to encourage energy efficiency in existing low-income housing. The program is delivered through three separate components to meet the needs of different customer segments.

The first component, weatherization, encourages comprehensive energy efficiency improvements in existing low-income housing by providing free energy assessments and free on-site installation of heating, water heating, lighting, refrigeration, and insulation measures. The Iowa Department of Human Rights (IDHR), which manages a network of community action program (CAP) agencies, delivers the program by identifying qualifying households and delivering assessments and weatherization services. The Low-Income program supplements funding provided by the Department of Energy's Weatherization Assistance Program through a long-term contract with IDHR. The program also includes an education component for Low-Income Home Energy Assistance (LIHEAP)-eligible customers and a multifamily and institutional housing component.

The second component is Supplemental Weatherization, which is delivered by Green Iowa AmeriCorps collaborating with CAP agencies to provide supplemental weatherization to customers on weatherization waiting lists.

The third component is a Home Energy Report program for a select number of eligible customers. The reports are tailored to include low cost and no cost energy efficiency tips.

2019 Results Compared to Plan and Budget

Total electric and natural gas savings for the Residential Low Income program were 175,654 kWh and 37,671 therms respectively. These figures represent 155 percent of total 2019 electric savings and 106 percent of total 2019 natural gas savings. Total spending for the Residential Low Income program was $1,805,874, which represents 95 percent of the 2019

budgets. Administrative costs accounted for nine percent of the total 2019 Residential Low Income spending.

Key Program Successes and Activities in 2019

Low Income program highlights for 2019 include the following:

- $1,345,000 in funding was provided to IDHR for weatherization services.
- 38,312 Home Energy Reports were mailed to over 16,000 customers.
- The Green Iowa AmeriCorps team added two additional locations to the supplemental weatherization program; Iowa City and Iowa Quad Cities. The program in Black Hawk County also continued in 2019. In total, the program reached 128 low-income households to perform audit and weatherization services.

Key Program Challenges in 2019

- The Green Iowa AmeriCorps program relies on the CAP agencies to promote the supplemental weatherization program. This can be challenging due to turnover in staffing and lack of staff engagement.

Promotion

MidAmerican promoted the Low-Income program as follows:

- The supplemental weatherization program was promoted with flyers and in-person outreach at participating CAP agencies. In addition, the program was promoted through the Home Energy Report program in targeted areas.

Key Activities Planned in 2020

- Green Iowa AmeriCorps will launch a blitz-style supplemental weatherization program to target four to six lower income communities. Blitz events will take place over the course of a week and Green Iowa have the capacity to perform 30 – 40 weatherization visits per event. Targeted communities for 2019 are Indianola, Barnes

City, Shenandoah, Red Oak, Brayton, and Storm Lake. The Storm Lake blitz event will be in partnership with Interstate Power and Light Company (IPL).

- A MidAmerican-branded flyer was created in both English and Spanish to help promote the supplemental weatherization program. These flyers will be distributed to CAP agencies.
- A direct mail post card will be created to send to LIHEAP recipients in targeted areas to promote the supplemental blitz program prior to the event.

Nonresidential Equipment

The Nonresidential Equipment program promotes the purchase of energy efficient equipment by nonresidential customers. The program offers financial incentives to customers installing energy efficient equipment in existing buildings. Cost-effective qualifying nonresidential custom projects for non-standard equipment, new technologies, and alternate strategies may receive rebates through MidAmerican's Nonresidential Energy Solutions program.

Nonresidential equipment installed in newly-constructed commercial buildings or multi-family housing facilities is not eligible for rebates through the Nonresidential Equipment program. However, MidAmerican's Commercial New Construction program provides services and incentives based on the energy saving strategies chosen for renovation of existing buildings converted to apartments, as well as construction of new commercial buildings and multi-family housing facilities containing three or more units.

2019 Results Compared to Plan and Budget

Total electric and natural gas savings for the Nonresidential Equipment program were 15,135,451 kWh and negative 18,989 therms respectively. These figures represent 55 percent of total planned 2019 electric savings and negative 121 percent of total planned 2019 natural gas savings. The negative natural gas savings is a result of lower than anticipated program participation and the significant level of LED lighting installations completed by dual-fuel customers, which the program records, as required by the Iowa Technical Reference Manual, as a heating penalty (negative therms savings). Total Nonresidential Equipment program spending was $2,895,583 which represents 49 percent of the 2019 budgets. Administrative costs accounted for 36 percent of the total 2019 Nonresidential Equipment spending. The higher-than-anticipated administrative costs were primarily due to unanticipated start-up costs associated

with transitioning to a new implementation contractor.

Key Program Successes and Activities in 2019

Nonresidential Equipment program highlights for 2019 include the following:

- MidAmerican successfully implemented online fillable rebate applications for all nonresidential prescriptive measures to be utilized by trade allies. Approximately 78 lighting online applications were received in 2019. During the first quarter of 2020, over 70 lighting online applications have already been received.
- With only five weeks from the final order date to implementation date, MidAmerican successfully transitioned to a new program implementation contractor for rebate processing and the customer service call center.
- Trade ally ambassadors educated hundreds of trade allies about the programs and measure rebates available in 2019.

Key Program Challenges in 2019

- Uncertainty as to what rebates would be available in the New Plan motivated customers and trade allies to install as many projects by the end of the first quarter of 2019 as possible, leaving a smaller-than-normal pool of projects for installation over the remainder of 2019.
- Transition to new implementation contractor, establishing new processes and adapting the New Plan's delivery model caused unexpected additional administrative costs to the program. MidAmerican does not anticipate the additional administrative cost will continue in 2020 and beyond.
- Addressing customer and trade ally confusion regarding the program changes that were implemented including project caps, customer caps and equipment eligibility changes, and similar issues slowed program participation.

Promotion

MidAmerican promoted the Nonresidential Equipment program as follows:

- Customer newsletters, bill inserts, social media such as Facebook and Twitter and MidAmerican's website.
- Various trade shows, customer and community safety/health fairs and other events sponsored by trade associations.
- Lunch and learn sessions conducted by Trade Ally Ambassadors throughout the year.

Key Activities Planned in 2020

- Evaluate the feasibility of offering short-term enhanced incentives for existing measures and adding new measures such as ductless mini-split air-source heat pumps.
- Expand the use of the online application through outreach with HVAC and lighting trade allies.

Nonresidential Energy Solutions

The Nonresidential Energy Solutions program promotes comprehensive energy efficiency for existing commercial buildings and industrial facilities through two offerings: 1) Small Business Express; and 2) Direct Project Assistance. These offerings are tailored to the unique needs of nonresidential customers by size and purpose. Qualifying customers receive expert project evaluation advice and financial incentives to help offset the costs of new energy efficiency investments. This program also serves agriculture and market-rate, multi-family customers.

For multi-family properties, the existing structure must have three or more units and be served through nonresidential rates. These participants generally are property management companies or multi-family housing property owners.

2019 Results Compared to Plan and Budget

Total electric and natural gas savings for the Nonresidential Energy Solutions program were 12,316,379 kWh and 54,420 therms respectively. These figures represent 20 percent of total 2019 electric savings and 27 percent of total 2019 natural gas savings. Total spending for the Nonresidential Energy Solutions program was $4,914,269 which was 50 percent of the 2019 budget. Administrative costs accounted for 27 percent of the total 2019 Nonresidential Energy Solutions spending. The higher administrative costs were a result of the longer-than-expected program and software development phases and slower-than-anticipated recruitment of Qualified Service Providers for the Small Business Express offering.

Key Program Successes and Activities in 2019

Nonresidential Energy Solutions program highlights for 2019 include the following:

- Consolidated the Industrial Partners, Commercial Energy Solutions and Nonresidential Equipment (custom projects) programs into the new Nonresidential Energy Solutions program.
- Trade Ally Ambassadors conducted outreach to over 1,000 trade allies about Small Business Express and the opportunities available to trade allies to become a Qualified Service Provider for this program offering.
- Designed and developed the Small Business Express Mobile Assessment Tool, enabling Qualified Service Providers to perform assessments and provide customers immediate visibility into incentives and economics for identified opportunities.

Key Program Challenges in 2019

- Launching the Small Business Express offering was more onerous than anticipated due to longer-than-expected program and software design/development phases and slower-than-anticipated recruitment of contractors into the Qualified Service Provider network.
- Addressing customer and trade ally confusion regarding project and customer caps and customer unwillingness to participate in programs due to the inclusion of project and customer caps.

Promotion

MidAmerican promoted the Nonresidential Energy Solutions program as follows:

- Trade Ally Ambassadors, Key Account Managers and Energy Managers conducted meetings with current and prospective program participants and participating trade allies to:
    - Build program awareness and streamline the participation experience
    - Identify, evaluate and manage energy efficiency opportunities

- To further promote the program, MidAmerican has continued the following:
    - As a result of Revised Stipulation and Agreement item #17, MidAmerican Energy will continue its non-incentive recognition program for Key Account Managers performance in providing customers with education, supporting Energy Efficiency programs and increase participation in our Nonresidential Energy Solutions program. MidAmerican will continue presenting the KAM award, during the first quarter of each year, to the Key Account leadership team.

Key Activities Planned in 2020

- Accelerate the growth of the Small Business Express Qualified Service Provider network through continued, targeted recruitment activities by Trade Ally Ambassadors.
    - Eight additional Qualified Service Providers were recruited and trained in the first quarter of 2020; the current network of 13 Qualified Service Providers are able to cover the majority of MidAmerican Energy's service territory.
- Increase customer awareness of Small Business Express by promoting the offering through multiple channels (e.g. MidAmerican Energy website, social media, e-newsletters, program hotline, etc.).
    - Six facility energy assessments have been conducted in the first quarter of 2020.
- Maximize natural gas savings by conducting targeted outreach to specific customer segments and/or end uses that have significant natural gas-savings potential (e.g., dry cleaner steam traps, advanced rooftop unit controls, food fryers at convenience stores and restaurants, etc.).

Commercial New Construction Program

The Commercial New Construction program promotes the design and construction of high-efficiency commercial buildings, including new building construction and major renovations of existing buildings. The program is delivered in partnership with developers, architects, engineering firms, and equipment contractors, and provides a mix of technical and financial assistance to help influence projects during the planning stage. Electric energy design assistance and construction incentives are offered to reduce market barriers to incorporating electric energy efficiency in construction projects.

All commercial new construction projects are ineligible for residential or nonresidential equipment prescriptive rebates. Natural gas only customers are ineligible for program participation.

The program offers a variety of services, tailored to the varying needs of different market segments. Based on project type, size, etc., the program assigns the new construction project to the appropriate service that best fits the customer's needs. The services include:

- Standard Small Service – Targets smaller projects that can be served effectively through an online energy modeling and decision-making tool, conference call assistance, and limited face-to-face meetings. Several building types up to 15,000 square feet are eligible.
- Standard Large Service – Targets projects larger than 15,000 square feet interested in pursuing more standard energy efficiency strategies. This service can readily accommodate fast-track projects, often smaller in size or with less complicated designs.
- Custom Strategy Service – Targets projects larger than 15,000 square feet interested in pursuing customized energy efficiency strategies. This service provides energy

modeling of custom efficiency strategies selected by the owner/design team.

- Multifamily Service – Targets the needs of high-rise and low-rise multifamily housing projects. Whole-building energy analysis will be provided to guide the selection of efficiency strategies. Evaluates energy efficiency opportunities of the building, both as a whole and as individual housing units, to increase energy savings and drive energy efficiency.

Services are also available as a volume-build process for retail/chain buildings that follow an organization's standard building footprint, regardless of building size. Owners with multiple buildings with identical designs may participate through this streamlined volume-build process.

2019 Results Compared to Plan and Budget

Total electric savings for the Commercial New Construction program were 12,298,386 kWh, or 46 percent of the 2019 electric savings goal. Total spending for the program was $6,600,411 which was 130 percent of the 2019 budgets. Administrative costs accounted for 12 percent of the total 2019 Commercial New Construction spending.

Key Program Successes and Activities in 2019

Commercial New Construction program highlights for 2019 include the following:

- 34 large building projects with over 50,000 square feet and 36 small building projects completed construction and received a rebate through this program in 2019.
- 75 new projects enrolled in the program in 2019, 33 of which were large building projects over 50,000 square feet, and 42 were small building projects.
- Projects enrolled in 2019 were an average of 68,711 square feet, with a total of more than 5 million square feet. Of those enrollments, 45 projects received consulting on natural gas savings strategies with over 239,000 therms of savings identified.
- While the program saw its highest enrollment in the Des Moines metro area, the

program enrolled projects from all areas of the state, including Council Bluffs, Iowa City, the Quad Cities, Waterloo, Sioux City, Cedar Rapids, and many smaller communities and rural areas.

- The commercial sector, which includes offices, hotels, convention centers and storage, maintained strong participation with 25 projects enrolled in 2019.
- The education sector had 17 K-12 or higher education-related buildings enrolled in 2019.
- The multifamily and mixed use sector saw growth with 13 projects enrolled in 2019. A new incentive scale for multifamily projects was implemented. This incentive scale will provide an incentive per dwelling unit. The incentive scale is based on an economic metric familiar to multifamily housing developers.
- 13 architecture, engineering, development, and construction firms received a training seminar at their offices.

Key Program Challenges in 2019

- In 2019, the program saw growth in the multifamily and mixed use sectors. However, continued outreach to developers is required to educate them on the benefits of the program for their projects.
- The removal of gas incentives has reduced the overall incentive projects can receive; however, all projects where natural gas was incorporated into the project did receive gas modeling.

Promotion

- Joint-utility promotional efforts with IPL included:
    - Print Ads included in the winter, spring, summer and fall issues of *ia architect* magazine.

- A booth at the 2019 Iowa American Institute of Architects (AIA) Convention in Des Moines, Iowa. At this event, recipients of the 2019 Excellence in Energy Efficient Design Award also were recognized for their outstanding efforts in reducing energy use through joint-utility Commercial New Construction activities. Three seminars were presented by program representatives during the convention.

- Lunch and learn sessions were conducted with architecture and engineering firms; these sessions were approved for one Continuing Education Unit for LEED® Accredited Professionals. Additional meetings were held with development and construction firms to educate them on the benefits of the program.
- Program promotion and networking with the architecture and engineering community occurred at multiple events and meetings for organizations including: American Institute of Architecture, United States Green Building Council Iowa, Iowa Architectural Foundation, Design-Build Institute of American, Iowa Chapter and the Central Iowa Architects Council, and Iowa Chapter of the American Society of Heating, Refrigeration, and Air Conditioning Engineers.

Key Activities Planned in 2020

- Outreach to income qualified multifamily developers will be conducted to educate them on the benefits and process of the program.
- A multifamily sector fact sheet will be created to promote the benefits of the program to this sector. The fact sheet will have information specific to the sector along with a case study of a recently completed project.
- Continue to bring new projects into the project pipeline through lunch and learn programs, investigating projects leads found through Construct Connect Insights,

phone calls to design team firms, monitoring news and construction services, advertising, customer and trade event participation, presentations at customer and industry events, and key account manager project identification.

- Participate in the tenth annual Excellence in Energy Efficiency Awards announced in conjunction with the 2020 AIA Iowa Convention in September.

Income Qualified Multifamily Housing Program

The Income Qualified Multifamily Housing program provides services and incentives to serve the specific needs of multifamily housing building owners and property managers to help improve the overall energy efficiency of their buildings and reduce their operating costs. MidAmerican targets existing income-qualified multifamily housing, institutional housing, and emergency shelters. This offering provides comprehensive on-site energy assessments to identify areas of high energy use, free direct installation measures, and incentives for measures identified during the assessment. Participants are subject to prequalification. For eligibility, a multifamily property must be developed under Section 8 of the U.S. Housing Act of 1937, Low-Income Housing Tax Credit Property under the Tax Reform Act of 1986, Housing and Urban Development's Sectional Housing Types of Section 202 and Public Housing, or the US Department of Agriculture's Section 515 Rural Rental Housing. An on-site assessment is available to owners of multifamily buildings that contain four or more units that receive electricity and/or natural gas supplied from MidAmerican.

MidAmerican's Commercial New Construction program provides services and incentives based on the energy savings strategies chosen for renovation of existing buildings converted to apartments, as well as construction of new multi-family housing facilities containing three units or more.

2019 Results Compared to Plan and Budget

Total electric and gas savings for the Income Qualified Multifamily Housing program were 363,438 kWh and 10,453 therms, respectively. These figures are 15 percent of total 2019 electric savings and five percent of total 2019 gas savings. Total spending for the Income Qualified Multifamily Housing program was $422,593 which is 27 percent of the 2019 estimated budgets. Administrative costs accounted for 48 percent of the total 2019 Income Qualified

Multifamily Housing spending. The higher-than-anticipated administrative costs were primarily due to lower-than-anticipated participation and fewer air sealing and follow up measures being installed by landlords.

Key Program Successes and Activities in 2019

Income Qualified Multifamily program highlights for 2019 include the following:

- 199 buildings received assessments.
- 4,796 electric direct install measures and 1,668 gas direct install measures were installed.
- Three buildings received insulation and air sealing through the program.
- 505 additional lighting measures were installed as a result of the program's influence.

Key Program Challenges in 2019

- Plan approval and contracting delayed the program launch.
- Most properties that had an assessment in 2019 had ceiling insulation levels above the eligibility threshold, making it difficult to find insulation and air sealing projects.
- Many of the key property management companies in the state have already participated in the program, making enrollment a challenge.

Promotion

MidAmerican promoted the Multifamily Housing program as follows:

- Attended landlord association meetings in several cities in the service territory.
- Performed outreach to past participants where insulation and air sealing projects were recommended.
- Presented the program at the National Association of Housing and Redevelopment Officials annual conference in West Des Moines.
- Performed in person outreach throughout the service territory.

Key Activities Planned in 2020

- Update and simplify the brochure so that it is easier to distribute via email and includes more emphasis on the insulation and air sealing portion of the program.
- Utilize existing relationships with Community Action Agencies that participate in the Statewide Weatherization program to help generate more participants.
- Perform outreach to smaller property owners where insulation projects are more viable.

Education Program

The Education program promotes energy efficiency education through activities organized into three general areas: school curricula, awareness, and trade ally support.

School Curricula

MidAmerican works with schools to integrate energy efficiency education into classroom curriculum and extracurricular activities.

Awareness

MidAmerican engages in a number of activities to increase energy efficiency awareness in general and in the Company's programs in particular. MidAmerican uses a comprehensive marketing plan that includes traditional and nontraditional marketing strategies for overall and individual energy efficiency programs. Additional marketing and program awareness may also be administered through individual programs.

Trade Ally Support

MidAmerican engages in a number of activities to fully inform trade allies of program changes, encourage trade allies to promote MidAmerican's energy efficiency programs, and recognize outstanding trade ally performance. MidAmerican currently offers a wide range of support services to its trade allies, including a Trade Ally Network website, dedicated support staff, formal and informal training, personal communication through in-person meetings, focus groups, phone calls, email, newsletters and advertising support.

2019 Results Compared to Plan and Budget

There were no planned electric or gas savings in 2019. Total spending for the Education program was $561,752 which is 56 percent of the 2019 budget.

Key Program Successes and Activities in 2019

Education program highlights for 2019 include the following:

- Energy efficiency was promoted at community and state-level events and activities, including home shows, the Iowa State Fair and educational speaking engagements
- Promotion activities include; internet advertising, social media messaging, public relations, website promotion, bill messaging, customer and employee newsletters, call center and customer office communication.
- The *eSMARTkids* offering was used to deliver a comprehensive energy efficiency outreach and education program to principals, curriculum coordinators, teachers, students and parents throughout MidAmerican's service territory. The offering includes email and direct mail outreach, age-appropriate standards-based classroom curriculum materials, curriculum-based website, teachers' guides, and pre-/post-tests. Over 1,100 students and teachers visited the *eSMARTkids* website. 44,202 students and 1,332 educators for grades K-6 participated in the program.
- One Trade Ally Ambassador position was added to increase the level of outreach conducted throughout MidAmerican's service territory.
- 10 trade ally meetings were held throughout the service territory: five in the spring providing education for the new Iowa Plan as well as five in the fall providing education and outreach for the 2020 plan year. Over 580 trade allies attended the spring and fall sessions.
- 40 Educational session/lunch and learns were held with various trade allies throughout the service territory
- Continuous outreach throughout the year were made with trade allies which include: in-person meetings, email campaigns, event outreach and phone calls.
- A Trade Ally Search tool helps customers looking to make home or business energy efficiency improvements to connect to MidAmerican's Trade Ally. Over 1,400

customers accessed the Trade Ally Search Tool in 2019.

Key Program Challenges in 2019

- Conducting trade ally outreach throughout the entire service territory was challenging due to significant level of staffing changes early in the year.

Key Activities Planned in 2020

- Identify training and outreach strategies to educate new and low/non- participating trade allies on program and rebate structures.
- Trade Ally Ambassadors are increasing trade ally outreach to recruit additional Qualified Service Providers for a variety of energy efficiency programs**.**

Trees Program

The Trees program promotes tree planting through the Trees Please! offering. The program provides annual grants for community tree planting projects. Any municipality in MidAmerican's service area may submit a grant request annually for tree planting projects in common areas such as publically-owned properties, schools and community spaces. Tree-planting projects must also provide energy efficiency benefits from the new trees. Communities may receive enhanced grants through the program to recover from a natural disaster. Communities are given information on the benefits of planting trees in an energy efficient landscape and they are directed to the website to learn more about other MidAmerican energy efficiency programs available in Iowa.

2019 Results Compared to Plan and Budget

There were no planned electric or gas savings in 2019. Total spending for the Trees program was $117,933 which is 79 percent of the 2019 budget.

Key Program Successes and Activities in 2019

Trees program highlights for 2019 include the following:

- 61 communities received *Trees Please!* grants. The funding grants received by the 61 communities totaled $101,683. 48 of these communities received a Trees Please! grant last year and 13 communities were new and have not received a grant in the past year(s).

- MidAmerican received the Tree Line USA award by the National Arbor Day Society. Tree Line USA is sponsored by The National Arbor Day Foundation in cooperation with the National Association of State Foresters. This award recognizes public and private utilities across the nation that implements tree management practices that protect and enhance America's urban forests.

Key Program Challenges in 2019

- A larger-than-anticipated number of communities filed deficient grant requests and required additional guidance on what information needs to be submitted and why including that information was necessary.

Promotion

MidAmerican promoted the Tree programs as follows:

- *Trees Please!* participation signs advertise communities' participation in the *Trees Please!* program. These signs are designed to be used at the city welcome signs or on poles where they have planted their trees.

Key Activities Planned in 2020

- Conduct outreach to non-participating communities to encourage participation and to help address any barriers that may keep the community from submitting a grant request in the future.
- Investigate the feasibility of creating a webinar or video to educate community leaders about the Trees Please! offering, participation requirements, and how to submit a grant request.

DEMAND RESPONSE PROGRAMS

Residential Load Management

SummerSaver[SM] is MidAmerican's residential air conditioner load control program. The program provides financial incentives to residential customers in exchange for allowing MidAmerican to control their central air conditioning on hot summer days when the Company forecasts a system peak demand or operating conditions require use of the program.

Central air conditioners and air source heat pumps in owner-occupied single-family homes are eligible for the program. During cycling events, a small load control receiver (LCR) operates by overriding the customer's thermostat, which in turn shuts down the compressor. However, the indoor fan continues to operate, providing air circulation.

2019 Results Compared to Plan and Budget

A relatively mild summer did not warrant the need for the Midcontinent Independent System Operator (MISO) or MidAmerican to call for a SummerSaver cycling event in 2019. A certification event was held on September 16, 2019 for MidAmerican's control group only. MidAmerican's control group, which consists of 132, residential interval meters is used to verify the program's ability to communicate with load control receivers (LCRs) used to cycle air conditioners and calculate the actual reduction in MidAmerican's systems load when these devices are called upon to be curtailed. The temperatures on the day of certification were cooler than typical for a day of program operation. Total electric savings for the Residential Load Management program in 2019 were 27 kW of system peak demand and 54 kWh. The peak demand reduction and kWh savings recorded in 2019 from the control-group-only test event was very limited; as a result of this limited test, the program is not considered cost-effective. However, if all 62,011 devices installed in Iowa participated in this test, MidAmerican's peak reduction and energy savings recorded would have been 17,037 kW and 34,073 kWh,

respectively and results in the program being cost-effective. Total spending for the Residential Load Management program in 2019 was $2,520,276 which is 78 percent of the 2019 budget. Administrative costs accounted for 51 percent of the total 2019 Residential Load Management spending due to unanticipated start-up costs and the creation of a new device management system.

Key Program Successes and Activities in 2019

Residential Load Management program highlights for 2019 include the following:

- 62,011 LCRs operating in the field during 2019.
- Due to the age of the program and having a new implementation contractor, quality control on installed LCRs was enhanced.
- Created a new centralized device management system with the new implementation contractor. This system contains information on all participants and LCRs in the field and inventory.
- Development of an expanded SummerSaver Qualified Service Provider (QSP) network due to new implementation contractor.

Key Program Challenges in 2019

- No cycling events were called in 2019.
- New quality control processes tested in the Des Moines area; plan to enhance the process and expand throughout entire service territory over remaining years of the New Plan.
- Difficulty finding SummerSaver QSP's in all service territories.

Promotion

MidAmerican promoted the Residential Load Management program as follows:

- Direct mail solicitation to customers who moved using *Keep It Going* cards. These

cards are sent to customers that move into a home that already has an LCR installed. The card offers the new homeowner automatic enrollment in the program.

- Promotion as part of the MidAmerican's suite of energy efficiency programs through print, social media and on MidAmerican's website.

Key Activities Planned in 2020

- Expansion of the quality control process to two additional areas of the service territory.
- Enhancements to the device management system to include automation of work orders sent to the QSPs, streamlining current processes and more robust reporting.
- Finalize smart thermostat implementation plan, update device management and rebate processing systems to include smart thermostats and begin solicitation. Phase one solicitation to include customers who received a rebate on a qualifying smart thermostat in 2018-2019.

Nonresidential Load Management

The Nonresidential Load Management program provides large nonresidential customers with financial incentives to reduce electricity use during MidAmerican's system peak hours. MidAmerican contracts with customers to reduce at least 250 kilowatts of demand by shedding load completely without replacement, shifting load to nonpeak periods, and/or generating power on-site to replace the curtailed power. Events may be triggered either by MISO or tariff provisions in MidAmerican's Rider CS. Nonresidential Load Management is a mature program; MidAmerican and its predecessor companies have offered it for many years, and most participants have been involved for multiple years.

MidAmerican provides information to customers regarding curtailments, curtailment strategies and analysis of load data via key account managers and an interactive web application. Participants are required to use MidAmerican's internet-based curtailment event manager application that provides notice of curtailment events, allows monitoring of performance in near-real time, and includes access to data and energy analysis modules on a year-round basis to help customers actively manage energy use. Each participant's overall performance is evaluated at the end of the curtailment season.

2019 Results Compared to Plan and Budget

Total electric savings for the Nonresidential Load Management program were 249 MW of system peak demand. This figure represents 108 percent of total 2019 peak demand kW savings. Total spending for the Nonresidential Load Management program was $8,657,231, which is 100 percent of the 2019 budget. Administrative costs accounted for two percent of the total 2019 Nonresidential Load Management spending.

Program Participation and Capacity Enrollment Details

In 2019, 99 nonresidential customers participated in the Nonresidential Load Management program. All 99 were returning participants and the total enrolled capacity for the 2019 program was 263,372 kW. Twenty-seven contracts were amended for the purpose of changing contract curtailment load accounting for a net decrease of 3,940 kW of curtailable load; which is less than a two percent decrease. The following table provides additional details about the participants and capacity enrolled in the Nonresidential Load Management for each year of the 2019-2023 New Plan compared to 2018 enrollment details.

	2018	2019
Total number of participants	**107**	**99**
New participants	0	0
Returning participants	107	99
Generator*	64	60
Shed/Shift	43	39
Contracted curtailable load	**267,312**	**263,372**
New participants	0	0
Returning participants	267,312	263,372
Generator*	80,585	78,710
Shed/Shift	186,727	184,662

** Customers who use both a generator and shed part of their load to meet their curtailment obligations are included entirely in the generation group.*

Key Program Successes and Activities in 2019

Nonresidential Load Management program highlights for 2019 include the following:

- One curtailment event was called by MidAmerican on July 19, 2019. One of the three rotating groups was requested to participate. See Exhibit J for more details.
- Physical test events were held the end of August for those that did not participate in an actual event during the 2019 summer season. See Exhibit J for more details.

- MidAmerican maintained a similar level of participation in 2019 compared to 2018 despite an incentive reduction and MISO tariff changes.

Key Program Challenges in 2019

- Due to MISO tariff changes, participant notification of actual physical availability and testing requirements were implemented.

Promotion

MidAmerican promoted the Nonresidential Load Management program with:

- An enhanced training session was held with Key Account Managers to review details of the program and to provide answers to potential customer questions. Key Account Managers held one-on-one meetings with prospective participants.
- A program information sheet, tariff and contract were distributed to prospective participants. These documents clearly explained the program, customer requirements, financial incentives and program compliance. A program-specific web page also is available to help promote the program.

Key Activities Planned in 2020

- Continued implementation of MISO tariff changes.