Report
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nFRONT CONSULTING LLC
Power Industry Planners • Analysts • Advisors

March 9, 2023

Adam Teitzman
Director, Office of Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Blvd
Tallahassee, Florida 32399-0688

Subject: Revised 2023 Orlando Utilities Commission Annual Conservation Report

Dear Mr. Teitzman

Attached please find an electronic version (in PDF format) of the Revised 2023 Orlando Utilities Commission (OUC) Annual Conservation Report (revised to reflect a change to the last row of Table 3-5). The Revised 2023 OUC Annual Conservation Report was prepared by nFront Consulting LLC (nFront) and is being submitted by nFront on behalf of OUC.

If you have any questions about this report, please do not hesitate to contact me.

Respectfully submitted,

/s/ Bradley Kushner

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Orlando Utilities Commission

2023 Annual Conservation Report

Demand-Side Management and Conservation Programs Offered in Calendar Year 2022

(Revised Report)

Prepared by:

nFront Consulting LLC

March 2023

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1.0 INTRODUCTION

In accordance with Rule 25-17.0021, Florida Administrative Code, the Florida Public Service Commission (FPSC) must establish numeric conservation goals for the Orlando Utilities Commission (OUC) at least once every five years. In addition, OUC must file an annual report showing the status of its numeric conservation goals.

1.1 OUC's Current Approved Numeric Conservation Goals

OUC's residential and commercial/industrial numeric conservation goals for the 2020 through 2024 period were established by the FPSC pursuant to Order No. PSC-2019-0509-FOF-EG. The FPSC's Consummating Order (PSC-2020-0177-CO-EG), issued June 5, 2020, approved OUC's 2020 Demand-Side Management Plan (DSM Plan). The Consummating Order confirmed Order No. PSC-2020-0140-PAA-EG, the FPSC Notice of Proposed Agency Action that recommended approval of OUC's DSM Plan. OUC's DSM Plan sets forth the programs that OUC anticipated offering to achieve the numeric conservation goals established by the FPSC. The approved numeric conservation goals are summarized in Section 2.0 of this report, and OUC's actual DSM reductions are presented in Section 3.0 of this report.

1.2 OUC's DSM and Conservation Programs

OUC has been increasingly emphasizing its DSM and conservation programs to grow customer awareness of such programs. Not only do these programs help customers save money by saving energy, the programs help OUC reduce emissions of carbon dioxide (CO_2) and better position OUC to meet possible future greenhouse gas regulations. It should be noted that government mandates have forced manufacturers to increase their efficiency standards of appliances, thereby decreasing the incremental amount of energy savings achievable, and the efficiency of new generation has increased. Appliance and generating unit efficiency improvements have mitigated to some degree the effectiveness of DSM and conservation programs, as overall efficiency increases in the marketplace partially offset the benefit of such programs.

The following two sections of this report provide more specific details concerning the DSM and conservation programs offered by OUC in calendar year 2022 (Section 2.0), and present the participation levels and associated numeric savings for each of OUC's quantifiable conservation programs which were offered in 2022 (Section 3.0) consistent with OUC's FPSC-approved DSM Plan. Annual energy reductions associated with OUC's residential and commercial/industrial energy surveys will no longer be counted towards achieving DSM goals; as such, Tables 3-1 through 3-3 do not reflect energy reductions associated with OUC's energy survey programs.

The conservation programs included in the DSM Plan and offered to OUC's customers in 2022 consist of the following:

- Residential Home Energy Survey Program – Walk-Through
- Residential Duct Repair Rebates Program
- Residential Ceiling Insulation Rebates Program
- Residential High Performance Windows Rebates Program
- Residential Efficient Electric Heat Pump Rebates Program
- Residential New Home Rebates Program

- Residential Heat Pump Water Heater Rebates Program
- Residential Efficiency Delivered Program
- Commercial Energy Audits Program
- Commercial Efficient Electric Heat Pump Rebates Program
- Commercial Duct Repair Rebates Program
- Commercial Ceiling Insulation Rebates Program
- Commercial Cool/Reflective Roof Rebates Program
- Commercial Indoor Lighting Billed Solution Program
- Commercial Indoor Lighting Rebates Program
- Commercial Custom Incentive Program

2.0 CONSERVATION GOALS AND DEMAND-SIDE MANAGEMENT PLAN

2.1 Approved Numeric Conservation Goals

Table 2-1 presents the annual peak demand and energy reduction goals established for OUC by the FPSC.

Table 2-1
FPSC's Approved Numeric Conservation Goals for OUC

Year	Residential Reduction Goals			Commercial/Industrial Reduction Goals		
	Summer (MW)	Winter (MW)	Annual Energy (GWh)	Summer (MW)	Winter (MW)	Annual Energy (GWh)
2020	0.21	0.21	0.77	0.39	0.70	0.85
2021	0.21	0.22	0.80	0.40	0.78	0.86
2022	0.19	0.20	0.72	0.37	0.78	0.85
2023	0.19	0.18	0.66	0.39	0.74	0.82
2024	0.16	0.16	0.57	0.36	0.70	0.80
Total	0.96	0.97	3.52	1.91	3.70	4.18

2.2 OUC's DSM and Conservation Programs

The FPSC has established residential and commercial/industrial conservation goals for OUC for the 2020 through 2024 period (refer to Table 2-1). The programs that OUC offered during calendar year 2022 are described in the following subsections. Program incentives included in the descriptions are current as of the time this report was prepared.

2.2.1 Energy Survey Programs[1]

2.2.1.1 Residential Home Energy Survey Program

OUC has been offering home energy surveys dating back to the late 1970's. The home energy walk-through surveys were designed to provide residential customers with recommended energy efficiency measures and practices customers can implement and to encourage participation in various OUC rebate

[1] As noted in OUC's DSM Plan, discussion of OUC's Residential Home Energy Survey and Commercial Energy Audit programs is included for informational purposes as OUC has continued to offer the programs. Demand and energy reductions associated with the programs have not been quantified for purposes of including in this Report, as the programs do not contribute to the numeric conservation goals established by the FPSC for OUC.

programs. The home energy surveys are available to both single family and multi-family residential customers.

The Residential Energy Walk-Through Survey includes a review of the customer electric consumption history as well as a walkthrough review of the attic; heating, ventilation, and air conditioning (HVAC) system; air duct and air returns; window caulking; weather stripping around doors; faucets and toilets; and lawn sprinkler systems. OUC provides participating customers specific tips on conserving electricity and water as well as details on customer rebate programs. OUC Conservation Specialists are using this walk-through type audit as a means of motivating OUC customers to participate in other conservation programs and qualify for appropriate rebates.

One of the primary benefits of the Residential Energy Survey Program is the education it provides to customers on energy conservation measures and ways their lifestyle can directly affect their energy use. Customers participating in the Energy Survey Program are informed about their historical energy usage and conservation measures that they can implement, and receive a report that includes estimates of ranges of costs, savings, and payback periods for recommended measures. Customers will benefit from the increased efficiency in their homes, and decreased electric and water bills.

The Home Energy Audit rates how efficient a customer's home energy use is and where one can make improvements to lower utility bills. Participation is tracked through service orders that are produced when appointments are scheduled and completed.

2.2.1.2 Commercial Energy Audit Program

The commercial/industrial Energy Audit Program has been offered for several years and is focused on increasing the energy efficiency of commercial buildings and includes a free survey comprised of a physical walk-through inspection of the commercial facility performed by trained and experienced energy experts. The survey will include a pre walkthrough review of historical energy usage as well as a walkthrough to examine heating and air conditioning systems including duct work, refrigeration equipment, lighting, water heating, motors, process equipment, and the thermal characteristics of the building including insulation. Following the inspection the customer receives a written report detailing cost-effective recommendations to make the facility more energy and water efficient. Participating customers are encouraged to participate in other OUC commercial programs and directly benefit from energy conservation, which decreases their electric and water bills.

OUC customers can participate by calling the OUC Customer Service Call Center and requesting an appointment for a Walk-Through Energy Survey. Participation is tracked through service orders that are produced when appointments are scheduled and completed.

2.2.2 Rebate Programs

The following outlines the various rebate programs OUC offers to its customers. Customers can participate by submitting a rebate application online at http://www.OUC.com/rebates or via email, mail, in-person, or facsimile. Proofs of purchase and/or receipts are required to be attached to the application and repairs can be performed by a contractor or the customer. Participation is tracked based on the number of rebates processed. Typically these rebates are credited on the customer's bill, or a check can be processed and sent to the property owner who may have paid for the improvement.

2.2.2.1 Residential Duct Repair Rebates Program

The residential Duct Repair Rebates Program originated in 2000 and is designed to encourage customers to repair leaking ducts on existing systems. Qualifying customers must have an existing central air conditioning system of 5.5 tons or less and ducts must be sealed with mastic and fabric tape or any other Underwriters Laboratory (UL) approved duct tape. Participating customers receive a rebate for 100 percent of the cost of duct repairs on their homes, up to $100.

2.2.2.2 Residential Ceiling Insulation Rebates Program

The attic is the easiest place to add insulation and lower total energy costs throughout the seasons. The residential Ceiling Insulation Rebates program has been offered for several years and is designed to encourage customers to upgrade their attic insulation. Participating customers receive $0.10 per square foot for upgrading their attic insulation to R-30 or greater. The program applies to conditioned areas only.

2.2.2.3 Residential High Performance Windows Rebates Program

Energy-efficient windows can help minimize heating, cooling, and lighting costs. The residential High Performance Windows Rebates program has been offered for several years and is designed to encourage customers to install windows that improve energy efficiency in their homes. Customers will receive a $1.50 rebate per square foot for the purchase of ENERGY STAR® rated energy efficient windows.

2.2.2.4 Residential Efficient Electric Heat Pump Rebates Program

The residential Efficient Electric Heat Pump Rebates program provides rebates to qualifying customers in existing homes who install heat pumps having a seasonal energy efficiency ratio (SEER) of 15.0 or higher. Customers will obtain a rebate in the form of a credit on their bill ranging up to $1,630, depending upon the SEER rating and capacity (tons) of the new heat pump. The following table illustrates the incentives available depending on the size and efficiency of the Heat Pump installed.

	SEER	15	16	17	18	19	20	21	22	23
A / C Size (Tons)	1	$ 5	$ 55	$ 95	$ 135	$ 170	$ 205	$ 230	$ 260	$ 280
	1 1/2	30	105	175	230	285	330	375	415	450
	2	60	160	250	325	400	460	520	570	620
	2 1/2	90	215	325	425	510	590	660	725	785
	3	115	270	400	520	625	720	805	885	955
	3 1/2	145	320	475	615	740	850	950	1,040	1,125
	4	175	375	550	710	850	975	1,090	1,195	1,290
	4 1/2	205	430	630	805	965	1,105	1,235	1,355	1,460
	5	230	485	705	900	1,075	1,235	1,380	1,510	1,630

2.2.2.5 Residential New Home Rebates Program

What was previously named the Residential Gold Ring Home Program has been transformed into a more flexible “a la carte” program offering a variety of choices for the builder or home buyer and has been renamed the New Home Rebates program. This transformation was based on feedback OUC received from the residential building community in order to increase the level of participation in OUC’s program. The chart below reflects an example of the incentives available.

Rebate	Rate of Rebate	Square Footage	Total
Ceiling Insulation Upgrade to R-38 or higher	$0.03/sq. ft.	2,000	$60
Heat Pump	Up to $1,630	N/A	$500
Energy Star® Heat Pump Water Heater	$500	N/A	$500
Solar Water Heater	$900	N/A	$900

2.2.2.6 Residential Heat Pump Water Heater Rebates Program

Commonly referred to as hybrid electric heat pump water heaters, such water heaters with a coefficient of performance (COP) of greater than 2.0 can cut water heating electric use and costs by more than half. OUC's Heat Pump Water Heater Rebates program provides rebates for the heat pumps for qualifying installations. The contractor and/or retailer's invoice is required to receive this rebate and must reflect the system model number. If the receipt does not include the model number, a copy of the retailer's item description of product installed should be submitted that can be matched to the proof of purchase. OUC's rebate is $500.

2.2.2.7 Residential Efficiency Delivered Program

What was once referred to as the home energy fix-up program has been revamped and expanded to allow for any OUC customer (energy, water, or both energy and water) to participate and renamed the Efficiency Delivered program. The program is available to residential customers (single family homes) and provides up to $2,500 of energy and water efficiency upgrades based on the needs of the customer's home. A Conservation Specialist from OUC performs a survey at the home and determines which home improvements have the potential of saving the customer the most money. The program is an income based program which is the basis for how much OUC will help contribute toward the cost of improvements and consists of three household income tiers:

Household Income	OUC Contribution
Less than $40,000	85% (not to exceed $2,125)
$40,001–$60,000	50% (not to exceed $1,250)
Greater than $60,000	Rebates only

- $40,000 or less OUC will contribute 85 percent of the total cost (not to exceed $2,125),
- $40,001 to $60,000 OUC will contribute 50 percent of the total cost (not to exceed $1,250),
- greater than $60,000 OUC will contribute the rebate incentives that apply toward the total cost.

Each customer must request and complete a free Residential Energy Survey. Ordinarily, Energy Survey recommendations require a customer to spend money replacing or adding energy conservation measures: however, customers may not have the discretionary income to implement these measures especially those in the lower income tier. Under this program, OUC will arrange for a licensed, approved contractor to perform the necessary repairs based on a negotiated and contracted rate. The remaining portion of the cost the customer is responsible for, can be paid directly to OUC or over an interest-free 24-month period on the participant's monthly electric bill.

To be eligible for this program, the customer's account must be in good credit standing with the exception of our low-income customers who are only required to have a current balance that is not delinquent. Some of the improvements covered under this program are included in the table below:

Air conditioner tune-up	Thermostat replacement	Minor plumbing repairs
Air filter replacement	Duct leak repairs	Toilet replacement
Attic insulation	Evaporator coil cleaning	Water flow restrictors
Smart Thermostats installation or thermostat replacement	Hot water pipe and air conditioner refrigerant line insulation	Blower Door Testing
Caulking and weatherstripping	Irrigation repairs	Window film insulation

The purpose of the program is to reduce the energy and water costs especially for low-income households, particularly those households with elderly persons, disabled persons and children. Through this program, OUC helps to lower the bills of customers who may have difficulty paying their bills, thereby decreasing the potential for costly service disconnect fees and late charges. OUC believes that this program will help customers afford other essential living expenses. For others, this program offers a one-stop-shop to facilitate the implementation of a whole suite of conservation measures at reasonable costs and pre-screened qualified contractors.

2.2.2.8 Commercial Efficient Electric Heat Pump Rebates Program

The commercial Efficient Electric Heat Pump Rebates program provides rebates to qualifying customers in existing buildings who install heat pumps having a seasonal energy efficiency ratio (SEER) of 15.0 or higher. Customers will obtain a rebate in the form of a credit on their bill ranging up to $1,630, depending upon the SEER rating and capacity (tons) of the new heat pump. The following table illustrates the incentives available depending on the size and efficiency of the Heat Pump installed.

	SEER	15	16	17	18	19	20	21	22	23
A / C Size (Tons)	1	$ 5	$ 55	$ 95	$ 135	$ 170	$ 205	$ 230	$ 260	$ 280
	1 1/2	30	105	175	230	285	330	375	415	450
	2	60	160	250	325	400	460	520	570	620
	2 1/2	90	215	325	425	510	590	660	725	785
	3	115	270	400	520	625	720	805	885	955
	3 1/2	145	320	475	615	740	850	950	1,040	1,125
	4	175	375	550	710	850	975	1,090	1,195	1,290
	4 1/2	205	430	630	805	965	1,105	1,235	1,355	1,460
	5	230	485	705	900	1,075	1,235	1,380	1,510	1,630

2.2.2.9 Commercial Duct Repair Rebates Program

The commercial Duct Repair Rebates program started in 2009. OUC will rebate 100 percent of cost, up to $100. Qualifying customers must have an existing central air conditioning system of 5.5 tons or less and ducts must be sealed with mastic and fabric tape or Underwriters Laboratory (UL) approved duct tape.

2.2.2.10 Commercial Ceiling Insulation Rebates Program

The commercial Ceiling Insulation Rebates program started in 2009 and was designed to increase a building's resistance to heat loss and gain. Participating customers receive $0.10 per square foot, for upgrading their attic insulation to R-30 or higher.

2.2.2.11 Commercial Cool/Reflective Roof Rebates Program

The commercial Cool/Reflective Roof Rebates program started in 2009 and was designed to reflect the sun's rays and lower roof surface temperature while increasing the lifespan of the roof. OUC will rebate customers at $0.12 per square foot for ENERGY STAR® cool/reflective roofing that has an initial solar reflectance greater than or equal to 0.70.

2.2.2.12 Commercial Indoor Lighting Billed Solution Program

Converting old indoor lights to new lighting technologies is one of the most cost-effective improvements that a commercial customer can make. For some, the lack of capital or budget planning can be major barriers to making cost-effective investments. Since 2002, OUC's commercial Indoor Lighting program has assisted commercial customers with these investments through OUC's commercial Indoor Lighting Billed Solution program. Through a competitive RFP process, OUC selected a qualified lighting contractor to work with customers to develop proposals. Customers enter into an agreement with OUC to pay back the cost of the project based on the expected savings through monthly charges applied to their bill. Basically, it is a cash-flow neutral billed solution where the monthly savings pay for the project's cost over the pay-back period or term. The term cannot exceed five years.

2.2.2.13 Commercial Indoor Lighting Rebates Program

Commercial customers that upgrade the efficiency of their indoor lighting may be eligible to receive a rebate of $250/kW through the commercial Indoor Lighting Rebates program. Participation is open to facilities located within OUC's service area that receive electric service under an OUC commercial rate. Participants or customers may be any of the following:

- Individual customers who install more efficient lighting in their own facilities.
- National or local companies that install more efficient lighting.
- Local contractors, design/build firms, architectural and engineering firms, and commercial property developers working on behalf of OUC commercial customers.

2.2.2.14 Commercial Custom Incentive Program

Through the commercial Custom Incentive program, commercial customers receive incentives based on the reduction in peak demand their projects achieve plus the first year energy savings. Energy and demand saving incentives are paid for the maximum one-hour average demand reduction that occurs during the Summer Demand period defined as weekdays, between 1 P.M. to 6 P.M., from April through October. Pre- and post-inspections are required. Incentives and other program considerations are summarized below.

- $550 per kW reduction incentive and/or energy reduction measures at $0.032 per kWh will also be incentivized.
- $250 per kW reduction incentive for all lighting measures.
- Incentives shall not exceed 50% of project cost.
- Incentives may be paid at 50% on project completion and remainder at one year depending on performance results.
- All incentives will be paid as a credit appearing on the customer's OUC statement.
- Simple return on investment must be greater than 2 years.
- Energy and demand conservation measure should have a useful life of at least 10 years.
- A maximum incentive of $100,000 per customer annually.

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3.0 STATUS OF OUC'S APPROVED NUMERIC GOALS

Tables 3-1 through 3-3 illustrate OUC's actual demand and energy reductions versus the peak demand and energy reductions approved by the FPSC. As shown in Tables 3-1 through 3-3, OUC exceeded each of the FPSC-approved peak demand and energy reductions in 2022 [i.e. summer and winter peak demand (kW) and annual energy (MWh) for residential and commercial/industrial customer classes]. Table 3-4 lists the summer and winter peak demand (kW) and annual energy (MWh) reductions for each of the programs included in the demand and energy reductions presented in Tables 3-1 through 3-3.

As noted in OUC's DSM Plan, annual energy reductions associated with OUC's residential and commercial/industrial energy surveys will not be counted towards achieving DSM goals. As such, Tables 3-1 through 3-4 do not reflect energy reductions associated with OUC's survey programs, which OUC continued to offer during 2022 (with the number of surveys completed, by type, summarized below and including proactive energy audits)[2].

- Residential Energy Surveys – On-Site/Single Family Homes: 1,089
- Residential Energy Surveys – On-Site/Multi Family Homes: 380
- Commercial Energy Audits: 30

[2] Proactive energy audits are audits for which OUC detects a significant increase in a customer's electric consumption and proactively visits the customer's property to offer assistance.

Table 3-1
Comparison of Actual Conservation Reductions to FPSC's Approved Numeric Conservation Goals – Residential Programs

Year	Winter Peak kW Reduction		Summer Peak kW Reduction		MWh Energy Reduction	
	Achieved Reduction	FPSC-Approved Goal	Achieved Reduction	FPSC-Approved Goal	Achieved Reduction	FPSC-Approved Goal
2020	821	210	763	210	1,628	770
2021	659	220	631	210	1,422	800
2022	581	200	531	190	1,137	720
2023		180		190		660
2024		160		160		570

Table 3-2
Comparison of Actual Conservation Reductions to FPSC's Approved Numeric Conservation Goals – Commercial/Industrial Programs

Year	Winter Peak kW Reduction		Summer Peak kW Reduction		MWh Energy Reduction	
	Achieved Reduction	FPSC-Approved Goal	Achieved Reduction	FPSC-Approved Goal	Achieved Reduction	FPSC-Approved Goal
2020	1,960	700	2,325	390	9,087	850
2021	1,676	780	1,859	400	11,330	860
2022	1,956	780	1,985	370	4,816	850
2023		740		390		820
2024		700		360		800

Table 3-3
Comparison of Actual Conservation Reductions to FPSC's Approved Numeric Conservation Goals – Residential and Commercial/Industrial Programs

Year	Winter Peak kW Reduction		Summer Peak kW Reduction		MWh Energy Reduction	
	Achieved Reduction	FPSC-Approved Goal	Achieved Reduction	FPSC-Approved Goal	Achieved Reduction	FPSC-Approved Goal
2020	2,782	910	3,087	600	10,715	1,620
2021	2,335	1,000	2,489	610	12,752	1,660
2022	2,537	980	2,515	560	5,953	1,570
2023		920		580		1,480
2024		860		520		1,370

Table 3-4 2022 Program Winter Peak (kW), Summer Peak (kW), and Annual Energy (MWh) Reductions (at the Generator)			
Program	Winter Peak kW Reduction	Summer Peak kW Reduction	MWh Energy Reduction
Residential Programs			
Duct Repair Rebates	8.5	9.9	15.8
Ceiling Insulation Upgrade Rebates	92.3	43.7	33.3
High Performance Windows Rebates	103.5	43.3	56.3
Efficient Electric Heat Pump Rebates	216.1	288.4	494.9
New Home Rebates	51.0	48.3	156.1
Efficiency Delivered	49.7	40.8	90.6
Heat Pump Water Heater Rebates	59.6	56.4	290.1
Residential Programs Total	**581**	**531**	**1,137**
Commercial/Industrial Programs			
Efficient Electric Heat Pump Rebates	11.0	14.4	24.5
Duct Repair Rebates	0.0	0.4	0.4
Ceiling Insulation Upgrade Rebates	63.4	30.0	23.1
Cool/Reflective Roof Rebates	0.0	58.1	306.5
Indoor Lighting Billed Solution	1,510.4	1,510.4	814.0
Indoor Lighting Rebates	131.7	131.7	530.3
Custom Incentive	239.9	239.9	3,117.3
Commercial/Industrial Programs Total	**1,956**	**1,985**	**4,816**
Residential and Commercial/Industrial Programs Total	**2,537**	**2,515**	**5,953**
Note: Totals may not add due to rounding.			

In addition to the residential and commercial programs previously discussed, OUC continues to do more to reduce energy consumption through supply-side initiatives, including:

- Conservation Voltage Reduction (CVR) - The Conservation Voltage Reduction (CVR) Project is made possible by OUC's investment in its Advanced Meter Infrastructure (AMI) and more sophisticated distribution equipment. The availability of AMI customer load and voltage interval data provides an opportunity to optimize voltage control and thereby reduce energy consumption based on better awareness and monitoring of system conditions at customer service points. Benefits of CVR include conservation related reductions in customer energy

usage and line losses (with associated reductions in fuel usage) and lower demands on generation resources. As of December 2022, OUC had 157 feeders of the total of 190 feeders under CVR control and savings of approximately 29,115,000 kWh annually.

- Power Plant Efficiency Improvements –OUC continues to make investments in improving the energy efficiency at its generation facilities. The energy reduction realized in 2022 due to these efficiency improvements totaled approximately 262,022,000 kWh.
- OUCooling Chilled Water District(s) Efficiency Improvements - OUCooling currently serves over 200 customers and provides more than 60,000 tons of cooling. OUCooling's success has relied on the fact that OUCooling can deliver cooling more efficiently and less costly than what a customer would likely produce on their own. The way OUCooling succeeds is by investing in higher efficiency chillers and equipment and optimizes its operations on a continuous basis. The enhanced efficient operation of OUCooling is estimated to have saved approximately 18,224,000 kWh in 2022.

Table 3-5 provides a summary of the energy reductions realized by OUC in calendar year 2022 associated with conservation programs and efficiency improvements including the residential and commercial programs discussed previously in this report (as reflected in Table 3-1 through Table 3-4), as well as OUC's other demand reduction and efficiency improvement initiatives. Table 3-5 also shows these energy reductions as a percent of OUC's total calendar year 2022 retail sales.

Tables 3-6 through 3-19 present the annual demand and energy savings for the rebate programs (and billed solutions program) offered by OUC during calendar year 2022 (as discussed in Order No. PSC-2020-0140-PAA-EG) and as discussed in Section 2.0 of this report. Each table also includes the actual program costs (non-recurring costs and rebates) and participation for 2022 and participation projections for years 2023 through 2024, unless otherwise noted. The utility costs associated with the programs have been updated based on actual costs incurred during calendar year 2022. Unless otherwise noted, actual cumulative penetration rates for each program reflect 2020 as the base year and do not consider customer participation prior to 2020.

Table 3-5 2022 Annual Energy (kWh) Reductions (at the Generator)	
Program	**kWh Energy Reduction**
Residential Programs	
Duct Repair Rebates	15,791
Ceiling Insulation Upgrade Rebates	33,341
High Performance Windows Rebates	56,300
Efficient Electric Heat Pump Rebates	494,873
New Home Rebates	156,101
Efficiency Delivered	90,582
Heat Pump Water Heater Rebates	290,062
Residential Programs Total	**1,137,051**
Commercial/Industrial Programs	
Efficient Electric Heat Pump Rebates	24,502
Duct Repair Rebates	401
Ceiling Insulation Upgrade Rebates	23,084
Cool/Reflective Roof Rebates	306,496
Indoor Lighting Billed Solution	814,029
Indoor Lighting Rebates	530,255
Custom Incentive	3,117,314
Commercial/Industrial Programs Total	**4,816,081**
Residential and Commercial/Industrial Programs Total	**5,953,132**
Customer Facing Non-PSC Goal Programs	
Energy Surveys (Residential + Commercial/Industrial)	426,453
Commercial Window Film	843
Residential Window Film	2,999
Residential Solar Thermal Water Heating	11,289
Residential Solar Screening	1,186
Behavior Reports	4,037,000
Pre-Paid PowerPass	8,678,880
Sub-Total of Customer Facing Non-PSC Goal Programs	**13,158,650**
Total Customer Facing Energy Efficiency Programs	**19,111,782**
Non-Customer Facing Programs	
Conservation Voltage Reduction (CVR)	29,115,000
Stanton Energy Center Energy Efficiency Improvements	262,022,000
OUCooling Chilled Water Operations	18,224,000
Sub-Total of Non-Customer Facing Programs	**309,361,000**
Total of All Energy Efficiency Impacts	**328,472,782**
Total of All Energy Efficiency Impacts (% of 2022 Retail Sales)	**4.66%**
Note: Totals may not add due to rounding.	

Table 3-6. Residential Duct Repair Rebates

Program Name:	Residential Duct Repair Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Residential Duct Repair Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	221,756	12,862	29	29	0.2%	54	54	0.4%	25
2021	228,707	13,265	29	58	0.4%	40	94	0.7%	36
2022	236,057	13,691	29	87	0.6%	34	128	0.9%	41
2023	241,467	14,005	29	116	0.8%				
2024	246,400	14,291	29	145	1.0%				

Eligibility Level	5.8%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.28	0.29	9.49	9.86
Winter kW Reduction	0.24	0.25	8.18	8.50
kWh Reduction	447	464	15,198	15,791

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$299	$10,181
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$100	$3,400
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = ($5,979)

where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period

d = 6.5% = discount rate (utility's after tax cost of capital)

n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-7. Residential Ceiling Insulation Rebates

Program Name:	Residential Ceiling Insulation Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Residential Ceiling Insulation Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	221,756	46,778	70	70	0.1%	98	98	0.2%	28
2021	228,707	48,244	72	142	0.3%	84	182	0.4%	40
2022	236,057	49,794	74	216	0.4%	79	261	0.5%	45
2023	241,467	50,936	76	292	0.6%				
2024	246,400	51,976	77	369	0.7%				

Eligibility Level	21.1%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.53	0.55	42.01	43.65
Winter kW Reduction	1.12	1.17	88.85	92.31
kWh Reduction	406	422	32,090	33,341

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$272	$21,497
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$162	$12,789
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x d/[1-(1+d)$^{-n}$] = ($87,613)

where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period

d = 6.5% = discount rate (utility's after tax cost of capital)

n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-8. Residential High Performance Windows Rebates

Program Name:	Residential High Performance Window Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Residential High Performance Window Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	221,756	17,359	206	206	1.2%	207	207	1.2%	1
2021	228,707	17,903	206	412	2.3%	142	349	1.9%	(63)
2022	236,057	18,478	206	618	3.3%	181	530	2.9%	(88)
2023	241,467	18,902	206	824	4.4%				
2024	246,400	19,288	206	1,030	5.3%				

Eligibility Level	7.8%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.23	0.24	41.65	43.27
Winter kW Reduction	0.55	0.57	99.64	103.53
kWh Reduction	299	311	54,187	56,300

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$201	$36,300
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$269	$48,690
Utility Recurring Rebate	$0	$0

Annual Benefits = $B_{npv} \times d/[1-(1+d)^{-n}]$ = ($180,397)

where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period

d = 6.5% = discount rate (utility's after tax cost of capital)

n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-9. Residential Efficient Electric Heat Pump Rebates

Program Name:	Residential Heat Pump Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Residential Heat Pump Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	221,756	7,614	1,078	1,078	14.2%	1,112	1,112	14.6%	34
2021	228,707	7,852	1,078	2,156	27.5%	895	2,007	25.6%	(149)
2022	236,057	8,105	1,078	3,234	39.9%	789	2,796	34.5%	(438)
2023	241,467	8,291	1,078	4,312	52.0%				
2024	246,400	8,460	1,078	5,390	63.7%				

Eligibility Level	3.4%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.35	0.37	277.56	288.38
Winter kW Reduction	0.26	0.27	208.00	216.11
kWh Reduction	604	627	476,298	494,873

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$404	$319,077
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$363	$286,580
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ =	**($212,061)**	**($717,964)**	**($292,707)**	**($305,071)**	**($230,518)**	**($123,817)**	**($28,182)**	**($18,969)**
where:	**(SEER 15)**	**(SEER 16)**	**(SEER 17)**	**(SEER 18)**	**(SEER 19)**	**(SEER 20)**	**(SEER 21)**	**(SEER 22+)**

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period

d = 6.5% = discount rate (utility's after tax cost of capital)

n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-10. Residential New Home Rebates

Program Name:	New Home Rebate (Formerly Gold Ring)
Program Start Date:	2020 (for Reporting Purposes)
Measure:	New Home Rebate (Formerly Gold Ring)
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	221,756	3,907	116	116	3.0%	184	184	4.7%	68
2021	228,707	4,030	116	232	5.8%	155	339	8.4%	107
2022	236,057	4,159	116	348	8.4%	99	438	10.5%	90
2023	241,467	4,255	116	464	10.9%				
2024	246,400	4,342	116	580	13.4%				

Eligibility Level	1.8%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.47	0.49	46.47	48.28
Winter kW Reduction	0.50	0.52	49.12	51.04
kWh Reduction	1,518	1,577	150,242	156,101

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$1,017	$100,649
Utility Recurring Cost	$0.00	$0
Utility Nonrecurring Rebate	$528	$52,292
Utility Recurring Rebate	$0	$0

Annual Benefits = $B_{npv} \times d/[1-(1+d)^{-n}]$ = ($425,309)

where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period

d = 6.5% = discount rate (utility's after tax cost of capital)

n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-11. Residential Efficiency Delivered

Program Name:	Residential Efficiency Delivered
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Residential Efficiency Delivered
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	221,756	36,546	73	73	0.2%	86	86	0.2%	13
2021	228,707	37,691	73	146	0.4%	93	179	0.5%	33
2022	236,057	38,902	73	219	0.6%	105	284	0.7%	65
2023	241,467	39,794	73	292	0.7%				
2024	246,400	40,607	73	365	0.9%				

Eligibility Level	16.5%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.37	4,288.65	39.31	40.84
Winter kW Reduction	0.46	0.47	47.83	49.70
kWh Reduction	830	863	87,182	90,582

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$556	$58,404
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$1,117	$117,248
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = ($73,959)
where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period
d = 6.5% = discount rate (utility's after tax cost of capital)
n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-12. Residential Heat Pump Water Heater Rebates

Program Name:	Residential Heat Pump Water Heaters
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Residential Heat Pump Water Heaters
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	221,756	4,287	182	182	4.25%	196	196	4.57%	14
2021	228,707	4,421	182	364	8.23%	175	371	8.4%	7
2022	236,057	4,564	182	546	11.96%	161	532	11.7%	(14)
2023	241,467	4,668	182	728	15.60%				
2024	246,400	4,764	182	910	19.10%				

Eligibility Level	1.9%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.34	0.35	54.23	56.35
Winter kW Reduction	0.36	0.37	57.33	59.57
kWh Reduction	1,734	1,802	279,175	290,062

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$1,162	$187,022
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$500	$80,500
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = ($491,767)

where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period

d = 6.5% = discount rate (utility's after tax cost of capital)

n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-13. Commercial Efficient Electric Heat Pump Rebates

Program Name:	Commercial Heat Pump Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Commercial Heat Pump Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	31,692	2,189	11	11	0.5%	8	8	0.4%	(3)
2021	32,338	2,234	11	22	1.0%	9	17	0.8%	(5)
2022	33,115	2,288	10	32	1.4%	44	61	2.7%	29
2023	33,313	2,301	9	41	1.8%				
2024	33,815	2,336	9	50	2.1%				

Eligibility Level	6.9%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.32	0.33	13.87	14.41
Winter kW Reduction	0.24	0.25	10.63	11.04
kWh Reduction	536	557	23,582	24,502

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$14	$615
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$311	$13,682
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ =	**($1,141)**	**($1,830)**	**($1,773)**	**($2,384)**	**($2,848)**	**($3,307)**	**($3,765)**	**($4,220)**
where:	**(SEER 15)**	**(SEER 16)**	**(SEER 17)**	**(SEER 18)**	**(SEER 19)**	**(SEER 20)**	**(SEER 21)**	**(SEER 22+)**

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period
d = 6.5% = discount rate (utility's after tax cost of capital)
n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-14. Commercial Duct Repair Rebates

Program Name:	Commercial Duct Repair Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Commercial Duct Repair Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	31,692	1,852	4	4	0.2%	0	0	0.0%	(4)
2021	32,338	1,890	4	8	0.4%	0	0	0.0%	(8)
2022	33,115	1,935	4	12	0.6%	1	1	0.1%	(11)
2023	33,313	1,947	4	16	0.8%				
2024	33,815	1,976	4	20	1.0%				

Eligibility Level	5.8%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	0.40	0.42	0.40	0.42
Winter kW Reduction	0.00	0.00	0.00	0.00
kWh Reduction	386	401	386	401

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$10	$10
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$100	$100
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x d/[1-(1+d)$^{-n}$] = ($825)
where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period
d = 6.5% = discount rate (utility's after tax cost of capital)
n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-15. Commercial Ceiling Insulation Upgrade Rebates

Program Name:	Commercial Ceiling Insulation Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Commercial Ceiling Insulation Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	31,692	1,150	5	5	0.4%	1	1	0.1%	(4)
2021	32,338	1,174	5	10	0.9%	1	2	0.2%	(8)
2022	33,115	1,202	5	15	1.2%	6	8	0.7%	(7)
2023	33,313	1,209	5	20	1.7%				
2024	33,815	1,227	5	25	2.0%				

Eligibility Level	3.6%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	4.81	5.00	28.86	29.99
Winter kW Reduction	10.17	10.57	61.02	63.40
kWh Reduction	3,703	3,847	22,218	23,084

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$96	$579
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$1,484	$8,901
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = ($5,346)
where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period
d = 6.5% = discount rate (utility's after tax cost of capital)
n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-16. Commercial Cool/Reflective Roof Rebates

Program Name:	Commercial Cool / Reflective Roof Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Commercial Cool / Reflective Roof Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	31,692	23,040	4	4	0.0%	16	16	0.1%	12
2021	32,338	23,510	4	8	0.0%	8	24	0.1%	16
2022	33,115	24,075	4	12	0.0%	2	26	0.1%	14
2023	33,313	24,219	4	16	0.1%				
2024	33,815	24,584	4	20	0.1%				

Eligibility Level	72.7%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	27.94	29.03	55.87	58.05
Winter kW Reduction	0.00	0.00	0.00	0.00
kWh Reduction	147,495	153,248	294,991	306,496

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$3,844	$7,687
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$6,704	$13,409
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = ($215,240)
where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period
d = 6.5% = discount rate (utility's after tax cost of capital)
n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-17. Commercial Indoor Lighting Billed Solutions

Program Name:	Commercial Indoor Lighting Billed Solution
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Commercial Indoor Lighting Billed Solution
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	31,692	17,591	5	5	0.0%	4	4	0.0%	(1)
2021	32,338	17,949	5	10	0.1%	5	9	0.1%	(1)
2022	33,115	18,380	5	15	0.1%	8	17	0.1%	2
2023	33,313	18,490	5	20	0.1%				
2024	33,815	18,769	4	24	0.1%				

Eligibility Level	55.5%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	181.71	188.80	1,453.70	1,510.39
Winter kW Reduction	181.71	188.80	1,453.70	1,510.39
kWh Reduction	97,934	101,754	783,474	814,029

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$2,552	$20,417
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	N/A	N/A
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = ($205,954)
where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period
d = 6.5% = discount rate (utility's after tax cost of capital)
n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-18. Commercial Indoor Lighting Rebates

Program Name:	Commercial Indoor Lighting Rebate
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Commercial Indoor Lighting Rebate
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	31,692	21,216	16	16	0.1%	28	28	0.1%	12
2021	32,338	21,649	16	32	0.1%	14	42	0.2%	10
2022	33,115	22,169	15	47	0.2%	12	54	0.2%	7
2023	33,313	22,302	15	62	0.3%				
2024	33,815	22,638	14	76	0.3%				

Eligibility Level	66.9%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	10.56	10.97	126.72	131.66
Winter kW Reduction	10.56	10.97	126.72	131.66
kWh Reduction	42,529	44,188	510,351	530,255

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$1,108	$13,300
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$2,539	$30,465
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = ($195,263)
where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period
d = 6.5% = discount rate (utility's after tax cost of capital)
n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.

Table 3-19. Commercial Custom Incentive

Program Name:	Commercial Custom Incentive
Program Start Date:	2020 (for Reporting Purposes)
Measure:	Commercial Custom Incentive
Reporting Period:	2022

A	B	C	D	E	F	G	H	I	J
Calendar Year	**Total Number of Customers**	**Total Number of Eligible Customers**	**Projected Annual Average Number of Program Participants**	**Projected Cumulative Number of Program Participants**	**Projected Cumulative Penetration Level % (E/C*100)**	**Actual Annual Number of Program Participants**	**Actual Cumulative Number of Program Participants**	**Actual Cumulative Penetration Level % (H/C*100)**	**Actual Participation Over (Under) Projected Participants (H-E)**
2020	31,692	31,186	13	13	0.0%	26	26	0.1%	13
2021	32,338	31,822	13	26	0.1%	15	41	0.1%	15
2022	33,115	32,586	13	39	0.1%	9	50	0.2%	11
2023	33,313	32,781	12	51	0.2%				
2024	33,815	33,275	12	63	0.2%				

Eligibility Level	98.4%

Annual Demand and Energy Savings	**Per Installation**		**Program Total**	
	@meter	**@generator**	**@meter**	**@generator**
Summer kW Reduction	25.66	26.66	230.92	239.93
Winter kW Reduction	25.66	26.66	230.92	239.93
kWh Reduction	333,367	346,368	3,000,302	3,117,314

Costs	**Per Participant**	**Program Total**
Utility Nonrecurring Cost	$8,687	$78,187
Utility Recurring Cost	$0	$0
Utility Nonrecurring Rebate	$23,054	$207,487
Utility Recurring Rebate	$0	$0

Annual Benefits = B_{npv} x $d/[1-(1+d)^{-n}]$ = $67,089

where:

B_{npv} = cumulative present value of the net benefits over the life of the program for measures installed during the reporting period

d = 6.5% = discount rate (utility's after tax cost of capital)

n = 10 = life of the program

The Annual Benefits calculation is based on the Total Resource Cost (TRC) test results presented in OUC's 2020 DSM Plan [approved by Consummating Order issued June 5, 2020 (Order No. PSC-2020-0177-CO-EG)] and utilizes the 6.5% discount rate and 10-year program life, consistent with the TRC calculations presented in OUC's 2020 DSM Plan.