Pepco Whole-Building, Deep Energy Retrofit Program
Final Annual Report for EEEC Task Force
Program Years 2023-2024

Background Information

On November 20, 2020, Order No. 20663, the Commission accepted and approved the Task Force recommendation to select ICAST (International Center for Appropriate and Sustainable Technology), a national 501c3 nonprofit, as the program implementer of the Pepco Whole-Building, Deep Energy Retrofit Program (the Program). The Program assists affordable multifamily building owners with energy efficiency retrofit financing and helps them identify other energy programs that could minimize their buildings' energy usage.

Program Goals

Four primary goals of this Program, all aimed at reducing energy consumption, lowering utility costs and preserving housing affordability, addressing climate change, and generating local jobs and economic opportunities. These four primary targets are listed below.

1. 10,000 LI households served with EE upgrades on their multifamily affordable housing (MFAH) properties.
    a. The Program served 3,186 households in total. The 10,000 households target was not achieved.
    b. At the behest of the FC1148 Taskforce, the program design was altered after its initial launch to omit direct install (DI) type projects. DI projects install low-cost energy efficiency measures (EEMs) such as lights, showerheads, aerators, pipe-wrap, thermostats, etc., that provide sufficient energy savings to make them free to the customer. A DI program spends very little rebate funds to garner a good amount of energy savings (i.e., the cost of rebate per kWh is very low). However, since DI projects are omitted from the multifamily Program in favor of deep energy retrofits, the cost per kWh saved is greater (since EEMs like heat pumps, windows, etc. are more expensive). This change in program design significantly impacts the number of households able to be served.
    c. c. As a result of this program change, in February 2023, ICAST proposed reducing the goal of the households served from 10,000 to 3,600. The Task Force rejected this proposal.
    d. Please see the 2022 Annual Report for more information.
2. Average energy savings exceeding 20% per building, across the portfolio of MFAH properties served by the program.
    a. This metric was not tracked.
    b. Utility consumption data was never provided to ICAST during the project duration. Therefore, we were significantly hindered in our ability to target desired projects and achieve this metric.

c. Benchmarking consumption data was able to be collected for 11 properties via https://buildingperformancedc.org/. These 11 properties achieved an average of 12% energy savings. Please see Appendix B for project details.

d. After program completion, the task force obtained electricity usage data for most of the project properties to complete the analysis (some were not sharable due to privacy concerns). Electricity data from 14 additional properties were analyzed. Note: three properties were omitted from the analysis because the results were found to be outliers, e.g., finding greater than 94% energy savings.

   i. One of the 14 properties was an all-electric building, so the electricity consumption data can be viewed as the same as benchmarking data. Adding this property, the average energy savings from the 12 benchmarked properties is 11%.

   ii. 13 of the 14 properties had some gas end uses, but gas meter data was not requested. The task force estimated gas consumption in other ways, most often based on project savings estimates generated by the Program. The average energy savings for all 25 projects is 23%. Estimating gas use creates uncertainty when evaluating the program's performance, so the 23% savings metric should be used with caution.

   iii. However, only 3 of 12 (25%) projects with benchmarking data included fuel-switching measures (i.e., replacing a gas appliance or system with an electric one), while 14 of 25 (56%) projects analyzed using the expanded data set included fuel switching measures. Stated differently, estimating gas use allowed the task force to analyze 13 additional projects, 11 of which (85%) included fuel-switching measures. Fuel-switching measures can drive large energy savings and could partially explain why the expanded analysis shows almost double the average savings per project.

3. 200 Million kWh of energy savings achieved, over the life of installed upgrades.
   a. This goal was met. The program achieved an estimated 321,760,098 lifetime kWh achieved or 161% of the goal

4. 270,000 Tons of Carbon emission reductions achieved, over the life of installed upgrades.
   a. The Program achieved an estimated 224,778 tons of carbon emission reductions. The 270,000 tons target was not achieved.

Outreach and Education Efforts

In 2023, the Program did not conduct any major marketing or outreach campaigns due to the allocation of the program's incentive budget. In September the Program distributed a notice that the Program was winding down with limited funding available.

2024 Program Extension

Six projects that were initially expected to be completed in 2023 experienced delays that resulted in completion dates being pushed back to 2024. For example, supply chain disruptions lengthened building material delivery times. To facilitate the completion of these projects and exhaustion of program budget, ICAST agreed to administer the Program beyond its end-of-2023 expected close date at no additional fee.

Please note that the entirety of the Program budget has been spent.

2021-2024 Program Impact

Completed Projects	2021	2022	2023/24	Total
Number of Households Served	54	1,266	1866	3,186
Annual Electric Savings (kWh)	2,824,754	1,758,381	5,303,584	9,886,720
Annual Gas Savings (therms)	12,890	110,231	184,011	307,133
Lifetime Electric (kWh) & Gas Savings (Converted to kWh)	56,737,033	83,134,318	181,888,748	321,760,098

2021-2024 Budget Spend

Completed Projects	2021	2022	2023/24	Total
Annual Planned Budget Spend (non-participant paid)	$2.55M	$2.55M	$6.15M	$11.25M
Annual Actual Budget Spend (non-participant paid)	$2.17M	$3.19M	$5.89M	$11.25M
% of Budget Allocated to Project Incentives	65%	76%	87%	80%
Total Project Expenses, including participant-paid costs	$4.60M	$6.00M	$10.40M	$21.00M
Budget spent on Health & Safety measures	$0.00	$0.00	$0.00	$0 .00
Outside funding leveraged to achieve energy savings credited to this program	$3.20M, from Property Owners	$2.40M, from Property Owners	$5.20M, from Property Owners	$10.80M, from Property Owners

Energy Efficiency Measures (EEM) Installations Completed

Please note that quantities are determined by the number of EEMs entered into energy savings methodology stipulated by the Mid Atlantic Technical Resource Manual.

Example: If 5 screw-in incandescent light bulbs were replaced by 5 screw-in LED light bulbs that would result in a quantity of 5 lighting. If 10 incandescent lighting fixtures were replaced by 10 LED fixtures that would result in a quantity of 10 lighting measures. In this example, a total of 15 lighting measures were completed.

		Installed EEM Quantity by Year				
EEM Name	***EEM Description***	***Year 2021***	***Year 2022***	***Year 2023***	***Year 2024***	***Total by EEM***
Air Conditioner	In-unit HVAC	0	0	100	0	***100***
Appliances	In-unit kitchen appliances	334	66	162	0	***562***
Bath Aerators	In-unit bathroom faucet	101	84	171	0	***356***
Boiler	Central heating	3	14	0	1	***18***
Chiller	Central cooling	0	2	0	0	***2***
DHW Pipe Insulation	Hot water distribution insulation	0	33	0	0	***33***
Domestic Hot Water	Central & In-unit water heating	2	89	1	8	***100***
Doors	Exterior glass doors	72	48	118	0	***238***
Heat Pump	In-unit HVAC	189	118	351	127	***785***
Insulation	Building shell insulation in linear feet	0	7,986	20,149	0	***28,135***
Kitchen Aerators	In-unit kitchen faucet	99	66	169	0	***334***
LED Lights	Lamps and fixtures	836	371	3,674	114	***4,995***
Showerheads	Bathroom showerheads	99	83	171	0	***353***
T-Stats	Smart thermostats	0	79	341	0	***420***
Variable Frequency Drives	Pumps and motors	0	2	4	0	***6***
Windows	Exterior glass windows	1,192	185	273	0	***1,650***
Total by Year		***2,927***	***9,226***	***25,684***	***250***	***38,087***

2023/24 Project Summary

The Program wound down site assessment work at eligible multifamily affordable housing properties spread across the District and concentrated resources on closing out existing projects.

In 2023/24 there were 22 completed projects approved and credited to the program. Completed

Projects are those which have successfully installed energy efficiency measures, the associated energy savings has been processed through the program and an incentive has been paid to the customer.

Income qualification is based on a majority of the tenants earning less than 80% of area median income (AMI), as evidenced by the tenants' incomes and certified by the property owner/manager, or the average rents at the multifamily property being less than 80% of average market rent, as evidenced by the rent roll provided by the property owner/manager. All projects below occurred at properties certified as income-qualified under these guidelines.

Pepco Project Number	# of Units [1]	Ward #	Property Quadrant	BEPS compliant [2]	Total Project Cost	Owners Contribution	Project Complete Date
40 P1	0 [3]	8	Southeast	N/A	$108,220.00	$26,000.00	01/04/23
56	4	7	Southeast	N/A	$19,500.00	$14,004.00	01/31/23
31 P2	48	8	Southeast	N/A	$58,192.00	$51,109.00	01/31/23
35 P3	0	8	Southeast	N/A	$1,039,252.79	$207,851.00	03/16/23
13 P2	56	4	Northwest	N/A	$1,746,543.00	$925,000.00	04/11/23
40 P2	12	8	Southeast	N/A	$51,593.00	$17,005.00	04/24/23
8 P2	14	4	Northwest	N/A	$17,892.69	$4,150.00	05/04/23
35 P4	0	8	Southeast	N/A	$500,061.33	$100,012.00	05/09/23
58	51	5	Northeast	N/A	$58,008.00	$43,319.00	05/19/23
4 P3	325	8	Southeast	No	$ 500,000.00	$ 400,000.00	05/19/23
57	31	5	Northeast	N/A	$40,443.00	$30,761.00	05/24/23
48	9.0	2	Northwest	N/A	$130,011.96	$55,145.10	05/25/23
35 P5	0	8	Northwest	N/A	$713,067.00	$142,613.00	08/17/23
49	64	4	Northwest	Yes	$30,000.00	$21,083.00	10/09/23
35 P6	0	8	Northwest	N/A	$1,555,285.22	980,000	10/09/23
35 P7	379	8	Southeast	N/A	$1,555,285.22	$879,557.00	10/09/23
65	222	8	Southeast	N/A	$1,855.00	$584.00	11/30/23
63	79	7	Southeast	N/A	$320,000.00	$92,668.00	01/23/24
66	166	8	Southeast	N/A	$38,919.00	$30,703.00	01/23/24
69	12	8	Southeast	N/A	$713,067.00	$582,613.00	01/23/24
70 P1	0	8	Northwest	N/A	$1,088,750.00	$548,249.99	02/09/24
70 P2	394	8	Southeast	N/A	$685,000.00	$288,484.00	03/13/24

1 Occasionally energy efficiency projects will desire to submit their project in multiple phases. Projects with "P#" indicate a phased submission. This is often done due to cash flow considerations for the program participant or due to installation timeline impacts such as supply chain disruptions. Phases are sometimes broken up by physical space (e.g. building 1 submitted in phase 1, building 2 submitted in phase 2, and so forth) and in other instances broken up by equipment (e.g. all HVAC energy efficiency measures will be submitted in phase 1 and all windows/insulation measures will be submitted in phase 2).

2 Properties that are over 25,000 sq ft are required to benchmark their energy usage. Properties that are over 50,000 sq ft are currently required to comply with D.C.'s Building Energy Performance Standard

(BEPS). A "Yes" in this column means that the property is covered by BEPS and does meet the multifamily performance standard (has an Energy Star score of 66 or above). A "No" in this column means that the property is covered by BEPS and does not meet the multifamily performance standard (has an Energy Star score less than 66). A "N/A" in this column means that the property is not currently covered by BEPS due to its square footage.

3 To avoid 'double counting' households served for phased projects, only the final phase will include the quantity of households. Unit Quantity will be entered as "0" for all phases preceding.

Lessons Learned

As the project ends, the EEEC Task Force records the following lessons learned for the Commission and possible future project designers and implementers.

Program and Metric Tracking

The Task Force spent effort at the beginning of program implementation developing a monthly report template to track project status. The report template evolved over time as additional questions were raised and clarification was needed about data being added (The final report template to the Task Force can be found in Appendix A). Similar programs in the future would benefit from agreeing upon the tracking framework, the required data and the party or parties responsible for providing data, measure categories, and reporting interval ahead of time so that the Task Force can focus more on program oversight. At least one major program measure, percent savings per building, was not able to be tracked due to reasons explained further below.

One confusing element of program reporting was due to a decision early during implementation to count natural gas savings. The Task Force spent time determining how gas savings would be tracked and reported, which types of measures could be counted, and the rebate amounts for different types of gas-related measures (direct replacement v. fuel switching). It is best to raise these considerations and agree upon them before starting program implementation.

Program Modifications

Several program design changes were considered after program approval by the Commission. Some changes were approved without evaluation of impacts on program goals, while other changes were discussed but did not progress past discussion because of the challenge of performing analysis of potential impacts without a clear process set for who would create such analyses, especially if it involved sensitive data. Most of these changes were made to address concerns about achieving deep energy savings; see more detail further below. While changing rules can be a challenge, a novel program like this one could have benefitted from flexibility so that different approaches could be trialed without formal approval or necessarily jeopardizing an implementor's goals or compensation.

Leveraging Outside Funding for Energy Savings

Bringing external resources to bear was a challenge due to complications regarding sharing credit for projects. Early in the project, the Task Force discussed how the Program could utilize DCSEU funding for projects by sharing credit for energy savings from joint project measures, but no agreement was reached. Some Task Force members believed that any program providing incentives towards a project should be allowed to claim savings, much like how an energy efficiency program and a building owner

can both claim project savings and without a prearranged agreement pertaining to such claims. However, other Task Force members believed that as managers of funds for public benefit, the Program and the DCSEU should not claim overlapping savings from shared projects. If the Commission approves a future program where accessing external resources is a goal or a likely scenario, it should consider providing guidance on how program savings can be shared between incentive providers prior to program launch.

Note that the Program did not submit program savings to the PJM capacity market, so sharing savings for that market was not an issue—DCSEU would have claimed full savings from the project without objection from the Task Force or the Program.

Measuring Energy Savings

It was difficult for the Task Force to track the average percentage of energy savings per building across the portfolio of projects, one of the program's key performance indicators. Many project buildings were not covered by D.C.'s public benchmarking law, and there was difficulty accessing aggregated utility data for other buildings for the purposes of this analysis. This metric was therefore not fully tracked during program implementation. While it's common for multifamily energy efficiency programs to not include the collection of post-retrofit energy usage data because of data access challenges, having such data would help assess whether the project met the energy savings performance metric. In the future, programs should assess whether the necessary building-level aggregated data are available to evaluate program performance when setting performance metrics.

The Task Force assessed progress towards this goal based on general perceptions of energy savings levels based on energy efficiency measure types by project. ICAST brought to the Task Force's attention the need to include space and water heating measures, the largest sources of energy usage in multifamily buildings, to achieve deep energy savings. This included existing gas heating equipment. The Task Force agreed to ICAST's request to include gas measures in the program but recommended that ICAST pursue fuel switching to electric heat pumps, which are more efficient than gas furnaces. To support building owners in pursuing fuel switching, the Task Force discussed potentially increasing rebate amounts for heat pumps. However, the change was not agreed to because it would have occurred after the project pipeline was nearly full. Nonetheless, the program did support partial or complete fuel switching from gas to electric heating in 23 projects vs. 13 projects without any fuel switching that included like-for-like gas heating equipment replacements (Note: the change in the program design to include more expensive gas measures and the lack of the Program's ability to access DCSEU incentives for direct install measures impacted the households served goal as discussed earlier in the report).

For future deep energy retrofit programs, it is recommended that the Commission provide a clear mandate to provide utility data to support better tracking of energy savings and consider increased rebate amounts for fuel-switching measures.

Appendix A: December Monthly Task Force Report (through 4/15/2024)

Pepco Multifamily Monthly Taskforce Report - March 2024

Completed Projects

Completed Projects

Project #	BEPS Compliant	# of Units	Zipcode	Ward + Quadrant	Rebate Amount	Electric Savings (kWh)	Gas Savings (Therms)	Lifetime Savings (kWh)	Customer Share	Percent Energy Savings	Status	Gas End Uses	Fuel Switch	Fuel Switch Savings (Therms)	EEMS
7	No	205	20009	1 Northwest	$211,431	314,792	0	4,654,548	39%	7%	Complete		No	0	"Boilers, Chillers, Lighting, VFDs"
15	N/A < 25k SF	9	20019	7 Southeast	$83,084	103,289	39	1,778,145	37%		Complete		Yes	3,458	"Heat Pumps, T-Stats, Water Heaters"
34	N/A < 25k SF	16	20019	7 Southeast	$148,245	110,020	9,340	6,310,926	21%		Complete		Yes	8,417	"Heat Pumps, Pipe Wrap, T-Stats, Water Heaters"
48	N/A < 25k SF	9	20001	2 Northwest	$74,867	70,166	3,328	2,628,354	42%		Complete		Yes	3,328	"Aerators, Heat Pumps, Shower Heads, Water Heaters"
23 P1	N/A < 25k SF	0	20032	8 Southeast	$20,041	0	1,709	1,002,036	55%		Complete		No	0	Boilers
23 P2	N/A < 25k SF	10	20032	8 Southeast	$25,581	24,772	1,080	727,639	51%		Complete		Yes	1,080	"Aerators, Shower Heads, Water Heaters"
24 P1	N/A < 25k SF	0	20032	8 Southeast	$27,064	0	2,308	1,353,182	50%		Complete		No	0	Boilers
24 P2	N/A < 25k SF	14	20032	8 Southeast	$35,942	33,833	1,559	1,027,849	38%		Complete		Yes	1,559	"Aerators, Shower Heads, Water Heaters"
40 P1	N/A < 25k SF	0	20032	8 Southeast	$84,849	61,739	5,499	3,572,561	24%		Complete		Yes	5,499	"Heat Pumps, Water Heaters"
40 P2	N/A < 25k SF	12	20032	8 Southeast	$36,590	25,715	2,484	1,756,265	33%		Complete		Yes	2,484	"Heat Pumps, T-Stats"
8 P1	N/A < 25k SF	0	20011	4 Northwest	$198,375	247,969	0	4,463,438	27%		Complete		Yes	8,460	Heat Pumps
8 P2	N/A < 25k SF	14	20011	4 Northwest	$15,893	19,866	0	357,585	23%		Complete		No	0	"Aerators, Heat Pumps, Shower Heads"
1	N/A < 25k SF	54	20003	6 Southeast	$80,207	0	6,841	3,707,018	28%		Complete	SH & DHW	No	0	"Boilers, Water Heaters"
11	N/A < 25k SF	5	20032	8 Southeast	$24,887	24,548	918	894,453	72%		Complete	SH & DHW	Yes	837	"Aerators, Heat Pumps, Insulation, Lighting, Pipe Wrap, Shower Heads, T-Stats"
14	N/A < 25k SF	9	20019	7 Southeast	$15,544	0	1,326	777,200	41%		Complete	SH & DHW	No	0	Boilers
16	No	80	20019	7 Northeast	$58,912	73,640	0	1,693,720	61%	3%	Complete	SH & DHW	No	0	Chillers
25	Yes	329	20032	8 Southwest	$62,096	0	5,297	2,018,133	18%	3%	Complete	DHW	No	0	Water Heaters
30	N/A < 25k SF	16	20003	6 Northeast	$21,241	0	1,812	954,768	23%		Complete	SH & DHW	No	0	"Boilers, Water Heaters"
33	N/A < 25k SF	58	20007	2 Northwest	$83,620	0	7,132	3,860,465	65%		Complete	SH & DHW	No	0	"Boilers, Water Heaters"
38	Yes	299	20008	3 Northwest	$444,952	0	37,952	19,887,579	48%	26%	Complete	SH & DHW	No	0	"Boilers, Water Heaters"

39	N/A < 25k SF	13	20010	4 Northwest	$69,041	41,865	5,513	3,210,898	84%		Complete	SH & DHW	Yes	5,513	"Heat Pumps, Water Heaters"
49	Yes	64	20007	4 Northwest	$8,917	11,146	0	133,753	70%	5%	Complete	None	No	0	Window A/C Units
56	N/A < 25k SF	4	20019	7 Southeast	$5,496	9,518	0	185,441	72%		Complete	DHW	No	0	"Heat Pumps, Insulation"
57	N/A < 25k SF	31	20011	5 Northeast	$9,683	12,103	0	181,551	76%		Complete	None	No	0	VFDs
58	N/A < 25k SF	51	20011	5 Northeast	$14,688	18,360	0	275,403	75%		Complete	None	No	0	VFDs
63	N/A < 25k SF	79	20019	7 Southeast	$227,332	0	19,390	10,229,961	29%		Complete	SH	No	0	Boilers
65	N/A < 25k SF	222	20032	8 Southeast	$1,271	6,357	0	127,132	31%		Complete	None	No	0	Lighting
66	N/A < 25k SF	166	20032	8 Southeast	$8,215	41,077	0	568,363	79%		Complete	None	No	0	Lighting
69	N/A < 25k SF	12	20020	8 Southeast	$125,402	123,779	4,091	4,386,277	82%		Complete	SH & DHW	Yes	4,091	"Heat Pumps, T-Stats"
13 P1	N/A < 25k SF	0	20011	4 Northwest	$242,358	321,572	725	5,489,967	80%		Complete	SH	Yes	8,310	"Heat Pumps, Insulation, Water Heaters"
13 P2	N/A < 25k SF	56	20011	4 Northwest	$349,309	463,478	1,045	7,912,625	53%		Complete	SH	Yes	1,045	"Heat Pumps, Insulation, Water Heaters"
2 P1	N/A < 25k SF	0	20020	8 Southeast	$382,781	843,402	0	15,032,589	69%		Complete	SH & DHW	Yes	25,373	"Heat Pumps, Lighting, Refrigerators, Windows"
2 P2	N/A < 25k SF	0	20020	8 Southeast	$461,687	1,013,518	0	18,073,779	69%		Complete	SH & DHW	Yes	30,329	"Heat Pumps, Lighting, Refrigerators, Windows"
2 P3	N/A < 25k SF	0	20020	8 Southeast	$388,915	852,258	0	15,204,407	69%		Complete	SH & DHW	Yes	25,461	"Heat Pumps, Lighting, Refrigerators, Windows"
2 P4	N/A < 25k SF	189	20020	8 Southeast	$74,051	0	6,316	2,406,662	69%		Complete	SH & DHW	No	0	Water Heaters
31 P2	N/A < 25k SF	48	20020	8 Southeast	$7,083	14,165	0	283,310	88%		Complete	DHW	No	0	"Heat Pumps, Insulation, Lighting, Water Heaters"
35 P1	N/A < 25k SF	0	20020	8 Southeast	$138,747	0	11,834	4,509,291	71%		Complete	SH & DHW	No	0	Water Heaters
35 P2	N/A < 25k SF	0	20020	8 Southeast	$370,325	369,028	11,647	12,771,018	44%		Complete	SH & DHW	Yes	11,647	"Heat Pumps, T-Stats"
35 P3	N/A < 25k SF	0	20020	8 Southeast	$831,402	826,016	26,455	28,777,942	20%		Complete	SH & DHW	Yes	26,455	"Heat Pumps, Lighting, T-Stats"
35 P4	N/A < 25k SF	0	20020	8 Southeast	$400,049	398,893	12,551	13,784,703	20%		Complete	SH & DHW	Yes	12,551	"Heat Pumps, T-Stats"
35 P5	N/A < 25k SF	0	20020	8 Northwest	$570,454	567,958	18,003	19,693,151	20%		Complete	SH & DHW	Yes	18,003	"Heat Pumps, T-Stats"
35 P6	N/A < 25k SF	0	20020	8 Northwest	$570,121	566,519	18,130	19,731,633	63%		Complete	SH & DHW	Yes	18,130	"Heat Pumps, T-Stats"
35 P7	N/A < 25k SF	379	20020	8 Southeast	$673,836	1,410,801	15,493	26,001,146	57%		Complete	SH & DHW	Yes	15,493	"Heat Pumps, Lighting, T-Stats"
4 P1	No	0	20032	8 Southeast	$110,464	115,576	6,049	4,719,240	80%	20%	Complete	SH & DHW	No	0	"Aerators, Low-Flow, Refrigerators, Shower Heads, Windows"
4 P2	No	0	20032	8 Southeast	$72,171	76,650	3,724	3,014,343	80%	20%	Complete	SH & DHW	No	0	"Aerators, Low-Flow, Refrigerators, Shower Heads, Windows"
4 P3	No	325	20032	8 Southeast	$176,450	187,803	9,078	7,365,600	80%	20%	Complete	DHW	No	0	"Aerators, Low-Flow, Refrigerators, Shower Heads, Windows"
70 P1	N/A < 25k SF	0	20032	8 Northwest	$548,250	270,330	28,127	19,645,909	50%		Complete	SH & DHW	Yes	27,724	"Heat Pumps, Water Heaters"
70 P2	N/A < 25k SF	394	20032	8 Southeast	$396,516	197,796	20,338	14,290,083	42%		Complete	SH & DHW	Yes	165,197	Heat Pumps
8 P3	N/A < 25k SF	14	20011	4 Northwest	$11,565	16,403	0	328,059	25%		Complete	None	No	0	"Insulation, Windows"
Total		**3,186**			**$9,000,000**	**9,886,720**	**307,134**	**321,760,098**						**430,444**	

Report Key

Status Definitions

Complete	EEM install is complete
In Progress	Work to install EEMs is underway
Reserved	Customer has agreed to project scope and is planning for the retrofit

Yellow highlighted projects are new since last report

Blue highlighted projects which appeared on last month's report, that have changed Status since last report

**Therm savings from fuel switch projects are converted to kWh savings. The therm savings represented here are to show the savings but should not be included in the total energy savings for a project to avoid double counting*

Column Definitions

Project #	Projects are numbered for privacy issues	**Lifetime Savings (kWh)**	Energy savings (converted to kWh) times the effective useful life (EUL) of a measure gives Lifetime savings
BEPS Compliant	Are the buildings on this property compliant with BEPS Program?	**Customer Share**	The percentage share of the project cost paid by the customer
# of Units	Number of units for the whole property	**Percent Energy Savings**	The % savings for the retrofit project (energy savings from project divided by total energy consumption for property)
Zipcode	The zipcode of the property	**Status**	See adjacent "Status Definitions" legend
Ward + Quadrant	The DC ward number and quadrant of the property	**Gas End Uses**	SH=Space Heating , DHW= Domestic Hot Water Heating
Electric Savings (kWh)	Annual kWh savings derived from the Mid-Atlantic TRM	**Fuel Switch**	Is the property switching from one fuel source (i.e. gas) to another (i.e. electric)?
Gas Savings (Therms)	Estimated annual therm savings derived from the Mid-Atlantic TRM	**EEMS**	A list of Energy Efficiency Measures (EEMs) installed

Appendix B: Supplemental Benchmarking Data

Project No.	Percent Savings
1	35%
4	20%
7	7%
11	31%*
15	76%*
16	3%
23	33%*
24	34%*
25	3%
31	2%
33	27%
34	24%*
35	64%*
38	26%
39	18%*
40	31%*
48	57%*
49	5%
57	2%
58	2%
63	17%*
65	1%
66	2%*
70	23%*

* Percent Energy Savings are typically calculated from annual energy savings estimates for the implemented EEMs divided by the building's actual energy baseline from energy benchmarking reports to the Department of Energy and Environment. A value noted with (*) indicates that the building did not have complete energy benchmarking data, and its energy baseline is based in part on estimated gas usage.

Appendix C: Survey Results

The Program submitted survey requests to all properties which received incentives. Nine survey responses were received. Over the course of the three plus year program, implementation surveying questions did change. Responses are included below.

2022 Survey Responses

Question	Answers
Understood my unique business needs	Thumbs Up
Very knowledgeable about the solutions they presented to me	Thumbs Up
Listened to my unique circumstances and was responsive to my questions/needs	Thumbs Up
OK with the frequency that your ICAST sales representative contacted you?	Thumbs Up
Receive responses in a timely manner?	Thumbs Up
Likely to refer your ICAST sales representative to a peer of yours?	Thumbs Up
One thing we could improve upon,what would that be?	All Good
State	DC
Numeric Score	10
Monthly Average Score	10

Question	Answers
Overall Impression	5
Meeting Project Schedule	10
Keeping You Informed	10
Responding Timely and Effectively	10
Meeting Quality Expectations	10
Safe Worksite	10
Professionalism of Staff	10
Any additional comments on how we could improve the services we provide to you?	Very happy with the work & will work with them again. There is a problem Miguel & I are working on right now regarding the size of the HVAC unit. There's a meeting about it and he's to get back with me on it. In the future I would appreciate if ICAST can also explain to the client why a certain HVAC unit was used. Was it for the building size, or for a larger rebate from Pepco.
State	DC

Average Customer Satisfaction Score	**9.29**

Question	Answers
Overall Impression	10
Meeting Project Schedule	10
Keeping You Informed	10
Responding Timely and Effectively	10
Meeting Quality Expectations	10
Safe Worksite	10
Professionalism of Staff	10
Any additional comments on how we could improve the services we provide to you?	One thing that I didn't like was the transparency in terms of what grants or subsidies will be generated by the project and how much of that money will flow to us. I also didn't like that there was a change in plans partway through the project, so the outcome was different from what we expected. We were told that there were reasons for the changes but because I can't verify that for myself I have mixed feelings about the changes made. I did really like the team who worked on the project and overall am satisfied with the outcome.
State	DC

Average Customer Satisfaction Score	**10**

Question	Answers
Overall Impression	10
Meeting Project Schedule	10
Keeping You Informed	10
Responding Timely and Effectively	5
Meeting Quality Expectations	10
Safe Worksite	10
Professionalism of Staff	10
Any additional comments on how we could improve the services we provide to you?	
State	DC

Average Customer Satisfaction Score	**9.29**

Question	Answers
Overall Impression	10
Meeting Project Schedule	10
Keeping You Informed	10
Responding Timely and Effectively	10
Meeting Quality Expectations	10
Safe Worksite	10
Professionalism of Staff	10
Any additional comments on how we could improve the services we provide to you?	Amazing team to work with!
State	DC

Average Customer Satisfaction Score	**10**

Question	Answers
How satisfied were you with the utility rebate process?	10
Did you consider the cash rebate amount to be sufficient?	10
How satisfied were you the speed of the rebate process?	10
Would you recommend the utility rebate program to your peers?	10
Additional Comments	This process was great and the people were very helpful!
State	DC

Average Customer Satisfaction Score	**10**

Question	Answers
How satisfied were you with the utility rebate process?	10
Did you consider the cash rebate amount to be sufficient?	10
How satisfied were you the speed of the rebate process?	5
Would you recommend the utility rebate program to your peers?	10
Additional Comments	
State	DC

Average Customer Satisfaction Score	**8.75**

2023 Survey Results

Question	Answers
How satisfied were you with the utility rebate process?	5
Did you consider the cash rebate amount to be sufficient?	10
How satisfied were you the speed of the rebate process?	5
Would you recommend the utility rebate program to your peers?	10
Additional Comments	We lost a lot of time on one of our projects waiting for a scope of work... six months seems a bit excessive. On the other hand, Erika Michels was wonderful to work with!
State	DC
Average Customer Satisfaction Score	7.5

Question	Answers
How satisfied were you with the utility rebate process?	10
Did you consider the cash rebate amount to be sufficient?	10
How satisfied were you the speed of the rebate process?	10
Would you recommend the utility rebate program to your peers?	10
Additional Comments	ICAST rep (Erika Michels) made the process seamless from an owner's perspective. She kept us informed throughout the process.
State	DC