

# Duke Energy Carolinas, LLC – Executive Summary

## A. Description

During the first quarter 2023, 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 2022 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 2022 in comparison to as-filed data for Vintage 2022.

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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022		% of Target
	As Filed	YTD December 31, 2022	
NPV of Avoided Cost	\$416.8	\$339.1	81%
Program Cost	\$158.7	\$120.4	76%
MW <sup>2</sup>	1,107.7	1,102.6	100%
MWH	814,299.7	674,196.0	83%
Units	120,960,328	53,887,536	45%

1) Values are reflected at the system level.

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

# Duke Energy Carolinas, LLC – Executive Summary

## Carolinas Demand Response Summary<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
NPV of Avoided Cost	\$120.0	\$129.1	108%
Program Cost	\$37.3	\$38.0	102%
MW <sup>2</sup>	936.4	979.4	105%
MWH	0.0	244.1	-
Units <sup>3</sup>	901,160	971,091	108%

- 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 2022.

## Carolinas Energy Efficiency Summary<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
NPV of Avoided Cost	\$296.8	\$210.1	71%
Program Cost	\$121.3	\$82.5	68%
MW <sup>2</sup>	171.2	123.3	72%
MWH	814,299.7	673,951.9	83%
Units	120,059,169	52,916,444	44%

- 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 2022 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.

## Duke Energy Carolinas, LLC – Executive Summary

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### **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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## Income-Qualified Energy Efficiency and Weatherization Assistance Program

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### A. Description

The purpose of the Low-Income Energy Efficiency and Weatherization Assistance Program (“Program”) is to assist low-income customers with installing energy efficiency measures in their homes. There are three offerings currently in the Program:

- Neighborhood Energy Saver (“NES”)
- Weatherization and Equipment Replacement Program (“WERP”)
- Refrigerator Replacement Program (“RRP”).

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 \$10,000 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

### 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.

## Income-Qualified Energy Efficiency and Weatherization Assistance Program

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.

### B & C. Impacts, Participants and Expenses

Income Qualified Energy Efficiency and Weatherization Assistance<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022		% of Target
	As Filed	YTD December 31, 2022	
<b>NPV of Avoided Cost</b>	<b>\$6.3</b>	<b>\$3.3</b>	<b>52%</b>
<b>Program Cost</b>	<b>\$8.8</b>	<b>\$7.2</b>	<b>82%</b>
<b>MW</b>	<b>2.0</b>	<b>1.0</b>	<b>53%</b>
<b>MWH</b>	<b>9,754.7</b>	<b>3,553.0</b>	<b>36%</b>
<b>Units</b>	<b>12,975</b>	<b>7,332</b>	<b>57%</b>

1) Values are reflected at the system level.

### 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. Honeywell Building Solutions was awarded the contract through a competitive bid process to administer the Program through 2021. Franklin Energy was awarded the contract for DEC through a competitive bid process beginning in January 2021

In 2022 the Program offered free walk-through energy assessments and installing measures in the homes of customers in Kannapolis, East Charlotte, Salisbury NC and Anderson and Greenville, SC. There were 2,532 NES 2.0 measures installed in 2022.

**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 2022, 199 refrigerators replaced, 179 Tier 1 services provided, 396 Tier 2 services provided, and 247 HVAC systems were replaced.

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

## Income-Qualified Energy Efficiency and Weatherization Assistance Program

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- 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 plan to piggy-back the marketing efforts of the current state Weatherization Assistance Programs administered by the state weatherization service providers. Additionally, agencies may utilize referrals generated from other Company energy efficiency programs as well as from their existing pool of weatherization applicants.

### **Potential Changes**

No potential changes

### **F. Evaluation, Measurement and Verification**

The DEC Weatherization evaluation was completed in December of 2022 and evaluated program participation from January 1, 2019, to December 31, 2020. The evaluation had 1,167 participants and found net annual program savings of 1,627 MWh, 217 kW of summer coincident demand savings, and 517 kW of winter coincident demand savings.

The combined DEC/DEP NES evaluation was completed in May of 2022. The evaluation focused on participation from July 1, 2018, through June 30, 2019, and found that the program served 5,619 DEP households and 10,277 DEC households in 25 neighborhoods. At the program level, DEP participants saved 3,031 MWh, 488 summer coincident kW and 508 winter coincident kW while DEC participants saved 2,276 MWh, 413 summer coincident kW and 418 winter coincident kW.

The next combined DEC/DEP NES evaluation is in the beginning stages of data collection and surveying, with a final report scheduled for November of 2023.

# Energy Efficiency Education Program

## A. Description

The Energy Efficiency Education Program (“Program”) is available to students in grades K-12 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, middle and high 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 complete 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.

Similar to 2021, many of the aspects of the Energy Efficiency Education program continued to be impacted by the COVID-19 pandemic in 2022. No in-person school performances were permitted for the first half of the year. As a result, the program continued to offer livestream performances so schools and students could still participate. At the beginning of the Fall 2022 semester, in-school live performances resumed as the effects of the pandemic lessened and troupes were allowed back into the schools. More details are provided below in section D.

## Audience

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

## B & C. Impacts, Participants and Expenses

Energy Efficiency Education<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
NPV of Avoided Cost	\$3.2	\$1.3	41%
Program Cost	\$2.4	\$1.1	45%
MW	1.0	(1.0)	-96%
MWH	8,276.0	5,862.8	71%
Units	30,552	11,615	38%

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

## Energy Efficiency Education Program

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theatrical production captivates the students' attention and reinforces the classroom curriculum materials provided.

Starting in the spring semester of the 2019-2020 school year, the COVID-19 pandemic brought on unprecedented challenges to the program with schools temporarily closing and reverting to virtual learning. As a result, live performances ceased on March 13, 2020. This continued to be the case for the first half of 2022. During the Summer, the program resumed the booking of in-school live performances.

For the first half of 2022, the program continued to offer these educational performances via online livestream for all three levels of schooling in the Spring semester. This consisted of a live host providing educational information and narrating between four different segments of the theatrical performance that would normally be given in schools by professional acting troupes. In addition, for added flexibility, the program offered a video recording of a livestream performance for schools/ classrooms that preferred to share the content when it best fit into their lesson plan, at a later date. In late Spring, the program received internal approval to resume live in-person performances beginning in the Fall semester, while adhering to the customer engagement safety protocols established by the company.

Consistent with past years, each performance had content that was appropriate with its educational level. In the Spring, Elementary schools were able to view livestream performances of "Nikki Neutron's Energy Adventure"; "Energy Agents" was made available to Middle schools and High Schools were able to watch "Global Gamble". For the Fall 2022 Semester, the titles were replaced with live in-school performances of "Eco Guardians", "Conservation Café" and "Your Planet, Your Future" respectively. Though these titles changed for 2022-2023 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 a Q&A with the host and an e-learning package that includes games, quizzes and lesson plans for the class that reinforce concepts from the show.

Overall, in 2022, a total of 571 schools participated (NC: 434, SC: 137) in the program in the Company's DEC service territory, reaching 162,711 students (NC: 123,519; SC: 39,192) and spurring the distribution of 11,615 kits (NC: 8,921; SC: 2,694).

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, rewarded teachers \$50 for every 20 Energy Efficient kit requests. Additionally, various rewards for schools and participating families were offered 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.
- 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.
- Inclusion of the Kilowatt Krush mobile gaming application that will allow users to learn about smart energy use and conservation through an engaging arcade of action-packed, energy themed games. Students build and customize virtual houses in the neighborhood of their choice while learning about energy efficiency and safety education.



## Energy Efficiency Education Program

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### 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 covering August 2019 – July 2020 was completed in December of 2021. Results were presented at the December 2021 DEC/DEP Collaborative. The 2022 process and impact evaluations are underway and will consist of a consumption and engineering analysis. The evaluation is scheduled to be completed during the third quarter of 2023.

## Energy Efficient Appliances and Devices

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### 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.

#### Specialty Lighting

The Duke Energy 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 launched on April 26, 2013 and 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.

The Store is managed by a third-party vendor, Uplight, Inc. (Uplight). Uplight 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 Lighting

The Retail Lighting Program’s primary objective is the reduction of electric energy consumption and peak demand through increased awareness and adoption of energy-efficient lighting technologies. The program partners with retailers and manufacturers across North and South Carolina to provide price markdowns on customer purchases of efficient lighting. The 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.

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

## Energy Efficient Appliances and Devices

to store staff to enable better customer education at the point of purchase. Ensuring customers are purchasing the right bulb for the application through proper customer education is imperative to obtain high satisfaction with lighting products and subsequent purchases.

### 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.

### 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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022	Vintage 2022	% of
	As Filed	YTD December 31, 2022	Target
NPV of Avoided Cost	\$34.7	\$50.0	144%
Program Cost	\$16.1	\$16.5	103%
MW	7.7	14.2	185%
MWH	78,229.8	95,753.3	122%
Units	2,232,634	3,387,239	152%

1) Values are reflected at the system level.

### D. Qualitative Analysis

#### Specialty Lighting

##### 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 2022, the program delivered the following to North Carolina customers: 161,458 specialty LED bulbs, 10,372 smart thermostats, 939 thermostat trim kits, 817 smart strips, 198 water products, 13 LED fixtures, 404 air purifiers and 184 dehumidifiers.

Respectively, during 2022 the program delivered the following to South Carolina customers: 55,548 specialty LED bulbs, 3,343 smart thermostats, 330 thermostat trim kits, 223 smart strips, 50 water products, 3 LED fixtures, 149 air purifiers and 37 dehumidifiers.

##### Issues

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

## Energy Efficient Appliances and Devices

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### 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 Lighting

#### Highlights

In 2022, the program moved a total of 2,611,019 measures; 2,135,773 of which were purchased at retailers in NC and 475,246 from retailers in SC.

The DEC Energy Efficiency Program had 7 lighting retail channels actively participating in 2022. While the top three retail channels account for 66% of the program sales, all retail channels are important in that they allow access to the program for a widely diverse and geographically spread population of DEC customers. Locations are selected to ensure that the Program reaches 90% of customers within 30 miles of a participating retail location.

In addition, a key strategy for 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 66% of program sales came from these types of stores.

The Program operated efficiently with 81% of overall Program costs going directly to customers in the form of incentives. Most of the remaining Program costs (18%) were spent on implementation and administration of the Program. The remaining 1% of costs were spent on marketing and labor.

In November, the program expanded its offering to include incentives on Smart Thermostats, Air Purifiers, Dehumidifiers and Ceiling Fans at participating retailers (Best Buy, Home Depot, Lowes, ecobee.com, and Google Store). To take advantage of the program offers, store patrons will need to validate that they are a Duke Energy customer by accessing the instant rebate portal on their smart phone or personal computer. If eligible, the customer will receive a barcode to be scanned at checkout (in-store or online) to receive the instant rebate. While the program saw 270 coupon reservations, due to launching late in 2022 and expected lag in sales data from manufacturers, program participation was not seen until early 2022.

#### Issues

No issues to report at this time.

### Potential Changes

As a result of changes to upcoming EISA guidelines resulting in many of the programs lighting products being pulled from the shelves, the Retail Lighting Program is scheduled to discontinue by 6/30/2023. In the early part of the 2023, the program will continue to operate while program sunset activities will commence as we get closer to the Summer. This will be inclusive of, but not limited to, notification of program discontinuance to all program partners, removal of in-store signage attributable to the program and removing of program store locator website.

While incentives will be removed from stores by 6/30/2023, with customers no longer being able to make a purchase on Duke Energy incentivized products, the program will continue to receive sales data from manufacturers through 9/30/23 for purchases made prior to 6/30/2023. This is driven by standard delays in receiving point-of-sales data from manufacturers.

### Save Energy and Water Kit Program

# Energy Efficient Appliances and Devices

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## Highlights

In 2022, the program distributed 392,480 water measures in 37,594 kits to North Carolina customers. These kits delivered 75,188 bath aerators, 37,594 kitchen aerators, 54,134 showerheads and 225,564 feet of pipe insulation.

Respectively, the program distributed 149,672 water measures in 14,357 kits to South Carolina customers. These kits delivered 28,714 bath aerators, 14,357 kitchen aerators, 20,459 showerheads and 86,142 feet of pipe insulation.

## 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 transitioned to a new vendor in Q1 of 2022, AM Conservation. AM Conservation will provide a new online platform in Q1 2023, allowing customers who navigate to it from the BRC or email to request a kit with an option to upgrade their showerhead to a hand-held model for a discounted price. The platform will also provide a new fresh design and improved customer experience, increasing participation, installation of the measures, and overall satisfaction with the program.

## E. Marketing Strategy

### Specialty Lighting

Since the launch of the 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 such as free shipping.

### Retail Lighting

The program's marketing efforts for both lighting and the program expansion to 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 lighting needs.

## Energy Efficient Appliances and Devices

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### 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. 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 or to download an installation guide to aid in installing the kit measures.

### F. Evaluation, Measurement and Verification

#### Residential Lighting

The evaluation for the DEC/DEP Online Saving/Marketplace Program included participation from Jan 2019 – March 2021. The evaluation report was completed November 30, 2021 and presented at the July Collaborative. The next evaluation is scheduled to begin the second quarter of 2023, with a tentative report completion date in late 4th Quarter 2023.

The DEC/DEP Retail Lighting evaluation was completed on December 5, 2022, and consisted of an impact and process evaluation. The DEC program realized 104.9 GWh in ex post gross energy savings, 17.2 MW in summer peak demand savings, and 7.3 MW in winter peak demand savings during the evaluation period. Net-to-gross varied by measure, however program-wide NTG was estimated at .604.

#### Save Energy & Water

The evaluation for combined DEC/DEP, including participation from July 2020 – June 2021 is currently underway, with a final report scheduled for the first quarter of 2023. As part of this evaluation, the evaluator will also survey non-participants to better understand their decisions to not participate in the program.

## Energy Assessments

### 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 energy efficiency lighting, a low-flow shower head, low flow faucet aerators, outlet/switch gaskets, 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 LED specialty lighting (i.e. Globes, Candelabra and Recessed), Hand-held Showerhead, Smart Thermostats and a Blower Door test.

### 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.

### B & C. Impacts, Participants and Expenses

Energy Assessments<sup>1</sup>

<i><u>\$ in millions, rounded</u></i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$7.7</b>	<b>\$2.7</b>	<b>35%</b>
<b>Program Cost</b>	<b>\$5.6</b>	<b>\$2.5</b>	<b>45%</b>
<b>MW</b>	<b>1.6</b>	<b>0.6</b>	<b>36%</b>
<b>MWH</b>	<b>14,772.7</b>	<b>5,120.2</b>	<b>35%</b>
<b>Units</b>	<b>125,315</b>	<b>21,584</b>	<b>17%</b>

1) Values are reflected at the system level.

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

## Energy Assessments

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### 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.

Through June 30, 2022, the program conducted 3781 assessments. The program additionally installed 3768 feet of pipe insulation and 622 additional bathroom aerators. The program also installed the following discounted measures: 1232 specialty LED globes, 1055 recessed bulbs, 2088 candelabra LEDs, 107 Hand-held Showerheads, 26 Blower Door audits and 286 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 continues to focus on cross promotion of other programs and integration of in-field referrals for FindItDuke.

#### Potential Changes

Some program enhancements to increase the effectiveness of the Program being considered include the following:

- Continuing to optimize the online scheduling tool to enhance the customer experience
- Evaluating Virtual Audit capabilities to included townhomes/condos/Manufactured homes.
- Implementing post audit follow up with reminders of recommendations/referrals.

#### Issues

Duke has been working with the vendor to evaluate resource requirements, improve the appointment scheduling process, improve customer satisfaction, and update call center training documentation. The program continues to coordinate closely with the vendor to monitor incoming demand, evaluate marketing strategies, improve customer communication and to ensure adequate appointment slots are available.

### E. Marketing Strategy

Program participation continues to be driven through a multichannel 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 continues to be used to supplement direct mail. The Program management team continues to explore additional channels to drive awareness such as social, 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. The program has also incorporated seasonal thermostat promotions as part of the marketing campaigns. In between larger initiatives, such as bill inserts, the program utilizes direct mail which can easily be modified based on demand. Core messaging remains simple and focused on key benefits—a free energy assessment from Duke Energy can help save energy and money while also increasing comfort and it only takes 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](http://www.duke-energy.com).



## Energy Assessments

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### 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 has been pushed back to cover the period Sept 2020 – Aug 2021. The activities will begin in earnest in Fall 2021 with a final report scheduled for First Quarter 2023.

It is anticipated that the evaluation will consist of a billing analysis that will compare the consumption of program participants to future program participants. Engineering estimates for the kit measures will also be conducted to provide insight into the behavioral impacts achieved through the program and to provide impacts for the Additional Bulbs and other optional measures provided to program participants. Participants surveys will be used to determine in-service rates and determine free ridership at the measure level.

The process evaluation will consist of participant surveys which will identify barriers to participation, improve program processes and assess overall participant satisfaction.

# My Home Energy Report

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Feb 28 2023

## 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 January 1, 2023, over 1.25 million single-family DEC customers and over 177 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 January 1, 2023, over 32 thousand single-family customers and over 4 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<sup>1</sup>

<i><u>\$ in millions, rounded</u></i>	Vintage 2022	Vintage 2022	% of
	As Filed	YTD December 31, 2022	Target
NPV of Avoided Cost	\$22.1	\$18.9	85%
Program Cost	\$12.2	\$6.3	52%
MW <sup>2</sup>	92.5	67.1	73%
MWH <sup>2</sup>	333,200.7	361,618.4	109%
Units <sup>3</sup>	1,377,387	1,432,449	104%

1) Values are reflected at the system level.

2) Values represent the annual MW and MWH savings associated with 2022 year-end participation.

3) At year-end 2022, single-family participation was 1,254,520 while multifamily participation was 177,929.

## 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

# My Home Energy Report

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information corrections continue to generate the largest number of inquiries. In 2022 a total of 35 customers in DEC opted-out of the HER program, representing 0.002% 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.

## 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 period Feb 2020 – Jan 2021, was completed March 6, 2022 and presented at the July collaborative. The new evaluation is scheduled to begin in the first quarter of 2023 with a tentative completion date of November 2023.

## Residential Smart \$aver® Energy Efficiency Program

### 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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022		% of Target
	As Filed	YTD December 31, 2022	
NPV of Avoided Cost	\$5.5	\$8.8	161%
Program Cost	\$5.7	\$7.6	132%
MW	1.5	2.6	175%
MWH	5,457.7	9,382.8	172%
Units	19,330	27,342	141%

1) Values are reflected at the system level.

### D. Qualitative Analysis

#### Highlights

The DEC Smart \$aver® incentive program ended 2022 with strong results. As of December 31, 2022, Duke Energy Carolinas participation was 27,342, remaining consistent but 882 lower than 2021 results of 28,224.

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. Several enhancements were made to the Find it Duke website that improved the presence of available rebates as well as special offers that are available from time to time. These enhancements intercept customers that may not be aware of our rebates as they enter the site to generate a referral. Available rebates and special offers are shown to the customer based on the referral category they have chosen.

## Residential Smart \$aver® Energy Efficiency Program

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In 2022, the Find it Duke referral channel experienced a 7% increase in volume due to increased recruitment of Trade Allies and coverage across non-major markets.

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 4.75 out of 5.0 stars during 2022.

### **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 2022 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 and drove referral volumes up for the channel.

### **F. Evaluation, Measurement and Verification**

The joint DEC/DEP evaluation for the HVAC measures is currently underway. A participant survey was fielded in October of 2022, and a final evaluation report is scheduled for June 2023.

The evaluation will consist 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 will be utilized to refine inputs into the engineering algorithms.

**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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
<b>NPV of Avoided Cost</b>	\$0.0	\$0.7	-
<b>Program Cost</b>	\$0.0	\$0.4	-
<b>MW</b>	0.0	0.2	-
<b>MWH</b>	0.0	505.5	-
<b>Units</b>	0	371,990	-

1) Values are reflected at the system level.

**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. ICF 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.	<ul style="list-style-type: none"> <li>HERO+ all electric home heating savings - \$0.40/kWh</li> <li>HERO+ all electric home – other savings - \$0.75/kWh</li> <li>HERO+ natural gas heating – all savings - \$0.75/kWh</li> <li>All savings types capped at \$6,000</li> </ul>
	Equipment Description	Incentive
Equipment Incentive	AC or heat pump with SEER 15 or higher	\$300 per unit

**Issues**

Delaying of SC approval delayed purchasing managers working in both SC and NC looking to make a clean sweep with all practices. Several builders will start making purchasing changes as new communities come aboard but will not make upgrades in mid-build cycle because of SC delays.

**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 will occur after a full year of implementation, depending upon participation. 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.

Net-to-gross will be determined by surveys conducted with participating builders, non-participating builders, and HERS Raters.

# Multi-Family Energy Efficiency Program

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Feb 28 2023

## A. Description

The Multi-Family Energy Efficiency program (“Program”) provides energy efficient lighting and water 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 Franklin Energy, the program administrator. Franklin Energy oversees all aspects of the Program including outreach, direct installations, and customer care.

The Program helps property managers save energy by offering energy efficient lighting and water products. The Program offers LED lighting measures including A-lines, globes, candelabras, recessed, and track bulbs, and energy efficient water measures such as bath and kitchen faucet aerators, water saving showerheads, pipe wrap and smart thermostats are available at a discounted price to Property Managers. Water measures are available to eligible customers with electric water 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 bill

The Program offers a service where Franklin Energy installs the lighting, water measures and smart thermostats during scheduled visits. If the customer opts into purchasing the discounted smart thermostats, Franklin will also install those. Crews carry tablets to keep track of which measures are installed in each apartment.

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. Properties with CFL installations over 5 years old are eligible for all the new LEDs and water measures. Lighting measures are only installed in permanent lighting fixtures such as ceiling lights, recessed lighting, track lighting, ceiling fan lights, and bathroom vanity lighting.

## B & C. Impacts, Participants and Expenses

Multi-Family Energy Efficiency<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$9.7</b>	<b>\$2.8</b>	<b>29%</b>
<b>Program Cost</b>	<b>\$3.2</b>	<b>\$1.0</b>	<b>31%</b>
<b>MW</b>	<b>2.4</b>	<b>0.7</b>	<b>31%</b>
<b>MWH</b>	<b>18,499.0</b>	<b>5,374.9</b>	<b>29%</b>
<b>Units</b>	<b>440,736</b>	<b>104,689</b>	<b>24%</b>

1) Values are reflected at the system level.

## D. Qualitative Analysis

### Highlights

In early 2021, the Program filed a request to add 1.25 GPM showerheads and discounted smart thermostats to the program. The new measures were approved and were included upon the relaunch of the program in late July 2021. Both of these measures are currently being offered and installed in DEC.

In 2022, North Carolina had 86 properties served, which included 8,243 units (apartments) and 81,224 measures. These measures consist of 53,763 LED lightbulbs, 10,389 aerators, 5,209 showerheads, 11,630 pipe wraps and 233 smart thermostats. South Carolina had 22 properties



## Multi-Family Energy Efficiency Program

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completed, which included 1,977 units and 23,465 measures. These measures consist of 15,929 LED lightbulbs, 2,841 aerators, 1,513 showerheads, and 3,182 pipe wraps.

### Issues

Reducing unit cancellations has been a focal point for the program. These cancellations can be a result of COVID, loose pets, safety issues, or not having access to the unit. The first six months of the year saw 1,371 unit cancellations. The last 6 months of the year, cancellations decreased to 998.

Resource constraints have continued to be the major issue with the program. Turnover of direct installers has been high and filling these positions has been difficult. Currently, 6 direct installers of the 16 total positions that were planned for the program in DEC have been filled. Franklin Energy is working with recruiters to find more candidates.

The Program continues to see a shortage of maintenance employees at properties, which has caused a delay in getting into these properties to install.

### Potential Changes

The Program is exploring new measures to offer to customers. This includes T8 tubes, weather stripping, and additional thermostat offerings.

### E. Marketing Strategy

As program implementer, Franklin Energy 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, 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 were updated to include the new measures, the 1.25 GPM showerheads and discounted smart thermostats. This website was recently updated and a request for assessment was added. Duke also sent out emails to customers in December to encourage participation. So far this has led to 1,202 measures installed.

Other ways a property manager may learn more about this Program are through the MyDuke Portal, an online tool used to pay the utility bills of vacant units at their property. The MyDuke Portal presents a promo link that directs the user to the Program website for more information.

Once enrolled, Franklin Energy 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.

# Multi-Family Energy Efficiency Program

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## F. Evaluation, Measurement and Verification

The combined DEC/DEP EM&V evaluation for the Multifamily program covered participation from July 2019 – June 2021 and included an impact and process evaluation. As part of the impact evaluation, virtual site verifications were conducted to measure installations and collect data for use in the engineering analysis. The evaluation was completed April 20, 2022, and presented at the July Collaborative. The next evaluation is scheduled to begin the second quarter of 2023.

## G. Appendix

### Program Brochure-

Updated to add Commercial Offerings partnership and new water 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](mailto: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](mailto: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.  
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Contact us today!

Phone: 888.297.1671 | Website: [duke-energy.com/multifamily](http://duke-energy.com/multifamily)  
Email: [dukeenergymultifamilyeep@franklinenergy.com](mailto: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.  
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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.



BUILDING A SMARTER ENERGY FUTURE<sup>SM</sup>

## Start saving now with the latest **FREE** energy-saving products.












### 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

<h4>Standard, Globe, Candelabra, Recessed and Track LEDs</h4>  <p>ENERGY STAR<sup>®</sup> light-emitting diodes, or LEDs, use <b>up to 90% less energy</b> and can <b>save at least \$80</b> 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.</p>	<h4>Exit Sign LEDs</h4>  <p>Exit signs are necessary to keep your residents safe. Save on operating and labor costs by replacing incandescent exit sign bulbs with LEDs.</p> 	<h4>Google Nest</h4>  <p>The optional <b>Google Nest Thermostat</b> can help you save an average of 10% to 12% on heating costs and 15% on cooling costs.<sup>2</sup></p>
<h4>Bathroom and Kitchen Faucet Aerators</h4>  <p>These faucet aerators use <b>up to 55% less water</b> 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.<sup>1</sup></p> <p><i>Outer ring allows for adjustable flow</i></p>  <p><small>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 <a href="http://nest.com/real-savings">nest.com/real-savings</a>.</small></p>	<h4>Water-saving Showerheads</h4>  <p>These showerheads use <b>up to 40% less water</b> 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.<sup>1</sup></p> <p><i>Outer ring allows for adjustable flow</i></p> 	<h4>Hot Water Pipe Wrap</h4>  <p>Pipe wrap insulation reduces water and energy use by preventing heat loss while hot water travels through your building's pipes.<sup>1</sup></p>

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# Multi-Family Energy Efficiency Program

Sorry We Missed You  
*Door post-it*



## Sorry We Missed You!

## Sorry We Missed You!

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



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.

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](http://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.

Learn more at [duke-energy.com/multifamily](http://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.

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# Multi-Family Energy Efficiency Program

## Window Cling



**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.**

©2021 Duke Energy Corporation  
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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# Multi-Family Energy Efficiency Program

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## 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:

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

### 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](mailto:dukeenergymultifamilyeep@franklinenergy.com) or visit [duke-energy.com/multifamily](http://duke-energy.com/multifamily).

Thank you!  
Multifamily Energy Efficiency Team

<sup>1</sup>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](http://nest.com/real-savings).

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# Multi-Family Energy Efficiency Program

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## Case Study

### MULTIFAMILY ENERGY EFFICIENCY PROGRAM CASE STUDY



## Here's What They're Saying About Us

“The Duke Energy Multifamily program has been instrumental in reducing the cost of living in Bell communities, enhancing our environmental stewardship and differentiating our NC/SC properties in the marketplace. We look forward to a continued partnership with Franklin Energy and Duke Energy.”

– Wes Winterstein, Vice President, Ancillary Services, Bell Partners Inc.

### ESTIMATED SAVINGS FOR RESIDENTS

Annual Electric Savings		Annual Electric Bill Savings	
<b>1,015 kWh</b>		<b>\$107</b>	
Value and Savings for Bell Partners and Its Residents Through 2018		Going Green Makes a Difference	
Annual Electric Savings	Value of Products and Energy Savings	So far Bell Partners and Duke Energy have delivered energy savings equivalent to:	Cars Taken Off the Road Trees Planted
<b>2,771,664 kWh</b>	<b>\$434,089</b>		<b>314</b> <b>37,653</b>

### 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.



BUILDING A SMARTER ENERGY FUTURE®



# Multi-Family Energy Efficiency Program

## 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](mailto: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®

# Multi-Family Energy Efficiency Program

## 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<sup>1</sup>



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!<sup>2</sup>

### BENEFITS FOR YOUR RESIDENTS:

- Can help save an average of 10% to 12% on heating costs and 15% on cooling costs<sup>3</sup>
- 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.com](mailto:dukeenergymultifamilyeep@franklinenergy.com).

#### 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.

<sup>1</sup> Duke Energy does not endorse specific products, services or companies – only energy-efficient technologies.  
<sup>2</sup> All air conditioning and heating systems must be electric-powered to be eligible for the Google Nest Thermostat E installation.  
<sup>3</sup> 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](http://nest.com/real-savings).

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# Multi-Family Energy Efficiency Program

## 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 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.

#### 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.

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.



# Multi-Family Energy Efficiency Program

## 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.**

Google, Google Nest and Google Nest Thermostat E are trademarks of Google LLC  
<https://widgets.nest.com/nest-thermostat-troubleshooter/>

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

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

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

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**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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
NPV of Avoided Cost	\$41.0	\$54.3	133%
Program Cost	\$12.9	\$17.9	138%
MW <sup>2</sup>	320.2	450.1	141%
MWH	0.0	N/A	-
Units <sup>3</sup>	301,488	423,752	141%

**Notes on Tables:**

- 1) Values are reflected at the system level.
- 2) MW capability derived by taking average over specific PowerShare contract periods. At month-end December 2022, we had the ability to shed 423.7 MW (at the plant), representing 141% 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 in 2022.

There were two PowerShare curtailment events in 2022, which occurred on December 24, 2022, from 4:00-12:00 and on December 26, 2022, from 6:00-10:00.

**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. This includes enhancement of economic resources through modification of existing options or introduction of new options.

### **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**

Planning for the PY 2020/2021 evaluation began late 2020. The evaluation will estimate verified demand (kW) impacts using a baseline testing approach (including regression-based and customer baseline, or, CBL) for the period June 1, 2020 through May 31, 2021, with a tentative final report in the third quarter of 2023. These impacts will include:

- 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

Note this evaluation is subject to events occurring during this time period. Guidehouse did not perform an evaluation for the 2019-2020 season since no events occurred.

**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.

SmartPath 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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
NPV of Avoided Cost	\$56.4	\$23.7	42%
Program Cost	\$19.7	\$9.4	47%
MW	20.7	8.2	40%
MWH	98,041.8	43,263.8	44%
Units <sup>2</sup>	96,818,848	40,920,515	42%

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 2022, SBES continued to provide services to the Company's small and medium business customers. SBES finished below target due to market conditions. In 2021 SBES closed almost 50% of the project proposals in about 28 days. In 2022, the SBES only closed about 45% of the projects and it took about 50 days to get decisions. The lower close percentage and the delayed decisions slowed the Program in 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 was well received by customers and Trade Allies in 2022. Currently the program has enrolled 58 SmartPath Trade Allies to offer the program to Duke Energy customers. In 2022 SmartPath had 78 projects being initiated, up from 22 in 2021. 34 projects totaling 11,500 MWh savings were completed utilizing SmartPath and the project pipeline currently stands at 60 active projects and 31,000 MWh in energy savings heading into 2023.

### 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 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 not only the refrigeration and HVAC measures but also the new process measures added.

### Potential Changes

SBES and the Authorized vendor Willdan is working to add additional technologies to the direct install platform. This is being accomplished by working out agreements with equipment manufactures and installers working in the DEC territory. As SBES continues to mature, the Company will continue to evaluate opportunities to add incentivized measures which fit the direct install program model and are suitable for the small business market. Some of the measures currently being considered are window film, ice machine and vent/exhaust hood controls.

## 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**

No evaluation activities occurred in 2022. A tentative evaluation report is planned for the fourth quarter of 2023.

Docket No. E-7, Sub 1285  
**Non-Residential Smart Saver Prescriptive**

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**A. Description**

The Non-Residential Smart Saver® Prescriptive Program ("Program") provides incentives to Duke Energy Carolinas, LLC's (the "Company's") 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, process, and information technology equipment.

**Audience**

All of 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 <sup>1</sup>**

Non Residential Smart Saver Prescriptive<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022	Vintage 2022	% of
	As Filed	YTD December 31, 2022	Target
<b>NPV of Avoided Cost</b>	<b>\$118.8</b>	<b>\$73.3</b>	<b>62%</b>
<b>Program Cost</b>	<b>\$34.3</b>	<b>\$21.3</b>	<b>62%</b>
<b>MW</b>	<b>33.9</b>	<b>19.9</b>	<b>59%</b>
<b>MWH</b>	<b>189,264.1</b>	<b>117,927.2</b>	<b>62%</b>
<b>Units</b>	<b>10,564,165</b>	<b>6,600,034</b>	<b>62%</b>

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 2022 program trends are listed below:

- Customers continue to show interest in energy efficiency; however, the program is still in the midst of a sustained decline due to negative conditions related to the COVID-19 pandemic, including inflation, product shortages, and contractor labor shortages.
- Customers continue to utilize the midstream marketing channel by taking advantage of instant incentives through participating equipment distributors; however, product shortages due to the pandemic have caused energy efficiency project delays.

<sup>1</sup> The information reflects results for the Non-Residential Smart Saver Prescriptive program in aggregate. Reference the Appendix for results by technology.



Docket No. E-7, Sub 1285  
**Non-Residential Smart \$aver Prescriptive**

- Outreach continues to support Trade Allies working with the program, with a mix of virtual and phone outreach to Trade Allies, as well as in-person meetings when safe
- 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 2022 total participating customers by Program channel:

Program Option	Participating Customers*	% 2022 Repeat Customer
Paper and Online Application Form	620	65%
Midstream Marketing Channel	2,190	52%
Online Energy Savings Store	1,591	34%
Multifamily Free Channel	61	61%

\*May include multiple facilities/sites for one customer.

**PAPER AND ONLINE APPLICATIONS**

In 2022, the Company paid incentives for 1,110 applications, consisting of 3,894 measures. In total, paid application volume was down in 2022 vs. 2021 by 16%. The average payment per paid application was \$7,161.

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 MARKETING CHANNEL**

The midstream marketing 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, food service and IT 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 now 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, Franklin Energy, 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 screw-in lamps, LED exit signs, low flow shower heads, faucet aerators 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, Franklin Energy will directly install them in the common areas when they are on site for the

Docket No. E-7, Sub 1285  
**Non-Residential Smart Saver Prescriptive**

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residential installations. Franklin Energy tracks the measures installed by property, as well as total installations and reports this information to the Smart Saver program team. This channel is up and running again in 2022 on a limited basis after being suspended along with the Residential Multifamily Direct Install program for the majority of 2021 due to COVID-19.

#### **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 Saver® 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 Saver 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 2022 were all related to the lasting negative effects of the COVID-19 pandemic on business customers. Inflation, energy efficiency product supply shortages, and Trade Ally labor shortages have all brought challenges that persist in the market and have caused Smart Saver® Prescriptive Program participation to decline compared to pre-pandemic levels.

#### **Potential Changes**

Program Management implemented a significant change on June 1, 2022, by raising the majority of Smart Saver® Prescriptive incentives as a reaction to inflation and rising product prices. Incentive levels were increased on average by 10% on all cost-effective measures in an effort to boost participation in the second half of 2022 and beyond.

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 Saver incentives. Also, the Duke program team would like to drive deeper customer savings and increase participation in technologies beyond lighting.

#### **E. Marketing Strategy**

The marketing plan for 2022 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 Saver® programs. The Economic and Business Development groups also provide a channel to customers who are new to the service territory.

Docket No. E-7, Sub 1285  
**Non-Residential Smart Saver Prescriptive**

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Feb 28 2023

**F. Evaluation, Measurement and Verification**

A combined DEC/DEP evaluation is currently underway. The evaluation will consist of an impact evaluation and a limited 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 first quarter of 2023.

**G. Appendix**

Non Residential Smart Saver Energy Efficient HVAC Products<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD June 30, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$9.7</b>	<b>\$7.2</b>	<b>74%</b>
<b>Program Cost</b>	<b>\$3.4</b>	<b>\$2.1</b>	<b>61%</b>
<b>MW</b>	<b>2.9</b>	<b>1.4</b>	<b>47%</b>
<b>MWH</b>	<b>15,862.1</b>	<b>10,252.7</b>	<b>65%</b>
<b>Units</b>	<b>4,596,799</b>	<b>1,986,041</b>	<b>43%</b>

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient Lighting Products<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD June 30, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$106.7</b>	<b>\$33.0</b>	<b>31%</b>
<b>Program Cost</b>	<b>\$29.9</b>	<b>\$9.1</b>	<b>30%</b>
<b>MW</b>	<b>30.3</b>	<b>9.5</b>	<b>31%</b>
<b>MWH</b>	<b>168,159.8</b>	<b>51,559.4</b>	<b>31%</b>
<b>Units</b>	<b>5,941,913</b>	<b>2,049,055</b>	<b>34%</b>

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient Food Service Products<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD June 30, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$0.7</b>	<b>\$0.1</b>	<b>20%</b>
<b>Program Cost</b>	<b>\$0.3</b>	<b>\$0.1</b>	<b>22%</b>
<b>MW</b>	<b>0.1</b>	<b>0.0</b>	<b>18%</b>
<b>MWH</b>	<b>1,588.6</b>	<b>302.2</b>	<b>19%</b>
<b>Units</b>	<b>2,778</b>	<b>305</b>	<b>11%</b>

1) Values are reflected at the system level.

Docket No. E-7, Sub 1285

# Non-Residential Smart Saver Prescriptive

### Non Residential Energy Efficient Pumps and Drives Products<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD June 30, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$1.1</b>	<b>\$0.4</b>	<b>31%</b>
<b>Program Cost</b>	<b>\$0.4</b>	<b>\$0.1</b>	<b>32%</b>
<b>MW</b>	<b>0.4</b>	<b>0.1</b>	<b>32%</b>
<b>MWH</b>	<b>2,468.6</b>	<b>804.4</b>	<b>33%</b>
<b>Units</b>	<b>2,036</b>	<b>780</b>	<b>38%</b>

1) Values are reflected at the system level.

### Non Residential Energy Efficient ITEE<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD June 30, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$0.0</b>	<b>\$0.01</b>	<b>52%</b>
<b>Program Cost</b>	<b>\$0.0</b>	<b>\$0.01</b>	<b>23%</b>
<b>MW</b>	<b>0.0</b>	<b>0.0</b>	<b>-</b>
<b>MWH</b>	<b>95.0</b>	<b>44.2</b>	<b>47%</b>
<b>Units</b>	<b>900</b>	<b>289</b>	<b>32%</b>

1) Values are reflected at the system level.

### Non Residential Energy Efficient Process Equipment Products<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD June 30, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$0.6</b>	<b>\$0.02</b>	<b>4%</b>
<b>Program Cost</b>	<b>\$0.3</b>	<b>\$0.02</b>	<b>9%</b>
<b>MW</b>	<b>0.2</b>	<b>0.0</b>	<b>3%</b>
<b>MWH</b>	<b>1,089.9</b>	<b>60.5</b>	<b>6%</b>
<b>Units</b>	<b>19,737</b>	<b>5,403</b>	<b>27%</b>

1) Values are reflected at the system level.

## Non-Residential Smart Saver® Custom Assessment

### A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart Saver® 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 Saver® Custom. The Program delivers a detailed energy report that includes the technical data needed for the Non-Residential Smart Saver® Custom Program and assistance with the Non-Residential Smart Saver® Application. All kWh and kW savings identified from measures implemented as a result of the pre-qualified assessments are attributed to Smart Saver 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 is Willdan.

The program was modified in 2017 to allow 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, is expected to drive an increase in participation.

In 2019, the program again modified its approach again by utilizing a "virtual" approach to the assessment. Using energy modeling software called NEO from Willdan and collecting all building information remotely will allow the audit to be completed in 2-3 weeks for less cost. Each audit has a fixed cost of \$5,000 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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022	Vintage 2022	% of Target
	As Filed	YTD December 31, 2022	
<b>NPV of Avoided Cost</b>	<b>\$2.8</b>	<b>\$0.5</b>	<b>17%</b>
<b>Program Cost</b>	<b>\$1.5</b>	<b>\$0.3</b>	<b>17%</b>
<b>MW</b>	<b>0.6</b>	<b>0.06</b>	<b>10%</b>
<b>MWH</b>	<b>5,350.5</b>	<b>822.2</b>	<b>15%</b>
<b>Units</b>	<b>3,408</b>	<b>3</b>	<b>0%</b>

1) Values are reflected at the system level.

### D. Qualitative Analysis

#### Highlights

Participation in 2022 was light with a total of six customers utilizing either the virtual audit or selecting their own vendor to perform an audit. Program design is being evaluated in Q1 in order to determine if restructuring will drive more participation.

## Non-Residential Smart \$aver® Custom Assessment

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### **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 conducted in 2022.

## Non-Residential Smart Saver® Custom

### A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart Saver® 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 Saver 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 Saver 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 Saver 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 Saver® 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 Saver 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 Saver 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 of the Company's non-residential electric accounts billed on eligible rate schedules, except those that choose to opt-out of the Program, are eligible.

# Non-Residential Smart Saver® Custom

## B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Custom<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$26.2</b>	<b>\$14.7</b>	<b>56%</b>
<b>Program Cost</b>	<b>\$9.7</b>	<b>\$6.6</b>	<b>69%</b>
<b>MW</b>	<b>6.6</b>	<b>4.2</b>	<b>64%</b>
<b>MWH</b>	<b>46,402.4</b>	<b>21,230.2</b>	<b>46%</b>
<b>Units</b>	<b>31,726</b>	<b>31,646</b>	<b>100%</b>

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 2022, 54 new pre-approval applications were submitted. A total of 93 projects were paid out during the calendar year. Additionally, 86 projects were enrolled in new construction which precedes a Smart Saver Custom application. Smart Saver 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 plans to expand 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 changes will allow 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 is being 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.

In 2021, Application and Calculation Assistance were added. Application Assistance provides third party application completion. Calculation Assistance provides third party calculation generation. Both services are currently being offered at no cost to the customer.

### 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 Saver Tools and online application portal have relieved some of this burden.

Like 2020 and 2020, the custom program's performance was down compared participation levels prior to the COVID-19 pandemic have not yet rebounded and were less than 50% of 2019.

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



## Non-Residential Smart Saver® Custom

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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 Saver 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 2022 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.

The Program launched a new marketing channel in 2017 called New Construction Energy Efficiency Design Assistance (NCEEDA) to identify energy efficiency projects for customers currently underserved in the SMB market. This channel will utilize the vendor Willdan Energy Solutions to help identify those opportunities, complete savings calculations, and submit applications for the customer. As of the summer of 30, 2022, NCEEDA will be celebrating 1,000 buildings enrolled and 100 million kilowatt hours saved. DEC represents approximately 70% of the total participation.

### F. Evaluation, Measurement and Verification

A combined DEC/DEP Custom evaluation for Program Years 2018-2019 was completed in the second quarter of 2022. The evaluation of Program Years 2020-2021 is underway and began in Q3 of 2022, with a tentative report completion date scheduled for Q3 of 2023.

## Non-Residential Smart Saver® Performance Incentive

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### A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart Saver® 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 Saver® 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.

## Non-Residential Smart Saver® Performance Incentive

### B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Performance Incentive<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
NPV of Avoided Cost	\$3.4	\$9.5	276%
Program Cost	\$2.1	\$2.4	111%
MW	0.8	5.5	681%
MWH	7,050.4	3,676.0	52%
Units	8,402,092	7	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 Saver 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 Saver Custom Program.

In 2022, the program only received 2 new applications. Since program inception, a total of 42 applications have been received. Of note, the initial payment on the program's first Combined Heat & Power project was paid totaling over \$1M. Three additional payments will be made over the next three 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.

## Non-Residential Smart \$aver® Performance Incentive

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### Potential Changes

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

### E. Marketing Strategy

The 2022 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

No evaluation activities were planned for 2022. Future evaluation timing will depend upon sufficient participation.

## 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 make adjustments to 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<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022 As Filed	Vintage 2022 YTD December 31, 2022	% of Target
<b>NPV of Avoided Cost</b>	<b>\$2.2</b>	<b>\$1.0</b>	<b>47%</b>
<b>Program Cost</b>	<b>\$5.1</b>	<b>\$2.3</b>	<b>45%</b>
<b>MW</b>	<b>17.1</b>	<b>7.0</b>	<b>41%</b>
<b>MWH</b>	<b>0.0</b>	<b>244.1</b>	<b>-</b>
<b>Units<sup>2</sup></b>	<b>18,452</b>	<b>7,414</b>	<b>40%</b>

1) Values are reflected at the system level.

2) Units represent average monthly kW at meter for demand response measures (7,190), plus individual participants for smart thermostat energy efficiency measure (224).

**D. Qualitative Analysis**

**Highlights**

During the majority of 2022, the Program continued to operate in maintenance mode with what is now the Direct Load Control option. The Program tried to maintain summer load as reported in the IRP. In 2022, the Program continued to promote the Program, enroll customers and install equipment. The Program recovered some of the lost summer capacity from the pandemic but did not reach the pre-pandemic level.

The Bring Your Own KW option was filled and approved in NC during 2022 and filled in SC (approval received in Jan 2023). This option will allow the Program to grow and target winter capacity and improve the performance of 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 2022 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 Smart Thermostat (EE) measure for the period of January 2018 – February 2019 was completed in February 2021 and presented at the July 2021 DEC/DEP Collaborative. Impacts for the demand response portion (Summer 2021) for the program has subsequently begun with a final DR report delivered 2nd Quarter 2022.

## Power Manager®

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### 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 (currently available in NC only pending approval in SC).

The LCD option is available to qualifying single family homeowners. For their participation, customers receive bill credits:

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

During LCD events, the indoor fan is not controlled and may run, circulating air during an event.

The program’s Smart Thermostat option utilizes a qualifying wi-fi connected thermostat to remotely change participants’ temperature setting when the Company initiates 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 being able to change the thermostat setting during a control event, it 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 the impacts to customer comfort.

As incentive for participating, customers receive a \$75 Visa e-gift card via email upon successful enrollment; and each subsequent year they remain on the program they are emailed a \$25 Visa e-gift card.

### Audience

The LCD option is available to the Company’s qualifying residential customers residing in owner-occupied, single-family residences with a qualifying central air-conditioning unit and, in NC only, ducted electric resistance heating controlled by a central thermostat.

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.

**Power Manager®****B & C. Impacts, Participants and Expenses**PowerManager<sup>1</sup>

<i>\$ in millions, rounded</i>	Vintage 2022		% of Target
	As Filed	YTD December 31, 2022	
<b>NPV of Avoided Cost</b>	<b>\$76.8</b>	<b>\$73.7</b>	<b>96%</b>
<b>Program Cost</b>	<b>\$19.3</b>	<b>\$17.8</b>	<b>92%</b>
<b>MW<sup>2</sup></b>	<b>599.1</b>	<b>522.2</b>	<b>87%</b>
<b>MWH</b>	<b>0.0</b>	<b>N/A</b>	<b>-</b>
<b>Units<sup>3</sup></b>	<b>581,220</b>	<b>539,925</b>	<b>93%</b>

**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 month-end December 2022, we had the ability to shed 540 MW (at the plant), representing 93% of the as filed capability.
- 3) Units included in filing represent average kW at the meter during the June - September control season. YTD value is based on 301,278 Power Manager devices and 53,633 thermostats at year-end 2022.

**D. Qualitative Analysis****Power Manager Events**

On eleven days during the months January through March, the company conducted Evaluation, Measurement and Verification study events with customers on the Smart Thermostat winter-focused option. In preparation for the EM&V study, five sample groups were established. On ten of these event days, four sample groups were included and controlled in different ways to enhance the company's learning. One event included all participants.

Following these winter EM&V Smart Thermostat events, the following events were conducted in 2022.

- Two Smart Thermostat summer events. These included all customers in both the original summer only option and the winter-focused option.
- Two winter events as a result of Winter Storm Elliot.

Four summer LCD events were conducted.

- The first was a brief full-shed test initiated by DEC's Energy Control Center.
- The second was a cycling event in which air conditioners were allowed to run, but less than they normally would.
- The final two events were test events using shorter cycling rates at later hours to begin evaluating how Power Manager might be used differently in the future as solar capacity grows.

**E. Marketing Strategy****LCD Option**

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

At year-end 2022, 248,825 customers were enrolled in the LCD option (NC: 187,624 and SC: 61,201), representing 301,278 Air Conditioners.

Prior to the start of the event season, participants were sent a thank you/reminder of their participation in the program. For the first time, this reminder was sent via email to 58% of Power Manager participants who had opted in to receive emails from Duke Energy, with the balance receiving a mailed postcard.



## Power Manager®

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Following a controlled rollout of the Heat Strip option in NC, six customers (six heat strips) were enrolled in this new option at year-end.

### Smart Thermostat Option

The smart thermostat option is primarily 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, 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 supplemented thermostat manufacturers' marketing with cross-promotions of smart thermostats available through the Company's Online Savings Store. In addition, email, the Company's residential newsletter and website banner ads were used.

At year-end 2022, 38,523 customers (NC: 31,142 and SC: 7,380) were participating in the smart thermostat option, representing 53,154 thermostats.

### F. Evaluation, Measurement and Verification

Results for the Summer 2021 Power Manager program estimating savings for DLC and BYOT programs were completed in the fourth quarter of 2022. The evaluation consisted of a methodology change by incorporating a less complex RCT design mirroring the methodology used for EnergyWise Home program.