

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-7, SUB 1032
DOCKET NO. E-7, SUB 1164

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of		
Request by Duke Energy Carolinas,)	
LLC, for Approval of Modifications to)	PUBLIC STAFF COMMENTS
Residential Smart \$aver Energy)	
Efficiency Program)	

NOW COMES THE PUBLIC STAFF - North Carolina Utilities Commission (Public Staff), by and through its Executive Director, Christopher J. Ayers, pursuant to Commission Rule R8-68(d)(2), and responds to the application filed October 31, 2018, by Duke Energy Carolinas, LLC (DEC or the Company), for approval of its proposed modifications to its Residential Smart \$aver Energy Efficiency Program (Program) and associated tariff.

1. In its September 11, 2018 *Order Approving Demand Side Management and Energy Efficiency (DSM/EE) Rider and Requiring Filing of Customer Notice* in Docket No. E-7, Sub 1164 (Sub 1164 Order), the Commission directed DEC to propose modifications to the Residential Smart \$aver Energy Efficiency Program no later than October 31, 2018, with the goal of restoring the Total Resource Cost (TRC) test score to 1.0 or greater, and further required the Company to include a discussion of the impact of these modifications and any other actions it has taken to improve cost-effectiveness in the next year's demand-side management (DSM)/energy efficiency (EE) rider proceeding.

2. On October 31, 2018, the Company filed its proposed modifications to the Program, which the Company stated encompassed four modifications resulting in a projected TRC score of 1.01.

3. The Public Staff's investigation included review of the application with respect to: (a) N.C. Gen. Stat. § 62-133.9; (b) Commission Rule R8-68; (c) the Agreement and Stipulation of Settlement made by and between DEC, the Public Staff, the Southern Alliance for Clean Energy, the Environmental Defense Fund, the Natural Resources Defense Council, the North Carolina Sustainable Energy Association, and the South Carolina Coastal Conservation League, filed August 19, 2013, in Docket No. E-7, Sub 1032; (d) the Commission's *Order Approving DSM/EE Programs and Stipulation of Settlement*, issued October 29, 2013, in Docket No. E-7, Sub 1032; (e) the Commission's *Order Approving DSM/EE Rider, Revising DSM/EE Mechanism, and Requiring Filing of Proposed Customer Notice* issued August 23, 2017, in Docket No. E-7, Sub 1130 (Sub 1130 Order) (collectively referred to as the "Revised Mechanism"); and (f) the Sub 1164 Order. The Public Staff's investigation also involved submission of data requests to DEC regarding the Program, and review of the responses. Based on its investigation, the Public Staff submits the following comments for the Commission's consideration.

Description of the Modifications

4. The Company's request includes four modifications that largely impact the administration of the program. They include:

- Acknowledging lower actual incremental customer costs;

- Improving trade ally participation to make it more streamlined and less costly;
- Reducing the program administration costs; and
- Implementing a three-year transition period to a referral-only channel.

These modifications reduce operating and administrative costs and are designed to improve cost effectiveness. In response to the Public Staff's data request, DEC provided data that illustrated decreasing trends in customer costs, trade ally costs, and administrative costs that were based on recent experience. It appears that the Company expects these trends to continue so that it may be able to maintain the non-referral channel that delivers much of the participation in the Program.

5. The Public Staff also identified two other DEC-proposed modifications to the program. The first is the elimination from the tariff of the maximum incentives for the measures in the Program. This modification is not expected to have a material impact on the performance of the Program. The second modification is a reduction of the initial incentive for HVAC (Heating, Ventilation, and Air Conditioning) equipment from \$600 to \$400. This change does have a material impact on three of the four cost effectiveness tests used to evaluate the Program. This modification will help to reduce the costs of the Program, thereby improving the TRC, Utility Cost (UC), and Ratepayer Impact Measure (RIM) cost effectiveness test results.

6. The combined effects of these modifications, as modeled by the Company, result in a projected TRC score of 1.01 over the next five years.

Difference between an R8-68 filing and the Filing in the
E-7, Sub 1164 Rider Proceeding

7. The Sub 1164 Order directed the Company to modify the Program to increase projected cost effectiveness, with the goal of achieving a cost effectiveness result of 1.0 or greater.

8. The data used to calculate the cost-effectiveness scores in the Sub 1164 rider filing and the data used in this modification filing use different parameters to calculate cost effectiveness.

9. The data used for modeling cost-effectiveness in the rider filing were designed to evaluate one participant for a one-year period (Vintage 2019). Additionally, the Company's Sub 1164 rider application used estimated North Carolina retail benefits, costs, and participant data in determining the level of cost effectiveness for the Program applicable to Vintage 2019.

10. In the current filing, the Company is using a broader set of parameters to determine cost effectiveness than in the rider proceeding: system level (North and South Carolina retail) estimated projections of participation, costs, and benefits over a five-year period. The data examined in the rider proceeding uses a snapshot of performance expected in the one-year rate period and are considered appropriate for annual review. The data examined for program modification approval look at performance over a longer term as programs are generally expected to be available to customers for a number of years.

11. The Company's use of a five-year projection of performance, costs, benefits, and savings is appropriate for this program modification filing.

Changes to the Program

12. The Company used a new Evaluation, Measurement, and Verification (EM&V) report¹ for the Program to update the per-unit and free-ridership impacts for the HVAC-related measures that will be installed going forward.

13. The Company also updated its anticipated incremental participation from its Sub 1164 filing at the time of the rider proceeding. Exhibit No. 1 shows the difference between North Carolina retail incremental participation per measure for the one-year period as filed in the Sub 1164 rider filing, and the impacts in this program modification filing, which are over five years. Exhibit No. 1 indicates that the Company is projecting approximately a tripling of the incremental participation beginning in 2019, as compared to the estimated participation filed in the rider proceeding for Vintage 2019. The number of new or incremental participants for North Carolina in 2019 as filed in the rider proceeding was 7,201, but is now projected to be 22,530 in this filing, approximately a threefold increase. The primary contributor to this sharp jump in participation is the inclusion of the smart thermostat measure with both referral and non-referral channels. In response to the Public Staff's data request, the Company indicated that the changes in projected participation were based on more recent data, including achieving significantly better participation through October of 2018 than originally forecast in

¹ "Smart \$aver Evaluation Report – May 1, 2016 – April 30, 2017," dated May 25, 2018. DEC will file this EM&V report in the upcoming 2019 DSM/EE rider proceeding, and the Public Staff will review the report in that proceeding. However, for purposes of this program approval proceeding, the Public Staff has provisionally accepted the findings of the report, but reserves the right to challenge those findings in the 2019 DSM/EE rider proceeding.

the rider proceeding.

14. The Public Staff is concerned that basing long-term projections on an increased number of participants for one year may not be an adequate basis for forecasting substantial increases in incremental participation over the next five years. If this level of participation is not realized over the next five years, then the Program will continue to struggle or fail to achieve cost-effectiveness.

15. Based on the Company's projections, the Public Staff calculated the TRC values for each of the five annual evaluation periods to gain an understanding of how the program modifications would impact the Program's cost effectiveness for each of the next five years. Using data provided by the Company, the Public Staff took the per participant net present value (NPV) benefits and costs and applied them to the annual incremental system projections of participation, calculating the annual TRCs in the table below²:

<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
0.91	0.91	0.91	1.38	1.38

16. The table shows that under the proposed modifications, none of the individual Vintage Years will be cost effective until year 4, when the non-referral channel is removed.

² The TRC values change between 2021 and 2022 due to changes in the incremental participation projections because of the termination of the non-referral channel. The Incremental participation projections are essentially multipliers for the per participant NPV benefits and costs.

Other Challenges for the Program

17. One of the biggest challenges to maintaining cost effectiveness of DSM/EE programs is change in the avoided costs that are applied to the program. In the Sub 1130 Order, the Commission approved modifications to the Mechanism that required the use of the underlying avoided costs (energy and capacity) from the biennial avoided cost proceeding in the cost effectiveness evaluations. In other words, the avoided costs used by the Company are updated biennially.

18. As presented in this filing, the Program's benefits that are incorporated into the cost-benefit analysis are based on the 2016 biennial avoided cost proceeding as required by the revised Mechanism. This calculation results in a TRC score of 1.01 and is consistent with the Company's DSM/EE cost recovery mechanism.

19. The 2018 biennial avoided cost proceeding (Docket No. E-100, Sub 158) has begun, and may result in avoided energy cost rates that are lower than the avoided energy cost rates approved in the 2016 biennial avoided cost filing in Docket No. E-100, Sub 148. Lower avoided cost rates would likely have a negative impact on the entire portfolio of DSM and EE programs.

20. The Company also filed two previous modifications in the last three years³ with the intent of improving the cost effectiveness of the Program. However, as illustrated in Williamson Exhibit No. 3 in the Sub 1164 rider proceeding, these modifications did not result in improved cost effectiveness.

³ See Docket No. E-7, Sub 1032, for filings dated October 2, 2015, and July 20, 2017.

21. The Public Staff also reviewed the mix of measures in the Program and their contributions toward program benefits, costs, and cost effectiveness. The data indicates: (1) the pool pump measure provides the largest savings per dollar of cost; and (2) the central air conditioning, heat pump, and smart thermostat measures⁴ continue not to be cost effective. Exhibit No. 2 also indicates that measures delivered through the referral and non-referral channels have distinctly different TRC values, with the referral channel being cost-effective and the non-referral channel not.

Impacts of Continuing the Program

22. The Program's continuation results in additional years of program costs and lost revenues, as well as impacts to the portfolio performance incentives (PPI) for those years.⁵

23. In the Sub 1164 Order, the Commission gave weight to the negative impact that a program's poor performance has on the total PPI that the Company is allowed to collect. While this is true, the impact of the Program's inability to achieve cost-effectiveness on the Company's overall PPI is relatively small as compared to the total revenue requirement associated with the Program. In the Sub 1164 rider proceeding, this Program's 2019 projections for revenue requirement are approximately \$3.6 million; however, the 2019 PPI for this

⁴ This *non-cost effective* measure is what is driving increased program participation (see paragraph 13 above).

⁵ If the Program is cost effective and produces a UC test result greater than 1.0, then the PPI would increase. Conversely, if the Program is not cost effective and the UC result is less than 1.0, the PPI would decrease. This creates a strong incentive for the Company to maintain the cost effectiveness.

Program on a North Carolina retail level is a downward adjustment of approximately \$23,560 to DEC's overall PPI.

Conclusions and Recommendations

24. The Public Staff believes that the filing satisfies the requirements of Commission Rule R8-68(c).

25. The Public Staff recognizes that the Program is fundamental to the Company's portfolio of EE programs. The Public Staff has been supportive of developing programs that may contain a mix of like-technology measures that would include some measures that are not cost effective on their own, but could be offered along with other like-technology measures that were cost effective such that the net result would cost-effectively produce greater energy and demand savings.

26. Based on the information provided by the Company, the Program is estimated to be only marginally cost effective. While the Program would qualify for cost recovery pursuant to the Company's cost recovery mechanism, the Public Staff believes that the Company used very optimistic assumptions in forecasting participation, program costs, and avoided costs to achieve this 1.01 cost effectiveness score and comply with the Sub 1164 Order to file modifications to the Program that would restore its cost effectiveness.

27. The Public Staff is not opposed to approval of the proposed modifications to the Program, but is skeptical that the modifications will actually result in a cost effective program.

Respectfully submitted this the 7th day of December, 2018.

PUBLIC STAFF
Christopher J. Ayers
Executive Director

David T. Drooz
Chief Counsel

Electronically submitted

/s/ Lucy E. Edmondson
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CERTIFICATE OF SERVICE

I certify that a copy of the Public Staff Comments has been served on all parties of record or their attorneys, or both, in accordance with Commission Rule R1-39, by United States Mail, first class or better; by hand delivery; or by means of facsimile or electronic delivery upon agreement of the receiving party.

This the 7th day December, 2018.

Electronically submitted
/s/ Lucy E. Edmondson

DOCKET NO. E-7, SUB 1032
DOCKET NO. E-7, SUB 1164
VERIFICATION

I, David M. Williamson, being duly sworn, depose and say: I have read the foregoing Public Staff Comments and the facts stated therein are true of my personal knowledge, except as to any matters and things therein stated upon information and belief. As to those, I believe them to be true. I am authorized to sign this verification on behalf of the Public Staff-North Carolina Utilities Commission.

This the 7th day of December, 2018.

David M. Williamson
David M. Williamson

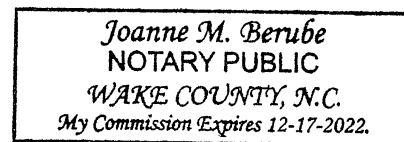
David M. Williamson
Printed Name

Sworn to and subscribed before me

This the 7th day of December, 2018.

Joanne M. Berube
Notary Public

JOANNE M. BERUBE
Printed Name



My Commission Expires: 12/17/2022

**Duke Energy Carolinas
Incremental Participation By Measure**

Public Staff
Exhibit No. 1
E-7, Subs 1032 and 1164

HVAC Energy Efficiency - North Carolina only		V2019	5 Year forecast				
	Name	Incremental Participants	2019	2020	2021	2022	2023
6450	Smart Saver - Central Air Conditioner Tier 2 - Referred	576	1500	1500	1500	2800	2800
6451	Smart Saver - Heat Pump Tier 2 - Referred	616	1600	1600	1600	2150	2150
6452	Smart Saver - Central Air Conditioner Tier 3 - Referred	64	500	500	500	500	500
6453	Smart Saver - Heat Pump Tier 3 - Referred	123	250	250	250	500	500
6454	NC_ Quality Installation - Referred	112	0	0	0	0	0
6455	Smart Thermostat - Referred	187	2480	2480	2480	0	0
6458	Smart Saver - Attic Insul & Air Sealing - Referred	358	350	350	350	600	600
6459	Smart Saver - Duct Sealing - Referred	215	1000	1000	1000	1970	1970
6466	Smart Saver - Central Air Conditioner Tier 2 - Non-Referred	343	2500	2500	2500	0	0
6467	Smart Saver - Heat Pump Tier 2 - Non-Referred	1,151	2600	2600	2600	0	0
6468	Smart Saver - Central Air Conditioner Tier 3 - Non-Referred	68	1000	1000	1000	0	0
6469	Smart Saver - Heat Pump Tier 3 - Non-Referred	131	750	750	750	0	0
6470	NC_ Quality Installation - Non-Referred	1,200	0	0	0	0	0
6471	Smart Thermostat - Non-Referred	200	5480	5480	5480	0	0
6474	Smart Saver - Attic Insul & Air Sealing - Non-Referred	1,667	350	350	350	0	0
6475	Smart Saver - Duct Sealing - Non-Referred	190	1570	1570	1570	0	0
2981	Heat Pump Water Heater	0	200	200	200	260	260
2998	Pool Pump	0	400	400	400	550	550
Totals		7,201	22,530	22,530	22,530	9,330	9,330

Source: Spreadsheet provided in Docket No. E-7 Sub 1164 -- "CONFIDENTIAL - DEC NC EE and DR Financials (v2019)" tab
"CAR EE and DR-Res 2019"

NC_ Heat Pump Water Heater				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$83,057	\$83,057	\$83,057	\$0
Cost-Based Avoided Elec Production	\$545,444	\$545,444	\$545,444	\$0
Cost-Based Avoided Elec Capacity	\$69,806	\$69,806	\$69,806	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,684,375
Net Lost Revenue Net Fuel	\$0	\$0	\$942,234	\$0
Administration Costs	\$21,303	\$21,303	\$21,303	\$0
Implementation Costs	\$16,499	\$16,499	\$16,499	\$0
Incentives	\$339,690	\$0	\$339,690	\$339,690
Other Utility Costs	\$120,693	\$120,693	\$120,693	\$0
Participant Costs	\$0	\$469,452	\$0	\$610,471
Total Benefits	\$698,308	\$698,308	\$698,308	\$2,024,065
Total Costs	\$498,186	\$627,948	\$1,440,419	\$610,471
Benefit/Cost Ratios	1.40	1.11	0.48	3.32

Data represents present value of costs and benefits over the life of the program.

Smart Saver® Energy Efficiency Program				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$9,973,163	\$9,973,163	\$9,973,163	\$0
Cost-Based Avoided Elec Production	\$18,933,574	\$18,933,574	\$18,933,574	\$0
Cost-Based Avoided Elec Capacity	\$9,618,216	\$9,618,216	\$9,618,216	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$56,256,707
Net Lost Revenue Net Fuel	\$0	\$0	\$31,434,321	\$0
Administration Costs	\$1,515,963	\$1,515,963	\$1,515,963	\$0
Implementation Costs	\$1,245,367	\$1,245,367	\$1,245,367	\$0
Incentives	\$21,876,280	\$0	\$21,876,280	\$21,876,280
Other Utility Costs	\$2,489,315	\$2,489,315	\$2,489,315	\$0
Participant Costs	\$0	\$32,796,222	\$0	\$44,150,223
Total Benefits	\$38,524,953	\$38,524,953	\$38,524,953	\$78,132,987
Total Costs	\$27,126,925	\$38,046,867	\$58,561,246	\$44,150,223
Benefit/Cost Ratios	1.42	1.01	0.66	1.77

NC_ Pool Pump				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$412,773	\$412,773	\$412,773	\$0
Cost-Based Avoided Elec Production	\$1,291,021	\$1,291,021	\$1,291,021	\$0
Cost-Based Avoided Elec Capacity	\$496,978	\$496,978	\$496,978	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$4,254,388
Net Lost Revenue Net Fuel	\$0	\$0	\$2,379,891	\$0
Administration Costs	\$38,673	\$38,673	\$38,673	\$0
Implementation Costs	\$33,801	\$33,801	\$33,801	\$0
Incentives	\$596,497	\$0	\$596,497	\$596,497
Other Utility Costs	\$250,033	\$250,033	\$250,033	\$0
Participant Costs	\$0	\$726,285	\$0	\$944,453
Total Benefits	\$2,200,772	\$2,200,772	\$2,200,772	\$4,850,885
Total Costs	\$919,004	\$1,048,792	\$3,298,896	\$944,453
Benefit/Cost Ratios	2.39	2.10	0.67	5.14

Data represents present value of costs and benefits over the life of the program.

NC_ Quality Installation - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$0
Net Lost Revenue Net Fuel	\$0	\$0	\$0	\$0
Administration Costs	\$0	\$0	\$0	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$0	\$0	\$0	\$0
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$0	\$0	\$0
Total Benefits	\$0	\$0	\$0	\$0
Total Costs	\$0	\$0	\$0	\$0
Benefit/Cost Ratios				

Data represents present value of costs and benefits over the life of the program.

NC_ Quality Installation - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$0
Net Lost Revenue Net Fuel	\$0	\$0	\$0	\$0
Administration Costs	\$0	\$0	\$0	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$0	\$0	\$0	\$0
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$0	\$0	\$0
Total Benefits	\$0	\$0	\$0	\$0
Total Costs	\$0	\$0	\$0	\$0
Benefit/Cost Ratios				

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Attic Insul & Air Sealing - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$213,777	\$213,777	\$213,777	\$0
Cost-Based Avoided Elec Production	\$338,418	\$338,418	\$338,418	\$0
Cost-Based Avoided Elec Capacity	\$143,317	\$143,317	\$143,317	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,133,296
Net Lost Revenue Net Fuel	\$0	\$0	\$551,522	\$0
Administration Costs	\$16,645	\$16,645	\$16,645	\$0
Implementation Costs	\$16,694	\$16,694	\$16,694	\$0
Incentives	\$245,504	\$0	\$245,504	\$245,504
Other Utility Costs	\$80,065	\$80,065	\$80,065	\$0
Participant Costs	\$0	\$459,879	\$0	\$687,412
Total Benefits	\$695,512	\$695,512	\$695,512	\$1,378,800
Total Costs	\$358,909	\$573,283	\$910,431	\$687,412
Benefit/Cost Ratios	1.94	1.21	0.76	2.01

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Attic Insul & Air Sealing - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$302,072	\$302,072	\$302,072	\$0
Cost-Based Avoided Elec Production	\$1,404,896	\$1,404,896	\$1,404,896	\$0
Cost-Based Avoided Elec Capacity	\$348,072	\$348,072	\$348,072	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$3,228,068
Net Lost Revenue Net Fuel	\$0	\$0	\$2,261,323	\$0
Administration Costs	\$32,659	\$32,659	\$32,659	\$0
Implementation Costs	\$32,755	\$32,755	\$32,755	\$0
Incentives	\$481,691	\$0	\$481,691	\$481,691
Other Utility Costs	-\$160,862	-\$160,862	-\$160,862	\$0
Participant Costs	\$0	\$1,298,831	\$0	\$1,348,734
Total Benefits	\$2,055,040	\$2,055,040	\$2,055,040	\$3,709,759
Total Costs	\$386,242	\$1,203,382	\$2,647,565	\$1,348,734
Benefit/Cost Ratios	5.32	1.71	0.78	2.75

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Central Air Conditioner Tier 2 - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$598,371	\$598,371	\$598,371	\$0
Cost-Based Avoided Elec Production	\$571,660	\$571,660	\$571,660	\$0
Cost-Based Avoided Elec Capacity	\$497,890	\$497,890	\$497,890	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,949,785
Net Lost Revenue Net Fuel	\$0	\$0	\$0	\$0
Administration Costs	\$136,430	\$136,430	\$136,430	\$0
Implementation Costs	\$119,245	\$119,245	\$119,245	\$0
Incentives	\$2,104,324	\$0	\$2,104,324	\$2,104,324
Other Utility Costs	\$571,893	\$571,893	\$571,893	\$0
Participant Costs	\$0	\$1,661,195	\$0	\$2,483,102
Total Benefits	\$1,667,922	\$1,667,922	\$1,667,922	\$4,054,109
Total Costs	\$2,931,892	\$2,488,764	\$3,880,762	\$2,483,102
Benefit/Cost Ratios	0.57	0.67	0.43	1.63

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Central Air Conditioner Tier 2 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$898,149	\$898,149	\$898,149	\$0
Cost-Based Avoided Elec Production	\$1,225,342	\$1,225,342	\$1,225,342	\$0
Cost-Based Avoided Elec Capacity	\$1,088,671	\$1,088,671	\$1,088,671	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$3,289,646
Net Lost Revenue Net Fuel	\$0	\$0	\$1,842,610	\$0
Administration Costs	\$167,610	\$167,610	\$167,610	\$0
Implementation Costs	\$146,497	\$146,497	\$146,497	\$0
Incentives	\$2,585,238	\$0	\$2,585,238	\$2,585,238
Other Utility Costs	-\$699,718	-\$699,718	-\$699,718	\$0
Participant Costs	\$0	\$2,348,947	\$0	\$3,050,580
Total Benefits	\$3,212,162	\$3,212,162	\$3,212,162	\$5,874,884
Total Costs	\$2,199,626	\$1,963,336	\$4,042,237	\$3,050,580
Benefit/Cost Ratios	1.46	1.64	0.79	1.93

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Central Air Conditioner Tier 3 - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$358,306	\$358,306	\$358,306	\$0
Cost-Based Avoided Elec Production	\$459,486	\$459,486	\$459,486	\$0
Cost-Based Avoided Elec Capacity	\$432,948	\$432,948	\$432,948	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,567,186
Net Lost Revenue Net Fuel	\$0	\$0	\$762,676	\$0
Administration Costs	\$68,601	\$68,601	\$68,601	\$0
Implementation Costs	\$47,698	\$47,698	\$47,698	\$0
Incentives	\$1,122,306	\$0	\$1,122,306	\$1,122,306
Other Utility Costs	\$228,757	\$228,757	\$228,757	\$0
Participant Costs	\$0	\$1,828,253	\$0	\$2,732,815
Total Benefits	\$1,250,740	\$1,250,740	\$1,250,740	\$2,689,492
Total Costs	\$1,467,362	\$2,173,310	\$2,230,038	\$2,732,815
Benefit/Cost Ratios	0.85	0.58	0.56	0.98

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Central Air Conditioner Tier 3 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$360,089	\$360,089	\$360,089	\$0
Cost-Based Avoided Elec Production	\$442,596	\$442,596	\$442,596	\$0
Cost-Based Avoided Elec Capacity	\$436,075	\$436,075	\$436,075	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,184,781
Net Lost Revenue Net Fuel	\$0	\$0	\$663,625	\$0
Administration Costs	\$53,550	\$53,550	\$53,550	\$0
Implementation Costs	\$37,233	\$37,233	\$37,233	\$0
Incentives	\$876,068	\$0	\$876,068	\$876,068
Other Utility Costs	-\$213,698	-\$213,698	-\$213,698	\$0
Participant Costs	\$0	\$1,642,584	\$0	\$2,133,226
Total Benefits	\$1,238,760	\$1,238,760	\$1,238,760	\$2,060,849
Total Costs	\$753,153	\$1,519,668	\$1,416,777	\$2,133,226
Benefit/Cost Ratios	1.64	0.82	0.87	0.97

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Duct Sealing - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$364,526	\$364,526	\$364,526	\$0
Cost-Based Avoided Elec Production	\$741,713	\$741,713	\$741,713	\$0
Cost-Based Avoided Elec Capacity	\$440,464	\$440,464	\$440,464	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$2,529,791
Net Lost Revenue Net Fuel	\$0	\$0	\$1,231,131	\$0
Administration Costs	\$41,628	\$41,628	\$41,628	\$0
Implementation Costs	\$74,886	\$74,886	\$74,886	\$0
Incentives	\$440,505	\$0	\$440,505	\$440,505
Other Utility Costs	\$359,149	\$359,149	\$359,149	\$0
Participant Costs	\$0	\$978,397	\$0	\$1,462,477
Total Benefits	\$1,546,704	\$1,546,704	\$1,546,704	\$2,970,296
Total Costs	\$916,168	\$1,454,060	\$2,147,299	\$1,462,477
Benefit/Cost Ratios	1.69	1.06	0.72	2.03

Data represents present value of costs and benefits over the life of the program.

NC_ Smart Saver - Duct Sealing - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$1,304,293	\$1,304,293	\$1,304,293	\$0
Cost-Based Avoided Elec Production	\$1,358,938	\$1,358,938	\$1,358,938	\$0
Cost-Based Avoided Elec Capacity	\$1,581,096	\$1,581,096	\$1,581,096	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$2,794,065
Net Lost Revenue Net Fuel	\$0	\$0	\$1,957,296	\$0
Administration Costs	\$55,828	\$55,828	\$55,828	\$0
Implementation Costs	\$100,431	\$100,431	\$100,431	\$0
Incentives	\$590,768	\$0	\$590,768	\$590,768
Other Utility Costs	-\$471,138	-\$471,138	-\$471,138	\$0
Participant Costs	\$0	\$1,888,779	\$0	\$1,961,349
Total Benefits	\$4,244,327	\$4,244,327	\$4,244,327	\$3,384,833
Total Costs	\$275,888	\$1,573,899	\$2,233,183	\$1,961,349
Benefit/Cost Ratios	15.38	2.70	1.90	1.73

Data represents present value of costs and benefits over the life of the program.

NC_Smart Saver - Heat Pump Tier 2 - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$678,202	\$678,202	\$678,202	\$0
Cost-Based Avoided Elec Production	\$1,163,814	\$1,163,814	\$1,163,814	\$0
Cost-Based Avoided Elec Capacity	\$567,335	\$567,335	\$567,335	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$3,969,468
Net Lost Revenue Net Fuel	\$0	\$0	\$1,931,755	\$0
Administration Costs	\$141,888	\$141,888	\$141,888	\$0
Implementation Costs	\$124,015	\$124,015	\$124,015	\$0
Incentives	\$2,188,497	\$0	\$2,188,497	\$2,188,497
Other Utility Costs	\$594,769	\$594,769	\$594,769	\$0
Participant Costs	\$0	\$2,698,832	\$0	\$4,034,129
Total Benefits	\$2,409,351	\$2,409,351	\$2,409,351	\$6,157,965
Total Costs	\$3,049,168	\$3,559,504	\$4,980,923	\$4,034,129
Benefit/Cost Ratios	0.79	0.68	0.48	1.53

Data represents present value of costs and benefits over the life of the program.

NC_Smart Saver - Heat Pump Tier 2 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$684,161	\$684,161	\$684,161	\$0
Cost-Based Avoided Elec Production	\$1,288,104	\$1,288,104	\$1,288,104	\$0
Cost-Based Avoided Elec Capacity	\$672,503	\$672,503	\$672,503	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$3,700,666
Net Lost Revenue Net Fuel	\$0	\$0	\$2,072,833	\$0
Administration Costs	\$153,160	\$153,160	\$153,160	\$0
Implementation Costs	\$133,868	\$133,868	\$133,868	\$0
Incentives	\$2,362,368	\$0	\$2,362,368	\$2,362,368
Other Utility Costs	-\$708,636	-\$708,636	-\$708,636	\$0
Participant Costs	\$0	\$3,353,067	\$0	\$4,354,632
Total Benefits	\$2,644,768	\$2,644,768	\$2,644,768	\$6,063,035
Total Costs	\$1,940,760	\$2,931,459	\$4,013,593	\$4,354,632
Benefit/Cost Ratios	1.36	0.90	0.66	1.39

Data represents present value of costs and benefits over the life of the program.

NC_Smart Saver - Heat Pump Tier 3 - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$449,678	\$449,678	\$449,678	\$0
Cost-Based Avoided Elec Production	\$793,448	\$793,448	\$793,448	\$0
Cost-Based Avoided Elec Capacity	\$397,448	\$397,448	\$397,448	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$2,706,245
Net Lost Revenue Net Fuel	\$0	\$0	\$1,317,003	\$0
Administration Costs	\$51,451	\$51,451	\$51,451	\$0
Implementation Costs	\$35,774	\$35,774	\$35,774	\$0
Incentives	\$841,730	\$0	\$841,730	\$841,730
Other Utility Costs	\$171,568	\$171,568	\$171,568	\$0
Participant Costs	\$0	\$1,994,842	\$0	\$2,981,827
Total Benefits	\$1,640,573	\$1,640,573	\$1,640,573	\$3,547,975
Total Costs	\$1,100,522	\$2,253,634	\$2,417,525	\$2,981,827
Benefit/Cost Ratios	1.49	0.73	0.68	1.19

Data represents present value of costs and benefits over the life of the program.

NC_Smart Saver - Heat Pump Tier 3 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$159,175	\$159,175	\$159,175	\$0
Cost-Based Avoided Elec Production	\$352,880	\$352,880	\$352,880	\$0
Cost-Based Avoided Elec Capacity	\$192,960	\$192,960	\$192,960	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$997,974
Net Lost Revenue Net Fuel	\$0	\$0	\$558,989	\$0
Administration Costs	\$36,399	\$36,399	\$36,399	\$0
Implementation Costs	\$25,308	\$25,308	\$25,308	\$0
Incentives	\$595,492	\$0	\$595,492	\$595,492
Other Utility Costs	-\$118,123	-\$118,123	-\$118,123	\$0
Participant Costs	\$0	\$1,624,337	\$0	\$2,109,529
Total Benefits	\$705,016	\$705,016	\$705,016	\$1,593,465
Total Costs	\$539,077	\$1,567,922	\$1,098,066	\$2,109,529
Benefit/Cost Ratios	1.31	0.45	0.64	0.76

Data represents present value of costs and benefits over the life of the program.

NC_Smart Thermostat - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$1,544,367	\$1,544,367	\$1,544,367	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$5,687,784
Net Lost Revenue Net Fuel	\$0	\$0	\$2,767,979	\$0
Administration Costs	\$93,791	\$93,791	\$93,791	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$768,780	\$0	\$768,780	\$768,780
Other Utility Costs	\$1,253,590	\$1,253,590	\$1,253,590	\$0
Participant Costs	\$0	\$1,028,627	\$0	\$1,637,559
Total Benefits	\$1,544,367	\$1,544,367	\$1,544,367	\$6,456,563
Total Costs	\$2,116,160	\$2,376,008	\$4,884,139	\$1,537,559
Benefit/Cost Ratios	0.73	0.65	0.32	4.20

Data represents present value of costs and benefits over the life of the program.

NC_Smart Thermostat - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$906,932	\$906,932	\$906,932	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$2,428,810
Net Lost Revenue Net Fuel	\$0	\$0	\$1,616,621	\$0
Administration Costs	\$42,446	\$42,446	\$42,446	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$347,915	\$0	\$347,915	\$347,915
Other Utility Costs	\$567,318	\$567,318	\$567,318	\$0
Participant Costs	\$0	\$636,684	\$0	\$695,830
Total Benefits	\$906,932	\$906,932	\$906,932	\$2,776,724
Total Costs	\$957,678	\$1,246,446	\$2,574,299	\$695,830
Benefit/Cost Ratios	0.95	0.73	0.35	3.99

Data represents present value of costs and benefits over the life of the program.

SC_ Heat Pump Water Heater				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$35,823	\$35,823	\$35,823	\$0
Cost-Based Avoided Elec Production	\$159,439	\$159,439	\$159,439	\$0
Cost-Based Avoided Elec Capacity	\$20,488	\$20,488	\$20,488	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$478,614
Net Lost Revenue Net Fuel	\$0	\$0	\$283,309	\$0
Administration Costs	\$6,295	\$6,295	\$6,295	\$0
Implementation Costs	\$4,901	\$4,901	\$4,901	\$0
Incentives	\$100,905	\$0	\$100,905	\$100,905
Other Utility Costs	\$34,001	\$34,001	\$34,001	\$0
Participant Costs	\$0	\$139,451	\$0	\$181,341
Total Benefits	\$215,750	\$215,750	\$215,750	\$579,519
Total Costs	\$146,103	\$184,649	\$429,412	\$181,341
Benefit/Cost Ratios	1.48	1.17	0.50	3.20

Data represents present value of costs and benefits over the life of the program.

SC_ Pool Pump				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$173,985	\$173,985	\$173,985	\$0
Cost-Based Avoided Elec Production	\$368,494	\$368,494	\$368,494	\$0
Cost-Based Avoided Elec Capacity	\$142,542	\$142,542	\$142,542	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,181,415
Net Lost Revenue Net Fuel	\$0	\$0	\$699,322	\$0
Administration Costs	\$11,149	\$11,149	\$11,149	\$0
Implementation Costs	\$9,802	\$9,802	\$9,802	\$0
Incentives	\$172,980	\$0	\$172,980	\$172,980
Other Utility Costs	\$68,003	\$68,003	\$68,003	\$0
Participant Costs	\$0	\$210,618	\$0	\$273,885
Total Benefits	\$685,020	\$685,020	\$685,020	\$1,354,395
Total Costs	\$261,934	\$299,571	\$961,256	\$273,885
Benefit/Cost Ratios	2.62	2.29	0.71	4.95

Data represents present value of costs and benefits over the life of the program.

SC_ Quality Installation - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$0
Net Lost Revenue Net Fuel	\$0	\$0	\$0	\$0
Administration Costs	\$0	\$0	\$0	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$0	\$0	\$0	\$0
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$0	\$0	\$0
Total Benefits	\$0	\$0	\$0	\$0
Total Costs	\$0	\$0	\$0	\$0
Benefit/Cost Ratios				

Data represents present value of costs and benefits over the life of the program.

SC_ Quality Installation - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$0
Net Lost Revenue Net Fuel	\$0	\$0	\$0	\$0
Administration Costs	\$0	\$0	\$0	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$0	\$0	\$0	\$0
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$0	\$0	\$0
Total Benefits	\$0	\$0	\$0	\$0
Total Costs	\$0	\$0	\$0	\$0
Benefit/Cost Ratios				

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Attic Insul & Air Sealing - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$101,811	\$101,811	\$101,811	\$0
Cost-Based Avoided Elec Production	\$109,585	\$109,585	\$109,585	\$0
Cost-Based Avoided Elec Capacity	\$46,461	\$46,461	\$46,461	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$355,580
Net Lost Revenue Net Fuel	\$0	\$0	\$183,110	\$0
Administration Costs	\$5,404	\$5,404	\$5,404	\$0
Implementation Costs	\$5,477	\$5,477	\$5,477	\$0
Incentives	\$80,551	\$0	\$80,551	\$80,551
Other Utility Costs	\$26,269	\$26,269	\$26,269	\$0
Participant Costs	\$0	\$150,888	\$0	\$225,543
Total Benefits	\$257,857	\$257,857	\$257,857	\$436,131
Total Costs	\$117,702	\$188,039	\$300,812	\$225,543
Benefit/Cost Ratios	2.19	1.37	0.86	1.93

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Attic Insul & Air Sealing - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$128,135	\$128,135	\$128,135	\$0
Cost-Based Avoided Elec Production	\$403,898	\$403,898	\$403,898	\$0
Cost-Based Avoided Elec Capacity	\$100,467	\$100,467	\$100,467	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$902,094
Net Lost Revenue Net Fuel	\$0	\$0	\$668,693	\$0
Administration Costs	\$9,519	\$9,519	\$9,519	\$0
Implementation Costs	\$9,605	\$9,605	\$9,605	\$0
Incentives	\$141,249	\$0	\$141,249	\$141,249
Other Utility Costs	-\$50,854	-\$50,854	-\$50,854	\$0
Participant Costs	\$0	\$380,865	\$0	\$395,498
Total Benefits	\$632,500	\$632,500	\$632,500	\$1,043,343
Total Costs	\$109,520	\$348,135	\$778,213	\$395,498
Benefit/Cost Ratios	5.78	1.81	0.81	2.64

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Central Air Conditioner Tier 2 - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$286,516	\$286,516	\$286,516	\$0
Cost-Based Avoided Elec Production	\$186,153	\$186,153	\$186,153	\$0
Cost-Based Avoided Elec Capacity	\$162,284	\$162,284	\$162,284	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$615,072
Net Lost Revenue Net Fuel	\$0	\$0	\$316,738	\$0
Administration Costs	\$44,545	\$44,545	\$44,545	\$0
Implementation Costs	\$39,295	\$39,295	\$39,295	\$0
Incentives	\$693,439	\$0	\$693,439	\$693,439
Other Utility Costs	\$188,455	\$188,455	\$188,455	\$0
Participant Costs	\$0	\$547,414	\$0	\$818,258
Total Benefits	\$634,953	\$634,953	\$634,953	\$1,308,510
Total Costs	\$965,734	\$819,710	\$1,282,472	\$818,258
Benefit/Cost Ratios	0.66	0.77	0.50	1.60

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Central Air Conditioner Tier 2 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$376,231	\$376,231	\$376,231	\$0
Cost-Based Avoided Elec Production	\$349,251	\$349,251	\$349,251	\$0
Cost-Based Avoided Elec Capacity	\$310,450	\$310,450	\$310,450	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$907,857
Net Lost Revenue Net Fuel	\$0	\$0	\$538,093	\$0
Administration Costs	\$48,083	\$48,083	\$48,083	\$0
Implementation Costs	\$42,212	\$42,212	\$42,212	\$0
Incentives	\$744,912	\$0	\$744,912	\$744,912
Other Utility Costs	-\$199,250	-\$199,250	-\$199,250	\$0
Participant Costs	\$0	\$676,827	\$0	\$878,997
Total Benefits	\$1,035,931	\$1,035,931	\$1,035,931	\$1,652,770
Total Costs	\$635,957	\$567,872	\$1,174,049	\$878,997
Benefit/Cost Ratios	1.63	1.82	0.88	1.88

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Central Air Conditioner Tier 3 - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$171,566	\$171,566	\$171,566	\$0
Cost-Based Avoided Elec Production	\$149,625	\$149,625	\$149,625	\$0
Cost-Based Avoided Elec Capacity	\$141,117	\$141,117	\$141,117	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$494,378
Net Lost Revenue Net Fuel	\$0	\$0	\$254,586	\$0
Administration Costs	\$22,441	\$22,441	\$22,441	\$0
Implementation Costs	\$15,718	\$15,718	\$15,718	\$0
Incentives	\$369,834	\$0	\$369,834	\$369,834
Other Utility Costs	\$75,382	\$75,382	\$75,382	\$0
Participant Costs	\$0	\$602,465	\$0	\$900,546
Total Benefits	\$462,308	\$462,308	\$462,308	\$864,212
Total Costs	\$483,375	\$716,006	\$737,961	\$900,546
Benefit/Cost Ratios	0.96	0.65	0.63	0.96

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Central Air Conditioner Tier 3 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$213,221	\$213,221	\$213,221	\$0
Cost-Based Avoided Elec Production	\$180,595	\$180,595	\$180,595	\$0
Cost-Based Avoided Elec Capacity	\$176,010	\$176,010	\$176,010	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$462,223
Net Lost Revenue Net Fuel	\$0	\$0	\$273,862	\$0
Administration Costs	\$21,479	\$21,479	\$21,479	\$0
Implementation Costs	\$14,979	\$14,979	\$14,979	\$0
Incentives	\$352,458	\$0	\$352,458	\$352,458
Other Utility Costs	-\$64,430	-\$64,430	-\$64,430	\$0
Participant Costs	\$0	\$660,842	\$0	\$858,236
Total Benefits	\$569,827	\$569,827	\$569,827	\$814,681
Total Costs	\$324,487	\$632,870	\$598,449	\$858,236
Benefit/Cost Ratios	1.76	0.90	0.95	0.95

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Duct Sealing - Non-Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$174,511	\$174,511	\$174,511	\$0
Cost-Based Avoided Elec Production	\$241,482	\$241,482	\$241,482	\$0
Cost-Based Avoided Elec Capacity	\$143,539	\$143,539	\$143,539	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$797,884
Net Lost Revenue Net Fuel	\$0	\$0	\$410,880	\$0
Administration Costs	\$13,456	\$13,456	\$13,456	\$0
Implementation Costs	\$24,672	\$24,672	\$24,672	\$0
Incentives	\$145,132	\$0	\$145,132	\$145,132
Other Utility Costs	\$118,327	\$118,327	\$118,327	\$0
Participant Costs	\$0	\$322,349	\$0	\$481,838
Total Benefits	\$559,532	\$559,532	\$559,532	\$943,016
Total Costs	\$301,587	\$478,805	\$712,467	\$481,838
Benefit/Cost Ratios	1.86	1.17	0.79	1.96

Data represents present value of costs and benefits over the life of the program.

SC_ Smart Saver - Duct Sealing - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$457,414	\$457,414	\$457,414	\$0
Cost-Based Avoided Elec Production	\$324,951	\$324,951	\$324,951	\$0
Cost-Based Avoided Elec Capacity	\$377,551	\$377,551	\$377,551	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$645,563
Net Lost Revenue Net Fuel	\$0	\$0	\$478,535	\$0
Administration Costs	\$13,331	\$13,331	\$13,331	\$0
Implementation Costs	\$24,177	\$24,177	\$24,177	\$0
Incentives	\$142,219	\$0	\$142,219	\$142,219
Other Utility Costs	-\$106,457	-\$106,457	-\$106,457	\$0
Participant Costs	\$0	\$454,696	\$0	\$472,166
Total Benefits	\$1,159,916	\$1,159,916	\$1,159,916	\$787,781
Total Costs	\$73,269	\$385,746	\$551,804	\$472,166
Benefit/Cost Ratios	15.83	3.01	2.10	1.67

Data represents present value of costs and benefits over the life of the program.

SC_Smart Saver - Heat Pump Tier 2 - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$324,741	\$324,741	\$324,741	\$0
Cost-Based Avoided Elec Production	\$378,980	\$378,980	\$378,980	\$0
Cost-Based Avoided Elec Capacity	\$184,919	\$184,919	\$184,919	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,252,193
Net Lost Revenue Net Fuel	\$0	\$0	\$644,831	\$0
Administration Costs	\$46,327	\$46,327	\$46,327	\$0
Implementation Costs	\$40,867	\$40,867	\$40,867	\$0
Incentives	\$721,176	\$0	\$721,176	\$721,176
Other Utility Costs	\$195,993	\$195,993	\$195,993	\$0
Participant Costs	\$0	\$889,347	\$0	\$1,329,368
Total Benefits	\$888,640	\$888,640	\$888,640	\$1,973,369
Total Costs	\$1,004,363	\$1,172,534	\$1,649,195	\$1,329,368
Benefit/Cost Ratios	0.88	0.76	0.54	1.48

Data represents present value of costs and benefits over the life of the program.

SC_Smart Saver - Heat Pump Tier 2 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$333,203	\$333,203	\$333,203	\$0
Cost-Based Avoided Elec Production	\$428,661	\$428,661	\$428,661	\$0
Cost-Based Avoided Elec Capacity	\$223,061	\$223,061	\$223,061	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,187,418
Net Lost Revenue Net Fuel	\$0	\$0	\$703,790	\$0
Administration Costs	\$50,870	\$50,870	\$50,870	\$0
Implementation Costs	\$44,662	\$44,662	\$44,662	\$0
Incentives	\$788,157	\$0	\$788,157	\$788,157
Other Utility Costs	-\$213,328	-\$213,328	-\$213,328	\$0
Participant Costs	\$0	\$1,118,684	\$0	\$1,452,837
Total Benefits	\$984,925	\$984,925	\$984,925	\$1,975,576
Total Costs	\$670,362	\$1,000,888	\$1,374,152	\$1,452,837
Benefit/Cost Ratios	1.47	0.98	0.72	1.36

Data represents present value of costs and benefits over the life of the program.

SC_Smart Saver - Heat Pump Tier 3 - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$214,882	\$214,882	\$214,882	\$0
Cost-Based Avoided Elec Production	\$257,853	\$257,853	\$257,853	\$0
Cost-Based Avoided Elec Capacity	\$129,284	\$129,284	\$129,284	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$851,977
Net Lost Revenue Net Fuel	\$0	\$0	\$438,735	\$0
Administration Costs	\$16,797	\$16,797	\$16,797	\$0
Implementation Costs	\$11,765	\$11,765	\$11,765	\$0
Incentives	\$276,815	\$0	\$276,815	\$276,815
Other Utility Costs	\$56,422	\$56,422	\$56,422	\$0
Participant Costs	\$0	\$656,033	\$0	\$980,618
Total Benefits	\$602,019	\$602,019	\$602,019	\$1,128,792
Total Costs	\$361,799	\$741,017	\$800,534	\$980,618
Benefit/Cost Ratios	1.66	0.81	0.75	1.15

Data represents present value of costs and benefits over the life of the program.

SC_Smart Saver - Heat Pump Tier 3 - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$114,496	\$114,496	\$114,496	\$0
Cost-Based Avoided Elec Production	\$172,582	\$172,582	\$172,582	\$0
Cost-Based Avoided Elec Capacity	\$94,480	\$94,480	\$94,480	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$472,927
Net Lost Revenue Net Fuel	\$0	\$0	\$280,307	\$0
Administration Costs	\$17,960	\$17,960	\$17,960	\$0
Implementation Costs	\$12,531	\$12,531	\$12,531	\$0
Incentives	\$294,850	\$0	\$294,850	\$294,850
Other Utility Costs	-\$58,798	-\$58,798	-\$58,798	\$0
Participant Costs	\$0	\$804,269	\$0	\$1,044,506
Total Benefits	\$381,557	\$381,557	\$381,557	\$767,777
Total Costs	\$266,543	\$775,963	\$546,850	\$1,044,506
Benefit/Cost Ratios	1.43	0.49	0.70	0.74

Data represents present value of costs and benefits over the life of the program.

SC_Smart Thermostat - Non-Referrred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$502,918	\$502,918	\$502,918	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$1,793,181
Net Lost Revenue Net Fuel	\$0	\$0	\$923,420	\$0
Administration Costs	\$25,093	\$25,093	\$25,093	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$252,160	\$0	\$252,160	\$252,160
Other Utility Costs	\$411,175	\$411,175	\$411,175	\$0
Participant Costs	\$0	\$337,389	\$0	\$504,319
Total Benefits	\$502,918	\$502,918	\$502,918	\$2,045,341
Total Costs	\$688,428	\$773,658	\$1,611,847	\$504,319
Benefit/Cost Ratios	0.73	0.65	0.31	4.06

Data represents present value of costs and benefits over the life of the program.

SC_Smart Thermostat - Referred				
	UCT	TRC	RIM	Participant
Avoided T&D Electric	\$0	\$0	\$0	\$0
Cost-Based Avoided Elec Production	\$290,046	\$290,046	\$290,046	\$0
Cost-Based Avoided Elec Capacity	\$0	\$0	\$0	\$0
Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$752,005
Net Lost Revenue Net Fuel	\$0	\$0	\$529,652	\$0
Administration Costs	\$11,153	\$11,153	\$11,153	\$0
Implementation Costs	\$0	\$0	\$0	\$0
Incentives	\$112,071	\$0	\$112,071	\$112,071
Other Utility Costs	\$182,744	\$182,744	\$182,744	\$0
Participant Costs	\$0	\$205,090	\$0	\$224,142
Total Benefits	\$290,046	\$290,046	\$290,046	\$864,076
Total Costs	\$305,968	\$398,987	\$835,620	\$224,142
Benefit/Cost Ratios	0.95	0.73	0.35	3.86

Data represents present value of costs and benefits over the life of the program.