A. Description

During the first quarter 2024, Duke Energy Carolinas product managers prepared reports on each program describing the offerings and detailing each program's performance. This Executive Summary describes how the Company performed at an aggregate level during the full year of Vintage 2023 in comparison to as-filed information. Program-specific details are provided in the individual reports.

Program reports include:

Program	Category	Customer
Energy Assessments	EE	Residential
Energy Efficient Appliances and Devices	EE	Residential
Energy Efficiency Education Programs	EE	Residential
Residential – Smart $aver Energy Efficiency Program (HVAC EE)	EE	Residential
Income Qualified Energy Efficiency and Weatherization Assistance	EE	Residential
My Home Energy Report	EE	Residential
Multi-Family Energy Efficiency	EE	Residential
Non-Residential Smart $aver Prescriptive	EE	Non-residential
Non-Residential Smart $aver Custom	EE	Non-residential
Non-Residential Smart $aver Custom Assessment	EE	Non-residential
Non-Residential Smart $aver Performance Incentive	EE	Non-residential
Business Energy Saver	EE	Non-residential
EnergyWise for Business	EE/DSM	Non-residential
Power Manager	DSM	Residential
PowerShare	DSM	Non-residential

Audience

All retail Duke Energy Carolinas customers who have not opted out.

B &C. Impacts, Participants and Expenses

The tables below include actual results for Vintage 2023 in comparison to as-filed data for Vintage 2023.

The Company includes the number of units achieved and a percentage comparison to the as filed values. The unit of measure varies by measure as a participant, for example, may be a single LED bulb, a kW, a kWh, a household or a square foot. Due to the multiple measures in a given program or programs, units may appear skewed and are not easily comparable.

Carolinas System Summary[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	**$479.4**	**$422.1**	**88%**
Program Cost	**$163.7**	**$137.6**	**84%**
MW[2]	**993.1**	**1,181.0**	**119%**
MWH	**789,719.0**	**697,681.3**	**88%**
Units	**107,057,365**	**72,331,661**	**68%**

1) Values are reflected at the system level.

2) As filed MW are annual maximum peak. Coincident peak is tracked for impacts.

Carolinas Demand Response Summary[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$142.7	$182.7	128%
Program Cost	$34.8	$43.7	126%
MW[2]	824.5	1,056.9	128%
MWH	756.8	1,053.5	139%
Units[3]	786.2	1,041.2	132%

1) Values are reflected at the system level.
2) MW capability derived by taking the average over the PowerShare and PowerManager contract periods.
3) Units included in filing represented kW at meter, rather than number of participants. YTD value reflects average participation for 2023.

Carolinas Energy Efficiency Summary[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$336.7	$239.4	71%
Program Cost	$128.9	$93.9	73%
MW[2]	$0.2	$0.1	74%
MWH	$789.0	$696.6	88%
Units	$106.3	$71.3	67%

1) Values are reflected at the system level.
2) As filed MW are annual maximum peak. Coincident peak is tracked for impacts.

D. Qualitative Analysis

Energy efficiency impacts have primarily been driven by a reduction in lighting measures qualified for programs for both residential and non-residential customers. Programs are working to compensate for lower lighter savings with innovative marketing and incentives.

Highlights

Energy Efficiency
Customer participation continues to be largely driven by lighting and assessments programs. These measures provide customers with a relatively low-cost efficiency upgrade, with minimal effort, creating a positive initial energy efficiency experience.

Demand Side Management (DSM)
The DSM portfolio is comprised of PowerShare (non-residential), Power Manager (residential), and EnergyWise for Business (non-residential) programs. The impacts and participation were very close to the 2023 as-filed targets.

Issues

A few of the Company's programs filed for program modifications at the close of the year. The Company faces a significant challenge with reductions in avoided costs, making programs and their measures potentially less impactful. As a result of this and other factors, the Company's continued assessment of its portfolio may result in the removal of or change in measures.

Potential Changes

Several programs are reviewing their current processes and are considering potential changes to increase customer adoption. Potential changes are discussed in individual program reports.

E. Marketing Strategy

Located in individual reports.

F. Evaluation, Measurement and Verification

Located in individual program reports.
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A. Description

The purpose of the Income-Qualified Energy Efficiency and Weatherization Assistance Program ("Program") is to assist income-qualified customers with installing energy efficiency measures in their homes that will help reduce their energy cost. There are four offerings currently in the Program:

- Neighborhood Energy Saver ("NES")
- Weatherization and Equipment Replacement Program ("WERP")
- Refrigerator Replacement Program ("RRP").
- High Energy Usage Assistance Pilot (HEUP)

WERP and RRP are available for income-qualified customers in Duke Energy Carolinas, LLC's (the "Company's") service territory for existing, individually metered single-family homes, condominiums, and mobile homes. Funds are available for (i.) weatherization measures and/or (ii.) heating system replacement with a 15 or greater SEER heat pump, and/or (iii.) refrigerator replacement with an Energy Star appliance. The measures eligible for funding will be determined by a full energy audit of the residence. Based on the results of the audit, customers are placed into a tier based on energy usage so that high energy users to receive more extensive weatherization measures. (Tier 1 provides up to $600 for energy efficiency services; and Tier 2 provides up to $4,000 for energy efficiency services, including insulation and up to $10,500 when HVAC replacement is involved.) WERP and RRP are delivered in coordination with State agencies that administer the state's weatherization programs.

Customers participating in NES receive a walk-through energy assessment to identify energy efficiency opportunities in the customer's home and a one-on-one education on energy efficiency techniques and measures. Additionally, the customer receives a comprehensive package of energy efficient measures. NES participants may have the measures listed below installed in their homes based on the opportunities identified during the energy assessment.

1. Energy Efficient Bulbs - Up to 15 energy efficient bulbs (LEDs) to replace incandescent bulbs
2. Electric Water Heater Wrap and Insulation for Water Pipes
3. Electric Water Heater Temperature Check and Adjustment
4. Water Saving Faucet Aerators - Up to three faucet aerators
5. Water Saving Showerheads - Up to two showerheads
6. Wall Plate Thermometer
7. HVAC Winterization Kits – Up to three kits for wall/window air conditioning units will be provided along with education on the proper use, installation, and value of the winterization kit as a method of stopping air infiltration.
8. HVAC Filters - A one-year supply of HVAC filters will be provided along with instructions on the proper method for installing a replacement filter.
9. Air Infiltration Reduction Measures - Weather stripping, door sweeps, caulk, foam sealant and clear patch tape will be installed to reduce or stop air infiltration around doors, windows, attic hatches and plumbing penetrations.

Based on the opportunities identified during the energy assessment, customers could be eligible to receive the following NES 2.0 measures:

1. Attic insulation
2. Duct sealing
3. Air sealing w/ blower door
4. Floor/Belly insulation for mobile homes
5. Smart Thermostat

HEUP will install deep home retrofits at no cost to the customers with the aim of permanently reducing unaffordable energy bills for individual customers in DEC North Carolina. Some customers may need assistance to resolve health and safety issues in the home before EE measures can be installed. Duke Energy will partner with State/Local/Federal organizations and the Pilot vendor to remediate these issues, and then retrofit the customer's home with the recommended EE measures. Duke Energy will fund EE

measures at no cost to the participating customers. State, local, and federal funds will provide the remediation of Health and Safety issues. Participating customers will receive both Health & Safety and comprehensive EE audits.

EE Measures may include any or all of the following:

- HVAC Replacement
- Comprehensive Air Sealing
- Insulation (Attic and Belly)
- Duct Sealing
- Heat Pump Water Heater
- Energy Star Refrigerator Replacement
- Tier 1 Base Load

Audience

WERP is available to qualified customers in existing individually metered, owner-occupied single-family residences, condominiums, or manufactured homes.

RRP is available to qualified customers in individually metered residences irrespective of whether the property owner or the tenant owns the refrigerator.

NES is available to individually metered residential customers in selected neighborhoods where ~50% of the homeowners have income equal to or less than 200% of the Federal Poverty Guidelines, based on third party and census data.

HEUP is available to individually metered single-family homes for qualified homeowners and renters in Mecklenburg, Forsyth and Guilford counties. Qualified customers must have a minimum of 17,800 kWh annual consumption and a household income that is equal to or less than 200% of the Federal Poverty Level Guidelines

B &C. Impacts, Participants and Expenses

Income Qualified Energy Efficiency and Weatherization Assistance[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$6.7	$8.9	131%
Program Cost	$8.8	$10.7	122%
MW	2.0	2.5	121%
MWH	9,120.9	7,403	81%
Units	12,810	16,250	127%

1) Values are reflected at the system level.

Income-Qualified High-Energy Use Pilot

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$0.0	$0.2	0%
Program Cost	$7.4	$0.7	9%
MW	1.0	0.1	6%
MWH	3,302.1	172	5%
Units[2]	3,535	260	7%

1) Values are reflected at the system level.

2) Units reflect gross kWh.

D. Qualitative Analysis

Highlights

Neighborhood Energy Saver: After receiving regulatory approval from both the North Carolina Utilities Commission and the South Carolina Public Service Commission in the fall of 2012, the Program was officially launched by the Company in March 2013. The yearly goal is to serve a minimum of 7,500 households.

In 2023 the Program offered free walk-through energy assessments and installing measures in the homes of customers in Durham, Eden, Kannapolis, Charlotte, Hillsborough, Winston Salem, NC and Anderson, Greer, Spartanburg, Taylors and Greenville, SC. There were 7,718 NES 2.0 measures installed in 2023.

Weatherization: The Company launched WERP and RRP in February 2015 in North and South Carolina. The Company selected the program administrator, North Carolina Community Action Agency (NCCAA), in December 2014 via competitive bidding. The company is working with the NC and SC Weatherization Agencies to deliver this program.

In through December 2023, 75 refrigerators replaced, 89 Tier 1 services provided, 279 Tier 2 services provided, and 160 HVAC systems were replaced.

High Energy Usage Assistance Pilot: The Tariff and R8-68 were filed with the commission on June 30, 2022, and Approved February 27, 2023, for North Carolina. Over the next 2 years the Pilot in DEC will aim to serve 1,000 participants from the estimated 22,000 Income Qualified Homeowners & Renters. The vendor was awarded the contract through a competitive bid process in March of 2023 to administer the Pilot through April 2025 in DEC. While program management has been working diligently to scale and operate, the vendor has been actively scheduling audits and completing the initial in-home assessment for both H&S and EE.

E. Marketing Strategy

Neighborhood Energy Saver: NES continues to target neighborhoods with a significant low-income customer base using a grassroots marketing approach to interact on an individual customer basis and gain trust. Participation is driven through a neighborhood kick-off event that includes trusted community leaders and local and state officials explaining the benefits of the Program. The purpose of the kick-off event is to rally the neighborhood around energy efficiency and to educate customers on methods to lower their energy bills. Customers have the option to make an appointment for an energy assessment at the time of the event. The community kick-off events were held virtually in the first half of 2021 in accordance with Covid operating procedures and transitioned to outdoor pop-up tent events in the latter half of 2021 to maintain social distancing and other Covid safety protocols while engaging customers in person. Kick-off events continued to operate under Covid procedures throughout 2022. In 2023, the Program utilized a hybrid approach utilizing pop-up events both indoor and outdoor.

In addition to the kick-off event, the Company uses the following avenues to inform eligible customers about the Program:

- Direct mail (letters and reminder post cards)
- Door hangers
- Press releases and/or neighborhood flyers
- Community presentations and partnerships
- Inclusion in community publications such as newsletters, etc.

Weatherization: WERP and RRP has launched a two-phase mail marketing campaign, targeting income qualified customers identified through use of Acxiom data. The first wave of the campaign launched in May 2023. A postcard was mailed to approximately 14,000 customers in DEC. The second wave of the campaign was launched in September 2023. A postcard was mailed to approximately 19,000 customers in DEC. The program also worked with their vendor to facilitate Street Teams canvassing in two neighborhoods served by Service Providers that required participation assistance. The program delivered energy savings education to seniors several times throughout the year via partnership with the Government and Community Relations Teams. Additionally, agencies may utilize referrals generated from other Company energy efficiency programs as well as from their existing pool of weatherization applicants.

High Energy Usage Assistance Pilot: HEUP has solicited roughly 21,000 customers across the 3 counties in DEC with our marketing campaign. Customers have received either direct mail or a three-tiered email strategy that will leverage links, QR codes and call to action. Links and QR codes will guide the customer to the website, while the call to action will prompt the customer to click to call. The website will serve as the single point for education and instructions for the customer to inquire about the pilot. We are leveraging our learnings to refine our marketing strategy for increased awareness and adoption. A retargeting strategy is being implemented to encourage engagement from customers that have already received some form of marketing. Through our learnings we have identified that text technology may be the best approach to increase engagement from customers. With this information, a text channel is in the process of being developed for launch for the HEU Pilot. This will open another avenue to receive applicants for program enrollment.

To supplement the marketing plan above, the company will also leverage outreach and educational outlets noted below to increase awareness and adoption within each county:

- Partnering with Community Organizations and ambassadors within each county
- Partnering with other Company EE programs to promote awareness potential referrals for customers that can benefit from this pilot
- Press & Media
- Tangible advertisement material will consist of one-pager, door hangers, and contractor leave behind forms

Potential Changes
The income-qualified programs have not identified any necessary additional changes.

F. Evaluation, Measurement and Verification

The DEC Weatherization evaluation is currently underway and is projected to be complete in the fourth quarter of 2024. The evaluation will cover program participation from January 1, 2021, to December 31, 2022. The evaluation will include both an impact and process evaluation. The impact evaluation will rely on a combination of consumption analysis and engineering analysis to accomplish the research objectives.

The combined DEC/DEP NES evaluation is in process with a planned report finalization date in late 1Q-2024 to early 2Q-2024. Impact evaluation activities included analyses using AMI data for Tier1 and Tier 2 impacts. Process evaluation activities consist of participant surveys to determine in service rates for various measures and program and measure satisfaction.

A. Description

The Energy Efficiency Education Program ("Program") is available to students in grades K-8 enrolled in public and private schools in the Duke Energy Carolinas (the "Company" or "DEC") service territory. The current curriculum administered by The National Theatre for Children ("NTC") provides performances in elementary and middle schools.

The Program provides principals and teachers with an innovative curriculum to educate students about energy, resources, how energy and resources are related, ways energy is wasted, and how to be more energy efficient. The centerpiece of the curriculum is a live theatrical production focused on concepts such as energy, renewable fuels and energy efficiency and performed by two professional actors. Teachers receive supportive educational material for classroom and student take-home assignments. The workbooks, assignments and activities meet state curriculum requirements.

School principals are the main point of contact for scheduling their school's performance at their convenience. Two weeks prior to the performance, all materials are delivered to the principal's attention for classroom and student distribution. Materials include school posters, teacher guides, and classroom and family activity books.

Students are encouraged to compete an online request form with their families to receive an Energy Efficiency Starter Kit. The kit contains specific energy efficiency measures to reduce home energy consumption. It is available at no cost to eligible Duke Energy customer households at participating schools.

Audience

Eligible participants include the Company's residential customers who reside in households served by Duke Energy Carolinas with school-age children enrolled in kindergarten through 8th grade in public and private schools.

B &C. Impacts, Participants and Expenses

Energy Efficiency Education[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$2.8	$2.6	95%
Program Cost	$2.2	$1.0	43%
MW	(2.3)	0.6	-24%
MWH	13,527.5	4,856	36%
Units	26,670	7,468	28%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

The Company is supporting arts and theatre in schools while providing an important message about energy efficiency for students through an innovative delivery channel. Enhancing the message with a live theatrical production captivates the students' attention and reinforces the classroom curriculum materials provided.

For the first half of 2023, the program offered educational performances via in-person theatrical performances or on-demand video recordings of a performance. The latter was offering during the pandemic and was still offered because of limited troupe availability from the implementation vendor. In the Fall 2023 semester, the program only offered schools live in-person theatrical performances. In addition,

for the first time in over 8 years, the program was rebranded from “The My Energy Kit Challenge” to “Energy Gamechangers”.

Consistent with past years, each performance had content that was appropriate with its educational level. For the Fall 2023 Semester, new show titles included ”Project Energy” for elementary schools and “Energy Gamechangers” for middle schools. Though these are new titles for the 2023-2024 school year, the core of the educational content remained the same; as has been the case in previous years. Students and teachers also had access to games, quizzes and lesson plans for the class that reinforce concepts from the show.

Overall, in 2023, a total of 964 unique schools participated (NC: 740, SC: 224) in the program in the Company’s DEC service territory, with 36% of schools receiving an in-person performance and 64% an on-demand video recording of a performance. This led to the distribution of 7,468 kits (NC: 6,196; SC: 1,272).

Once an eligible customer submits a completed energy efficiency, the Energy Efficiency Starter Kit is shipped for delivery within two to four weeks.

In order to help encourage student participation, the program vendor, The National Theatre for Children, provides various rewards for teachers and schools to encourage additional kit requests.

Updates

The Company continues to enhance the Program by the following:

- Introducing new productions each school year to refresh and refocus the materials and scripts to keep participating schools engaged. Inclusive of this is the rebrand of the program to “Energy Gamechangers”
- Promoting the program through social media to encourage awareness, recognition, and participation.
- Partnering with Duke Energy Account and District Managers to leverage existing relationships in the community to develop positive media stories while encouraging kit sign ups.
- Enhancing the offering by providing educational materials for all student households, but particularly those that have already received the current Energy Efficiency Starter Kit as well as non-Duke Energy customer student households; both of which are ineligible for an EE Starter Kit.
- Due to cost limitations and lack of engagement, the program discontinued its mobile gamification application, Kilowatt Krush in June 2023. Due to EISA legislation, Program removed 2 candelabra bulbs from kit as of 6/30/23.
- After receiving regulatory approval in late November 2023, the following measures have been added to the program’s kit:
    - Weatherstripping
    - Furnace Whistle
    - Refrigerator Thermometer

E. Marketing Strategy

The National Theatre for Children is responsible for all marketing campaigns and outreach. The marketing channels may include but are not limited to the following:

- Direct mail (letters to school administrators)
- Email
- In-Person
- Program Website
- Events or assemblies
- Printed materials for classrooms
- Social media promotions

These marketing efforts engage students and their families in energy conservation behavior and provide energy saving opportunities through the Energy Efficiency Starter kits.

F. Evaluation, Measurement and Verification

The final evaluation covering period August 1, 2021, through July 31, 2022 was completed in September 2023 and results were presented at the November 2023 Collaborative. The evaluation consisted of engineering estimates to calculate savings across the various measures. Inputs into the engineering equations were refined using participant survey response data. A process evaluation was also conducted to determine program improvement opportunities and participant and teacher satisfaction with the program.

Planning is underway for the August 2022 – July 2023 evaluation period with a to-be-determined final report date.

A. Description

The Home Energy House Call Program ("Program") is offered under the Energy Assessment Program. Duke Energy Carolinas, LLC (the "Company") partners with several key vendors to administer the Program.

The Program provides a free in-home assessment performed by a Building Performance Institute ("BPI") certified energy specialist and designed to help customers reduce energy usage and save money. The BPI-certified energy specialist completes a 60- to 90-minute walk through assessment of a customer's home and analyzes energy usage to identify energy savings opportunities. The energy specialist discusses behavioral and equipment modifications that can save energy and money with the customer. The customer also receives a customized report that identifies actions the customer can take to increase the home's efficiency. Examples of recommendations might include the following:

- Turning off vampire load equipment when not in use.
- Turning off lights when not in the room.
- Using energy efficient lighting.
- Using a programmable thermostat to better manage heating and cooling usage.
- Replacing older equipment.
- Adding insulation and sealing the home.

In addition to a customized report, customers receive an energy efficiency starter kit with a variety of measures that can be directly installed by the energy specialist. The kit includes measures such as a low-flow shower head, low flow faucet aerators, weather stripping, and an energy saving tips booklet.

Additionally, bath aerators and pipe wrap are also available for free at the time of the assessment. New discounted measures may be purchased and installed during the assessment including a Hand-held Showerhead, Smart Thermostats and a Blower Door test.

While LED lighting used to be a part of this program, due to EISA standards, the Program stopped offering LED lighting as of July 1, 2023.

Audience

Eligible Program participants are the Company's residential customers that own a single-family residence with at least four months of billing history and central air, electric heat or an electric water heater.

The program is looking to expand our audience to include renters of single-family homes, as well as owners and renters of condos, townhomes, and manufactured homes.

B &C. Impacts, Participants and Expenses

Energy Assessments[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$8.3	$3.0	36%
Program Cost	$5.6	$3.3	58%
MW	1.8	0.8	44%
MWH	14,843.9	4,253	29%
Units	125,315	15,818	13%

1) Values are reflected at the system level.

2) Units represent number of kits, and do not include additional LEDs.

D. Qualitative Analysis

Highlights

The Company continues with a multi-channel approach which includes Duke Energy website pages, website banners, online services banner, paid search campaigns, Facebook, email, bill inserts, bill messages, direct mail, and customer segmentation to reach customers with a high propensity to participate. Program staff explores other channels for marketing campaigns to reach the target audience and maximize both program performance as well as customer experience.

Vendors, partners and the team at Duke Energy collaborate regarding marketing initiatives, future scheduling, availability, routing, targeting, backlog, etc. to drive efficient operations as well as customer satisfaction.

In 2023, the program conducted 8,737 assessments. The program additionally installed 4,292 feet of pipe insulation and 658 additional bathroom aerators. The program also installed the following discounted measures: 494 specialty LED globes, 429 recessed bulbs, 516 candelabra LEDs, 135 hand-held showerheads, 65 blower door audits and 492 smart thermostats were installed to eligible customers. The program continues to focus on maximizing the number of measures installed as well as cross-promoting other Duke Energy programs and offerings.

The program also continues to focus on cross promotion of other programs and integration of in-field referrals for FindItDuke (FID).

Potential Changes

- Addition of Virtual Enhancements that will include Virtual (video) assessments, phone assessments, and self-service web assessments
    - Virtual enhancements will expand the number of customers we serve to include single-family home renters, as well as owners and renters of townhomes, condos, and manufactured homes.
- Exploring changes to kit to encourage more installs of kit measures
    - There is the possibility of removing the kit altogether and only providing customers with measures that they need, which will be determined as we do our assessment.

Issues

Most recent EM&V results for the period from October 1, 2020, through June 30, 2021 reduced the kWh we are able to claim on the kit installs. During this time, it was difficult to install kits or spend too much time in customers' homes due to the COVID-19 pandemic. Kits were often left with customers and EM&V found that those kit measures were not being installed.

E. Marketing Strategy

The Program continued to use a multichannel marketing approach including targeted mailings to pre-qualified residential customers, bill inserts, online promotions, and online video. For those who elect to receive offers electronically, email marketing is used to supplement direct mail. The program began marketing through paid media in August of 2023. This includes social media, online search, and video ads on streaming services. The Program management team continues to explore additional channels to drive awareness such as event marketing and other cross-promotional opportunities. The creative team continues to drive engagement and interest in the program based on online survey results and enrollment. In between larger initiatives, such as bill inserts, the program utilizes direct mail which can easily be modified based on demand. The program has also incorporated seasonal thermostat promotions as

part of the marketing campaigns. Core messaging is simple and focuses on key benefits (a free energy assessment from Duke Energy can help save energy and money while also increasing comfort) and three easy steps (You Call, We Come Over, You Save).
Home Energy House Call program information and an online assessment request form are available at www.duke-energy.com.

F. Evaluation, Measurement and Verification

To accommodate the additional measures now included in the energy assessment program and to work around the program suspension due to COVID, the combined DEC/DEP evaluation timeframe had been pushed back to cover the period Sept 2020 – Aug 2021. The activities began in earnest in Fall 2021 and a final report was issued in November 2023. The EM&V summary was subsequently presented to the Carolinas Collaborative in January 2024.

The evaluation consisted of a billing analysis that compared the consumption of program participants to future program participants. Engineering estimates were calculated for the kit's additional measures provided to program participants. Participants surveys were used to determine in-service rates, free ridership and spillover for the additional measures.

The process evaluation consisted of participant surveys which identified improvements in program operations and future program delivery channels.

A. Description

The Energy Efficient Appliances and Devices program ("Program") offers a variety of measures to eligible Duke Energy Carolinas, LLC (the "Company") customers to facilitate a reduction in their energy consumption. The Program includes offers for lighting, water measures, smart strips and smart thermostats through the online store, website, and points of purchase.

Online Savings Store

The Duke Energy Online Savings Store ("Store") is an on-demand ordering platform enabling eligible customers to purchase a variety of energy efficient products for their home. The Store offers a variety of Light Emitting Diodes lamps ("LEDs"), smart thermostats, smart strips, water fixtures, and small appliances. The incentive levels vary by product, and the customer pays the difference. Various promotions are conducted throughout the year, offering customers reduced prices as well as shipping promotions, ranging from free to a reduced flat rate price.

The maximum number of incented products are listed below with the associated limits (per account)

- LED lighting, 36 per account.
    - LED lighting product offering is comprised of - reflectors, globes, candelabra, 3-way, dimmable bulbs. The incentive levels vary by bulb type
- Smart thermostats, 2 total
- Water measures, 3 total
- Smart Strips, 4 total
- LED fixtures (direct wires, portable, & outdoor photocell), limit 8 total
- Small appliance, dehumidifiers & air purifiers, limit 2 each total

Customers may choose to order additional products without the Company's incentive. Additionally, incentives for LEDs ended on June 30, 2023. The Store continues to offer LEDs however without the Company's incentive.

The Store is managed by a third-party vendor. The vendor is responsible for maintaining the Store website, fulfilling all customer purchases, supporting the program call center, and recommending products. The store's landing page provides information about the store, product offerings, promotions, and featured items. Support features include a toll-free number, email, chat, package tracking and frequently asked questions.

Educational information is available to help customers with their purchase decisions. This information includes videos and documents that speak to how the customer can reduce their energy usage while maintaining a comfortable atmosphere within their home.

Product pages include application photos, product images, product specifications, purchase limits, and program pricing. Customers may place items in their shopping carts to purchase later. Customers validate their eligibility for incentives and pay for their purchases with a credit card in the check-out process.

Retail Program (Lighting and Retail Instant Savings)

The Retail Program's primary objective is the reduction of electric energy consumption and peak demand through increased awareness and adoption of energy-efficient technologies. 2023 was a transition year for the program as the lighting portion of the program discontinued on 6/30/23 while it continued to offer incentives for non-lighting EE products under the Retail Instant Savings program name. The program partners with retailers and manufacturers across North and South Carolina to provide incentives on customer purchases of energy efficient products. Through Q2, the lighting product mix includes Energy Star-rated standard, reflector, and specialty LEDs and fixtures. Participating retailers include a variety of store types, including Big Box, DIY, and discount stores. Retail Instant Savings product mix includes smart

thermostats, air purifiers, dehumidifiers, and ceiling fans. To take advantage of the Retail Instant Savings program, a customer must visit the program portal to validate that they are a Duke Energy customer. Upon validation, the customer can select the product they desire in addition to their preferred retailer (Lowes, Home Depot, Best Buy, ecobee.com or Google Store) and receive an email with either a scannable barcode to be used instantly at checkout in-store or coupon code to be used at checkout on the retailer's webpage. Product limits are two for smart thermostats, air purifiers and dehumidifiers and four for ceiling fans.

The program promotes customer awareness and the purchase of program-discounted products through a range of marketing and outreach strategies, that may include in-store collateral, bill inserts, direct mail and email marketing, mass media advertising, and online advertising. The program also provides training to store staff to enable better customer education at the point of purchase. Ensuring customers are purchasing the right product through proper customer education is imperative to obtain high satisfaction with their purchase.

Water Measures

The Save Energy and Water Kit Program ("SEWK") launched in 2014. The program is designed to increase the energy efficiency of residential customers by offering customers energy efficient water fixtures and water heater pipe insulation wrap for use within their homes.

The SEWK program is offered through a selective eligibility process, enabling eligible customers to request a kit and have it shipped directly to their homes. Kits are available in two sizes for homes with one or more full bathrooms and contain varying quantities of wide spray showerheads, two bathroom aerators, one kitchen aerator and two, three-foot sections of water heater pipe insulation wrap. Program participants are eligible for one kit shipped free of charge to their homes.

In June 2019, the program began offering customers the ability to upgrade the available showerhead option for a discounted fee on the online order platform. Customers navigated to the online platform from personal URLs and/or business reply cards (BRCs) to receive their free kit and take advantage of the option to upgrade to the handheld showerhead.

Audience

The Save Energy and Water Kit Program is offered to customers residing in a single-family home with an electric water heater who have not received similar measures through another company-offered energy efficiency program.

B &C. Impacts, Participants and Expenses

Energy Efficient Appliances and Devices[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$32.3	$45.7	141%
Program Cost	$12.8	$12.0	94%
MW	8.5	11.3	132%
MWH	54,068.3	76,815	142%
Units	1,826,609	2,655,424	145%

1) Values are reflected at the system level.

D. Qualitative Analysis

Online Savings Store

Highlights
The Online Savings Store provides an ecommerce platform that allows customers to purchase a variety of energy efficient products, including LEDs, smart thermostats, smart strips and more, at any time. During 2023, the program delivered the following to North Carolina customers: 73,380 specialty LED bulbs, 11,348 smart thermostats, 1,256 thermostat trim kits, 488 smart strips, 134 water products, 3 LED fixtures, 1,319 air purifiers and 40 dehumidifiers.

Respectively, during 2023 the program delivered the following to South Carolina customers: 23,651specialty LED bulbs, 3,416 smart thermostats, 361 thermostat trim kits, 159 smart strips, 48 water products, 1 LED fixture, 404 air purifiers and 12 dehumidifiers.

Issues
Educating and bringing awareness to the variety of products in the Store to eligible customers is the program's primary issue.

Potential Changes
The program continues to explore opportunities to facilitate ease of use shopping online as well as additional product offerings for consideration to enhance energy savings.

Retail Program (Lighting and Retail Instant Savings)

Highlights
In 2023, the program moved a total of 1,768,917 lighting measures; 1,445,616 of which were purchased at retailers in NC and 323,301 from retailers in SC. For Retail Instant Savings, participation included 2,021 redemptions and is broken down as follows:

Product	NC	SC	Total
Air Purifiers	11	5	16
Ceiling Fans	54	28	82
Dehumidifiers	249	69	318
Smart Thermostats	1,154	451	1,605
Grand Total	1,468	553	2,021

In addition, a key strategy for the lighting portion of the program was continuing to increase its presence in Hard-to-Reach stores that have a high propensity of shoppers that would not adopt EE lighting had incentives not been made available to patrons at these locations. These stores include Dollar Tree, Habitat ReStore, Goodwill and Family Dollar. Overall, approximately 58% of program sales came from these types of stores.

Issues
A customer experience survey and useability study on Retail Instant Savings were conducted in late 2023. Results pointed to a cumbersome customer experience which may have been a driving factor in lower than anticipated program performance. Program will work with its implementation vendor to improve the portal and streamline the customer experience; making it easier for a customer to participate.

Potential Changes

No changes to report at this time.

Save Energy and Water Kit Program

Highlights
In June 2023, the vendor launched a new online platform allowing customers to request their kit with an option to upgrade their showerhead for a discounted price. The online platform also provides a new fresh design, educational material, and installation videos to improve overall satisfaction with the program.

In 2023, the program distributed 553,661 water measures in 53,119 kits to North Carolina customers. These kits delivered 106,238 bath aerators; 53,119 kitchen aerators; 73,760 showerheads; 318,714 feet of pipe insulation; and 1,830 upgraded showerheads.

Respectively, the program distributed 216,422 water measures in 20,775 kits to South Carolina customers. These kits delivered 41,550 bath aerators; 20,775 kitchen aerators; 28,835 showerheads;124,650 feet of pipe insulation; and 612 upgraded showerheads.

Issues
The program continues to review customer satisfaction surveys to identify opportunities for improvement with installation rates and overall customer satisfaction.

Potential Changes
The program is looking for opportunities to expand the water saving measures by offering different finishes and more models for customers to choose. Additionally, customers may customize the items in the kits based on their needs. The new options would increase customer satisfaction and improve installed service rates.

E. Marketing Strategy

Online Savings Store

Marketing efforts include the following:

- Duke Energy Program website
- Bill messages and inserts
- General awareness and special promotion email and direct mail campaigns
- and digital media channels

Awareness and education will continue to be a focus in collateral messages to eligible customers, as well as highlighting great pricing and other promotional offerings.

Retail Program (Lighting and Retail Instant Savings)

The program’s marketing efforts for both lighting and non-lighting measures included the following:

- Point of purchase materials at participating retailer locations
- Duke Energy Program website
- General awareness email and direct mail campaigns
- Cross-promotional opportunities in via internal marketing channels (Other programs, Residential newsletters)

In general, these marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities, and to emphasize the convenience of Program participation.

In addition, the program also had in-store retail events to assist store patrons with any questions related to their product needs.

Save Energy and Water Kit Program

The overall strategy of the program is to reach residential customers who have not adopted low flow water devices.

Marketing channels include both a direct mail business reply card (BRC) and direct email. Customers receiving the BRC may request a free kit by returning the BRC, scanning a QR code, or by entering bar code in the online platform. Customers receiving a direct email simply click on a redemption link to redeem the offer online. Upon receiving the order from the customer through one of these methods, the program vendor will ship the pre-determined kit to the customer. Due to the unique eligibility requirements of this program, direct mail (BRCs) and direct email are the only two methods being used to solicit customers for participation.

The program has a website in place that customers can access to learn more about the program, view installation videos, or to download an installation guide to aid in installing the kit measures.

F. Evaluation, Measurement and Verification

Residential Lighting

The previous evaluation, covering the period of January 1, 2021– March 31, 2022, was presented at the May 2023 Carolinas Collaborative.

The next evaluation for the combined DEC/DEP Retail Program is scheduled to begin the first quarter of 2025 to allow for sufficient participation to accrue. The scope of the evaluation will consist of non-lighting measures available in retail locations.

The combined Online Savings Store evaluation is currently in progress with a planned final report in first quarter of 2024. The evaluation will consist of an impact and process evaluation. The impact evaluation will determine savings via engineering estimates for non-thermostat measures. The thermostat measure will consist of a consumption analysis using AMI data.

The process evaluation will include participant surveys to ascertain program participant satisfaction with the measures as well as free ridership and spillover. Note the smart thermostat measure will be inherently net due to the evaluation methodology.

Save Energy & Water

The evaluation for combined DEC/DEP, including participation from July 2020 – June 2021 was finalized in November 2023. As part of this evaluation, the evaluator estimated savings using engineering equations with inputs refined from participant survey responses. The evaluation also consisted of participant surveys to gauge customer satisfaction with the program's measures as well as to better understand free ridership and spillover estimates. The report summary will be presented at the May 2024 Carolinas Collaborative.

A. Description

The Residential – Smart $aver® Energy Efficiency Program ("Program") offers measures that allow eligible Duke Energy Carolinas, LLC (the "Company") customers to reduce energy consumption in the home. The Program provides incentives for the purchase and installation of eligible central air conditioner or heat pump replacements in addition to Wi-Fi enabled Smart Thermostats when installed and programmed at the time the heating ventilation and air conditioning (HVAC) system is installed. Program participants may also receive an incentive for attic insulation, air sealing, duct sealing, variable speed pool pumps, and heat pump water heaters.

Program staff is responsible for establishing relationships with HVAC and home performance contractors ("Trade Allies") who interface directly with residential customers. These Trade Allies market and leverage the Program to assist with selling these products and services to customers. Once the Trade Ally has sold the service/product, they complete and submit incentive applications on behalf of the customer. An incentive is disbursed to the customer after the application has been approved and processed.

Duke Energy contracts with a third-party vendor for application processing, incentive payment disbursement, and Trade Ally and customer call processing.

Audience

The Company's residential customers that meet the eligibility requirements of the Program may participate.

B &C. Impacts, Participants and Expenses

Residential Smart $aver Energy Efficiency Program[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$8.8	$12.8	146%
Program Cost	$7.4	$6.4	86%
MW	2.0	3.4	167%
MWH	7,523.9	15,948	212%
Units	23,240	18,850	81%

1) Values are reflected at the system level.

Residential Smart $aver® -Early Replacement[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$0.0	$0.0	-
Program Cost	$0.0	$0.0	-
MW	0.0	0.69	-
MWH	0.0	223	-
Units	0	158	-

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

The DEC Smart $aver® incentive program ended 2023 with strong results. As of December 31, 2023, Duke Energy Carolinas participation was 19,008. Modifications to the existing HVAC measures were rolled out in SC on June 1, 2023, followed by new Early Replacement measures in NC and SC on 9/18/23 and

11/15/23 respectively. These modifications require duct sealing to be completed with every HVAC installation and provide customers with 3 tier levels for more options.

The program team continues to emphasize best practices and to build support by offering additional training to the Trade Allies (i.e., streamlined rebate processing, rebate submission training, selling higher efficiency products) and modifications to program requirements when needed.

Customer engagement also continues to be a focus of the Program especially through the "Find It Duke referral platform that positions Duke Energy as a trusted advisor by providing free home improvement referrals through a premier network of qualified contractors who deliver exceptional customer service.

In 2023, the Find it Duke referral network was prioritized to increase trade ally coverage. The outreach team added 56 new trade ally partners in 2023. These additional partners to our program enabled more customers to be able to get a trusted referral to a quality contractor vetted by Duke Energy.

The buy-in and participation of the Trade Ally network is vital to the success of the Program. Trade Allies are important to the Program's success because they interface with the customer during the decision-making event. Customers who responded to a survey to rate their experience provided an average contractor rating of 4.79 out of 5.0 stars during 2023.

E. Marketing Strategy

Promotion of the rebate Program is targeted to HVAC and home performance contractors as well as pool and plumbing contractors that install variable speed pumps and heat pump water heater technology.

Information to educate customers about the Program and encourage participation and Trade Ally enrollment links are available on the Program's website. Improvements were also made the Smart Saver website to improve the visibility and ease for trade allies to learn about our program and easily register. Increasing the overall awareness of the Program and the participation of Trade Allies ensures more customers are considering the benefits of the Program at the time of purchase. Rebate marketing materials remain in place throughout the Carolinas in Lowe's and Home Depot stores that inform customers about the water heater rebates available and how to apply for them post-purchase. The Midstream channel has also been used to promote Pool Pump rebates through one national distributor along with local Pool Retailers throughout NC/SC.

Various customer marketing campaigns during 2023 leveraged channels such as TV, radio, social media and email and direct mail to build awareness of the available rebates and the referral service. Other marketing efforts, such as paid search and co-branded special offer campaigns throughout the year created awareness for the channel.

F. Evaluation, Measurement and Verification

The joint DEC/DEP evaluation for the HVAC measures was completed in the fourth quarter of 2023.

The evaluation consisted of a mix of methodologies, including a metering study for the HVAC measures, a consumption analysis for the smart thermostat measure, and engineering algorithms for the remaining measures. Participant surveys were utilized to refine inputs into the engineering algorithms and to establish free ridership and spillover for those measures that employed engineering algorithms.

A. Description

The Home Energy Report program ("HER" or the "Program") is a periodic usage report that compares a customer's energy use to similar residences in the same geographical area based upon the age, size and heating source of the home. The report includes recommendations to encourage energy saving behaviors. Customers with email addresses on file receive an electronic version of their reports monthly.

Customers receive reports up to 12 times per year via paper and electronic delivery. (Delivery may be interrupted during the off-peak energy usage months in the fall and spring.) The report delivers energy savings by encouraging customers to alter their energy use. Customer's usage is compared to the average homes (top 50 percent) in their area as well as the efficient homes (top 25 percent). It also suggests energy efficiency improvements, given the usage profile for that home. In addition, the report recommends measure-specific offers, rebates or audit follow-ups from the Company's other programs, based on the customer's energy profile. As of December 31, 2023, over 1.285 million single-family DEC customers and over 208 thousand multi-family DEC customers receive the Home Energy Report.

The Home Energy Report Interactive website links customers to a portal where they can complete their home energy profile, explore a robust library of energy savings tips, and get answers to their personal energy questions from an energy expert. Customers can also see how much electricity they might use in the coming months based on their usage history. As of December 31, 2023, over 39 thousand single-family customers and over 5 thousand multi-family customers were enrolled on the portal.

Audience

Target customers reside in individually metered, single-family and multi-family residences with active accounts and 13 months of concurrent service from Duke Energy Carolinas, LLC (the "Company"). Single-family residences receive up to 8 printed reports and, if they have an email address on file, 12 electronic reports throughout the year. Multi-family residences with registered email addresses with the Company receive up to 4 printed reports and 8 electronic reports throughout the year. Multi-family residences without registered email addresses with the Company receive up to 6 printed reports a year with a strong call to action to provide their email addresses.

B & C. Impacts, Participants and Expenses

My Home Energy Report[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$25.5	$21.3	84%
Program Cost	$7.5	$7.6	101%
MW[2]	93.0	69.5	75%
MWH[2]	335,107	374,575	112%
Units[3]	1,368,084	1,493,935	109%

1) Values are reflected at the system level.

2) Values represent the annual MW and MWH savings associated with the year-end 2023 participation.

3) At year-end 2023, single-family participation was 1,285,889, while multifamily participation was 208,046.

D. Qualitative Analysis

As customers receive subsequent reports and learn more about their specific energy use and how they compare to their peer group, their engagement increases. The report then provides tools in the form of targeted energy efficiency tips with actionable ideas to become more efficient. Program participants are encouraged to contact the Company with their questions, comments and report corrections. Property

information corrections continue to generate the largest number of inquiries. In 2023 a total of 43 customers in DEC opted-out of the HER program, representing 0.003% HER participants in DEC.

Highlights

In 2021, the program launched a new HER design for the paper and email reports as well as an updated interactive website with new insights for customers. New website capabilities for customers include single sign on (a more seamless way to sign in to the site using Duke Energy credentials), updated profile experience that updates usage disaggregation real time, current week and month daily comparisons of energy usage compared to similar homes, and the ability for customers to see how their monthly energy usage by category compares to other similar homes.

In Q4 2021, the program also launched the first Seasonal HER experience. This winter seasonal HER sent to customers via paper, email, also had a new web page that highlights for customers their heating usage, how it compares to similar homes, and provides a checklist of tips to complete that would reduce heating usage and heat loss in the home. This Seasonal HER experience was expanded in 2022 to provide the program's first summer seasonal HER. The summer seasonal experience follows the same channels of communication as the winter seasonal and instead highlights customers' cooling usage and provides a checklist of tips to complete that would reduce cooling usage. In 2023, additional messaging, including some messages regarding saving at certain critical peak periods, began testing. Those efforts are ongoing in 2024.

E. Marketing Strategy

The Program is marketed on the reports themselves by referring customers to the program website for additional information, Frequently Asked Questions ("FAQs") and contact resources. The HER Interactive portal is marketed by email and printed reports.

In 2021, the program introduced a new Welcome Letter mailed to all customers with their report to further awareness of the interactive portal. In 2022, the program continued on-report marketing campaigns.

F. Evaluation, Measurement and Verification

The combined DEC/DEP evaluation, covering the 12-month period April 2022 to March 2023, is underway with a projected finalization date in early Fourth Quarter 2024. As with prior evaluations, the impact evaluation will quantify energy (kWh) and demand (kW) impacts of the program for both the Single Family and Multifamily segments, as well as Interactive impacts for these segments.

The process evaluation focuses on identifying program improvement and understanding the experience of those receiving HER mailings.

A. Description

The Multi-Family Energy Efficiency program ("Program") provides water, HVAC, insulation and T8 lighting measures to reduce energy usage in eligible multi-family properties. The Program allows Duke Energy Carolinas, LLC (the "Company") to utilize an alternative delivery channel which targets multi-family apartment complexes. The measures are installed in permanent fixtures by the program implementer who also acts as the program administrator on behalf of the Duke Energy. The implementer oversees all aspects of the Program including outreach, direct installations, and customer care.

The Program helps property managers save energy by offering energy efficient water, HVAC, insulation and limited LED lighting products. The Program offers energy efficient bath and kitchen faucet aerators, efficient showerheads, pipe wrap, furnace filter whistles, caulking, weatherstripping and T8 tube lighting. Water measures are available to eligible customers with electric water heating only. HVAC measures are available to customers with electric heating. Customers are also able to purchase smart thermostats, and have them installed, at a discounted price. These measures assist with reducing maintenance costs while improving tenant satisfaction through lower energy bills.

The Program offers a service where the vendor installs the HVAC, insulation, lighting, water measures and smart thermostats during scheduled visits. If the customer opts into purchasing the discounted smart thermostats, the vendor will also install those. Crews carry tablets to track which measures are installed in each apartment as well as what measures are being removed from the unit.

After installations are completed, Quality Assurance ("QA") inspections are conducted on 20 percent of properties that completed installations in each month. The QA inspections are conducted by an independent third party. Any QA adjustments are provided to the Company to update participation records.

Audience

The target audience is property managers who have properties served on individually metered residential rate schedules. To receive water measures, apartments must have electric water heating. To receive the HVAC/insulation measures, customers must have electric heating. Properties that have previously been serviced with water and lighting measures are immediately eligible to be serviced with our new HVAC and insulation measures.

B &C. Impacts, Participants and Expenses

Multi-Family Energy Efficiency[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$11.1	$7.1	64%
Program Cost	$3.3	$1.8	55%
MW	2.4	2.1	89%
MWH	18,590.8	12,544	67%
Units	440,728	157,850	36%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

In 2023, North Carolina served 125 properties, which included 17,728 units (apartments) and 126,518 measures. These measures consisted of 21,783 aerators, 15,724 showerheads, 32,197 pipe wraps, 1,584 smart thermostats and 55,230 LED lights.

In 2023, South Carolina served 41 properties, which included 4,569 units (apartments) and 31,332 measures. These measures consisted of 4,949 aerators, 3,925 showerheads, 8,367 pipe wraps, 371 smart thermostats and 13,720 LED lights.

New measures for DEC were added to the program as of January 1, 2024. The vendor has been trained to install these measures to offer more kWh savings for customers. Current measures offered now include the following:

- Existing Measures
  - Aerators
  - Showerheads
  - Pipe Wrap
- Newly Approved Measures
  - Weatherstripping (Doors / Windows)
  - Caulking (Doors / Windows)
  - DHW Turndown
  - Furnace Filter Whistle
  - T8 Tube Lighting

Smart thermostats are also offered at a discounted cost to properties. Additional smart thermostat models are now offered in the program.

Issues

Reducing unit cancellations has been a focal point for the program. These cancellations can be a result of COVID, loose pets, safety issues, properties canceling prior to the vendor's arrival or not having access to the unit. The Program also continues to see a shortage of maintenance employees at properties, which has caused a delay in getting into these properties to install.

To improve EM&V findings, direct installers have been instructed to take before and after photographs for each install and upload to the database. This extra step is both to confirm that the installed measure was necessary and also to ensure the work the direct installers are notating is being completed as documented.

Potential Changes

The Program is exploring new measures to offer to customers in addition to the recently approved measures (T8 tube lighting, weatherstripping, caulking, DHW turndown and furnace filter whistles).

E. Marketing Strategy

As program implementer, the vendor is responsible for marketing and outreach to property managers in the Company's service territory. Marketing is primarily done through outbound appointment setting calls, industry trade events, email campaigns and on-site visits to gauge initial interest in the program. The Program staff also utilizes local apartment association memberships to obtain access to contact information for local properties and attends association trade shows or events to promote the program.

A Multi-Family Energy Efficiency public website landing page is available for property managers to learn more about the Program. A program brochure and a frequently asked question sheet are available for download. All marketing materials are currently being updated to include the new measures. An additional field was recently added to the Duke Multi-Family website, asking how the property heard about the program. The goal is to better understand how properties are hearing about this program and capitalizing on this data to reach more eligible properties.

In 2023, the Program began collaboration with the Landlord Experience team (an upgraded version of the previously named MyDuke Portal). Through the Landlord Experience site, the Program sent out one email to 1,242 customers which showed a strong click-through rate of 2.33%. A Multifamily tile was also added within the login area of the Landlord Experience that directs members directly to the Multifamily landing page with the form to complete for additional information.

Once enrolled, the vendor provides property managers with a variety of marketing tools to create awareness of the Program among their tenants. The tools include letters to each tenant informing them of energy efficient measures being installed and of when the installations are taking place. Tenants receive educational leave-behind brochures when the installation is complete. Feedback from both property managers and tenants is important for the Program's continued success. Property managers are provided with leave-behind materials about the program which also includes a survey for them to complete and return. For tenants, the educational leave-behind brochure includes a satisfaction survey to return to Duke Energy. Online versions of both the Program Manager and Tenant surveys are also available.

After the installation, window clings are placed in strategic areas throughout the property, specifically in the common areas, entry and on each residential building on site (to the extent applicable). Using the window cling ensures that the program and Duke Energy are recognized long after the installation has taken place.

F. Evaluation, Measurement and Verification

The combined DEC/DEP EM&V evaluation for the Multifamily program covering participation from July 1, 2021 –March 31, 2023 is currently underway and includes an impact and process evaluation. The report is scheduled to be finalized in the second quarter of 2024.

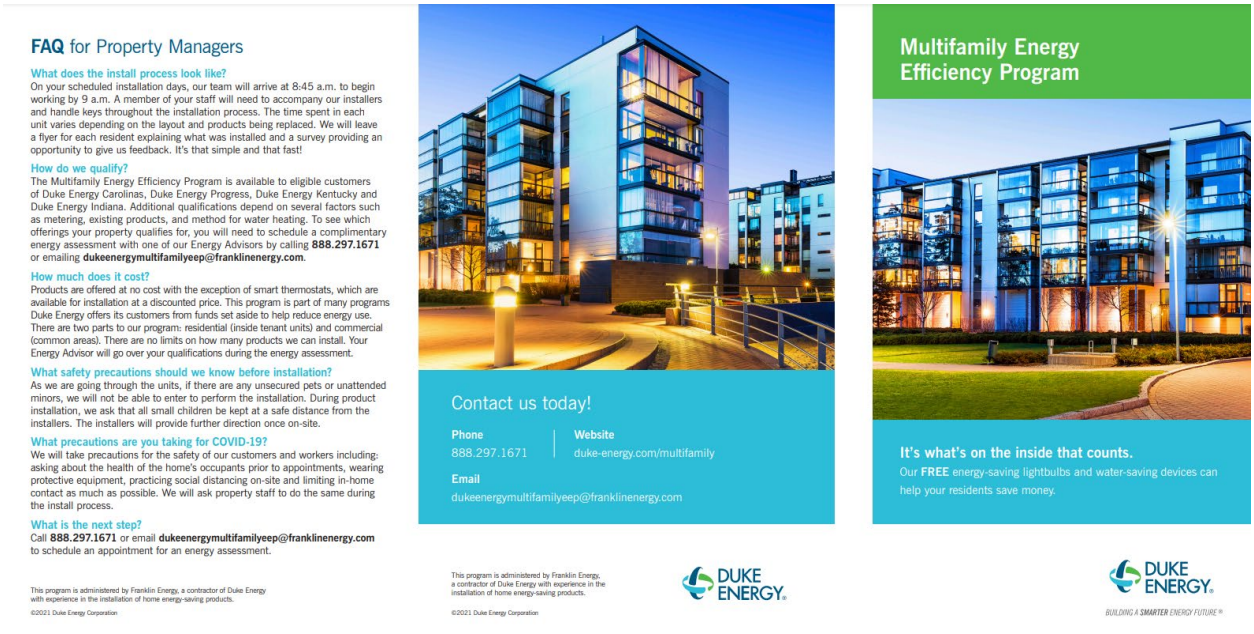
As part of the impact evaluation, on-site verifications were conducted to measure installations and collect data for use in the engineering analysis. NTG will also be determined by estimating free ridership via property manager surveys and spillover via property manager and tenant surveys.

Surveys to property managers and tenants were conducted to assess program operations and tenant program and measure satisfaction and COVID-19 impacts.

G. Appendix

Program Brochure-

Updated to add Commercial Offerings partnership and new water measures. New collateral currently in-progress with addition of 2024 measures.



FAQ for Property Managers

What does the install process look like?
On your scheduled installation days, our team will arrive at 8:45 a.m. to begin working by 9 a.m. A member of your staff will need to accompany our installers and handle keys throughout the installation process. The time spent in each unit varies depending on the layout and products being replaced. We will leave a flyer for each resident explaining what was installed and a survey providing an opportunity to give us feedback. It's that simple and that fast!

How do we qualify?
The Multifamily Energy Efficiency Program is available to eligible customers of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Kentucky and Duke Energy Indiana. Additional qualifications depend on several factors such as metering, existing products, and method for water heating. To see which offerings your property qualifies for, you will need to schedule a complimentary energy assessment with one of our Energy Advisors by calling **888.297.1671** or emailing **dukeenergymultifamilyeep@franklinenergy.com**.

How much does it cost?
Products are offered at no cost with the exception of smart thermostats, which are available for installation at a discounted price. This program is part of many programs Duke Energy offers its customers from funds set aside to help reduce energy use. There are two parts to our program: residential (inside tenant units) and commercial (common areas). There are no limits on how many products we can install. Your Energy Advisor will go over your qualifications during the energy assessment.

What safety precautions should we know before installation?
As we are going through the units, if there are any unsecured pets or unattended minors, we will not be able to enter to perform the installation. During product installation, we ask that all small children be kept at a safe distance from the installers. The installers will provide further direction once on-site.

What precautions are you taking for COVID-19?
We will take precautions for the safety of our customers and workers including: asking about the health of the home's occupants prior to appointments, wearing protective equipment, practicing social distancing on-site and limiting in-home contact as much as possible. We will ask property staff to do the same during the install process.

What is the next step?
Call **888.297.1671** or email **dukeenergymultifamilyeep@franklinenergy.com** to schedule an appointment for an energy assessment.

This program is administered by Franklin Energy, a contractor of Duke Energy with experience in the installation of home energy-saving products.

Contact us today!

Phone
888.297.1671

Website
duke-energy.com/multifamily

Email
dukeenergymultifamilyeep@franklinenergy.com

This program is administered by Franklin Energy, a contractor of Duke Energy with experience in the installation of home energy-saving products.

DUKE ENERGY.

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Multifamily Energy Efficiency Program

It's what's on the inside that counts.
Our **FREE** energy-saving lightbulbs and water-saving devices can help your residents save money.

DUKE ENERGY.

BUILDING A SMARTER ENERGY FUTURE®

Multifamily Energy Efficiency Program

If you are a Duke Energy customer, your residents may receive energy-saving products – installed in each multifamily residence and qualifying common areas at no cost. Optional smart thermostats are available for installation at a discounted price. The Multifamily Energy Efficiency Program is available to customers of all Duke Energy utilities.

See what other property managers had to say.

You guys got top marks

"I received the satisfaction survey and filled it out. You guys got top marks. I received a lot of compliments about how friendly and professional you all were. Thank you again for all that you did!"

– Asheville Property Manager

They were so polite and professional

"I just wanted to let you know that your team did a wonderful job installing the energy-saving products. They were so polite and professional, which made the residents feel more at ease with the installation. I really appreciate all the hard work that went into making this project run so smoothly. We are now officially energy efficient!"

– Raleigh Property Manager

Standard, Globe, Candelabra, Recessed and Track LEDs

ENERGY STAR® light-emitting diodes, or LEDs, use **up to 90% less energy** and **can save at least $80** over their lifetime in energy costs compared to traditional incandescent bulbs. A popular residential option, LEDs can be installed in bathrooms, track lights, ceiling fans, recessed lights and other high-usage permanent fixtures. A19 models are not available for common areas, and T8 LEDs are available for common areas only.

Exit Sign LEDs

Exit signs are necessary to keep your residents safe. Save on operating and labor costs by replacing incandescent exit sign bulbs with LEDs.

Google Nest

The optional **Google Nest Thermostat** can help you save an average of 10% to 12% on heating costs and 15% on cooling costs.[2]

Bathroom and Kitchen Faucet Aerators

These faucet aerators use **up to 55% less water** than traditional 2.2-gallons-per-minute (gpm) faucets, which can reduce water and sewer costs, as well as the amount of energy used to heat the water.[1]

Outer ring allows for adjustable flow

Water-saving Showerheads

These showerheads use **up to 40% less water** than traditional 2.5-gpm showerheads, which can reduce water and sewer costs, as well as the amount of energy used to heat the water.[1]

Outer ring allows for adjustable flow

Hot Water Pipe Wrap

Pipe wrap insulation reduces water and energy use by preventing heat loss while hot water travels through your building's pipes.[1]

1 If water is heated by electricity, savings are not guaranteed.
2 Independent studies conducted in the U.S. showed that Nest thermostats saved people an average of 10% to 12% on heating and 15% on cooling. Individual savings are not guaranteed. Learn more at nest.com/real-savings.

Google, Google Nest and Google Nest Thermostat are trademarks of Google LLC.

This program is administered by Franklin Energy, a contractor of Duke Energy with experience in the installation of home energy-saving products.

DUKE ENERGY.

Sorry We Missed You
Door post-it

DUKE ENERGY.

BUILDING A **SMARTER** ENERGY FUTURE™

Sorry We Missed You!

Today we stopped by to install your **free energy-saving products**, but

_____

_____

Don't worry – you can still get your products! Simply contact your property manager to find out how.

Learn more at **duke-energy.com/multifamily**. Note that this program is administered by Franklin Energy, a contractor of Duke Energy with experience in the installation of home energy-saving products. The Multifamily Energy Efficiency Program is available to eligible customers of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Kentucky and Duke Energy Indiana.

Google, Google Nest and Google Nest Thermostat are trademarks of Google LLC.

DUKE ENERGY.

BUILDING A **SMARTER** ENERGY FUTURE™

Sorry We Missed You!

Today we stopped by to install your **free energy-saving products**, but

_____

_____

Don't worry – you can still get your products! Simply contact your property manager to find out how.

Learn more at **duke-energy.com/multifamily**. Note that this program is administered by Franklin Energy, a contractor of Duke Energy with experience in the installation of home energy-saving products. The Multifamily Energy Efficiency Program is available to eligible customers of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Kentucky and Duke Energy Indiana.

Google, Google Nest and Google Nest Thermostat are trademarks of Google LLC.

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Window Cling

DUKE ENERGY.

BUILDING A SMARTER ENERGY FUTURE®

We are now energy efficient thanks to Duke Energy!

This property participated in Duke Energy's Multifamily Energy Efficiency program and now has energy-efficient products that benefit you.

The Multifamily Energy Efficiency Program is available to eligible customers of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Kentucky and Duke Energy Indiana.

Tenant Notice

You're Invited!
Save money on your energy bill with free products from Duke Energy.

Dear Resident:

Congratulations! Your property manager has enrolled your building in the **Multifamily Energy Efficiency Program**. Based on an assessment of your home, a selection of these complimentary products may be installed to help reduce your monthly energy usage:

- **Standard, globe, candelabra, recessed and track LED lightbulbs** to replace your outdated incandescent lightbulbs. *(Track lighting can get very hot; please make sure your track lights are turned off before our installers arrive.)*
- **Water-saving showerheads** to replace your existing fixtures.
- **High-efficiency faucet aerators** for your kitchen and bathroom sinks.
- **Hot water pipe wrap** to reduce heat loss.
- **Google Nest Thermostat** to help you save an average of 10% to 12% on heating costs and 15% on cooling costs[1]

Help Us Help You!
In preparation for your installations, please make sure to:
- Safely contain your pet(s) during our visit
- Provide access to your water heater, shower(s), sinks and light fixtures
- Put away your valuables
- Have an adult present during installation
- Keep a safe distance while installers are working in your home

Trained technicians will perform the **free** installations in each residence on the date and time indicated below. The technicians will be accompanied by a member of the maintenance or management staff, who will provide access to your residence if you are not home at the time of installation. Additionally, the technicians will be in uniform with proper photo identification. We will take precautions for the safety of our customers and workers including: asking about the health of the home's occupants prior to appointments, wearing protective equipment, practicing social distancing on-site and limiting in-home contact as much as possible.

Technicians will be in your building:

XXXXXXX, XXXXXXX, XXXXXX

After the installations are completed, you will receive documentation and other educational materials about the energy-saving products that were installed free of charge in your home. Included in these materials is a customer satisfaction survey that we would appreciate your completing.

The Multifamily Energy Efficiency Program is available to eligible customers of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Kentucky and Duke Energy Indiana. For additional information about this offering, or other offerings from Duke Energy, contact the Multifamily Energy Efficiency Program at **888.297.1671**, email **dukeenergymultifamilyeep@franklinenergy.com** or visit **duke-energy.com/multifamily**.

Thank you!
Multifamily Energy Efficiency Team

[1]Independent studies conducted in the U.S. showed that Nest thermostats saved people an average of 10% to 12% on heating and 15% on cooling. Individual savings are not guaranteed. Learn more at nest.com/real-savings.

Google and Google Nest Thermostat are trademarks of Google LLC.

DUKE ENERGY.

BUILDING A SMARTER ENERGY FUTURE®

Case Study

MULTIFAMILY ENERGY EFFICIENCY PROGRAM CASE STUDY

ESTIMATED SAVINGS FOR RESIDENTS

Annual Electric Savings	Annual Electric Bill Savings
1,015 kWh	$107

Value and Savings for Bell Partners and Its Residents Through 2018

Annual Electric Savings	Value of Products and Energy Savings
2,771,664 kWh	$434,089

Going Green Makes a Difference

So far Bell Partners and Duke Energy have delivered energy savings equivalent to:

Cars Taken Off the Road	Trees Planted
314	37,653

DUKE ENERGY AND BELL PARTNERS ARE GOING GREEN!

To date, Bell Partners and Duke Energy have collaborated to make nine communities more energy efficient by replacing standard lighting with LED bulbs, replacing inefficient faucets and showerheads with water-saving products, and insulating hot water heater pipes. The cost to Bell Partners and its residents? Nothing! In 2017 and 2018, Duke Energy provided and installed:

- $152,000 worth of energy-saving products
- Over 26,000 LED lights
- Nearly 5,600 water-saving faucet aerators
- Over 1,800 energy-saving showerheads
- Nearly 14,000 feet of pipe insulation

Bell Partners residents can save an average of $107 annually on their electric bill. The communities save ongoing O&M expenses. And with the help of Duke Energy, Bell Partners continues to be a leader in the green multifamily market.

DUKE ENERGY.
BUILDING A SMARTER ENERGY FUTURE®

BELL PARTNERS
APARTMENT INVESTMENT & MANAGEMENT

Program Process Map

Multifamily Energy Efficiency Program

11 Steps to Energy Efficiency

We make saving energy at your property easy. Here are the steps we'll guide you through – from beginning to efficiency!

Before Your Installation

- ☐ **1. Schedule On-Site or Virtual Energy Assessment**
  Our team will check your property's eligibility during the energy assessment so we can determine which savings opportunities you qualify for.
- ☐ **2. Provide Property Information and Signed Agreement**
  To schedule your installation, we'll need a unit address list and a signed Service Agreement.
- ☐ **3. Schedule Your Installation Appointment**
  Your Energy Advisor will contact you to schedule the installation and provide a reminder call before we come.
- ☐ **4. Let Your Tenants Know We're Coming**
  Please distribute the personalized notices we give you 24 hours in advance of the installation, letting tenants know what to expect.
- ☐ **5. Select a Staff Member and Pull Apartment Keys**
  We will need a member of your staff (maintenance, leasing agent, intern) to accompany our team inside each unit throughout the installation. Please make sure they have apartment keys ready.

During Your Installation

- ☐ **6. Have Staff Member and Keys Ready by 8:45 a.m.**
  The installation team will arrive at your office by 8:45 a.m., ready to begin at 9 a.m. We will take precautions for the safety of our customers and workers including: asking about the health of the home's occupants prior to appointments, wearing protective equipment, practicing social distancing on-site and limiting in-home contact as much as possible.
- ☐ **7. Receive Regular Check-Ins from Installers**
  Our installers will check in each day to keep you updated on their progress. Please note that as installers are going through the units, if there are any unsecured pets or unattended minors, they will not be able to enter to perform the installation.
- ☐ **8. Review Installation Summary Report**
  Once the installation is completed, the team will check for any missed units and then provide you with a report summarizing what was installed.

After Your Installation

- ☐ **9. Watch for a Possible Quality Assurance Visit**
  To ensure your complete satisfaction, your property may be selected for a quality assurance inspection. If selected, you will be informed within 22 days of the installation, and the inspector will check at least 20% of the units to verify the products were properly installed.
- ☐ **10. Watch for a Possible Call from an Evaluator**
  This program undergoes an annual evaluation process to review and confirm the program's efficiency and effectiveness claims. You may receive a call from a third-party evaluator who will ask you about your experience.
- ☐ **11. Enjoy the New Products and Energy Savings**

Have questions?

Give me a call. I'm here to help!

You can also contact the Multifamily Energy Efficiency Program at 877.334.2680 or dukeenergymultifamilyeep@franklinenergy.com.

The Multifamily Energy Efficiency Program is available to eligible customers of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Kentucky and Duke Energy Indiana.

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BUILDING A SMARTER ENERGY FUTURE®

Google Nest E Sell Sheet

Multifamily Energy Efficiency Program

Help Your Residents Save Energy and Money

DISCOVER THE CONTROL, CONVENIENCE AND SAVINGS OF THE GOOGLE NEST THERMOSTAT E[1]

Give your residents something to smile about with the Google Nest Thermostat E. Not only can this smart device help reduce energy usage, it can also help provide a unique level of luxury, convenience and control.

Thanks to Duke Energy, you'll only pay $100 for each thermostat, a price which includes free installation from our professional technicians![2]

BENEFITS FOR YOUR RESIDENTS:

- Can help save an average of 10% to 12% on heating costs and 15% on cooling costs[3]
- Has smart features that allow the Google Nest Thermostat E to turn itself down when no one's home
- Controlled from anywhere using the Google Home app

Want to learn more? Call 888.297.1671 or email dukeenergymultifamilyeep@franklinenergy.

Notes for Property Managers:

- It is required that your property's HVAC technician accompany the installers during the installation process.
- If you are experiencing any issues with the Google Nest Thermostat, please call Nest support at 855-VIP-NEST.

1 Duke Energy does not endorse specific products, services or companies – only energy-efficient technologies.

2 All air conditioning and heating systems must be electric-powered to be eligible for the Google Nest Thermostat E installation.

3 Independent studies conducted in the U.S. showed that Nest thermostats saved people an average of 10% to 12% on heating and 15% on cooling. Individual savings are not guaranteed. Learn more at nest.com/real-savings.

The Multifamily Energy Efficiency Program is available to eligible Duke Energy and Duke Energy Progress customers in the Carolinas, Kentucky and Indiana.

This program is administered by Franklin Energy, a contractor of Duke Energy with experience in the installation of home energy-saving products.

053-0117-07-00

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Google Nest E Setup Sheet

Multifamily Energy Efficiency Program

Your guide to your new Google Nest Thermostat E

Find what you need to know about setting up and using your thermostat below!

How to Control Your Thermostat

The Google Nest Thermostat E does not have a touch screen. Use the outer wheel, or bezel, to control the thermostat. Turn the dial to toggle between options and press the button to select.

How to Switch Between Modes

Your Google Nest Thermostat E has five available modes: Heat, Cool, Heat/Cool, Off, and Eco. You can switch between these modes using the Google Nest Thermostat E itself.

- Press the button at the bottom of the display to open the menu.
- Rotate the bezel to switch between different modes.
- Press the button at the bottom of the display to confirm your selected mode.

The Heat/Cool mode helps keep your house between a range of temperatures you select. When set to *Heat*, the selected temperature will be orange. When set to *Cool*, the selected temperature will be blue.

How to Turn on Auto Schedule

Auto Schedule is a smart feature that can help you save energy by learning your daily routines. Follow these steps to turn on this feature:

- Rotate the bezel until *Settings* is displayed and press the button.
- Press the button on the bottom of the display screen to confirm your selection.
- Rotate the bezel until *Nest Sense* appears.
- Press the button on the bottom of the display screen to select *Auto Schedule*.
- Press the button on the bottom of the display screen to select *Yes*.
- Press the button on the bottom of the display screen to select *Ok*.

Your Auto Schedule feature is now turned on.

How to Turn on Eco Mode

The Eco mode setting allows your Google Nest Thermostat E to adjust itself when no one is home. Prior to using the Eco mode setting, you must set your preferred temperature settings. Suggested eco settings are: Heat 68 and A/C 78

- Rotate the bezel until *ECO* appears.
- Press the button on the bottom of the display screen to confirm your selection.
- You will see a screen displaying the *Heat* to: temperature and the *Cool* to: temperature.
- Using the bottom button to confirm selection and the bezel to adjust the temperatures, set your preferred Eco mode settings.
- Once you have selected your preferred settings, rotate the bezel to Done and confirm selection.

Next, turn on *Home/Away Assist*.

- Go to *Settings*.
- Rotate the bezel until *Home/Away Assist* appears.
- Press the button on the bottom of the display screen to confirm your selection.
- Press the button on the bottom of the display screen to select *Use Eco*.

Scroll to *Done* and confirm select to turn on Eco mode display.

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Google Nest E Setup Sheet (Cont.)

Multifamily Energy Efficiency Program

Signing Up in the Nest App

To sign up for the Nest app and connect your thermostat to your phone, first download the Nest app from the Google Play store or the App Store. Then, follow these instructions:

1. Open the Nest app and tap *Sign Up*.
2. Enter your preferred email address.
3. Enter your password.
4. Read and agree to the Google Nest Terms of Service.
5. Check your email for a "Welcome to Google Nest" message and tap on the link to activate your Google Nest account.

Pairing Your Google Nest Thermostat E to the Nest App

Pair your Google Nest Thermostat E with your account:

1. Press the thermostat's bezel to open the Quick View menu.
2. Choose *Settings*.
3. Turn the bezel to Nest Account and press the bezel to select it.
4. Select QR code.
5. Open the Nest app and scan the QR code.

Additional Users Need Both the Google Home App and a Gmail Account

1. Download Google Home app.
2. Click the plus and invite home member.
3. Send invite email.
4. The new user will get an invite to register and log in.

If you are having trouble logging in to the Google Home app, do the following:

- Make sure you are using the latest version of the mobile app.
- Verify that you have entered the correct email address and password.
- Try resetting your password.

For questions about your new thermostat, please visit https://support.google.com/googlenest/gethelp. If you are still having issues, please call the Google Nest support team at 1.855.469.6378.

A. Description

The purpose of this Program is to incent new construction that falls within the 2018 North Carolina Residential Building Code to meet or exceed the 2018 North Carolina Energy Conservation Code High Efficiency Residential Option("HERO"). If a builder or developer constructing to the HERO standard elects to participate, the Program offers the homebuyer an incentive guaranteeing the heating and cooling consumption for the dwelling's total annual energy costs. Additionally, the Program incentivizes the installation of high-efficiency heating ventilating and air conditioning("HVAC") equipment in new residential construction.

Audience

The Program is available to builders and developers installing high-efficiency HVAC equipment in new single family, manufactured, and multi-family residential housing units that are served under any of the Company's residential rate schedules.

The program is also available to builders and developers of new single family and multi-family residential dwellings (projects of three or fewer stories) that comply with all requirements of the 2018 HERO standard and are served under any of the Company's residential schedules. Manufactured housing, multi-family residential housing projects over three stories in height, and any other dwellings which do not fall within the 2018 North Carolina Residential Building Code, are not eligible for any whole-house incentives.

The Program also supports the initial homeowner for any home constructed to meet or exceed the HERO standard when the builder or developer elects to extend a heating and cooling energy usage guarantee to the homeowner. At the sole option of the builder or developer, homeowners may be offered a Heating and Cooling Energy Usage Limited Guarantee for homes with a HERS Index Score verified by a certified HERS rater calculating the heating and cooling energy usage that the home should use during an average weather year.

B & C. Impacts, Participants and Expenses

Residential New Construction[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$22.8	$8.9	39%
Program Cost	$11.5	$4.0	34%
MW	4.4	1.7	39%
MWH	14,899.3	5,769	39%
Units[2]	12,479,592	4,666,158	37%

1) Values are reflected at the system level.
2) Units reflect gross kWh.

D. Qualitative Analysis

Highlights

The Program move to a whole-house incentive structure which pays incentives to builders for HERO-compliant homes based solely on annual kWh savings continues to drive builders toward increasing savings.

Currently, there are 80 builders and 15 approved raters registered in the Program. The Program saw a steady increase in homes submitted from Program launch in August through December. There was a

decrease in December, likely because of the shortened invoicing period around the holidays. Overall, the Program has a 70% pass rate and an average of 2,806 kWh per home. The vendor is responsible for the operational oversight of Home Energy Raters and builders or developers participating in the Program.

Whole-House Requirement	Eligibility	Incentive
HERO	Meet 2018 NCECC HERO standards	$650
HERO plus HERS Score	Meet HERO standards and submit confirmed annual kWh savings from the Energy Summary Report.	• HERO+ all electric home heating savings - $0.40/kWh • HERO+ all electric home – other savings - $0.75/kWh • HERO+ natural gas heating – all savings - $0.75/kWh • All savings types capped at $6,000
	Equipment Description	**Incentive**
Equipment Incentive	AC or heat pump with SEER 16 or higher	$300 per unit

Issues

Delayed approval in South Carolina prevented purchasing managers working in both Carolinas who wanted to make a clean sweep with practices across their territory. Several builders will start making purchasing changes as new communities come aboard but will not make upgrades in mid-build cycle because of the delay.

Potential Changes

E. Marketing Strategy

The Company promotes awareness through various marketing channels that include but are not limited to the following:

- Duke Energy Progress website
- NCHBA events
- Local HBA events/webinars
- Social media promotions

These marketing efforts are designed to create customer awareness of builders participating in the Program and to educate customers on the quality, comfort, and energy savings these homes offer. Please see Appendix for examples.

F. Evaluation, Measurement and Verification

The evaluation for DEC is currently in process and will consist of an impact and process evaluation. The evaluator will conduct an engineering-based analysis to estimate the energy and demand impacts achieved by the program via developing energy simulation models, calibrating simulated models using AMI billing data and weather. Prescriptive measures will be evaluated using appropriate technical resource manuals.

Free ridership will be determined by surveys conducted with participating builders to assess home design and building practices and how these designs and practices have been influenced by the RNC program to exceed code. Spillover questions in the survey will assess savings realized as a result of the program for which no incentive was offered. The final report is planned for the end of 2024.

The process evaluation

A. Description

Power Manager® ("Program") is a residential demand response program that helps ensure power reliability during peak demand periods or if continuity of service is threatened. Duke Energy Carolinas, LLC ("Company") provides two program options designed to reduce load from air conditioning or electric heating when events are called.

The Load Control Device (LCD) Power Manager option utilizes devices controlled via the Company's paging network to reduce the run time and energy use of participating customers' air conditioners for summer events and/or electric heat strips for winter events. During LCD events, the indoor fan is not controlled and may run, circulating air during an event.

As incentive for their participation, LCD customers receive bill credits:

- Air Conditioner Control – $8 monthly credit for July through October bills (up to $32 annually).
- Heat Strip Control – $6 monthly credit for January through April bills (up to $24 annually)

The program's Smart Thermostat option utilizes a qualifying wi-fi connected thermostat to remotely change participants' temperature setting during a control event. By adjusting the thermostat's setting (up for cooling/down for heating), the system's run-time and energy use can be reduced during an event.

In addition to changing the thermostat setting during a control event, the temperature setting can also be adjusted to pre-cool prior to a summer event and pre-heat prior to a winter event. This increases program effectiveness while minimizing impacts to customer comfort.

As incentive for participating, customers receive a $75 bill credit upon successful enrollment; and a $25 bill credit for each subsequent year they remain on the program.

Audience

The LCD air conditioning and heat strip options are available to the Company's qualifying residential customers with, respectively, a qualifying central air-conditioning unit or qualifying ducted electric resistance heating.

The Smart Thermostat option is available to the Company's qualifying residential customers, with thermostat-controlled central electric heating and cooling, who have installed, connected to the internet, and registered their qualifying smart thermostat with the manufacturer.

Customers may participate in either the LCD or Smart Thermostat Power Manager option.

Program Modifications

Following are the most recent changes to the Power Manager program:

- The Smart Thermostat option is now open only to customers with qualifying electric heating. Previous non-qualifying electric heating participants are grandfathered in the summer-only option.
- All residential customers with qualifying HVAC systems are eligible for Power Manager participation.
- Heat Strip Control was added as a new option for customers with qualifying electric heat and who are ineligible or do not wish to participate in the Smart Thermostat option.

B & C. Impacts, Participants and Expenses

PowerManager[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$83.4	$101.6	122%
Program Cost	$19.9	$22.2	111%
MW[2]	481.4	586.0	122%
MWH	N/A	N/A	N/A
Units[3]	461,451	566,729	123%

Notes on Tables:

1) Values are reflected at the system level.

2) MW capability at the generator derived from the average reduction during the June - September control season achieved by a full shed of participating air conditioners. At year-end 2023, we had the ability to shed 586 MW (at the plant), representing 122% of the as filed capability.

3) Units included in filing represent average kW at the meter during the June - September control season.

D. Qualitative Analysis

An Evaluation, Measurement and Verification study was conducted in the summer of 2023 and is being conducted during the winter of 2023/24.

Prior to the EM&V studies, a winter event was called on March 15 for both LCD Heat Strip and Smart Thermostat customers.

In preparation for the summer study, five sample groups each were established with LCD and Thermostat customers. EM&V events were called on 13 days from June through September. On each of these days, as few as two to as many as nine different control scenarios were conducted with LCD air conditioning and Smart Thermostat sample groups.

In preparation for the winter study, five Thermostat and two LCD sample groups were established. Two EM&V events were called in December, utilizing three control scenarios in one and five in the other.

In addition, and prior to the start of the EM&V events, two test event days were conducted in December with both LCDs and Smart Thermostats.

E. Marketing Strategy

LCD Option

For the LCD option, outbound telephone calling remains the primary marketing channel, with additional outreach via email, direct mail, the Company's residential newsletter and ads on the Company's website.

At year-end 2023, 245,713 customers were enrolled in the LCD AC option (NC: 185,293 and SC: 60,420), representing 297,358 air conditioners. At year-end, 1,224 customers were enrolled in the LCD heat strip option (NC: 903 and SC: 321), representing 1,396 heat strip units.

Prior to the start of the summer and winter event seasons, participants were sent a thank you/reminder of their participation in the program. These reminders were sent via email to Power Manager participants who had opted in to receive emails from Duke Energy, and via postcard to those who had not.

Smart Thermostat Option

The smart thermostat option is marketed through participating thermostat companies, using marketing

messages collaboratively developed with Duke Energy. Once their smart thermostat is installed and registered with the manufacturer, customers are presented with information on the program by the thermostat company. Channels include the thermostat app, the mobile app and email communications. Using these different channels, customers are provided access to the program's requirements, general information, and enrollment opportunities.

Duke Energy supplements the thermostat manufacturers' marketing with paid media (social media ads, digital display ads, online video), direct mail, email, residential newsletter ads, home energy report ads, website ads and out-bound calling. Cross-promotion of smart thermostats available through the Company's Online Savings Store are also conducted via these channels.

At year-end 2023, a total of 44,584 customers were participating in the Smart Thermostat option. Of these, 24,187 are in the winter-focused option (NC: 18,650 and SC: 5,537), representing 32,516 thermostats.

Several new channels are being used and evaluated for both LCD and Smart Thermostat marketing. One is focused on multi-family properties and uses personal outreach and marketing to property management (and when allowed, directly to tenants). Another, in its initial stages in late 2023, is placing representatives in retail stores that sell smart thermostats to promote the Company's load reduction programs.

F. Evaluation, Measurement and Verification

An impact and process evaluation for the Winter 2021/2022 Power Manager BYOT option was completed in Summer 2023. The impact evaluation consisted of randomly assigning customers from the Power Manager BYOT population into five research groups. For each event, one group is withheld from the event to act a control group for the other four groups, while the other groups were dispatched with different dispatch scenarios. This methodology allows for comparison of average loads among control group customers against the average event day loads of the treatment group to calculate the event impacts. The study also included a within-subjects design methodology for times when no control group is present.

The process evaluation consisted of In-depth interviews with key program stakeholders, post-event program participant surveys, and non-event program participant surveys.

2023 evaluation activities also included an impact evaluation for Summer 2022 DLC/BYOT. The Summer 2022 Power Manager evaluation was completed as a desk review which did not involve any primary data collection or in-depth analysis but incorporated updated weather data. Impacts were estimated using the forecasting tool developed as part of the Summer 2021 evaluation along with updated weather info.

Lastly, a Summer 2023 DLC/BYOT evaluation is currently in process that consists of an RCT impact evaluation and a process evaluation.

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart $aver® Performance Incentives (the "Program") offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted-out) to enhance their ability to install cost-effective electrical energy efficiency projects.

The Program is designed to encourage the installation of high efficiency equipment in new and existing nonresidential establishments as well as the performance of efficiency-related repair activities designed to maintain or enhance efficiency levels in currently installed equipment. The Program provides incentive payments to offset a portion of the higher cost of energy efficient installations that are not eligible under either the Smart $aver® Prescriptive or Custom programs. The types of measures covered by the Program include projects with some combination of unknown building conditions or system constraints or uncertain operating, occupancy, or production schedules. The specific type of measures is agreed upon with the Customer. The Program is delivered in close coordination with the existing Custom program team and shares resources for administrative review and payment processing. The Program requires pre-approval prior to project initiation.

The intent of the Program is to broaden participation in the Company's non-residential efficiency programs by providing incentives for projects that previously were deemed too unreliable to calculate an acceptably accurate savings amount predictively and, therefore, were not offered incentives. The program is also expected to provide a platform for gaining a better understanding of new technologies.

The key difference between the Performance Incentive Program and the Custom Program is that the customers in the Performance Incentive Program are paid incentives based on actual measured performance. For each project, a plan is developed to verify the actual performance of the project once completed and is the basis for the performance portion of the incentive.

The Program incentives will typically be paid out in the following manner, though payment installment quantities and timing may vary:

- Incentive #1: For the portion of savings that are expected to be achieved with a high degree of confidence, an initial incentive will be paid. This incentive is paid once installation is complete.
- Incentive #2: After performance is measured and verified, the performance-based part of the incentive will be paid out as follows:
    - If performance exceeds expectations, the incentive payout may be larger.
    - If performance does not meet expectations, the incentive payout may be smaller.

Application forms for applying for incentives are located on the Company's website.

The Company contracts with Alternative Energy Systems Consulting, Inc. (AESC) to perform technical review of applications. All other program implementation is performed by Duke Energy employees or direct contractors.

Audience

All the Company's non-residential electric accounts billed on eligible rate schedules, except those that choose to opt-out of the Program, are eligible.

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Performance Incentive[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$6.8	$15.2	224%
Program Cost	$1.6	$3.6	225%
MW	1.5	1.7	119%
MWH	12,764.8	32,392	254%
Units	15,138,247	22	0%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

As new technologies are introduced and changes occur in the energy efficiency marketplace, performance incentives are the perfect tool to influence and reward customers who invest in energy efficiency. The Smart $aver Performance Incentives program was launched on January 1, 2017. Efforts to encourage internal resources, trade allies and vendors who sell energy efficient equipment to promote the Program and assist customers to participate are continuous and on-going. In addition, the Program is marketed closely with the Smart $aver Custom Program.

In 2023, the program received 13 new applications. Since program inception, a total of 55 applications have been received. Of note, the 2nd payment on the program's first Combined Heat & Power project was paid totaling $2.8M. Two additional payments will be made over the next two years.

Although the program experiences large fluctuations in performance due to long project lead times, long monitoring and verification times, and the timing and sizes of projects, it remains an important option in order to assist in incentivizing less standard equipment.

Issues

Program management is monitoring a few areas.

- The preferred method for measurement and verification of performance is gathering, monitoring and analyzing customer billing history. However, energy savings are not significant enough at times to evaluate effectively through the review of billing information. If this is the case, sub-metering is required at the customer's expense and may be a hurdle due to the time and expense of monitoring and verifying savings.

- The Performance program cannot be offered to customers who are opted out of the EE Rider. Performance projects can easily carryover into multiple calendar years because of the monitoring and verification requirement, a situation which could make opting in more difficult to justify.

- Sometimes project M&V can span multiple years thus requiring a customer to be opted-in for multiple years. This is often not preferred, and we are beginning to see customers forfeit a portion of their project incentive to opt-out of the rider.

- Customers may not participate because of the risk of measured energy savings being less than expected and resulting in a smaller incentive payout.

Potential Changes

The Company continuously considers functional improvements to enhance participation, processing speed and program efficiency.

E. Marketing Strategy

The 2023 marketing strategy for the Smart $aver Performance Incentive Program closely aligns with the Custom Program. The goal is to educate the Company's non-residential customers about the technologies incentivized through both programs, as well as the benefits of installing energy-efficient equipment. These efforts encompass a multi-channel approach including but not limited to the following:

- Email (targeted customers)
- Direct Mail (letters to qualified/targeted customers)
- Duke Energy Carolinas website
- Community outreach events
- Print advertising/mass media
- Target customer outreach
- Industry Associations
- Large Account Managers
- Business Energy Advisors
- Trade Ally Outreach

Marketing efforts are designed to create customer awareness of the Program, to educate customers on opportunities to save energy, and to emphasize the convenience of Program participation.

Non-residential customers learn of programs via targeted marketing material and communications. Information about incentives is also distributed to trade allies who sell equipment and services to all sizes of nonresidential customers. Large business or assigned accounts are targeted primarily through Company account managers. Unassigned small to medium business customers are supported by the Company's Business Energy Advisors. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors contact customers with electrical costs between $60,000 and $250,000 to promote the program.

The internal marketing channel consists of Large Business Account Managers, Business Energy Advisors, and Local Government and Community Relations who all identify potential opportunities as well as distribute program informational material to customers and trade allies. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

F. Evaluation, Measurement and Verification

Evaluation activities for this program align with the Non-Residential Custom program.

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart $aver® Custom Incentives (the "Program") offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted-out) to enhance their ability to install cost-effective electrical energy efficiency projects.

The Program is designed to meet the needs of the Company's customers with electrical energy saving projects involving more complicated or alternative technologies, or with measures not covered by the Non-Residential Smart $aver Prescriptive Program. The intent of the Program is to encourage energy efficiency projects that would not otherwise be completed without the Company's technical or financial assistance.

Unlike the Non-Residential Smart $aver Prescriptive Program, the Program requires pre-approval prior to the project initiation. Proposed energy efficiency measures may be eligible for customer incentives if they clearly reduce electrical consumption and/or demand.

The two approaches for applying for incentives for this Program are Classic Custom and Smart $aver Tools. Each approach has a method by which energy savings are calculated, but the documents required as part of the application process vary slightly between the two.

Currently the application forms listed below are located on the Company's website under the Smart $aver® Incentives (Business and Large Business tabs).

- Custom Application, offered in word and pdf format.
- Application Assistance
    - Third party assistance with completing application and collecting necessary documentation
- Energy savings calculation support:
    - Classic Custom excel spreadsheet approach (> 700,000 kWh or no applicable Smart $aver Tool)
        - Lighting worksheet (excel)
        - Variable Speed Drive (VFD) worksheet (excel)
        - Compressed Air worksheet (excel)
        - Energy Management System (EMS) worksheet (excel)
        - General worksheet (excel), to be used for projects not addressed by or not easily submitted using one of the other worksheets
    - Smart $aver Tools approach (< 700,000 kWh)
        - HVAC & Energy Management Systems
        - Lighting (no project size limit)
        - Process VFDs
        - Compressed Air
    - Calculation Assistance
        - Third-party calculation generation for a fixed fee based on technology type

The Company contracts with AESC to perform technical review of applications. All other program implementation and analysis is performed by Duke Energy employees or direct contractors.

Audience

All the Company's non-residential electric accounts billed on eligible rate schedules, except those that choose to opt-out of the EE Rider, are eligible.

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Custom[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$20.1	$12.1	60%
Program Cost	$10.3	$5.7	55%
MW	4.6	3.0	65%
MWH	32,169.8	15,143	47%
Units	21,888	5,374	25%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Customers continue to identify energy efficiency opportunities eligible for incentives under this Program. In 2023, 227new pre-approval applications were submitted. A total of 164 projects were paid out during the calendar year. Additionally, 162 projects were enrolled in new construction which precedes a Smart $aver Custom application. DEC represents approximately 60% of the total participation.

Smart $aver Custom Incentives program uses a flat rate incentive for both energy and demand savings. Incentive rates were increased by over 10% effective August 1, 2022.

In 2023, the program expanded the scope of the new construction offering allowing buildings as small as 5,000 square feet to participate from its previous limit of 30,000 sf. The change allows new building types to take advantage to energy design consulting services and incentives such as retail, restaurants, convenient stores, and medical offices. A self-service tool has been created to allow customers to easily build their own energy model and select the energy efficiency measures they wish to implement. Support through the construction process will still be available.

A high-performance incentive was implemented that rewards new construction projects that achieve greater than 30% electric efficiency beyond energy code. An additional $.03/kWh for annual savings and $10/kW will be paid for the qualifying project. Low-income housing projects will qualify with savings of 20% or greater.

A retro-commissioning (RCx) offer was also launched in 2023. RCx focuses on recalibrating a building's existing systems to better meet its operational needs. There are two paths which include Find-and-Fix that focuses on low-cost/no-cost measures and a more exhaustive approach called Deep RCx. RCx utilizes a third-party vendor (Michaels Energy) to work with customers and trade allies.

Issues

The Program application process is considered burdensome by some customers due to the individual and technically intensive review required for all projects applying for a custom incentive. Each year, Program staff explores ways to reduce the length of the application. By streamlining processes, the average processing time has dipped to 20 days for all states/jurisdictions. The program is exploring options to remove or limit pre-approval in 2023.

The technical review often requires customers (or their vendors) to quantify the projected energy savings from the proposed project. This process can be lengthy and may require some level of engineering expertise. Where necessary, this requirement will continue, thus ensuring that incentives are being paid for

cost-effective verifiable efficiency gains. Indications are that the Smart $aver Tools and online application portal have relieved some of this burden.

In 2021, Application and Calculation Assistance were added to help customer through the process. Application Assistance provides third party application completion. Calculation Assistance provides third party calculation generation. Both services continue to be offered at no cost to the customer.

The custom program is still limited by customers who are opted out of the EE Rider. Those customers who are opted out are not eligible to participate and any projects completed by those customers are lost opportunities. The custom program is actively working with internal resources (large account managers and Business Energy Advisors) to determine if opting in to the EE Rider for a potential project is the best option for customers currently opted out.

Finally, the custom program continues to see changes in available technologies as specific measures become eligible for Smart $aver Prescriptive.

Potential Changes

The Custom program continues to evaluate additional improvements to enhance participation, processing speed and program efficiency.

E. Marketing Strategy

The Company continued Program marketing efforts in 2023 through various marketing channels that include but are not limited to the following:

- Direct mail (letters and postcards to qualifying customers)
- Duke Energy website
- Community outreach events
- Small Business Group outreach events
- Paid advertising/mass media
- Social media promotions
- Trade ally outreach
- Account managers
- Business Energy Advisors

These marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities, and to emphasize the convenience of Program participation.

Non-residential customers learn of programs via targeted marketing material and communications. Information about incentives is also distributed to trade allies who sell equipment and services to all sizes of nonresidential customers. Large business or assigned accounts are targeted primarily through Company account managers. Unassigned small to medium business customers are supported by the Company's Business Energy Advisors. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors promote the program to customers with electrical costs between $60,000 and $250,000.

The internal marketing channel consists of Large Business Account Managers and Local Government and Community Relations who all identify potential opportunities as well as distribute program informational material to customers and trade allies. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

New Construction Energy Efficiency Design Assistance (NCEEDA) continues to identify energy efficiency projects for customers currently underserved in the new construction market. This channel utilizes the vendor Willdan Energy Solutions to help identify opportunities, complete savings calculations, and submit applications for the customer. As of the end of 223, NCEEDA have over 1,300 buildings enrolled and 130 million kilowatt hours saved. DEC represents approximately70% of the total participation.

F. Evaluation, Measurement and Verification

The evaluation of Program Years 2020-2021 began in Q3 of 2022, consisting of a DEC/DEP impact and process evaluation, and was finalized in the fourth quarter of 2023.

Impact evaluation activities included stratified sampling for analysis, sampled onsite visits, and development of site-specific M&V plans to determine gross energy and demand savings. Participant and trade ally surveys were undertaken to determine free ridership and spillover/non-participant spillover.

Process evaluation activities included in-depth interviews and phone surveys with program staff and trade allies to assess program operations, program awareness, satisfaction with the program and potential areas of improvement.

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart $aver® Custom Assessment (the "Program") offers financial assistance to qualifying commercial, industrial, and institutional customers to help fund an energy assessment and retro-commissioning design assistance in order to identify energy efficiency conservation measures of existing or new buildings or systems. The detailed study and subsequent list of suggested energy efficiency measures help customers to utilize the Non-Residential Smart $aver® Custom. The Program delivers a detailed energy report that includes the technical data needed for the Non-Residential Smart $aver® Custom Program and assistance with the Non-Residential Smart $aver® Application. All kWh and kW savings identified from measures implemented as a result of the pre-qualified assessments are attributed to Smart $aver Custom Program.

The intent of the Program is to encourage energy efficiency projects that would not otherwise be completed without the Company's technical and financial assistance. The Program's application requires pre-qualification for eligibility. Assessments are performed by a professional engineering firm pre-selected and contracted by the Company. The current engineering firm is Willdan.

The program was modified in 2017 to allows customers to choose one of the firms the Company contracted or to seek third party engineering assistance of their own selection and receive the same financial assistance. Pre-established criteria ensuring that the Program maintains high standards for engineering and work quality must be met for the funds to be released. This modification, which provided customers with more flexibility and choices, drove an increase in participation.

In 2019, the program again modified its approach by utilizing a "virtual" approach to the assessment. Using energy modeling software called NEO from Willdan and collecting all building information remotely allows the audit to be completed in 2-3 weeks for less cost. Each audit has a fixed cost of $5,000 for commercial buildings and $7,500 for industrial which is covered 100% by the program. In 2020, the program was expanded to include buildings with process loads such as manufacturers. Program parameters are a focus on customers with a minimum demand of 180 kW with those below being serviced by Small Business Energy Saver®. The goal of the program is to perform 10-150 assessments annually.

Audience

Pre-qualified non-residential electric customers, except those that choose to opt out of the Program, are eligible.

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Custom Technical Assessments[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$1.6	$0.2	10%
Program Cost	$0.7	$0.4	59%
MW	0.3	0.0	15%
MWH	2,764.0	245	9%
Units	1,752	1	0%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Participation in 2023 showed growth as 53 customers utilized their own vendor to perform an audit and 16 customers utilized the virtual audit option. Program design is being evaluated in Q1 in order to determine if restructuring will drive more participation.

E. Marketing Strategy

The marketing strategy for the Program is to work with those customers that need technical and financial assistance as a companion to their internal resources. Given the facility-wide approach, many of the energy savings opportunities are complex and interactive in nature which fits well with the end-to-end involvement utilized in the Program. Typical customer marketing activity involves direct marketing from Business Account Managers, electronic postcards, e-mails, and information attained through the Company's website and direct customer inquiries. Marketing in the future may shift as the virtual modeling software becomes more applicable. The opportunity to receive a quick readout of a building's efficiency level for a nominal cost will be a compelling message to Duke Energy customers.

F. Evaluation Measurement and Verification

No evaluation activities were performed in 2023.

A. Description

The Non-Residential Smart $aver® Prescriptive Program ("Program") provides incentives to Duke Energy Carolinas, LLCs (the "Company") commercial and industrial customers to install high efficiency equipment. Incentives are provided based on the Company's cost effectiveness modeling to ensure cost effectiveness over the life of the measure.

Commercial and industrial customers can have significant energy consumption but may lack an understanding of the benefits of high efficiency alternatives. The Program provides financial incentives to help reduce the cost differential between standard and high efficiency equipment, offer a quicker return on investment, save money on customers' utility bills so it can be reinvested in their businesses, and foster a cleaner environment. In addition, the Program encourages dealers and distributors (or market providers) to stock and provide these high efficiency alternatives to meet increased demand for the products.

The Program promotes prescriptive incentives for the following technologies – lighting, HVAC, pumps, variable frequency drives, food services, and process equipment. The Program also offers Builder Operator Certification.

Audience

All the Company's non-residential opt-in customers billed on an eligible Duke Energy Carolinas rate schedule may participate.

B & C. Impacts, Participants and Expenses [1]

Non Residential Smart Saver Prescriptive[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$150.3	$66.4	44%
Program Cost	$36.6	$25.4	69%
MW	37.6	17.4	46%
MWH	208,699.5	97,334.6	47%
Units	15,934,159	11,691,407	73%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Over the years, the Program has developed multiple approaches for reaching a broad, diverse audience of business customers, including paper and online options for incentive payment applications, and instant incentives through the midstream marketing channel and the Online Energy Savings Store. Several 2023 program trends are listed below:

- Customers continue to show interest in energy efficiency; however, the program is still experiencing issues including inflation, product shortages, and contractor labor shortages.
- Customers continue to utilize the midstream channel by taking advantage of instant incentives through participating equipment distributors; however, product shortages have caused energy efficiency project delays.
- Outreach continues to support Trade Allies working with the program, with a mix of virtual, phone and in person outreach to Trade Allies.

[1] The information reflects results for the Non-Residential Smart $aver Prescriptive program in aggregate. Reference the Appendix for results by technology.

- A dedicated team of representatives responded to customer questions via phone and email, providing high levels of customer service.

Customers have several options for participating in the Program. The following chart summarizes 2023 total participating customers by Program channel:

Program Option	Participating Customers*	% 2023 Repeat Customer
Downstream Channel	646	61%
Midstream Channel	2,242	52%
Online Energy Savings Store	2,057	20%
Multifamily Channel	69	78%
Upstream Channel	180	28%
Retail Instant Savings	38	61%

*May include multiple facilities/sites for one customer.

Downstream Channel
Trade allies and customers use the paper or online application to apply for measures in lighting, HVAC, food service and process technologies. Many Trade Allies participating in the application process reduce the customer's invoice by the amount of the Smart $aver® Prescriptive incentive and then receive reimbursement from Duke Energy. Customers often prefer this method rather than paying the full equipment cost upfront and receiving an incentive check from Duke Energy.

Duke Energy utilizes an internal database that allows the Program to self-administer Program applications and track program data.

MIDSTREAM CHANNEL
The midstream channel provides instant incentives to eligible customers at a participating distributor's point of purchase. Approved midstream distributors validate eligible customers and selected lighting, HVAC, and food service products through an online portal and use that information to show customers the reduced price for high efficiency equipment. Upon purchase, the distributor reduces the customer's invoice for the eligible equipment by the amount of the Smart $aver® Prescriptive incentive. Distributors then provide the sales information to Duke Energy electronically for reimbursement. The incentives offered through the midstream channel are consistent with current program incentive levels.

ONLINE ENERGY SAVINGS STORE
Duke Energy also offers the Business Savings Store on the Duke Energy website, with orders fulfilled by a third-party vendor. The site provides customers the opportunity to take advantage of a limited number of incentivized measures by purchasing qualified products from an online store and receiving an instant incentive in the form of a reduced purchase price. The incentives offered in the online store are consistent with current program incentive levels.

MULTIFAMILY COMMON AREA FREE MEASURES
In order to grow the number of accounts participating in EE, particularly in market segments where knowledge of EE is limited, the Program is collaborating with the Residential Multifamily Direct Install program to offer free low-cost measures to multifamily common areas as well as tenant spaces. Multifamily properties that are being approached by the Residential Multifamily program's vendor are now eligible to add on limited quantities of common area measures. The common area must be on an eligible commercial rate to participate. Measures such as LED exit signs, low flow shower heads, faucet aerators, smart thermostats and pipe insulation are now being installed where possible in multifamily common areas as well as in residential spaces. For those properties that accept the measures, the vendor will directly install them in the common areas when they are on site for the residential installations. The vendor tracks the measures installed by property, as well as total installations and reports this information to the Smart $aver program team.

Upstream Channel
The upstream channel provides incentives to eligible customers through participating manufacturers. Approved Upstream manufacturers validate eligible customers for lighting, HVAC, and food service products through an online portal. Upon purchase, the manufacturer reduces the customer's invoice for the eligible equipment by the amount of the incentive. Manufacturers then provide the sales information to Duke Energy electronically for reimbursement. The incentives offered through the upstream channel are consistent with current program incentive levels.

Retail Instant Savings
The Retail Instant Savings program offers Duke Energy business customers instant discounts on energy-saving products at retailers, both in-store and online. Once the customer's Duke Energy business account is validated, they receive a barcode for an instant discount to use at the store or an alphanumeric code that they can use online at one of the participating retailers.

TRADE ALLY MANAGEMENT
Over the years, the Program has worked closely with Trade Allies to promote the program to our business customers at the critical point in time when customers are considering standard or high efficiency equipment options. The Smart $aver® outreach team builds and maintains relationships with Trade Allies in and around Duke Energy's service territory. Existing relationships continue to be cultivated while recruitment of new Trade Allies also remains a focus.

The Trade Ally outreach team educates Trade Allies on the program rules and the Smart $aver Program expectations for Trade Ally conduct. The Company continues to look for ways to engage the Trade Allies in promotion of the Program and to target Trade Allies based on market opportunities.

Issues

The primary issues that faced the program in 2023 were all related to inflation, energy efficiency product supply shortages, and Trade Ally labor shortages have all brought challenges that persist in the market.

Potential Changes

Standards continue to change, and new, more efficient technologies continue to emerge in the market. Duke Energy periodically reviews major changes to baselines, standards, and the market for equipment that qualifies for existing measures and explores opportunities to add measures to the approved Program for a broader suite of options.

Duke Energy is also considering new and innovative ways to reach out to customer segments that have had a lower rate of prescriptive incentive applications and considering options to partner with other Duke Energy EE programs to cover gaps in the market and ultimately, make it easier for customers to participate in Smart $aver incentives. Also, the Duke program team would like to drive deeper customer savings and increase participation in technologies beyond lighting. Finally, Duke Energy is working on an effort to consolidate measures in our portfolio to streamline the process.

E. Marketing Strategy

The marketing plan for 2023 included direct marketing such as email and direct mail, online marketing, print marketing and supporting partnerships.

The internal marketing channel consists of assigned Large Business Account Managers, small and medium Business Energy Advisors, and Local Government and Community Relations, who all identify potential opportunities as well as distribute program informational material to customers and Trade Allies. Duke Energy has Business Energy Advisors in the Carolinas area to perform outreach to unassigned small and medium business customers. The Business Energy Advisors follow up on customer leads, assist with

program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors contact customers with revenue between $60,000 and $250,000 to promote the Smart $aver® programs. The Economic and Business Development groups also provide a channel to customers who are new to the service territory.

F. Evaluation, Measurement and Verification

The evaluation covering the period of January 1, 2019, to December 31, 2020 was completed in the first quarter of 2023 and presented at the May 2023 Collaborative.

A combined DEC/DEP evaluation is currently underway. The evaluation consists of an impact and process evaluation. Impacts will be determined from a mix of activities, including deemed savings, engineering desk reviews, participant surveys to refine input parameters, and onsite visits with a sample of main channel and midstream channel participants. NTG will be established through surveys with participants and trade allies. The evaluation is scheduled to be completed in the third quarter of 2024.

G. Appendix

Non Residential Smart Saver Energy Efficient Food Service Products[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$0.8	$1.3	162%
Program Cost	$0.3	$0.3	90%
MW	0.2	0.2	141%
MWH	1,865.4	2,979	160%
Units	3,164	1,530	48%

1) Values are reflected at the system level.

Non Residential Energy Efficient Process Equipment Products[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$1.0	$0.1	14%
Program Cost	$0.4	$0.1	21%
MW	0.3	0.1	29%
MWH	1,737.8	428	25%
Units	31,821	2,803	9%

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient HVAC Products[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$20.0	$6.2	31%
Program Cost	$5.8	$5.1	88%
MW	5.0	1.8	36%
MWH	27,111.0	9,490	35%
Units	10,295,937	8,753,064	85%

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient Lighting Products[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$127.4	$57.2	45%
Program Cost	$29.7	$19.5	66%
MW	31.9	14.8	46%
MWH	175,815.3	81,223	46%
Units	5,600,382	2,931,560	52%

1) Values are reflected at the system level.

Non Residential Energy Efficient Pumps and Drives Products[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$1.1	$1.6	145%
Program Cost	$0.4	$0.4	102%
MW	0.3	0.5	162%
MWH	2,154.7	3,214	149%
Units	2,674	2,450	92%

1) Values are reflected at the system level.

Non Residential Energy Efficient ITEE[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$0.0	$0.00	0%
Program Cost	$0.0	$0.00	0%
MW	0.0	0.0	-
MWH	15.3	0.0	0%
Units	181	0	0%

1) Program is on hold. No activity in 2023.

A. Description

The purpose of Duke Energy Carolinas, LLC's (the "Company's" or "DEC") Business Energy Saver program (the "Program") is to reduce energy usage through the direct installation of energy efficiency measures within qualifying non-residential customer facilities. The Program is administrated through two options: Small Business Energy Saver (SBES) and SmartPath.

SBES - All aspects of SBES are administered by a single Company-authorized vendor, Willdan Services. SBES measures address major energy end uses in customer facilities including lighting, refrigeration, processes and HVAC applications. SBES is designed as a pay-for-performance offering, meaning that the Company-authorized vendor administering SBES is compensated for energy savings produced through the installation of energy efficiency measures.

SmartPath - In 2020 a program modification was approved by the NC & SC utility commissions for SmartPath under the Business Energy Saver Program. SmartPath is meant to build upon the traditional SBES offering by minimizing financial barriers to customer participation by allowing customers to finance and implement energy efficiency upgrades at little to no upfront costs to the customer. SmartPath is implemented by a qualified Trade Ally network who develops proposals and implements the projects on the program's behalf.

Program participants receive a free, no-obligation energy assessment of their facility and a recommendation of energy efficiency measures along with the projected energy savings, costs of all materials and installation, and up-front incentive amount from the Company. If the customer decides to move forward with the proposed project, the customer will make the final determination of which measures will be installed. The vendor then schedules the measure installation at a time convenient for the customer. The Program provides the customer payment options including financing of the remaining project cost.

Audience

SBES is available to existing non-residential customers that are not opted-out of the Company's Energy Efficiency Rider. Program participants must have an average annual demand of 180 kW or less per active account.

SmatPath is available to all existing non-residential customers that are not opted-out of the Company's Energy Efficiency Rider. There are no kW limits associated with the SmartPath option.

B & C. Impacts, Participants and Expenses

Business Energy Saver[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$39.7	$34.9	88%
Program Cost	$13.0	$11.5	88%
MW	11.7	10.0	85%
MWH	61,580.2	49,177	80%
Units[2]	58,868,579	50,561,442	86%

1) Values are reflected at the system level.

2) Units reflect gross kWh.

D. Qualitative Analysis

Highlights

Willdan Services is the Company-authorized vendor administering the SBES Offering in both DEC and DEP service areas. In 2023, SBES continued to provide services to the Company's small and medium business customers. SBES finished below target due to market conditions. In 2022 SBES closed 42% of the project proposals in about 45 days. In 2023, the SBES only closed only 21% of the projects. The lower close percentage caused the Program reaching the targets during 2022.

Even with the slowdown, customers were still accepting of SBES and interested in the energy efficiency to help with inflation and growing concerns with market conditions. However, there are concerns from Customers which are slowing the decision process. The Company continues to administer a customer satisfaction survey to SBES participants since SBES launched in DEC. Customers continue to give the SBES high scores and indicates SBES generates a positive view of the Company.

SmartPath continued to grow and be well received by customers and Trade Allies in 2023. Trade Ally enrollment for SmartPath increased from 58 to 78, which amplified adoption of the program by Duke Energy customers. In 2023 SmartPath had 126 projects initiated, up from 76 in 2022. 106 projects totaling 33,500 MWh savings were completed utilizing SmartPath and the project pipeline currently stands at 65 active projects and 24,000 MWh in energy savings heading into 2024.

Issues

While LED lighting measures are expected to remain the primary driver of kWh savings in SBES for the foreseeable future, the Company has been actively working with our vendor Willdan to implement initiatives focused on increasing refrigeration, process and HVAC measure adoption. With the impacts of COVID, SBES experienced a decline in refrigeration and HVAC measures. Willdan kicked off the year with additional training of their sales staff to promote and sale the non-lighting measures.

With new energy efficiency products and services continually coming to the market, it is becoming harder and harder to evaluate those solutions and then maintain a staff of installers that can properly install those solutions. Because of this, Willdan is looking to partner with equipment and services providers to assist customers but process the projects through the Willdan platform and the SBES program.

Potential Changes

No changes planned at this time. The Company is continuing to evaluate the mixed of measures offered through the Program. The Company is currently waiting on the EM&V report and the recommendations around T12 lighting.

E. Marketing Strategy

The Program is marketed primarily using the following channels:

- Willdan field representatives
- Direct mail (letters and postcards to qualifying customers)
- Duke Energy Carolinas website
- Social media and search engine marketing
- Email & Duke Energy Business E-Newsletters
- Direct marketing & outreach via Program administrator
- Outreach via Duke Energy Business Energy Advisors
- Community events

All marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities and to emphasize the convenience of Program participation for the target market.

F. Evaluation, Measurement and Verification

The evaluation report is expected in the first quarter of 2024 for savings generated between July 1, 2020 – December 31, 2022. The methodology will consist of a desk review, a stratified sample by technology to determine the number of on-site visits necessary to capture to determine on-site visits to determine inputs into the engineering analysis, the methodology used to calculate gross savings.

A process evaluation will also be conducted. Activities related to the process evaluation will encompass program management and vendor interviews to assess program operations, surveys with participants to assess free and spillover values and customer satisfaction. In addition, interviews will be conducted with non-participants to gauge customer experience with the program.

A. Description

Duke Energy Carolinas, LLC's (the "Company's" or "DEC") EnergyWise Business (the "Program") is an energy efficiency and demand response program for non-residential customers that allows the Company to reduce the operation of participants' air conditioning units during the summer and winter (Direct Load Control option) or allow the customer to modify their operations when requested during the winter (Bring Your Own KW option) to help manage the power grid. The Program provides customers with options for how they would like to participate. In exchange for participation, the Company applies an annual incentive directly to their bills or an incentive check.

Direct Load Control Option - For each air conditioning or heat pump unit that they have, Program participants can choose between a Wi-Fi thermostat, or a load control switch professionally installed for free by the Program. In addition to choosing the equipment, participants also choose the cycling level at which they participate—30%, 50% or 75%. The levels represent the percentage of the normal on/off cycle of the unit that is reduced. During a conservation period, Company sends a signal to the thermostat or switch to reduce the amount of time a unit is on by the percentage the participant selected. For participating at the 30% level the customer receives a $50 annual bill credit for each unit, $85 for 50% cycling, and $135 for 75% cycling. Finally, participants that have a heat pump unit with electric resistance emergency/back up heat and choose the thermostat can also participate in a winter option that allows the Company to control the emergency/back up heat. For 100% control of the emergency/back up heat, the Company provides an additional $25 annual bill credit.

Participants choosing the thermostat are given access to a portal that allows them to control their units from anywhere they have internet access. They can set schedules, adjust the temperature set points and receive energy conservation tips and communications from the Company. In addition to the portal access, participants also receive conservation period notifications. Notifications allow participants to adjust their schedules or notify their employees of the upcoming conservation period. Participants are allowed to override two conservation periods per year either before or during the conservation period.

Bring You Own KW Option – This option was filed and approved in NC during 2022 and filed in SC. This option allows customer to reduce their energy usage when asked by the Company and in return the customer will receive $30 per KW average reduction during the winter season. The customer can accomplish these reductions by making manual adjustments to their equipment or by connecting their equipment to receive communications for the Company.

Audience

The Program is available to existing non-residential customers that are not opted-out of the DSM portion of the Company's EE/DSM rider, Rider DSM; have at least one air conditioner or heat pump that operates to maintain a conditioned space on weekdays during the calendar months of May through September; and are not served under Schedules BC and HP, Riders NM, SCG, IS, PS or PSC.

B & C. Impacts, Participants and Expenses

EnergyWise for Business[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$2.4	$1.7	69%
Program Cost	$1.8	$2.9	162%
MW	12.2	7.1	58%
MWH	756.8	1,053	139%
Units[2]	14,364	7,783	54%

1) Values are reflected at the system level.

2) Units represent average monthly kW at meter for demand response measures (6,821), plus individual participants for smart thermostat energy efficiency measure (962).

D. Qualitative Analysis

Highlights

For 2023, the Program continued to operate in maintenance mode. The Program focused on increasing marketing and canvassing activities. The Program enrolled 1,262 customers and installed 516 devices in 2023. The Program continues to work on adding new canvassers and increasing promotion and visibility to the market.

For the Bring You Own kW option, the Program has worked with partners to integrate via OpenADR solutions. These solutions will grant access to small and medium business customers that otherwise could not participate in the Program and increase overall MW capability. The Program has also completed integration with Google Nest which grants the Program access to all primary OEM smart thermostat vendors. This partnership will provide greater access to customers utilizing smart devices and grants greater flexibility for those customers wishing to participate in the Program.

Issues

With the program struggling with cost effectiveness, and the change in DEC from a summer peaking utility to mostly winter peaking, the Direct Load Control option was moved to maintenance mode. We have negotiated price reductions with our vendor that will improve the cost effectiveness and allow the program to maintain its current summer capacity levels.

E. Marketing Strategy

For the Direct Load Control option in 2023 the Program continued the efforts of door-to-door marketing using a dedicated canvassing vendor. In addition to canvassing, the Program targets slightly larger and multi-location customers through Duke Energy's Business Energy Advisors.

For the Bring You Own KW option a campaign to reach technology providers kicked off to create a network of providers with technologies that are already connected to the control system. Through these technologies customers can easily participate in load control events call by the Company. Some examples of technologies would be thermostat manufactures, HVAC controls companies and generator companies.

F. Evaluation, Measurement and Verification

The evaluation for the combined DEC/DEP EnergyWise for Business program is currently underway with a planned final report in the fourth quarter of 2024. The report will consist of evaluated savings for both the DR and Smart Thermostat (EE) measure. DR impacts will be determined using AMI interval data for events called by the program during winter 2022/2023 (November 2022 through March 2023) and summer 2023 (May through September 2023). The Smart Thermostat (EE) measure savings will be calculated using AMI data for those participants who enrolled in the program from January 2022 through December 2022.

A. Description

PowerShare® ("Program") is a demand response program offered to commercial and industrial customers. The Program is comprised of Mandatory ("PS-M"), Generator ("PS-G"), and Voluntary ("PS-V") options, and customers can choose from a variety of offers. Under PS-M and PS-G, customers receive capacity credits for their willingness to shed load during times of peak system usage. Energy credits are also available for participation (shedding load) during curtailment events. The notice to curtail under these offers can be rather short (15-30 minutes), although every effort is made to provide as much advance notification as possible. Failure to comply during an event could result in penalties.

Audience

The Program is offered to Duke Energy Carolinas, LLC's (the "Company's") non-residential customers who have not opted-out and are able to meet the load shedding requirements.

B & C. Impacts, Participants and Expenses

PowerShare[1]

$ in millions, rounded	Vintage 2023 As Filed	Vintage 2023 YTD December 31, 2023	% of Target
NPV of Avoided Cost	$56.9	$79.5	140%
Program Cost	$13.1	$18.7	143%
MW[2]	330.9	463.8	140%
MWH	N/A	N/A	N/A
Units[3]	310,343	466,733	150%

Notes on Tables:

1) Values are reflected at the system level.

2) MW capability derived by taking average over specific PowerShare contract periods. At year-end 2023, we had the ability to shed 463.8 MW (at the plant), representing 140% of the as filed capacity.

3) Units included in filing represent average KW at meter, rather than number of participants.

D. Qualitative Analysis

Highlights

PS-M and PS-G continue to be well received by customers who have the flexibility to curtail load upon request in both North Carolina and South Carolina. This is reflected in the considerable growth that the PowerShare program has experienced again in 2023.

There were no PowerShare curtailment events in 2023.

Issues

No current issues.

Potential Changes

The Company continues to work with stakeholder groups to evaluate opportunities for developing new options within the large nonresidential DSM programs that will enhance the flexibility of grid reliability resources available to our system operators. The Company has filed for approval in both North Carolina and South Carolina to introduce a new economic curtailment option called Mandatory Plus, which will provide day-ahead notification for dispatch of the resource for 100 hours per year to avoid costly purchases or unit start-ups.

E. Marketing Strategy

To date, marketing efforts for the Program have focused on the relationship between the Company's account executives and their assigned customers. As part of their normal contact with customers, the account executives introduce the Program, including any new options/offers, while explaining the value proposition to the customer. Account executives share in-house analytics that show the incentives for each offer as applied to the customer's specific load profile and provide marketing collateral to explain the details of all the Program offers.

F. Evaluation, Measurement and Verification

The evaluation estimated verified demand (kW) impacts using a baseline testing approach (including regression-based and customer baseline, or, CBL) for the period June 1, 2022 through May 31, 2023, with a final report completed in early 2024. These impacts included:

a. Average kW demand impact per customer for each event, and on average across all events
b. Total program kW demand impact for each event, and on average across all events

A process evaluation was not included as part of the activities.