DTE CleanVision Energy Efficiency

Energy Efficiency

2023 ANNUAL REPORT

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DTE CleanVision Energy Efficiency

CleanVision and its relationship to Energy Efficiency[1]

CleanVision is DTE Energy's goal of net zero carbon emissions by 2050. DTE will achieve our clean vision through many different efforts including clean energy sources, infrastructure improvements and by promoting energy-saving programs and measures. CleanVision is why DTE has Energy Efficiency (EE) programs.

Our bold net zero carbon emissions goal sets the framework for DTE to go beyond our prior commitments. Our goals to reduce carbon emissions 65% by 2028 and 90% by 2040, ensure our medium- and long-term plans align with the scientific consensus around the importance of achieving significant economy-wide emissions reduction by 2050.

We are committed to providing what you told us is most important to you, programs that are reliable, affordable and clean. Our CleanVision plan will help prepare Michigan for future energy demands and meets the fast-evolving needs of the customers and communities we proudly serve. Our EE programs provide options for customers to save money and energy and offer residential and business customers the opportunity to meet their own sustainability goals.

We all need to do our part to help protect the environment for our families and generations to come. Reducing carbon emissions is key to combatting climate change. It is our collective responsibility to do whatever it takes to make positive and lasting changes for a healthier planet and our EE programs help us achieve those goals.

1 The terminology Energy Waste Reduction as referenced in Michigan's Public Act 342 is synonymously referred to as Energy Efficiency throughout this annual report.

Executive Summary

This annual report highlights the results of DTE Energy's (DTE's) 2023 Energy Efficiency (EE) Portfolio and summarizes changes and achievements of the portfolio's programs. The EE Portfolio comprises many specific programs within the Residential, Income-Qualified, Commercial and Industrial (C&I), Education and Awareness, and Pilot programs.

The EE Portfolio launched in June 2009 as a result of the Clean, Renewable and Efficient Energy Act, also known as Public Act 295 (PA 295), and as amended by Public Act 342 of 2016 (PA 342). Michigan's EE standard requires all gas and electric utilities in the state to implement programs to reduce overall energy usage to reduce the future costs of gas and electric service to customers. This report complies with Section 97(1) of PA 295. Figure 1 highlights the energy savings targets required by this legislation.

Since the initial 2009 EE Portfolio launch, DTE continues to enhance the scope of existing programs and add new program options to the portfolio. Customers have upgraded equipment in their homes and businesses, helping them to become more energy efficient. DTE has also provided its customers with education, tips, strategies and tools to help save money on their energy bills. As a result, customers have seen many benefits throughout the portfolio's existence, as Figure 1 indicates.

490+
Michigan-based jobs created in 2023

$378.8M
electric savings from current and future energy costs

$67.7M
gas savings from current and future energy costs

Figure 1

		Electric	Gas
PA 295 Legislation Energy Savings Target Requirements	2009	0.3%	0.1%
	2010	0.5%	0.25%
	2011	0.75%	0.5%
	2012-2023*	1%	0.75%
Cumulative Customer Benefits: 2009-2023	Participants	10.3 million	5.0 million
	Customer Savings	10,048 GWh	23,758 MMcf
DTE EE Portfolio Benefits: PY2023	Total Verified Savings	958 GWh	2,096 MMcf
	Minimum Legislative Requirement	444 GWh	1,418 MMcf
	Planned Percentage of Retail Sales	2.00%	1.05%

*Beyond 2021, the level of electric energy efficiency savings is determined by the utility's integrated resource plan.

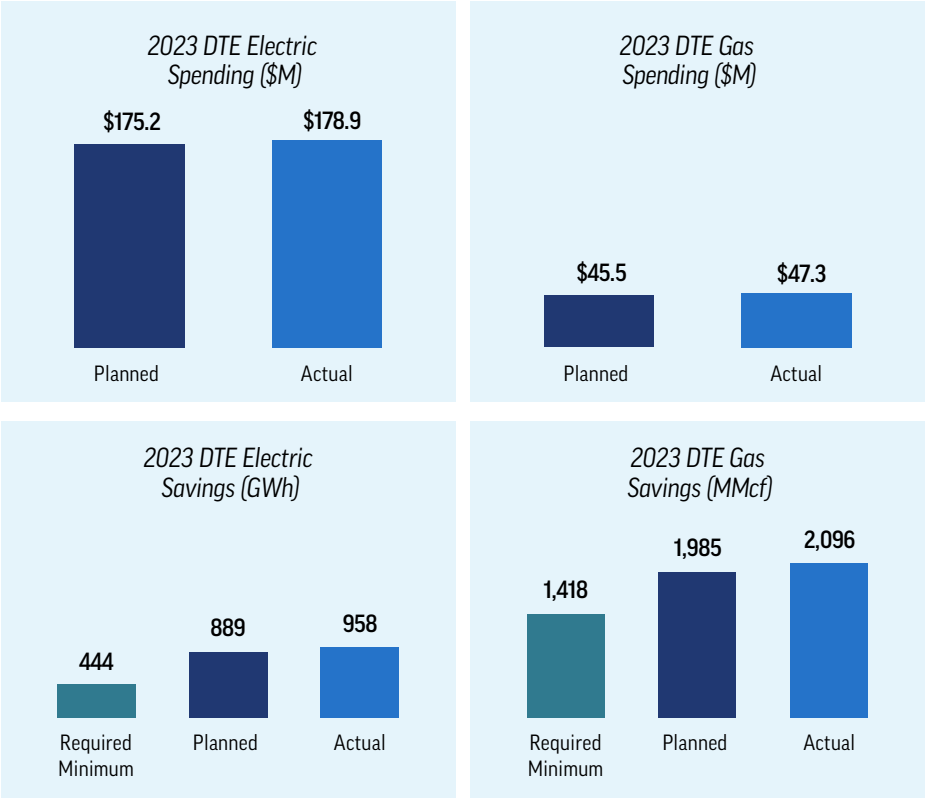
Chart 1 summarizes the overall EE Portfolio's 2023 spending and verified net savings for DTE Electric and DTE Gas.

DTE performs cost-effectiveness tests to confirm the benefits of the EE Portfolio exceed the costs for DTE and its customers. DTE uses the Utility System Resource Cost Test (USRCT) to measure the effectiveness of the EE Portfolio. Specifically, the goal of the EE Portfolio (not including Income-Qualified programs) is to meet the minimum required USRCT ratio of 1.00.[2] This test provides the perspective of the program as a resource for DTE in planning present and future resources to meet our growing demand for energy. When the test is higher than 1.00, this indicates the programs are a cost-effective resource. In 2023, DTE Electric achieved a USRCT ratio of 2.04 and DTE Gas achieved a USRCT ratio of 1.59. In 2023, DTE's combined electric and gas savings equal lifetime greenhouse gas reductions of 6.6 million metric tons of carbon dioxide (CO_2), 3,209 metric tons of nitric oxide (NO_x), and 3,349 metric tons of sulfur dioxide (SO_2).

In 2023, DTE implemented its EE Portfolio as outlined in the 2022-2023 Energy Waste Reduction (EWR) Plan. DTE used implementation contractors and built strong networks to deliver energy efficiency programs throughout Michigan that focus on:

- **Education and Awareness:** DTE provides energy efficiency education and raising awareness of EE offerings by enhancing communications and messaging while leveraging new trends in digital and social media communication channels. DTE also is using targeted marketing to meet segment-specific needs for energy efficiency information while using traditional mass media focused on the non-energy benefits of energy efficiency improvements.
- **Pilots:** Over the years, DTE's ability to run the Pilot program effectively has continued to improve through the maturity of systems and back-office processes. In 2023, DTE continued increasing its Pilot program activity.
- **Residential:** Through its residential programs, DTE offers homeowners products, services and rebates including appliance recycling; lighting; appliances; heating, ventilating and air conditioning (HVAC); weatherization; home energy assessments; and income-qualified, energy education and behavioral programs.
- **Income-Qualified:** DTE works with government agencies and community organizations to bring energy and payment assistance to income-qualified residents. DTE is increasing its EE offerings to assist these customers in reducing their energy use and managing their utility costs.
- **C&I:** DTE continues to offer various ways for its commercial customers to participate in C&I programs in 2023. The programs focus on increasing customer awareness to broaden participation. Several initiatives included commercial energy audits and an engineered efficient compressed air nozzle offering. C&I programs also proactively focus on relationship development with organizations such as the U.S. Green Building Council and Leadership in Energy and Environmental Design to encourage energy efficient building design and construction.

Chart 1 – 2023 EE Portfolio Spending and Verified Net Savings



2 The calculations exclude Income-Qualified programs per Section 71(4) (g) of PA 295, which specifically excludes Income-Qualified in the cost-effectiveness requirement.

Portfolio Summary

Goals and Targets

The operational goal of DTE's 2023 Energy Efficiency (EE) Portfolio was to continue growing customer acceptance and adoption of EE measures. Specifically, the 2023 goals were to:

1. Achieve electric energy savings of 2% of 2022 planned retail sales, or 889 gigawatt-hours (GWh), and legislated gas energy savings of 1.05% of 2022 planned retail sales, or 1,985 million cubic feet (MMcf).
2. Ensure EE programs are cost-effective. DTE performs cost-effectiveness tests to confirm the benefits of the EE Portfolio exceed the costs for DTE and its customers. DTE uses the Utility System Resource Cost Test (USRCT) to measure the effectiveness of various EE programs. Specifically, the EE Portfolio's goal (not including Income-Qualified programs) is to meet the minimum required USRCT ratio of 1.00.

Chart 2 – 2023 EE Portfolio Spending and Verified Net Savings

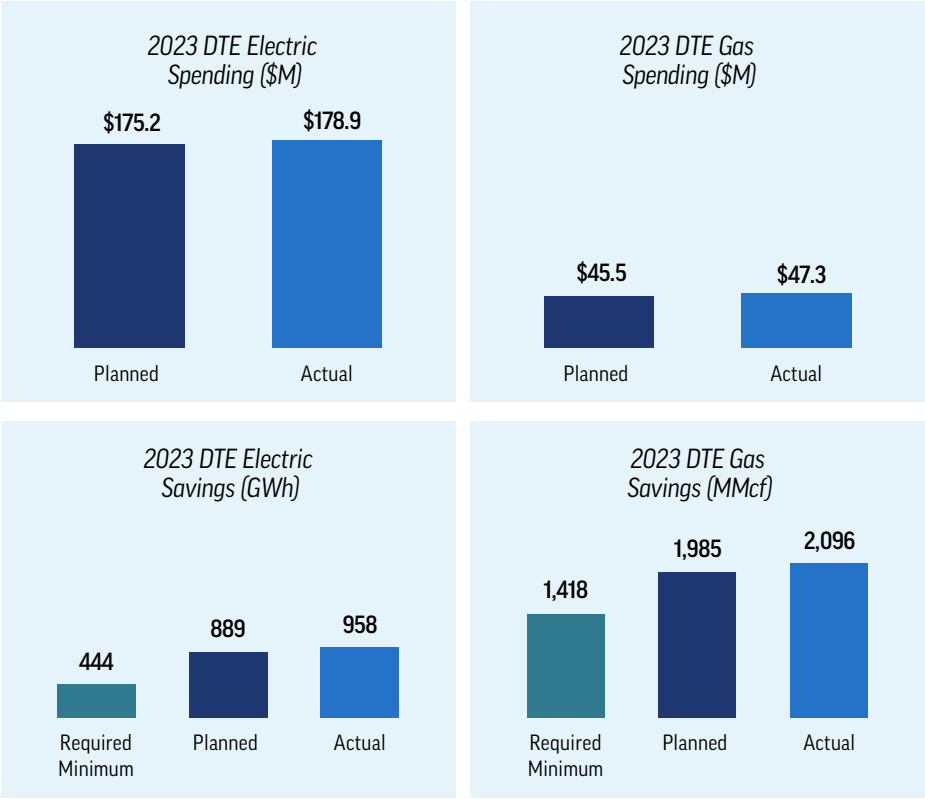
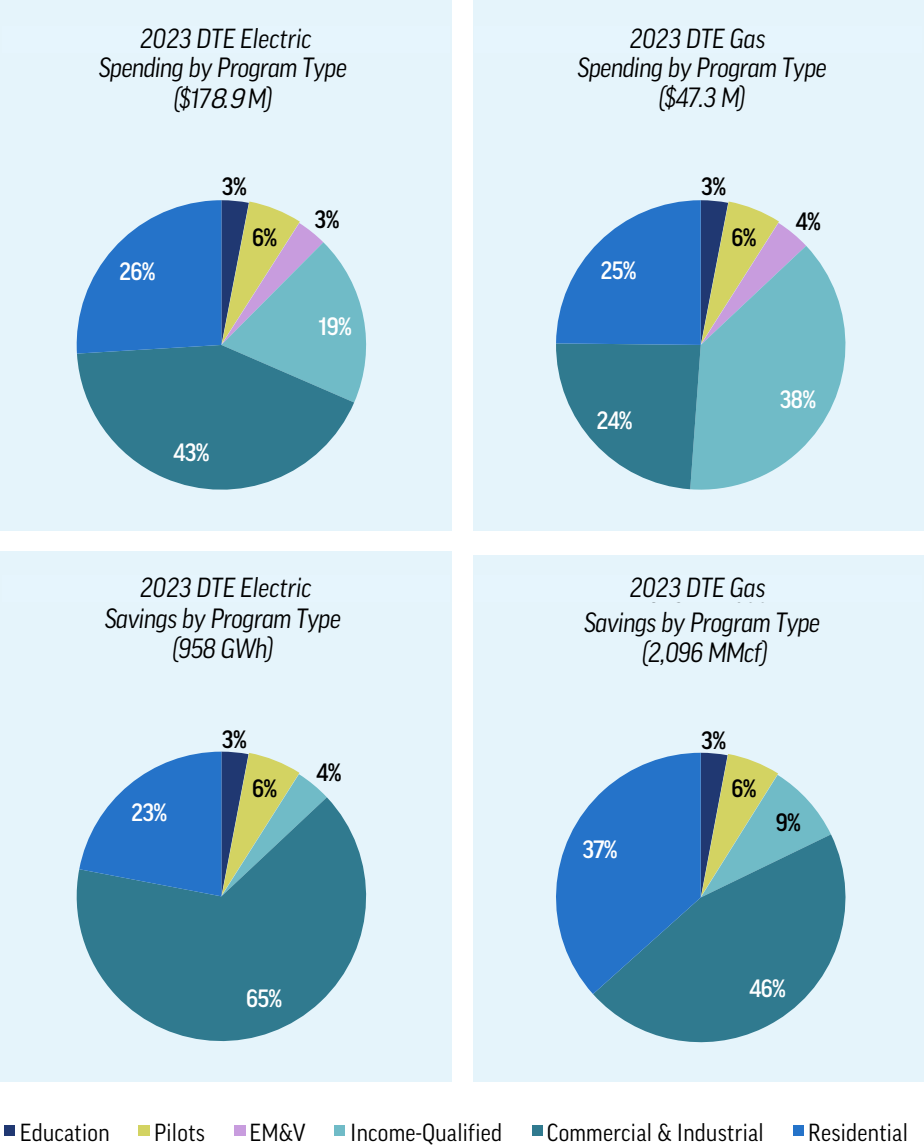


Chart 3 displays program spending and verified net savings for the various EE programs in 2023.

Chart 3 – 2023 EE Spending and Verified Net Savings by Program Type



Evaluation, Measurement and Verification

Michigan's EE construct requires independent verification of utilities' claimed energy savings. This work is performed by an independent evaluation, measurement and verification (EM&V) contractor.

Verified net energy savings are DTE's reported savings after they have been adjusted based on the results of an evaluation and analysis by DTE's independent evaluation contractor, Guidehouse Inc. (Guidehouse), and the installation rate adjustment factors (IRAFs) and net-to-gross ratios (NTGRs) have been applied.[3] An IRAF is applied to account for rebated measures that are no longer or were never installed and operational. A NTGR is applied to account for the difference in energy consumption with the program in place versus what consumption would have been without the program in place.

In 2023, DTE applied a 0.92 NTGR to most programs. DTE applied different NTGRs to some programs or measures, including:

- 1.00 for Income-Qualified, Self Direct, Pilots and Education and Awareness
- 0.35 for standard and 0.44 for specialty light-emitting diode (LED) bulbs in the Residential ENERGY STAR® Products program as approved by the Michigan Public Service Commission (MPSC) on January 20, 2022, for DTE's 2022-2023 EWR Plan, Case No. U-20876

A NTGR was not applied to the following programs or measures because savings represent verified net savings:

- Thermostats delivered by Commercial and Industrial (C&I) programs
- Tier 2 and 3 thermostats delivered by Residential programs
- Home Energy Reports program

In addition to and as a part of the savings verification process, DTE and Consumers Energy exchange savings that would otherwise go unquantified and unclaimed by the utility providing the relevant fuel service. The utilities' independent evaluators identify, quantify, and verify savings created by the utilities in areas where DTE and Consumers Energy have overlapping service territory where one of the two utilities provides single fuel service.

EM&V work must be performed to industry standards and guidelines developed by MPSC Energy Waste Reduction (EWR) Collaborative (the Collaborative). Guidehouse fills this role for DTE.

DTE and its evaluation contractor are active participants in the Collaborative, along with Consumers Energy, other cooperative and municipal utilities and their respective evaluation contractors as well as the MPSC staff. In addition to developing guidelines for evaluation, members of the Collaborative established a statewide resource for technical energy savings values for thousands of energy efficient measures, the Michigan Energy Measures Database (MEMD). The MEMD enables fast and efficient entry, tracking and evaluation for most measures installed in Michigan EWR programs regardless of program provider.

The MEMD is managed by the MPSC. The Technical Subcommittee oversees the management and updating of the MEMD. Updating measure values to reflect changes in standards, incorporating newer studies and making them more representative of Michigan follows a well-defined process involving all stakeholders. DTE and Consumers Energy work together with their evaluation contractors to conduct foundational research on important measures to develop up-to-date Michigan-based values. Since 2009, numerous additions and calibrations have been made to the MEMD to make the values more encompassing, accurate and Michigan-specific.

3 The IRAF is typically applied based on a two-year lag of an evaluated result. For example, in 2023, the 2021 evaluated measure-level IRAF is applied to audited gross savings to determine verified gross savings. Exceptions to this rule include new measures, custom programs, deemed measures or programs (Pilots, Education and Awareness, etc.), and measures with MEMD savings that are verified net (Tier 1 commercial thermostats).

Long-Term EE Impacts

DTE also considers metrics beyond the first-year energy savings goals set out in Public Act 295 (PA 295 as amended by PA 342) toward longer-term impacts; these areas include overall lifecycle savings, both in dollars and energy; the average life of measures being installed; and reduction in future peak demand. This section provides definitions and the 2023 EE Portfolio results for these long-term metrics.

Lifecycle dollar savings: Represents the dollar savings resulting from current and future energy costs avoided as a result of an EE action over the effective life of that action. Lifecycle dollar savings may be presented for a collection of measures, an individual program or a portfolio of programs. The lifecycle dollar savings for DTE's programs are based on verified net savings. Lifecycle dollar savings are presented as the present value of those savings.[4]

Table 1 shows that DTE's 2023 EE programs produced significant dollar savings for its customers for future years.

4 Lifecycle dollar savings is not net of program expenses and includes line losses.

5 The Home Energy Efficiency Kits program concluded in 2021; the values throughout this report represent spending and delayed savings that carried over into 2023.

6 Utility Shared Savings are savings created by an "originating" utility that would otherwise go unquantified and unclaimed by the utility providing the relevant fuel service (the "receiving" utility). Utility Shared Savings represents savings created by Consumers Energy (originating utility) in areas where Consumers Energy and DTE have overlapping service territory and Consumers Energy provides single fuel service.

Table 1 – DTE 2023 EE Portfolio – Lifecycle Dollar Savings (All Values in Dollars)

	Program	DTE Electric Present Value	DTE Gas Present Value
RESIDENTIAL	Appliance Recycling	$12,136,243.69	-
	Audit and Weatherization	$825,605.54	$2,466,332.38
	ENERGY STAR® Products	$13,833,711.16	$1,019,001.66
	Heating, Ventilation, and Air Conditioning	$2,292,387.57	$4,500,986.47
	Home Energy Consultation	$1,065,619.78	$660,983.21
	Home Energy Efficiency Kits[5]	$27,002.28	-
	Home Energy Reports	$3,298,058.12	$1,187,082.88
	Multifamily	-	$28,520.32
	New Home Construction	$4,176,818.93	$2,753,069.00
	School Program	$3,133,812.78	$2,571,954.87
	Residential Utility Shared Savings[6]	$2,053,614.34	$762,469.32
	Residential Subtotal	***$42,842,874.19***	***$15,950,400.12***
INCOME-QUALIFIED	Income-Qualified – Energy Efficiency Assistance	$2,779,727.11	$2,419,631.60
	Income-Qualified – Multifamily	$5,504,425.18	$2,985,606.65
	Income-Qualified – Home Energy Consultation	$530,587.59	$746,680.32
	Income-Qualified – Utility Shared Savings[6]	$1,357,679.27	$72,898.93
	Income-Qualified Subtotal	***$10,172,419.15***	***$6,224,817.50***
C & I	Prescriptive	$156,083,053.17	$12,358,292.92
	Non-Prescriptive	$27,588,119.00	$16,784,115.72
	ENERGY STAR Retail Lighting	$2,351,739.53	-
	C&I Multifamily Common Areas	$911,297.12	$340,573.33
	Midstream Lighting	$37,680,916.17	-
	Midstream Food Service	$1,458,473.82	$900,813.38
	Midstream HVAC	$8,888,538.08	$3,787,205.20
	Retro-Commissioning	$2,508,953.86	$324,820.97
	Strategic Energy Management	$2,552,828.98	$1,062,544.28
	Self-Direct	$1,539,376.51	-
	Business Energy Consultation	$1,952,846.71	$993,018.08
	Find and Fix	$412,809.16	$274,420.29
	Small Business Focus	$36,834,010.45	$18,095.99
	Emerging Measures and Approaches	$3,641,480.06	-
	C&I Utility Shared Savings[6]	$12,279,771.40	$2,354,574.61
	C&I Subtotal	***$296,684,214.04***	***$39,198,474.79***
	Pilot Programs	***$19,222,984.16***	***$4,227,338.32***
	Education and Awareness Program	***$9,875,596.50***	***$2,140,809.57***
	Portfolio	**$378,798,088.04**	**$67,741,840.31**

Lifecycle energy savings: Represents the total cumulative program energy savings (MWh or Mcf) produced by the energy-saving actions taken for all years of the particular action's effective life. Lifecycle energy savings represent verified net energy savings.

Table 2 displays the long-term energy savings associated with the cost savings listed in Table 1.

Table 2 – DTE 2023 EE Portfolio – Lifecycle Energy Savings

	Program	DTE Electric | MWh: Cumulative Savings (Line Losses Included)	DTE Gas | Mcf: Cumulative Savings (Line Losses Included)
RESIDENTIAL	Appliance Recycling	276,078.38	-
	Audit and Weatherization	18,960.50	929,004.70
	ENERGY STAR® Products	310,331.89	290,716.41
	Heating, Ventilation, and Air Conditioning	47,696.81	1,424,159.53
	Home Energy Consultation	26,169.80	186,313.64
	Home Energy Efficiency Kits	657.44	-
	Home Energy Reports	75,967.78	285,294.29
	Multifamily	-	7,283.32
	New Home Construction	69,375.91	940,439.61
	School Program	77,799.63	738,974.94
	Residential Utility Shared Savings	46,591.10	226,480.21
	Residential Subtotal	***949,629.24***	***5,028,666.65***
INCOME-QUALIFIED	Income-Qualified – Energy Efficiency Assistance	67,703.31	839,297.86
	Income-Qualified – Multifamily	144,664.99	929,252.85
	Income-Qualified – Home Energy Consultation	13,130.94	209,816.31
	Income-Qualified – Utility Shared Savings	28,042.98	21,504.66
	Income-Qualified Subtotal	***253,542.21***	***1,999,871.67***
C & I	Prescriptive	3,465,283.45	4,222,087.69
	Non-Prescriptive	658,771.60	5,560,117.42
	ENERGY STAR Retail Lighting	52,509.51	-
	C&I Multifamily Common Areas	25,858.19	108,861.42
	Midstream Lighting	945,993.11	-
	Midstream Food Service	37,057.98	294,894.46
	Midstream HVAC	185,359.78	1,328,080.86
	Retro-Commissioning	65,990.50	83,014.76
	Strategic Energy Management	65,810.68	271,502.32
	Self-Direct	35,461.42	-
	Business Energy Consultation	52,087.23	286,004.34
	Find and Fix	10,731.27	69,173.91
	Small Business Focus	883,468.33	5,221.92
	Emerging Measures and Approaches	84,575.97	-
	C&I Utility Shared Savings	264,463.26	788,575.99
	C&I Subtotal	***6,833,422.27***	***13,017,535.10***
	Pilot Programs	***475,517.18***	***1,234,665.68***
	Education and Awareness Program	***240,164.42***	***625,422.81***
	Portfolio	**8,752,275.31**	**21,906,161.91**

Cost of conserved energy: Expresses the measure, program or portfolio costs in per-unit terms based on the total energy savings over the effective lifecycle of the specific measures or actions taken. The starting point is net energy savings.

Table 3 summarizes the levelized cost of energy and demand saved for each EE program per unit of the energy savings achieved.

Table 3 – DTE 2023 EE Portfolio – DTE Cost of Conserved Energy

	Program	DTE Electric $/Lifetime Savings (kWh)	DTE Gas $/Lifetime Savings (CCF)
RESIDENTIAL	Appliance Recycling	$0.03	-
	Audit and Weatherization	$0.08	$0.19
	ENERGY STAR® Products	$0.06	$0.24
	Heating, Ventilation, and Air Conditioning	$0.10	$0.37
	Home Energy Consultation	$0.22	$0.61
	Home Energy Reports	$0.05	$0.28
	Multifamily	-	$1.11
	New Home Construction	$0.02	$0.12
	School Program	$0.02	$0.12
	Residential Subtotal	***$0.06***	***$0.36***
INCOME-QUALIFIED	Income-Qualified – Energy Efficiency Assistance	$0.26	$1.29
	Income-Qualified – Multifamily	$0.09	$0.65
	Income-Qualified – Home Energy Consultation	$0.24	$0.59
	Income-Qualified Subtotal	***$0.13***	***$0.90***
C & I	Prescriptive	$0.01	$0.09
	Non-Prescriptive	$0.01	$0.05
	ENERGY STAR Retail Lighting	$0.03	-
	C&I Multifamily Common Areas	$0.02	$0.11
	Midstream Lighting	$0.01	-
	Midstream Food Service	$0.03	$0.26
	Midstream HVAC	$0.02	$0.08
	Retro-Commissioning	$0.06	$0.79
	Strategic Energy Management	$0.06	$0.28
	Self-Direct	$0.0009	-
	Business Energy Consultation	$0.02	$0.28
	Find and Fix	$0.12	$0.97
	Small Business Focus	$0.01	-
	Emerging Measures and Approaches	$0.01	-
	C&I Subtotal	***$0.01***	***$0.12***
	Pilot Programs	***$0.02***	***$0.23***
	Education and Awareness Program	***$0.02***	***$0.23***
	Portfolio[7]	**$0.02**	**$0.19**

7 The portfolio cost of conserved energy excludes Income-Qualified values and includes the Performance Incentive Mechanism.

Weighted average measure life: Represents the average life, in years, of all measures installed or actions taken in a program or the entire portfolio when each measure's life is weighted by the energy savings it produces relative to the total energy savings in the program or portfolio.

Table 4 summarizes the weighted average measure life for the various 2023 EE programs at the individual program level and for the portfolio as a whole.

Greenhouse gas reductions: In 2023, DTE's combined electric and gas verified net savings from EE programs equal lifetime greenhouse gas reductions of 6.6 million metric tons of carbon dioxide (CO_2), 3,209 metric tons of nitric oxide (NOx), and 3,349 metric tons of sulfur dioxide (SO_2).

Table 4 – DTE 2023 EE Portfolio – DTE Weighted Average Measure Life

	Program	DTE Electric Program Weighted Life	DTE Gas Program Weighted Life
RESIDENTIAL	Appliance Recycling	7.99	-
	Audit and Weatherization	22.96	22.78
	ENERGY STAR® Products	3.27	9.10
	Heating, Ventilation, and Air Conditioning	12.48	12.26
	Home Energy Consultation	3.47	5.21
	Home Energy Reports	1.00	1.00
	Multifamily	-	2.43
	New Home Construction	18.00	18.00
	School	4.99	3.56
	Residential Utility Shared Savings	10.17	9.95
	Residential Subtotal	***3.93***	***6.32***
INCOME-QUALIFIED	Income-Qualified – Energy Efficiency Assistance	3.05	17.78
	Income-Qualified – Multifamily	11.71	9.34
	Income-Qualified – Home Energy Consultation	3.63	4.62
	Income-Qualified – Utility Shared Savings	9.63	10.19
	Income-Qualified Subtotal	***6.17***	***10.30***
C & I	Prescriptive	11.08	13.44
	Non-Prescriptive	15.03	15.17
	ENERGY STAR Retail Lighting	2.10	-
	C&I Multifamily Common Areas	12.88	10.57
	Midstream Lighting	10.67	-
	Midstream Food Service	12.15	14.78
	Midstream HVAC	16.05	19.19
	Retro-Commissioning	3.03	3.00
	Strategic Energy Management	2.65	2.97
	Self-Direct	11.53	-
	Business Energy Consultation	8.40	9.17
	Find and Fix	1.00	3.16
	Small Business Focus	9.43	9.88
	Emerging Measures and Approaches	3.85	-
	C&I Utility Shared Savings	9.80	15.99
	C&I Subtotal	***9.83***	***12.99***
	Pilot Programs	***8.22***	***10.06***
	Education and Awareness Program	***8.22***	***10.06***
	Portfolio	**8.22**	**10.06**

Peak Demand Reduction (kilowatts, or kW)

Electric EE programs can deliver peak demand reductions to minimize the need for future power plants. Peak demand reduction represents the aggregate reduction from EE program participants in DTE Electric's service area load at the time of the Michigan zone of the Midwest Independent System Operator market's expected peak demand.

Table 5 shows that the DTE Electric 2023 EE programs achieved significant demand reductions and energy savings.[8]

Table 5 – DTE 2023 EE Portfolio – DTE Electric Peak Demand Savings

	Program	2023 Verified Net Peak Demand Savings (MW)
RESIDENTIAL	Appliance Recycling	4.74
	Audit and Weatherization	0.21
	ENERGY STAR® Products	8.93
	HVAC	0.80
	Home Energy Consultation	0.58
	Home Energy Efficiency Kits[9]	0.02
	Home Energy Reports	12.36
	Multifamily	0.00
	New Home Construction	2.29
	School Program	1.25
	Residential Utility Shared Savings[10]	0.44
	Residential Subtotal	***31.63***
INCOME-QUALIFIED	Income-Qualified – Energy Efficiency Assistance	1.52
	Income-Qualified – Multifamily	0.71
	Income-Qualified – Home Energy Consultation	0.29
	Income-Qualified – Utility Shared Savings[10]	0.46
	Income-Qualified Subtotal	***2.97***
C & I	Prescriptive	73.67
	Non-Prescriptive	6.48
	ENERGY STAR Retail Lighting	4.13
	C&I Multifamily Common Areas	0.03
	Midstream Lighting	10.22
	Midstream Food Service	0.39
	Midstream HVAC	3.78
	Retro-Commissioning	0.00
	Strategic Energy Management	0.00
	Self-Direct	0.53
	Business Energy Consultation	0.23
	Find and Fix	0.00
	Small Business Focus	11.72
	Emerging Measures and Approaches	3.41
	C&I Utility Shared Savings[10]	4.74
	C&I Subtotal	***119.34***
	Pilot Programs	***9.33***
	Education and Awareness Program	***4.71***
	Portfolio	**167.98**

8 All values are shown as measured at customer meters. Line losses are not included.

9 The Home Energy Efficiency Kits program concluded in 2021; values throughout this report represent spending and delayed savings that carried over into 2023.

10 Utility Shared Savings are savings created by an "originating" utility that would otherwise go unquantified and unclaimed by the utility providing the relevant fuel service (the "receiving" utility). Utility Shared Savings represents savings created by Consumers Energy (originating utility) in areas where Consumers Energy and DTE have overlapping service territory and Consumers Energy provides single fuel service.

Cost-Effectiveness

Per Section 71(4) of PA 342, electric and gas utility providers must offer a cost-effective EWR portfolio to customers; while the portfolio must include income-qualified programs, these programs are not included in the cost-effectiveness tests. Cost-effectiveness tests are performed to confirm the benefits of DTE's EE Portfolio exceed the costs for DTE and its customers. Providers must demonstrate the EE programs (excluding offerings to income-qualified customers) meet the USRCT and are reasonable and prudent.

DTE used the DSMore[11] cost analysis tool to calculate the USRCT cost-effectiveness at the program level and for groups of programs, including the Income-Qualified programs, Residential programs and C&I programs. USRCT is a cost-effectiveness test that measures cost-effectiveness from the viewpoint of DTE and ensures the benefits for all programs will exceed the costs.

The two major groups of inputs used in DSMore are utility input assumptions and program inputs:

- Utility input assumptions contain information specific to DTE and include items such as load shape, the commodity and non-commodity cost of energy, customer energy rates, line losses, weather and discount rates. The utility input assumptions used are primarily the same as those used to develop DTE Electric's and DTE Gas's approved 2022-2023 EE Plans.
- Program inputs include measure-level electric and gas energy savings, measure-level coincident peak demand reductions, the number of measures adopted by participants, incremental participant costs, customer incentive costs, program costs, performance incentive costs, education costs and pilot costs.

11 Demand Side Management Option Risk Evaluator (DSMore) is a financial analysis tool designed to evaluate the costs, benefits, and risks of demand side management programs, including energy efficiency, DR and smart grid programs and services.

Table 6 – Cost-Effectiveness Values

	Program	DTE Electric (USRCT)	DTE Gas (USRCT)
RESIDENTIAL	Appliance Recycling	1.43	-
	Audit and Weatherization	0.56	1.39
	ENERGY STAR® Products	0.74	1.46
	Heating, Ventilation, and Air Conditioning	0.48	0.86
	Home Energy Consultation	0.19	0.58
	Home Energy Reports	0.96	1.49
	Multifamily	-	0.35
	New Home Construction	2.49	2.41
	School Program	1.63	2.94
	Residential Utility Shared Savings	-	-
	Residential Subtotal	***0.78***	***0.90***
INCOME-QUALIFIED	Income-Qualified – Energy Efficiency Assistance	0.16	0.22
	Income-Qualified – Multifamily	0.42	0.49
	Income-Qualified – Home Energy Consultation	0.17	0.61
	Income-Qualified – Utility Shared Savings	-	-
	Income-Qualified Subtotal	***0.30***	***0.34***
C & I	Prescriptive	4.75	3.11
	Non-Prescriptive	2.88	6.66
	ENERGY STAR Retail Lighting	1.71	-
	C&I Multifamily Common Areas	1.54	2.87
	Midstream Lighting	6.11	-
	Midstream Food Service	1.28	1.19
	Midstream HVAC	2.76	3.45
	Retro-Commissioning	0.67	0.50
	Strategic Energy Management	0.70	1.40
	Self-Direct	49.66	-
	Business Energy Consultation	1.66	1.22
	Find and Fix	0.32	0.41
	Small Business Focus	3.27	0.00
	Emerging Measures and Approaches	7.65	0.00
	C&I Utility Shared Savings	-	-
	C&I Subtotal	***2.95***	***2.50***
	Pilot Programs	***1.79***	***1.49***
	Education and Awareness Program	***1.83***	***1.49***
	Portfolio	**2.04**	**1.59**

Portfolio Revenue (Surcharges)

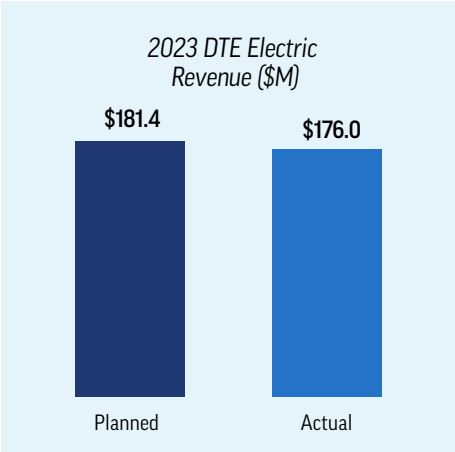
Base surcharge revenue reflects EE actual revenue realized excluding the revenue recovery for authorized performance incentives. These surcharges appear within the Other Delivery Surcharges line item on a customer's monthly bill statement.

The amount of the surcharge depends on the rate class – Residential, C&I Secondary or C&I Primary and End Use Transportation (EUT). Residential and C&I gas customers pay a volumetric rate, so a customer's individual surcharge depends on how much energy they use. For C&I electric customers, the total amount paid is also based on the number of meters because they pay a monthly per-meter charge determined by their monthly consumption. Funds received from a customer class – Residential, C&I Secondary and C&I Primary – should, to the extent possible, be spent on EE programs that benefit that rate class. All classes contribute to the Income-Qualified Residential program.

Chart 4 displays the actual amounts billed to DTE customers (excluding the performance incentive) in 2023 through the EE surcharges approved by the MPSC by customer type. Chart 5 displays revenue collected for the EE Portfolio in 2023 by customer type.

The actual electric revenue from the Residential class is lower than the plan due to the variance between actual and forecast sales. C&I revenue variances are due to a fluctuation in the consumption-level break points for the surcharge in the C&I classes and variances in forecasted meter counts, with C&I secondary revenue slightly lower and C&I primary revenue slightly higher. The actual gas revenue from all customer classes varies slightly from the plan due to the variance between actual and forecast sales, with revenue slightly higher for Residential and C&I/EUT.

Chart 4 – 2023 EE Portfolio Revenue (Surcharges)



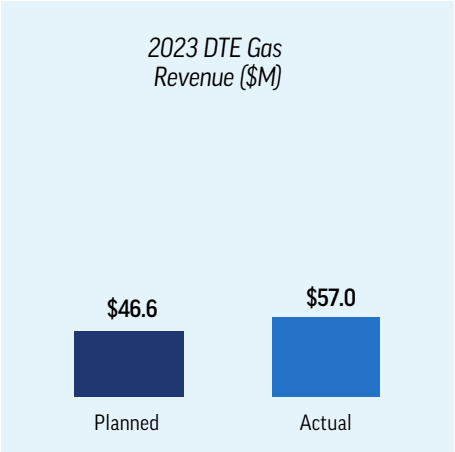
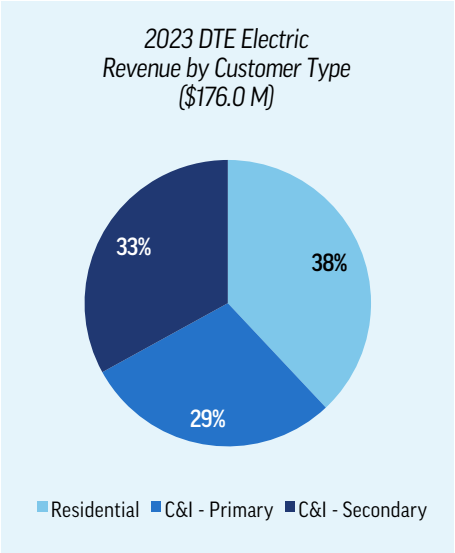
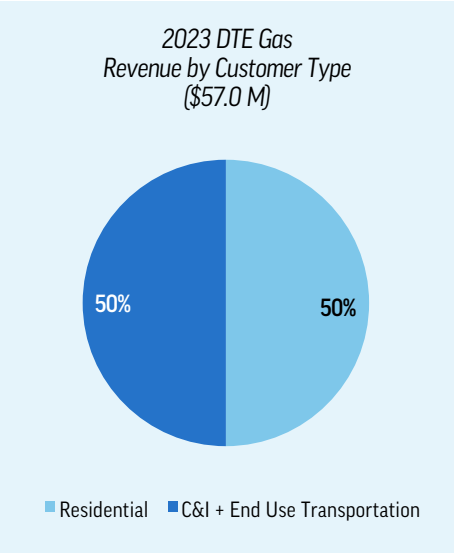


Chart 5 – Revenue Collected for EE Portfolio in 2023 by Customer Type





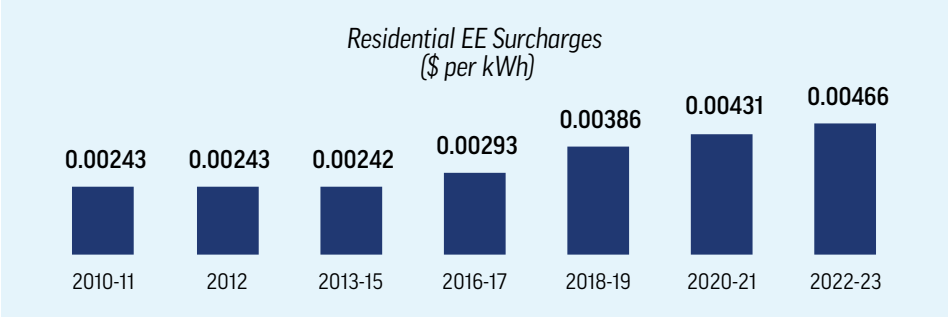
Electric Surcharge

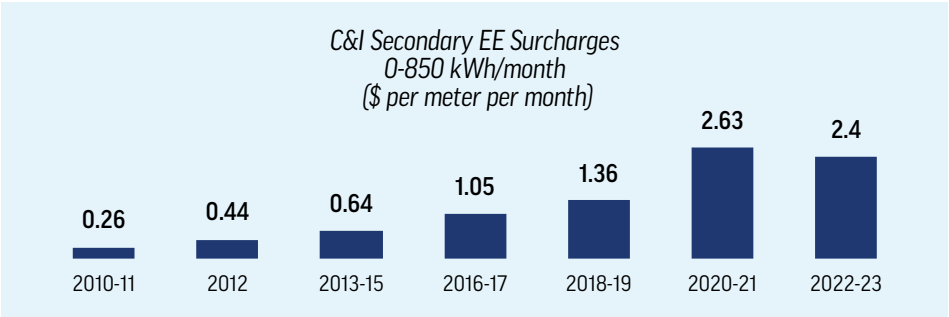
During 2023, one EE electric base surcharge was authorized for collection:

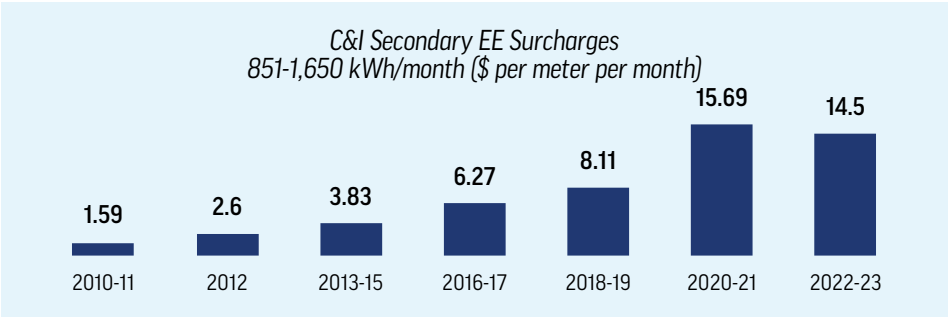
- January 1 to December 31, 2023, per the Commission's January 20, 2022 order in Case No. U-20876 (2022-2023 EWR Plan).

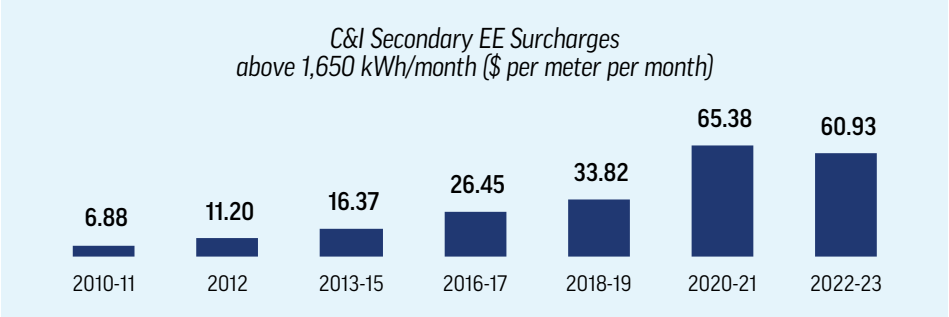
Chart 6 outlines the 2023 EE base electric surcharges compared with previous years. These charts exclude the performance incentive.

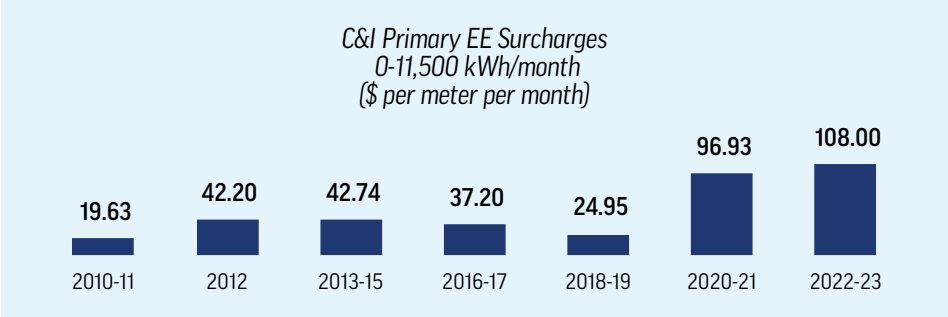
Chart 6 – DTE Electric Surcharges

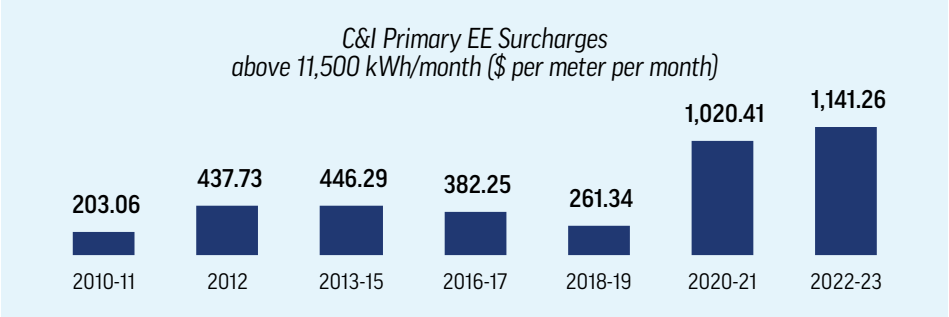












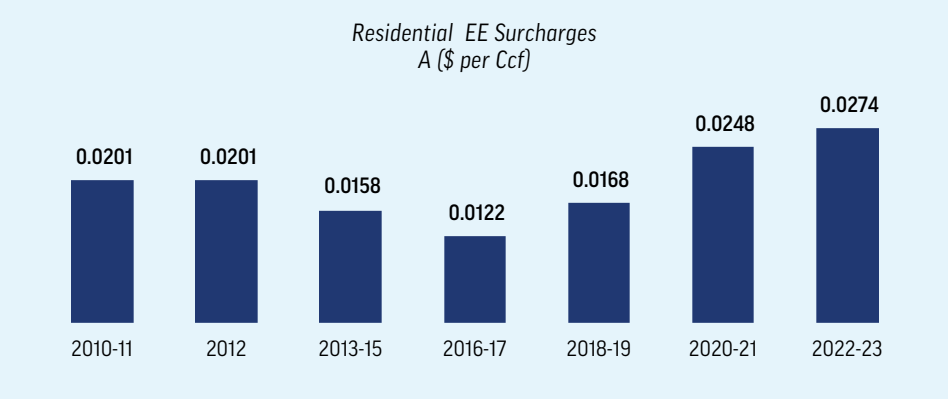
Gas Surcharge

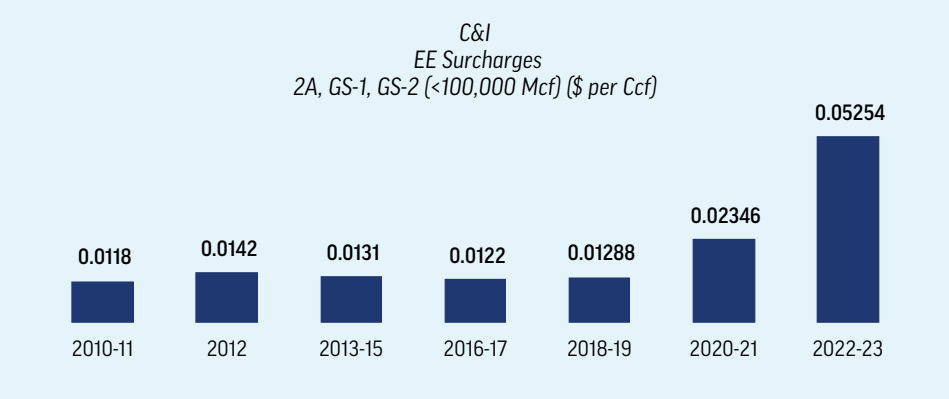
During 2023, DTE Gas billed one base surcharge:

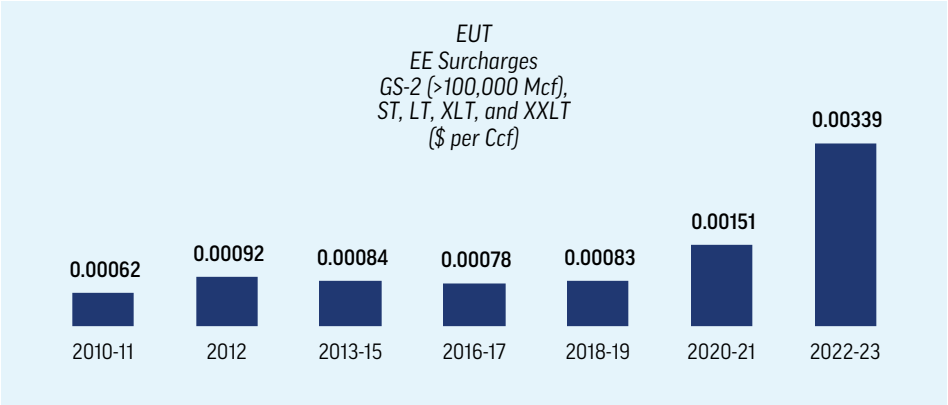
- January 1 to December 31, 2023, per the Commission's January 20, 2022 order in Case No. U-20881 (2022-2023 EWR Plan).

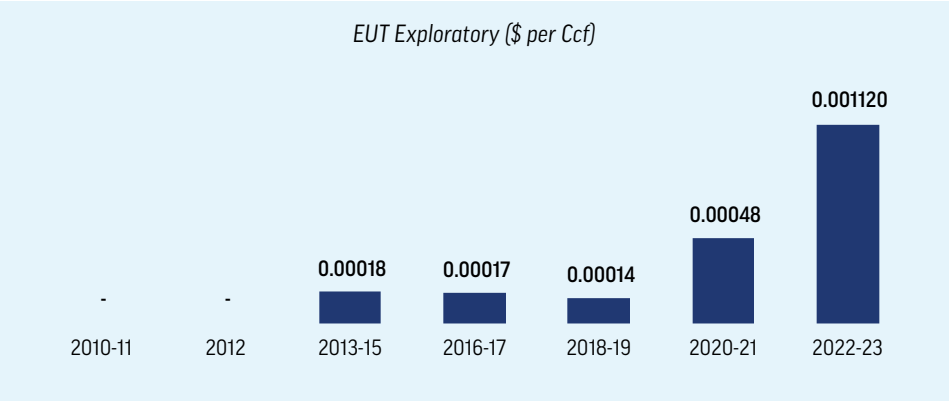
Chart 7 outlines the 2023 EE base gas surcharges compared with previous years. These charts exclude the performance incentive.

Chart 7 – DTE Gas Surcharges









Program Participation

EE programs have experienced strong participation each year since 2009, with over 10.3 million electric and over 5.0 million gas customers directly participating in DTE's EE programs.[12]

Chart 8 and Chart 9 summarize the number of customers participating in the EE Portfolio by year.

Chart 8 – EE Portfolio Electric Participation

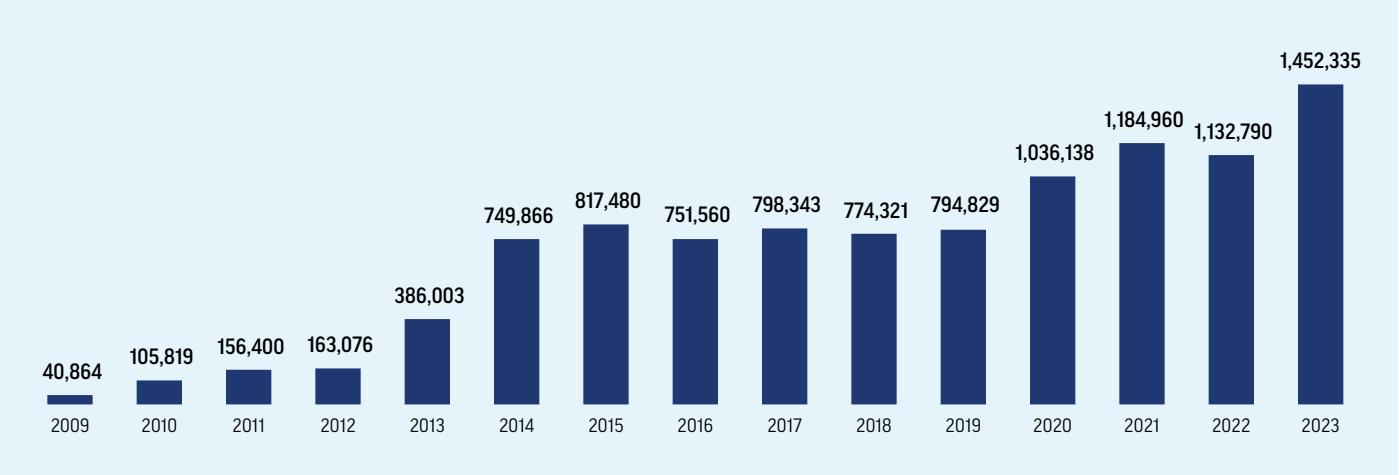
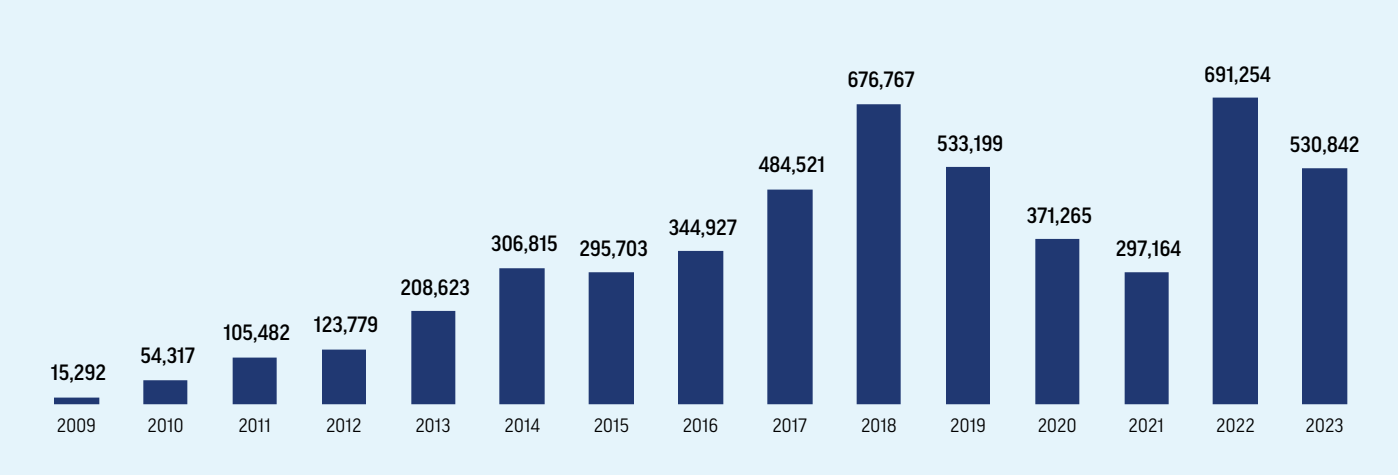


Chart 9 – EE Portfolio Gas Participation



12 Customers may participate in more than one EE program.

EE Portfolio

DTE's EE Portfolio is designed to help reduce customer energy use by increasing customer awareness and use of energy-saving technologies. The portfolio provides products and services such as rebates, tips, tools, strategies and energy efficiency education to help customers make informed energy-saving decisions.

Many of the 2023 programs were continuations of successful programs launched in prior years. DTE continually works to offer EE programs that encourage participation from all customer segments. Programs are designed to capture electric and natural gas savings. For customers with only electric or only natural gas service, DTE coordinates and aligns with other utilities so these customers can easily participate in energy efficiency program offerings across both fuel types.

Portfolio Offerings

The EE Portfolio includes Residential, Income-Qualified, and C&I programs as well as Pilot and general Education and Awareness programs. The DTE EM&V function verifies net energy savings reported by the EE Portfolio. The programs are managed by DTE program managers and operated by implementation contractors, primarily using local labor and products.

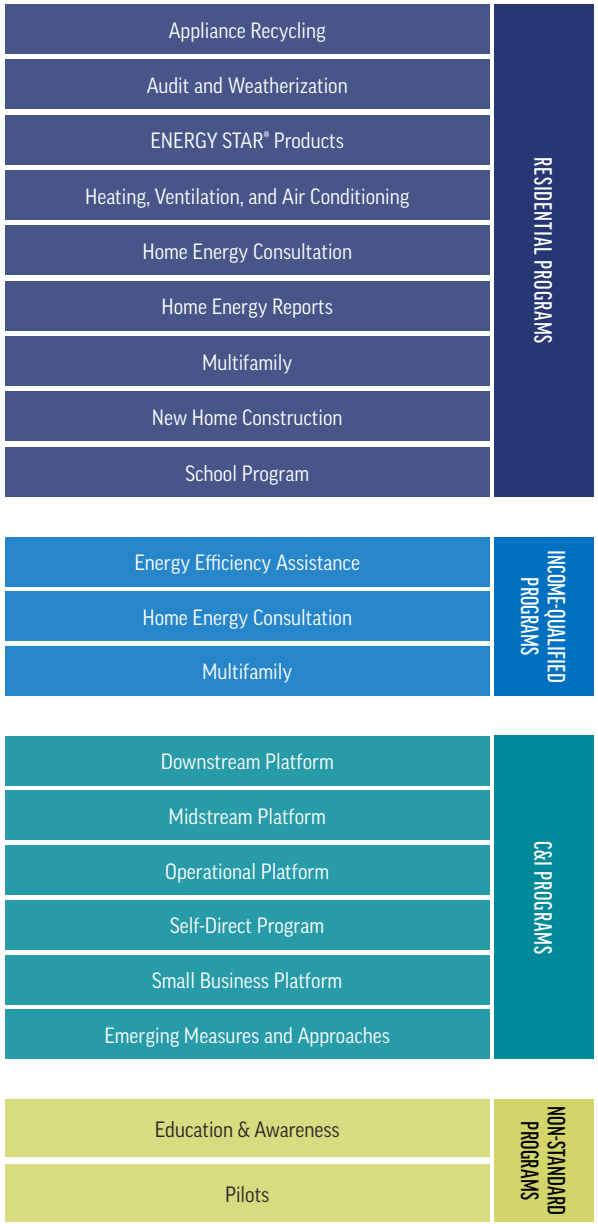
Each program offers a combination of energy efficiency products, customer incentives or rebates and education. The following summarizes each program category:

- Residential programs offer homeowners products, services and rebates including appliance recycling; lighting; appliances; heating, ventilating and air conditioning (HVAC); weatherization; home energy assessments; and energy education and behavioral programs.
- Income-Qualified programs provide income-qualified DTE customers with recommendations, direct installation of qualified EE measures, major appliance replacements, weatherization measures and education to assist them in reducing their energy use and managing their utility costs.
- C&I programs offer businesses products and services; prescriptive rebates for specific equipment replacement such as lighting, boilers, pumps and compressors; custom programs providing rebates per kilowatt-hour (kWh) of electricity savings or per thousand cubic feet (Mcf) of natural gas savings for a comprehensive system or industrial process improvement; and operational improvement programs.
- Pilot programs focus on new and emerging experimental programs to fit longer-term program portfolio needs, test the cost-effectiveness of emerging technologies and assess customer adoption of new technologies and market acceptance of existing technologies using new approaches.
- Education and Awareness programs are designed to raise customer energy efficiency awareness to help save energy and reduce energy costs. These programs also aim to raise awareness of the DTE website and other social media, which provide channels for customers to engage in specific EE programs.

New program options continue to be added to the EE Portfolio each year. Figure 2 lists all the programs offered in 2023.

The following sections summarize each EE program and provide a description, highlights, achievements, challenges and overall program results from 2023.

Figure 2 – Programs in the EE Portfolio Offered in 2023



Residential Programs

The Residential EE programs increase customer awareness and demand for energy efficient products and services. Details of each offering are provided in later sections of this report.

In 2023, DTE's Residential programs performed well and exceeded planned savings. Customer satisfaction was at 92% or higher for all but one program in 2023.

Chart 10 summarizes the electric and gas spending and verified net energy savings for the 2023 EE Residential and Income-Qualified programs.

Chart 10 – 2023 Residential and Income-Qualified Programs Spending and Verified Net Savings

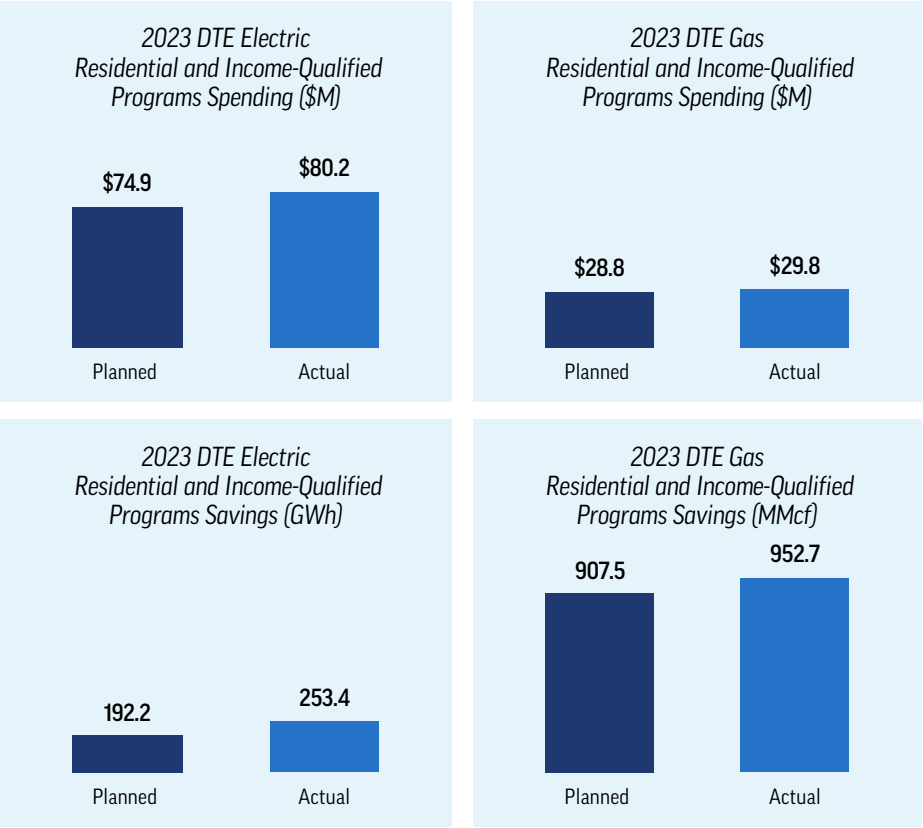
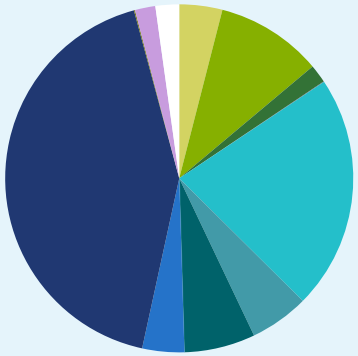


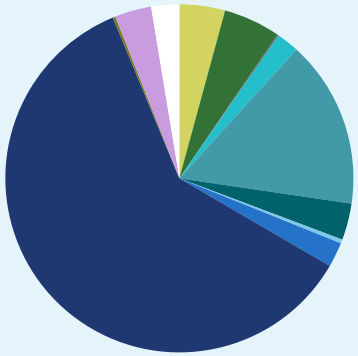
Chart 11 summarizes the spending and verified net energy savings achieved by each Residential and Income-Qualified program in 2023.

Chart 11 – 2023 Spending and Verified Net Savings by Residential and Income-Qualified Programs[13,14]

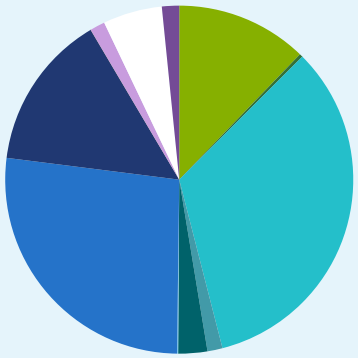
2023 DTE Electric Residential and Income-Qualified Spend by Progam ($80.2 M)



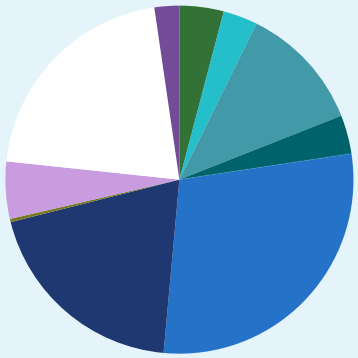
2023 DTE Gas Residential and Income-Qualified Spend by Progam ($29.8 M)



2023 DTE Electric Savings by Residential and Income-Qualified Programs (253.4 GWh)



2023 DTE Gas Savings by Residential and Income-Qualified Programs (952.7 MMcf)

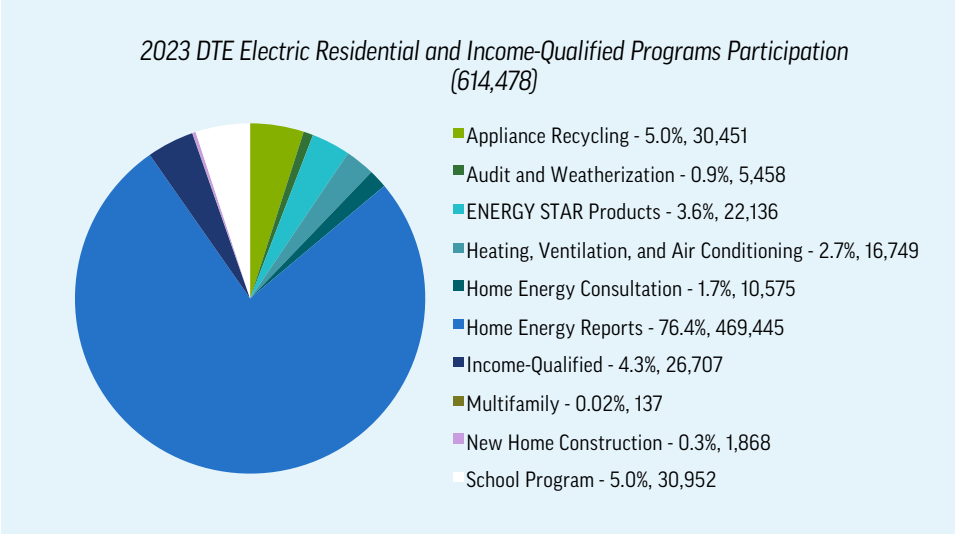


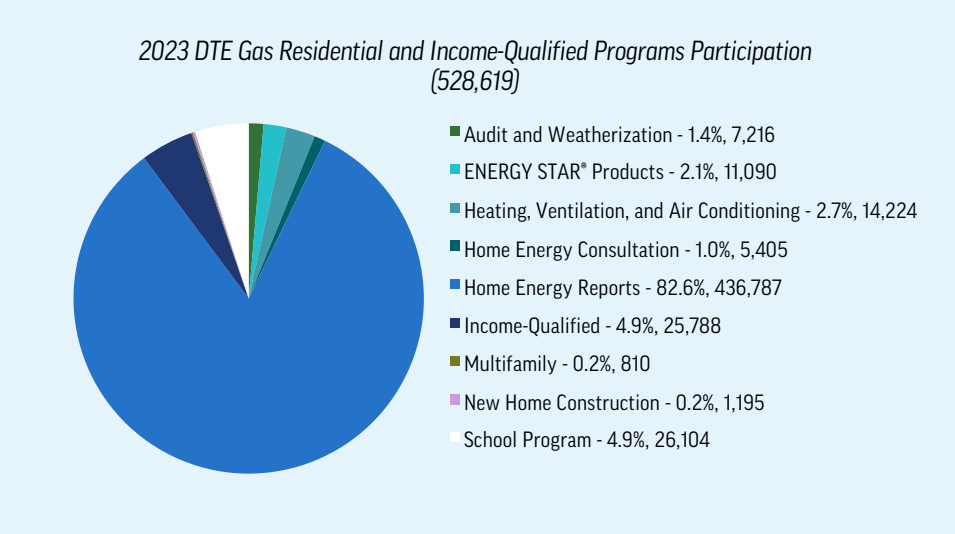
13 The Home Energy Efficiency Kits program concluded in 2021; values throughout this report represent savings that carried over into 2023.

14 Utility Shared Savings are savings created by an "originating" utility that would otherwise go unquantified and unclaimed by the utility providing the relevant fuel service (the "receiving" utility). Utility Shared Savings represents savings created by Consumers Energy (originating utility) in areas where Consumers Energy and DTE have overlapping service territory and Consumers Energy provides single fuel service.

Chart 12 summarizes the number of customers that participated in the Residential and Income-Qualified programs in 2023.

Chart 12 – 2023 Residential and Income-Qualified Customer Participation by Program





DTE ELECTRIC ONLY

Appliance Recycling Program

The Appliance Recycling program produces cost-effective, long-term annual energy savings by promoting the early retirement and recycling of operable, inefficient and secondary appliances from DTE Electric households in an environmentally safe manner. Programs like this are imperative to helping DTE achieve its CleanVision goals.

Program Description

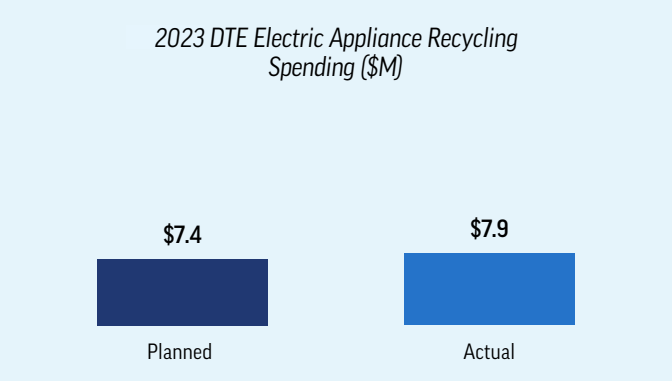
The program removes older inefficient working refrigerators and freezers and recycles 95% of the appliances. Customers can also recycle smaller appliances when a larger appliance is picked up. Smaller appliances include dehumidifiers, room air conditioners, and small refrigerators and freezers under 10 cubic feet. Drop-off events provide an opportunity for customers to recycle smaller appliances without a large freezer or refrigerator.

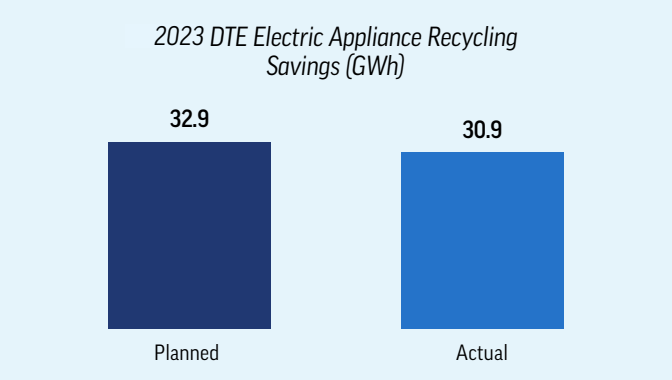
Key Takeaways

- Customers recycled 2,934 appliances at four drop-off events in 2023, a 103% increase from 1,443 appliances[15] collected in 2022.
- In 2023, DTE employed a new marketing strategy for drop-off events through announcements in a community newspaper. This was effective in communicating the Ann Arbor drop-off event.
- DTE launched the use of gift cards for paying out incentives.
- DTE added a method of disposal response option to understand how surveyed customers would otherwise have disposed of their recycled appliance called, "leave on the curb for scrappers." In the 2023 survey, 32% of respondents reported this option, which will ultimately serve to increase the accuracy of free-ridership scores by offering a disposal option very common to Southeast Michigan.
- The DTE partnership with ABC Warehouse to collect appliances on behalf of the program experienced an increase in participation of 4% in 2023, totaling 670 collected appliances compared to 647 in 2022.
- In 2023, customer satisfaction was 96%.

15 The number reported in the PY2022 Energy Efficiency Annual Report for Appliance Recycling drop-off events was 2,006 and has been corrected here to reflect the number consistent with the 2022 Energy Optimization Program Tracker for the program.

Chart 13 – 2023 Appliance Recycling Program Spending and Verified Net Savings





DTE ELECTRIC AND DTE GAS

Audit and Weatherization Program

The Audit and Weatherization program motivates customers to install weatherization measures in their homes through a holistic energy assessment, which includes education around the importance and benefits of weatherizing and prioritized recommendations, access to a participating contractor network, or rebates for qualified weatherization measures.

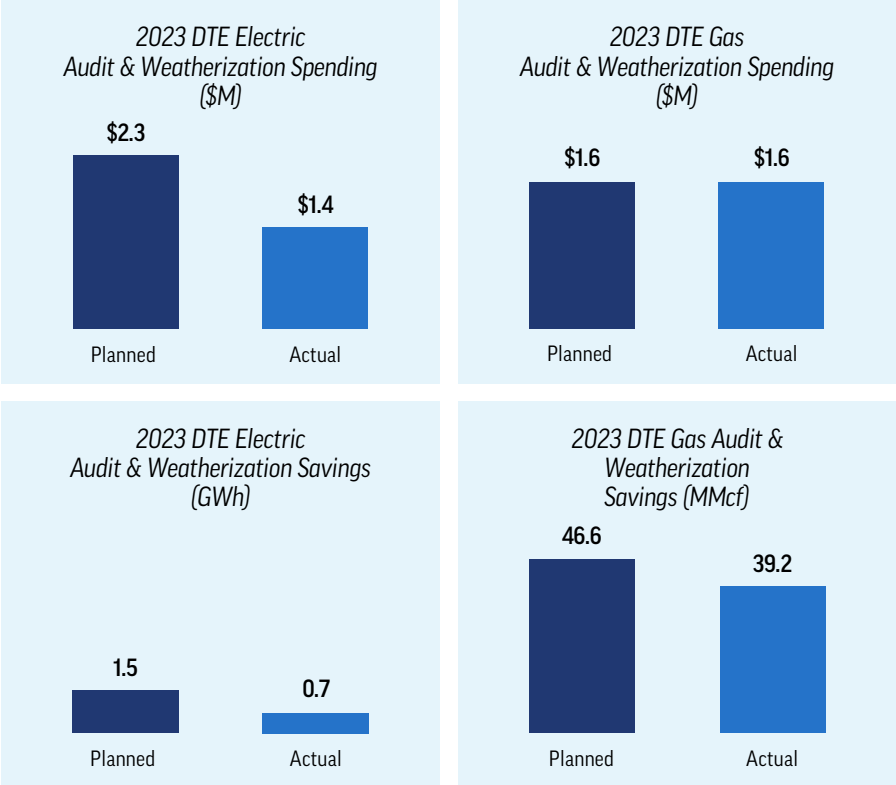
Program Description

The Audit and Weatherization program offers a Comprehensive Energy Assessment and incentives for home performance upgrades, including insulation and windows. Customers receive energy efficient home performance measure recommendations after a participating contractor performs a Comprehensive Energy Assessment at their home. Customers can receive incentives for insulation, windows, and HVAC and air sealing measures. Customers who do not want to perform a detailed energy assessment can also receive rebates for insulation and window improvements by either using a licensed contractor or completing the upgrade themselves.

Key Takeaways

- In 2023 the program phased out incentives for windows and patio doors due to Michigan Energy Measures Database (MEMD) updates, which prevented the program from being able to offer these measures cost-effectively.
- The program offered bonuses for attic and above-grade wall insulation, which helped increase customer participation.
- To plan for a reduced list of eligible measures in 2024, the program started exploring in-store automatic incentives for retail batt insulation. Customers would be able to purchase the batt insulation in stores to install directly into their homes.
- In 2023, customer satisfaction was 92%.

Chart 14 – 2023 Audit and Weatherization Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

ENERGY STAR® Products Program

The ENERGY STAR Products program increases the awareness and sales of high efficiency ENERGY STAR products among residential customers.

Program Description

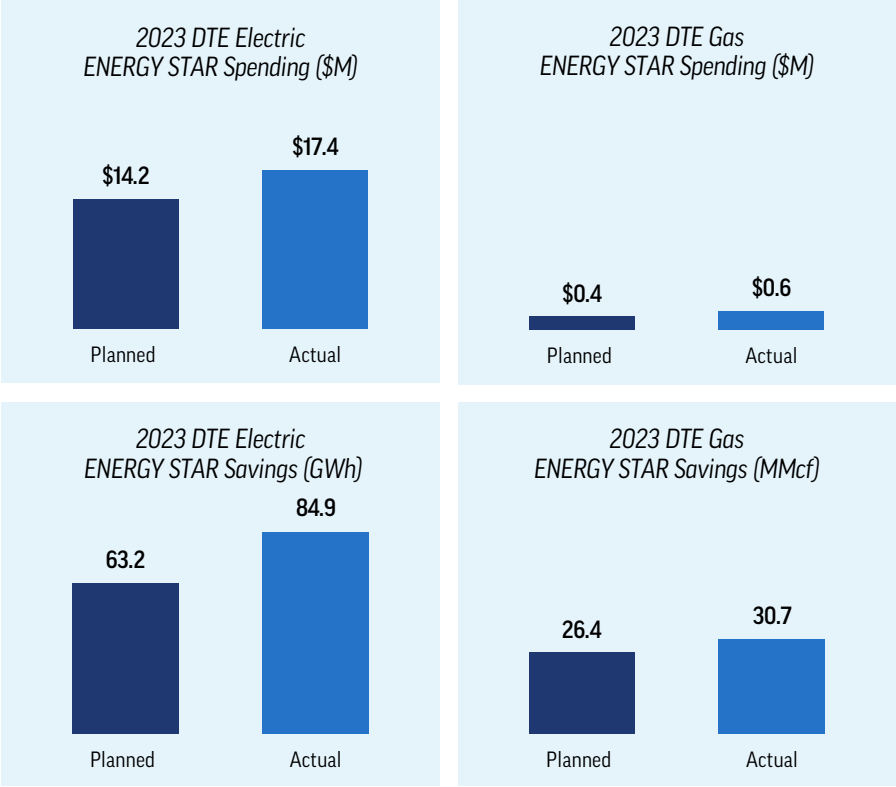
The program intends to spur customer interest by providing educational information and incentives to customers who purchase qualified ENERGY STAR equipment. In-store site visits, point-of-purchase material and digital and email campaigns help accomplish this objective.

The program helps customers reduce their energy efficiency costs by providing rebates or discounts on ENERGY STAR-certified products via the DTE Marketplace website. It also provides upstream discounted LED light bulbs at over 400 retailer outlets. Midstream incentives are provided for personal computers and monitors, advanced power strips and small appliances such as room air conditioners, air purifiers and dehumidifiers. Downstream rebates are offered on certified appliances, such as clothes washers, clothes dryers, dehumidifiers, air purifiers, Wi-Fi and smart thermostats and pool pumps.

Key Takeaways

- DTE continued its relationship with The Home Depot; all of the store's locations in DTE's electric service territory hosted LED bulb kit giveaway events.
- In 2023, there were changes to in-store LED incentives, but appliance rebates remained the same as the previous year.
- The program expanded its midstream offerings to include new retailers and new measures. This increased convenience to customers and helped them achieve additional energy savings.
- The program began updates to its rebate platform to allow for a single application on all-in-one washer/dryer appliances.
- In 2023, customer satisfaction was 93%.

Chart 15 – 2023 ENERGY STAR Products Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

HVAC Program

The HVAC program increases demand for energy efficient heating and cooling equipment and high efficiency water heating equipment.

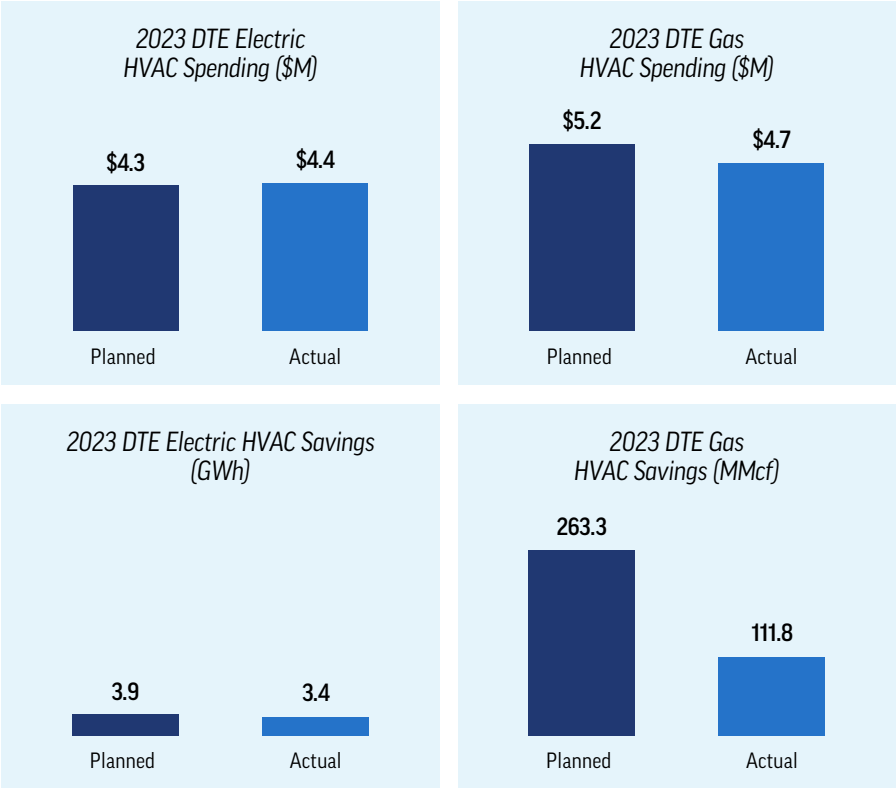
Program Description

The program serves customers in single-family dwellings of less than three units who purchase new high efficiency central air conditioning units, high efficiency natural gas furnaces or boilers, heat pumps, water heating equipment, or Wi-Fi-enabled thermostats. Through the participating contractor network, the program also offers furnace and boiler tune ups. The program includes both midstream and downstream channels.

Key Takeaways

- The downstream channel increased customer savings and participation by implementing a furnace tune-up promotion. The retail channel successfully offered online coupon codes for water heating measures.
- Previously, the thermostats in the DTE SmartCurrents program were only used for peak demand reduction purposes; however, they also achieve energy efficiency savings. The program started collaborating with the DTE SmartCurrents program to claim savings on smart thermostats.
- The program continued to pursue a midstream delivery model to incentivize efficient measures in 2023. The program's midstream channel launched a forced air measures pilot with one of the program's main distributors to increase its offerings.
- In 2023, customer satisfaction was 94%.

Chart 16 – 2023 HVAC Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Home Energy Consultation Program

The Home Energy Consultation program provides a no-cost energy education program to all DTE residential customers with a single-family home, duplex or condominium.

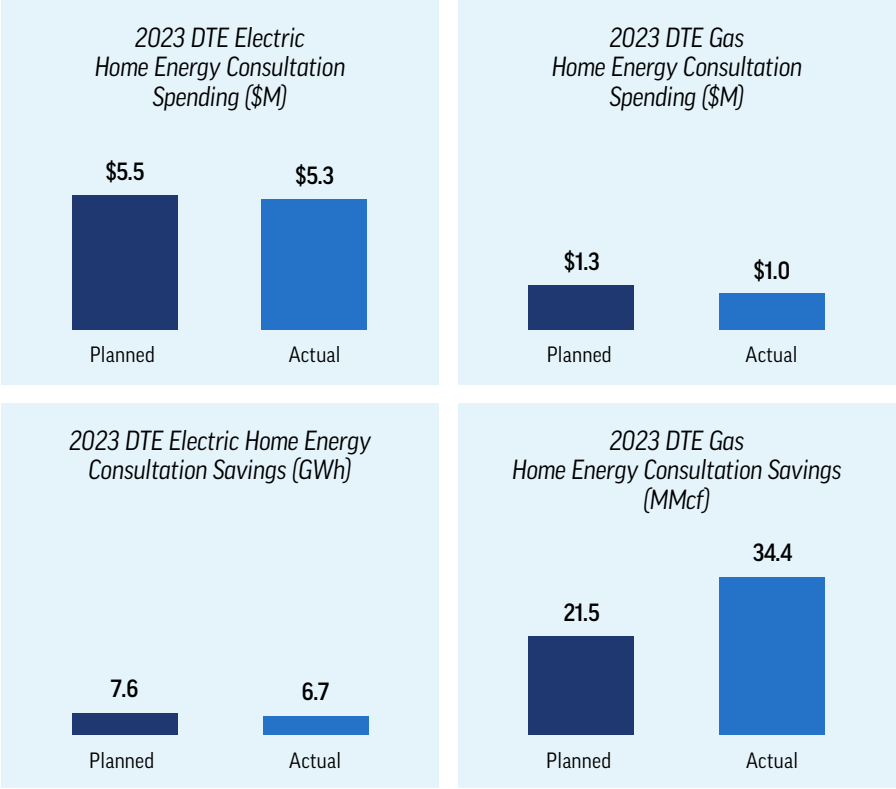
Program Description

The program aims to produce immediate energy savings through the direct installation of energy-saving measures in the home. An energy specialist does a basic walkthrough of the home and creates a personalized home energy profile that shows where the home uses and loses the most energy. During the walkthrough, the energy specialist identifies free products that can be installed in the home. Typical in-unit measures include LEDs, energy efficient showerheads, energy efficient kitchen and bath aerators, advanced power strips, window film, programmable and Wi-Fi thermostats and pipe wrap insulation.

Key Takeaways

- In 2023, DTE phased out the Home Energy Consultation programs due to Michigan Energy Measures Database (MEMD) updates, which prevented the program from being able to offer these measures cost-effectively.
- The program successfully implemented window film as a direct install component in 2023.
- High satisfaction continues to be a reoccurring success of the Home Energy Consultation program. In 2023, customer satisfaction was 98%.

Chart 17 – 2023 Home Energy Consultation Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Home Energy Reports Program

The Home Energy Reports program encourages select customers to be more energy efficient by providing them with feedback about their energy use, comparing their energy use with other similar homes and more efficient homes and providing energy-saving tips.

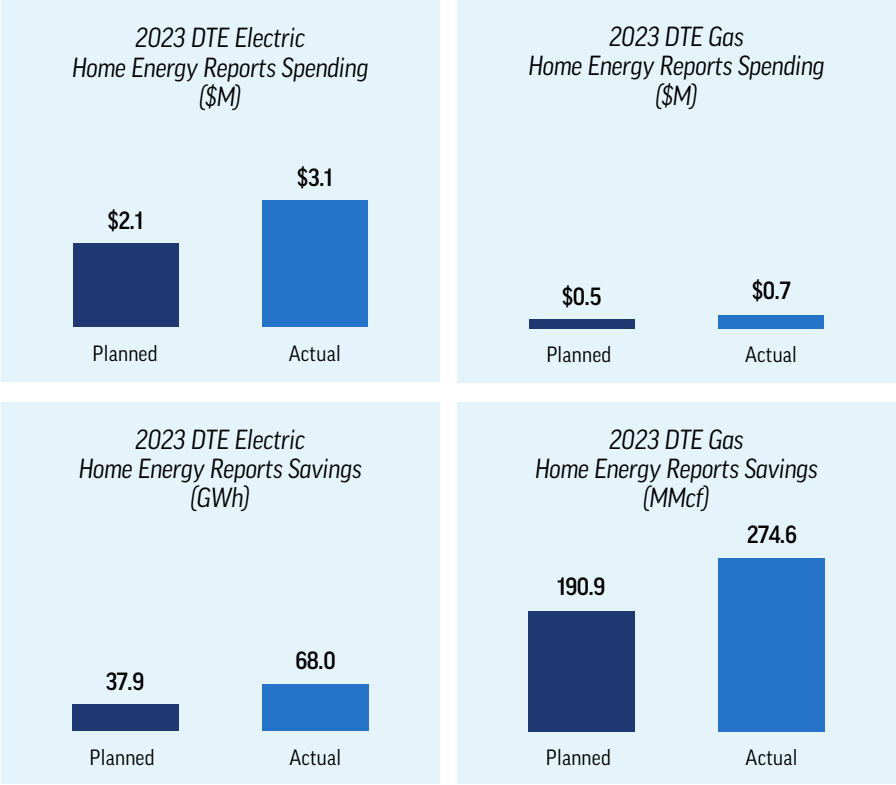
Program Description

The Home Energy Reports program offers printed and electronic reports that display a customer's energy usage compared with the average energy usage of approximately 100 nearby similar homes and a second comparison to the customer's most efficient nearby similar homes (the top 20%). The report also contains energy-saving tips and promotions for other DTE EE programs. DTE sends the home energy report (HER) to customers via the USPS; an abbreviated HER is sent via email to customers with an available email address. Deemed energy savings are based exclusively on printed reports.

Key Takeaways

- In 2023, the HER included a new section referencing the status of the customer's Home Energy Survey (HES). This section indicates whether customers have or have not filled out the survey, if their response is incomplete or over a year old, and what information they reported. The HES helps the program implementer better personalize energy saving tips and improves the customer's home comparison.
- The HER program sent reports with seasonal content to those customers for whom it had sufficient data to generate insights regarding heating and cooling seasons.
- In 2023, customer satisfaction was 79%.

Chart 18 – 2023 Home Energy Reports Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Income-Qualified Program

The Income-Qualified program provides income-qualified DTE customers with recommendations, direct installation of qualified EE measures, major appliance replacements, weatherization measures and education to assist them in reducing their energy use and managing their utility costs.

Program Description

DTE's Income-Qualified program includes the Energy Efficiency Assistance (EEA) program as well as the income-qualified components of the Multifamily and Home Energy Consultation programs. The EEA program leverages the services provided by member agencies of the Michigan Community Action Agency Association, municipalities, counties, public housing commissions, faith-based institutions, community development corporations and nonprofit organizations with existing housing and energy programs.

Instead of paying direct incentives, the EEA Income-Qualified program delivers in-kind services to customers, including furnace, water heater, and air conditioning replacements, appliances, tune-up services, and whole-home measures such as weatherization and insulation.

The Income-Qualified Multifamily program offers generous rebates to property owners and managers to encourage installation of energy efficient measures. The program also works with independent contractors to offer enhanced or premium measure rebates. The income-qualified component of the Home Energy Consultation program is identical to the market rate component of the program.

Key Takeaways

EEA

- Through its partners, the program directly serviced certain customers and provided whole-home assessment services to promote weatherization measures. Whole-home assessments have more than doubled from 2022 to 2023, and partners built out their staff to accommodate this growing workflow. Additionally, they onboarded several new partners to the program to cover more DTE service territory.
- The program continued building on its Neighborhood Approach, the neighborhood-level targeting effort, including identifying the effort's first community and hosting events. These events have fostered positive community interactions, relationships and engagement.
- The EEA program continued to integrate with the Detroit Home Repair Fund and completed home repair work with deep impacts for over 100 homes in 2023. The fund provides substantial resources to address home repair needs in Detroit.
- In 2023, the EEA program introduced, or continued, several collaborative efforts including those with the After the Storm, Detroit Home Repair Fund, Manistee Housing Commission and Consumers Energy. These collaborations allow customers to receive more pointed and comprehensive improvements related to energy efficiency, health, safety and comfort.
- EEA implementation contractors incorporated a contractors' specialist that has helped them address issues found in field inspections.
- The EEA program continued to participate at community events to distribute LED kits and complete onsite intake.

Home Energy Consultation

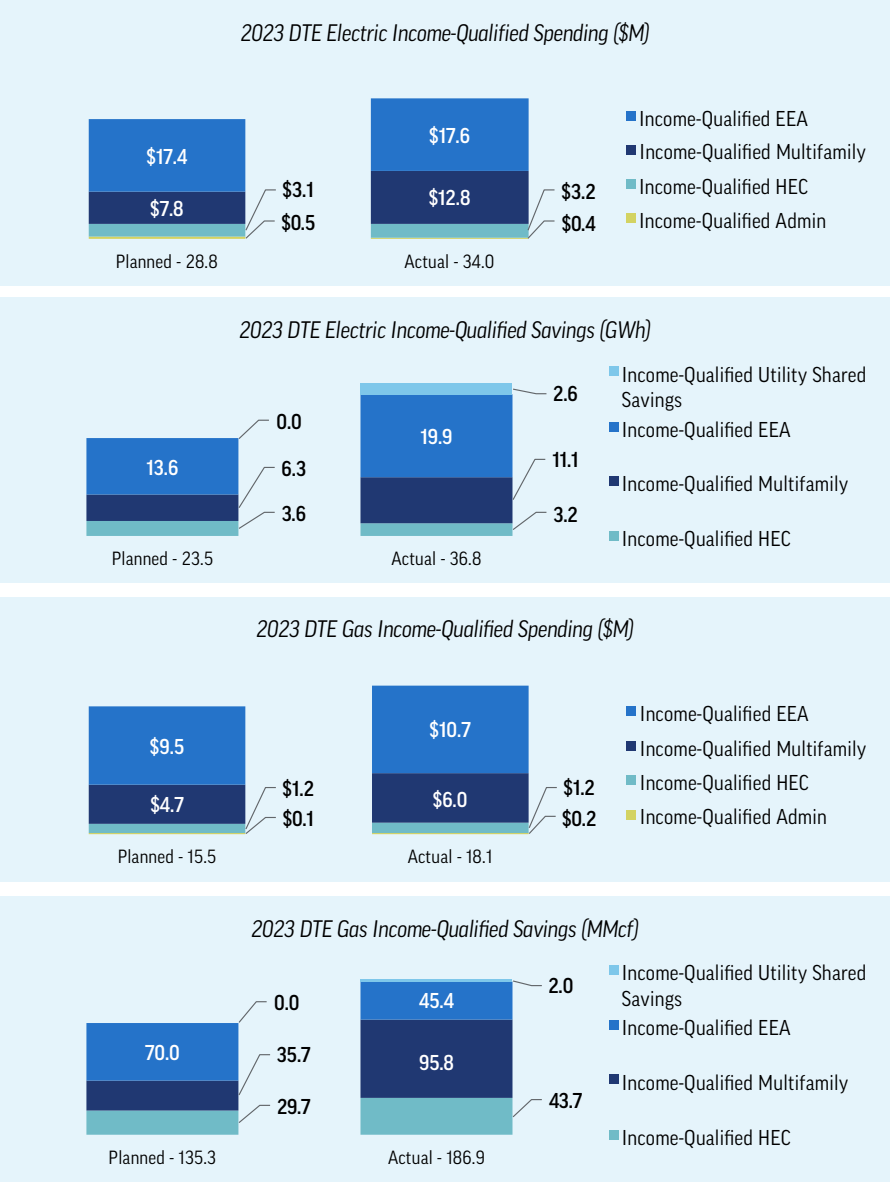
- The Home Energy Consultation program provides in-home consultation and installation of direct installation energy efficient measures for Income-Qualified program customers.
- The program's methodology recognizes customers with an income-qualified profile in the DTE billing system as part of the program's income-qualified demographic. This helps expand outreach and support to a larger percentage of income-qualified customers.
- Similar to the market rate component of the program, HEC will no longer be available after 2023.

Multifamily

- The Income-Qualified Multifamily program continues to focus on its expanded measure offerings that include heat pumps, heat pump water heaters, insulation, and air sealing measures. The program's Energy Advisors worked with property owners and managers to determine the best fit energy efficient measure upgrades for each property. The program also provided marketing resources and tools to help property owners and managers navigate through the process. In 2023, the program installed over 511,000 measures, which affected approximately 22,000 living units.

- The program shifted its focus from direct installation projects to deeper retrofits, including upgrading HVAC systems, water heating, insulation, and air sealing. In 2023, deep retrofit installations affected nearly 5,000 living units.
- The program offered deep-dive energy coaching to building owners as part of the income-qualified program. This included an American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level 2 audit, with the goal of uncovering energy-saving opportunities for the properties. In 2023, the program funded 15 Level 2 audits, which led to 12 projects and additional project leads for 2024.
- The program continued its collaboration with Consumers Energy. In addition, the program continued working with the Michigan State Housing Development Authority (MSHDA) with a goal to refer future participants in the Low-Income Housing Tax Credit Program.

Chart 19 – 2023 Income-Qualified Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Multifamily Program

The Multifamily program produces energy savings in multifamily buildings with three or more units under one contiguous roof. The program provides a robust offering of rebates for energy-saving measures.

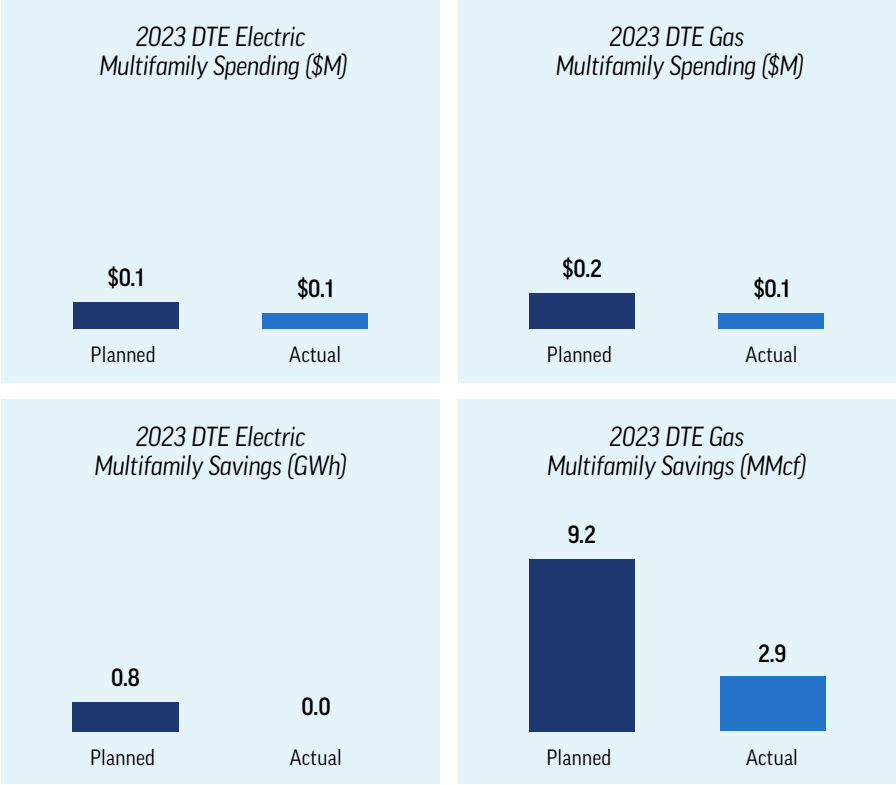
Program Description

The Multifamily program offers common area and in-unit prescriptive and custom rebates for multifamily building energy efficient upgrades. Upgrades include energy efficient HVAC systems, water heating, LEDs, weatherization and more. Energy efficiency education is also delivered throughout the project to property owners and managers. The program also offered a direct install pathway for customers to receive no-cost in-unit measure installations. Typical in-unit measures include LEDs, energy efficient showerheads, and energy efficient kitchen and bath aerators.

Key Takeaways

- Market saturation and challenges with property manager participation accelerated the transition away from direct install projects as a source of savings for the program. The direct install channel concluded at the end of 2023 and will not be offered in 2024.
- The program successfully reduced its application and rebate cycle time down from 30 - 40 days to approximately 14 days.

Chart 20 – 2023 Multifamily Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

New Home Construction Program

The New Home Construction program promotes construction of energy efficient homes in the DTE service territory.

Program Description

The program provides participating builders with technical, marketing and training support as well as financial incentives. Participating builders construct energy efficient homes and work with certified Home Energy Rating System (HERS) raters. HERS raters upload home specifications to Ekotrope, a home design and energy rating software program, to confirm eligibility by achieving a HERS score of 60 or lower and to initiate processing through the program.

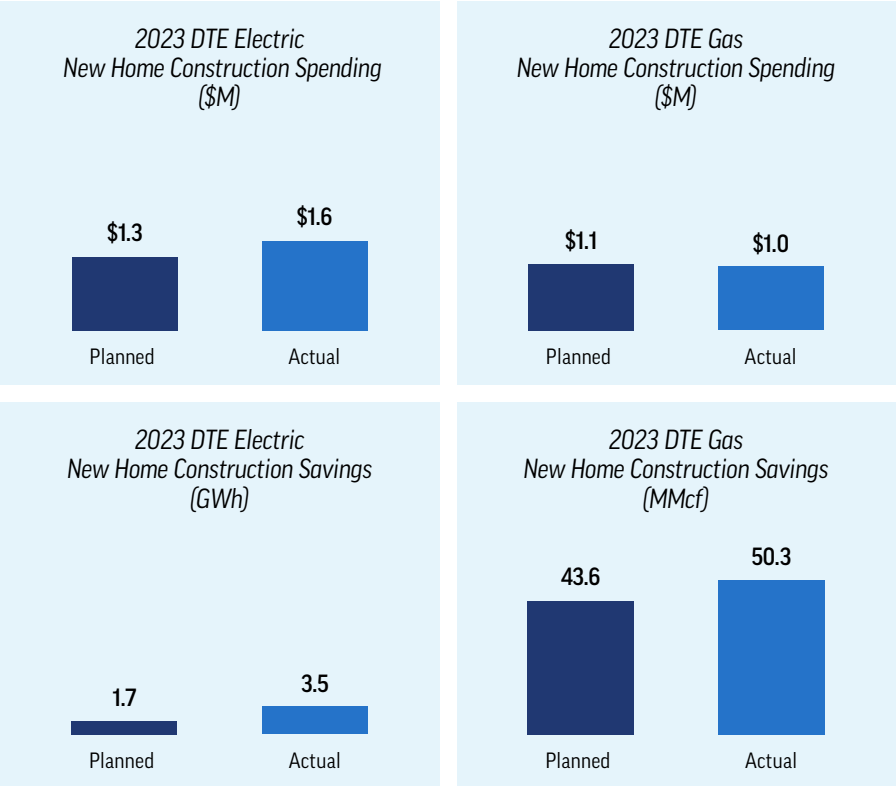
After meeting the HERS score prerequisite, builders are eligible for performance-based incentives and tiered incentives for specific measures including furnaces, water heaters and air sealing techniques. Savings are claimed on the difference between modeled energy usage for a standard code-built baseline home and the newly constructed efficient home.

Builders can receive incentives up to $1,500 for a DTE Electric account, $1,300 for a DTE Gas account, and $2,100 for a combo DTE account. Builders that construct ENERGY STAR®-rated homes are eligible for an additional incentive of $300-$350.

Key Takeaways

- New home construction was challenging in 2023 due to economic conditions. The economic downturn impacted mortgage rates, size of homes and number of homes built. The New Home Construction program met its savings goals in 2023, but much later in the year compared to prior years.
- In 2023, the program launched a major renovations channel. This new program offering incentivizes energy efficiency upgrades, such as windows, HVAC systems, and ventilation, to existing homes. The program used an energy modeling system to calculate energy savings based on a custom reference home built based on approved minimum energy efficiency standards.
- In 2023, program staff presented at the annual Michigan State Home Builders Association Conference.

Chart 21 – 2023 New Home Construction Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

School Program

The School program develops a culture of energy efficiency with third through twelfth grade students, teachers, schools, families and seniors throughout the DTE service territory in the public and private sectors to deliver real, measurable energy savings.

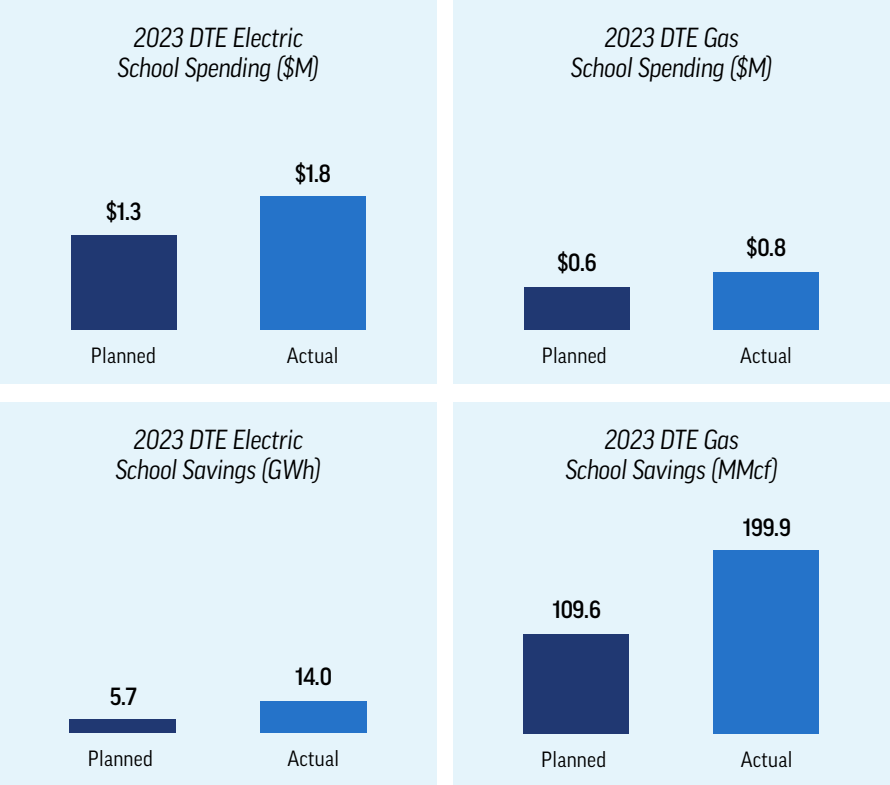
Program Description

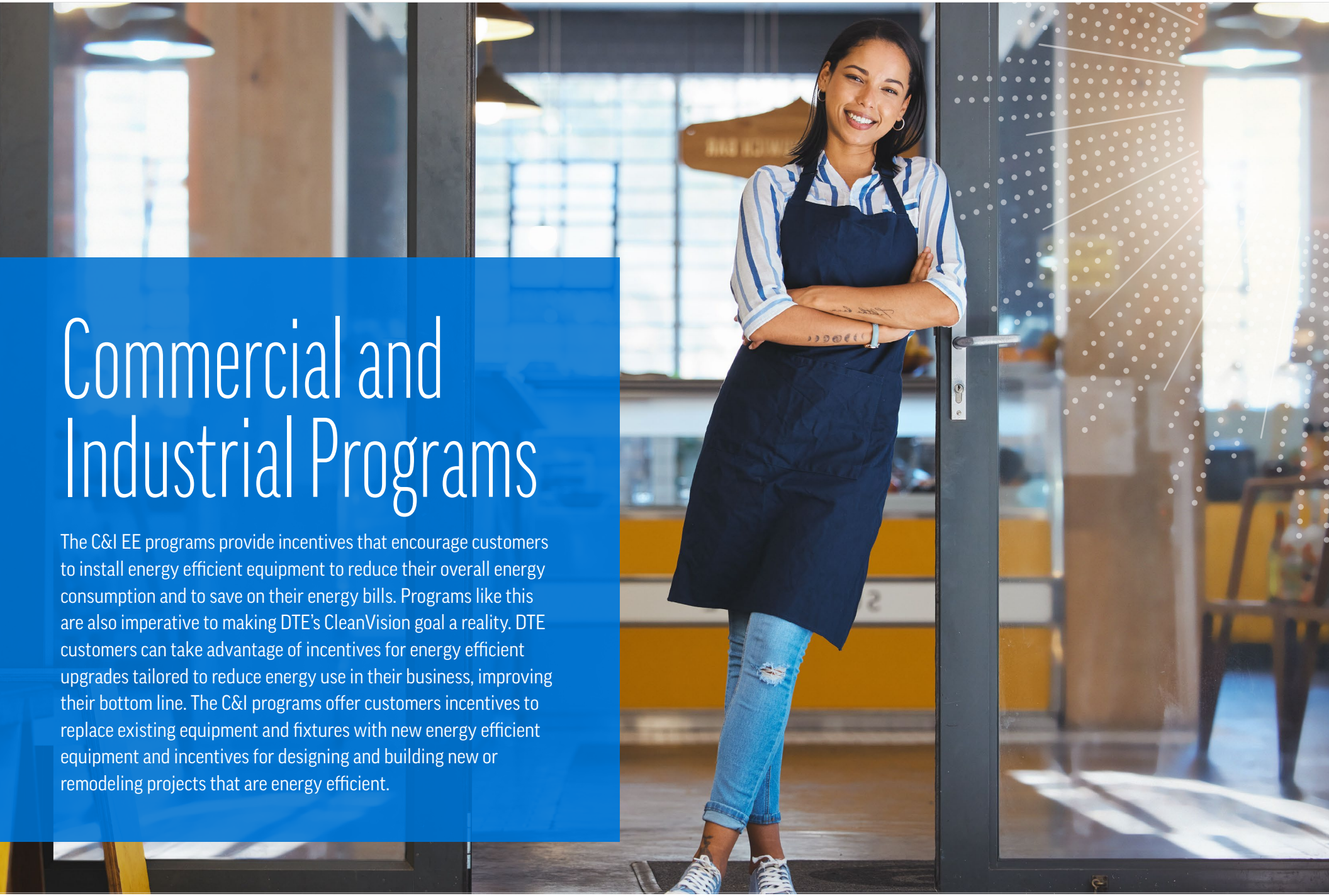
The School program provides non-traditional opportunities to raise awareness and encourage the adoption of energy efficiency measures and behaviors to help the environment. It also contributes to DTE's ambitious CleanVision goal of net zero carbon emissions by 2050. Each participating teacher and student receive a kit filled with energy efficient technologies and a guide with information on energy resources and energy-saving tips. Students are instructed to install all products with adult supervision in their residence. Instructional materials are designed to correlate with the State of Michigan English, Math and Science curriculum for fourth through sixth grade students and the science and economics standards for seventh through twelfth grade students. Implementation contractors provide educational materials through online and in-person delivery channels. In 2023, DTE added the Senior population to the program. Implementation contractors travel to senior day centers to present energy efficiency education and distribute kits similar to those shared with students, with similar installation instructions.

Key Takeaways

- The program launched its "Energy Smart Seniors" component to about 600 participants, who were primarily recruited in areas of higher energy burden.
- In 2023, many kits added a desk lamp in order to capture more savings from lighting sources.
- The program collaborated with and provided kits to Grow Detroit's Young Talent.
- The program continued its collaborations across Michigan with Consumers Energy, SEMCO ENERGY Gas Company, Energy United, the Upper Peninsula Power Company (UPPCO), and the City of Escanaba.
- The program continued its partnership with the Detroit Public Schools Community District and the Plymouth-Canton Community Schools district to serve their fourth-grade classrooms. It also expanded to include Grand Rapids Public Schools, which has elected to register all of their fourth-grade schools to participate in Spring 2024.

Chart 22 – 2023 School Program Spending and Verified Net Savings





Commercial and Industrial Programs

The C&I EE programs provide incentives that encourage customers to install energy efficient equipment to reduce their overall energy consumption and to save on their energy bills. Programs like this are also imperative to making DTE's CleanVision goal a reality. DTE customers can take advantage of incentives for energy efficient upgrades tailored to reduce energy use in their business, improving their bottom line. The C&I programs offer customers incentives to replace existing equipment and fixtures with new energy efficient equipment and incentives for designing and building new or remodeling projects that are energy efficient.

The C&I programs are categorized under five platforms:

- **The C&I Downstream Platform** offers incentives to customers following the installation of prescriptive measures from the Michigan Energy Measures Database (MEMD) or nonstandard equipment and controls not contained in the MEMD. This platform includes the Prescriptive (including Multifamily Commercial, ENERGY STAR® Retail Lighting) and Non-Prescriptive programs.
- **The C&I Midstream Platform** offers a simplified delivery channel that targets equipment distributors, dealers and manufacturer representatives and offers customers instant discounts at the time of purchase. This platform includes the Midstream Lighting, Midstream Food Service and Midstream HVAC programs.
- **The C&I Operational Platform** consists of programs developed to control energy consumption through a systematic approach to identify and improve building deficiencies and processes. This platform includes the Retro-Commissioning and Strategic Energy Management programs.
- **The C&I Small Business Platform** provides small business customers with a path to energy savings and a means to begin their energy efficiency journey. This platform includes the Business Energy Consultation, the Small Business Focus, and the Find and Fix programs.
- **The C&I Emerging Measures and Approaches (EM&A) Platform** promotes the installation of energy efficient technologies and delivery channel strategies to validate recently commercialized pilot programs and support new ideas or concepts that support DTE's C&I program offerings. The Commercial Retail Lighting program was the only program included during 2023.

To encourage equitable distribution of funds and wide and varied participation among as many C&I DTE customers as possible, incentives are subject to annual limits and caps. To further ensure incentive funds are used by many customers, special offers have funding participation limits and a time duration.

Table 7 displays the program year incentive limits. Actual payments per customer determine incentive limits regardless of whether the incentive is paid directly to the customer or to an intermediate party, such as the contractor performing the service for the customer.

Table 7 – 2023 C&I Incentive Caps

	Electric	Gas
Customer	$1,000,000	$300,000

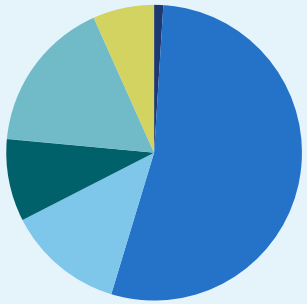
DTE launched several special offerings in 2023 to create broader customer participation. These initiatives included commercial energy audits, energy efficient compressed air nozzles and special project financing through the Michigan Saves program. C&I programs also proactively focus on relationship development with organizations such as the U.S. Green Building Council (USGBC) and Leadership in Energy and Environmental Design (LEED) to fully leverage new construction MEMD measures. The DTE program is also active in the 2030 District Network, an organization which supports urban sustainability.

Chart 23 summarizes the spending and verified net energy savings achieved by each C&I program in 2023.

The C&I programs received 94% or higher customer satisfaction scores across all programs but one in 2023.

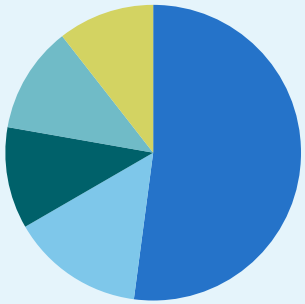
Chart 23 – 2023 C&I Program Spending and Verified Net Savings[16]

2023 DTE Electric Spend by C&I Program ($76.5 M)



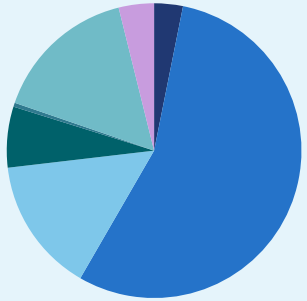
- C&I Emerging Measures and Approaches Platform - 1.0%
- Downstream Platform - 53.7%
- Midstream Platform - 12.8%
- Operational Platform - 9.0%
- Self-Direct - 0.04%
- Small Business Platform - 16.8%
- C&I Administrative - 6.6%

2023 DTE Gas Spend by C&I Program ($11.4 M)



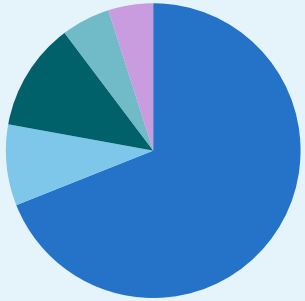
- C&I Emerging Measures and Approaches Platform - 0.0%
- Downstream Platform - 52.1%
- Midstream Platform - 14.6%
- Operational Platform - 11.1%
- Self-Direct - 0.0%
- Small Business Platform - 11.7%
- C&I Administrative - 10.6%

2023 DTE Electric Savings by C&I Program (624.4 GWh)



- C&I Emerging Measures and Approaches Platform - 3.2%
- Downstream Platform - 55.2%
- Midstream Platform - 14.8%
- Operational Platform - 6.7%
- Self-Direct - 0.4%
- Small Business Platform - 15.9%
- Utility Shared Savings - 3.9%

2023 DTE Gas Savings by C&I Program (964.7 MMcf)

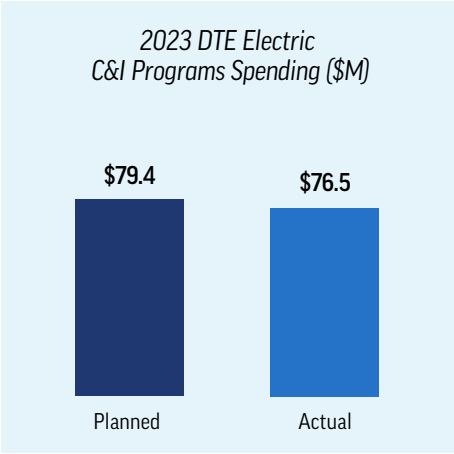


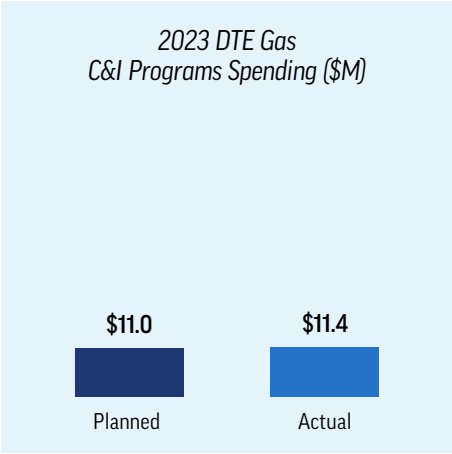
- C&I Emerging Measures and Approaches Platform - 0.0%
- Downstream Platform - 69.0%
- Midstream Platform - 8.9%
- Operational Platform - 11.9%
- Self-Direct - 0.0%
- Small Business Platform - 5.4%
- Utility Shared Savings - 4.9%

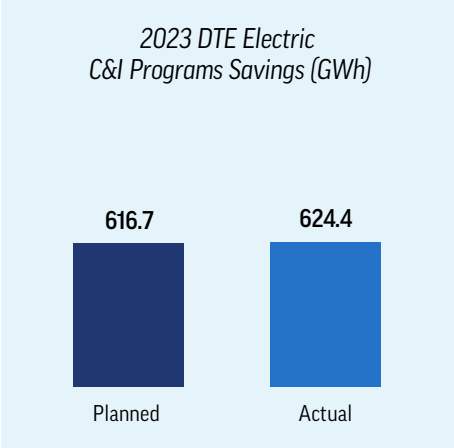
16 Utility Shared Savings are savings created by an "originating" utility that would otherwise go unquantified and unclaimed by the utility providing the relevant fuel service (the "receiving" utility). Utility Shared Savings represents savings created by Consumers Energy (originating utility) in areas where Consumers Energy and DTE have overlapping service territory and Consumers Energy provides single fuel service.

Chart 24 summarizes the spending and verified net energy savings for the 2023 C&I programs combined.

Chart 24 – 2023 C&I Program Spending and Verified Net Savings







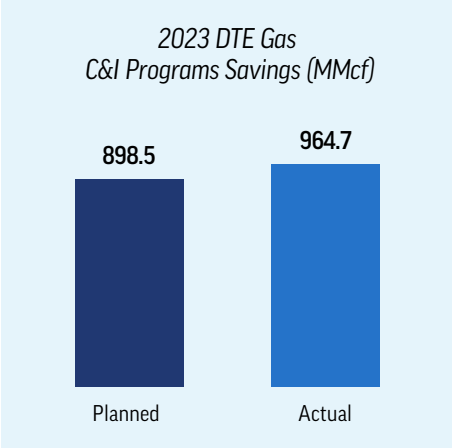
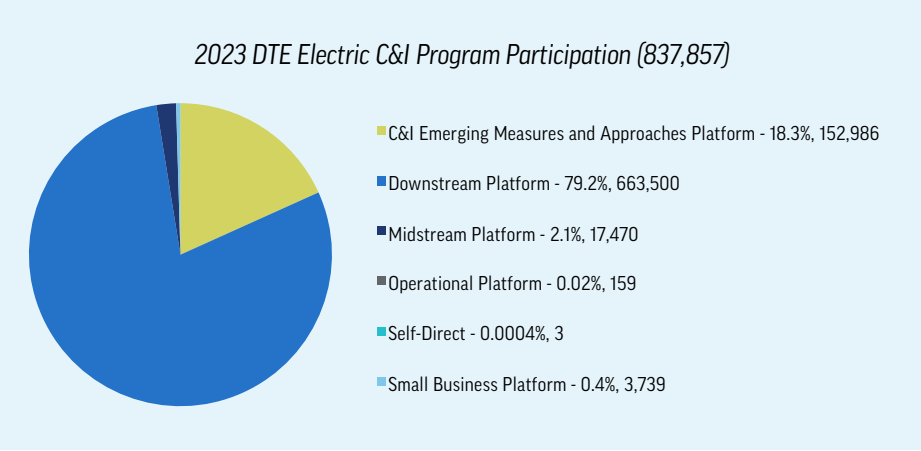
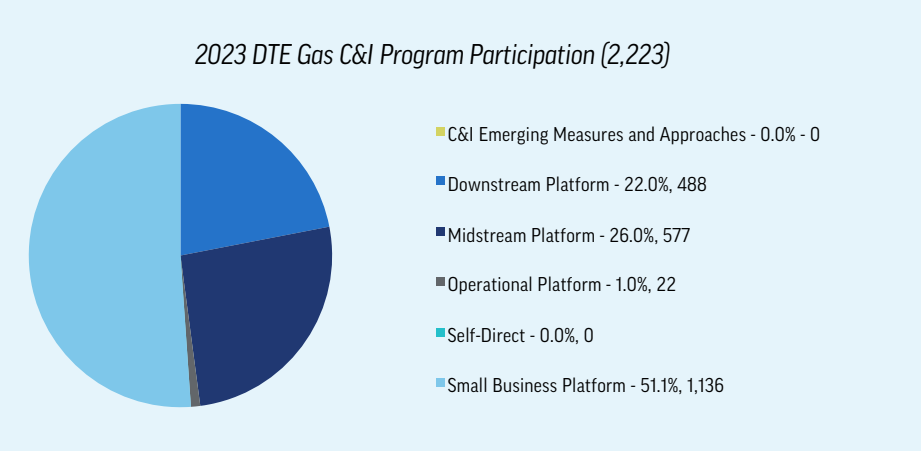


Chart 25 summarizes the share of customers that participated in each of the C&I platforms.

Chart 25 – C&I Program Participation





C&I Downstream Platform

The C&I Downstream Platform offers incentives to customers following the installation of prescriptive measures from the MEMD or nonstandard equipment and controls not contained in the MEMD. DTE has used DNV as its implementation contractor to implement C&I EE downstream programs from 2009 through 2023.

DTE ELECTRIC AND DTE GAS

Prescriptive Program

The Prescriptive program provides predetermined measures and incentives to C&I customers for energy efficient equipment installation.

Program Description

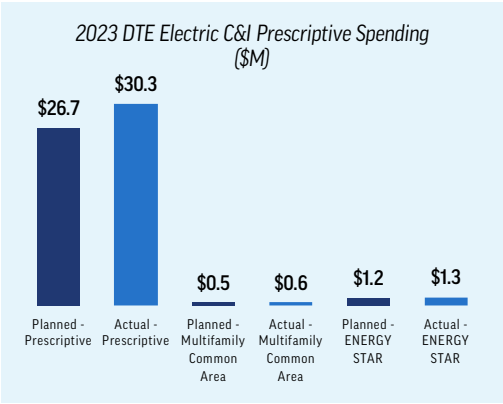
The Prescriptive program designed incentives to encourage C&I business customers to install energy efficient measures in existing facilities to reduce overall energy consumption and save money on energy bills. Incentives apply to qualified equipment commonly installed in a retrofit or equipment replacement project and are paid based on the quantity, size and efficiency of the technology installed. Prescriptive incentives are rebates paid after the installation of eligible measures.

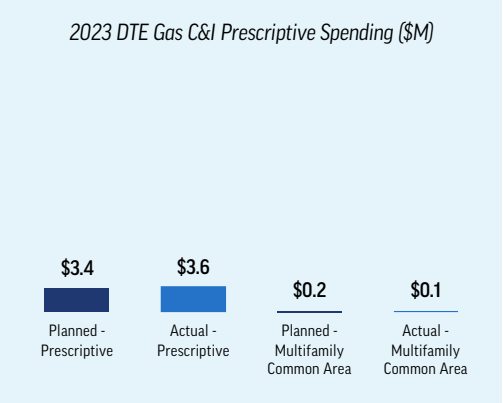
The Electric and Gas Prescriptive programs include more than 250 prescriptive measures. Specifically, primary measures implemented include lighting fixtures, lamps, LED lighting systems and controls, motors and variable speed drives, food service and refrigeration equipment, air conditioning and ventilation equipment, boiler tune-ups and other common energy efficient equipment. The savings and spend for commercial common areas of the Multifamily program and the ENERGY STAR® Retail Lighting program are also included as Prescriptive components.

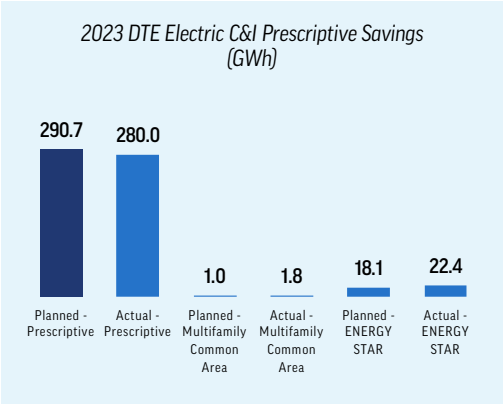
Key Takeaways

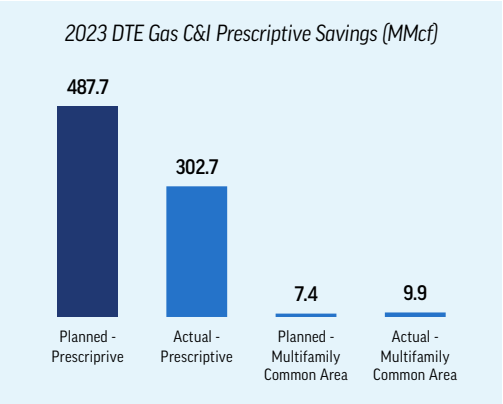
- The program broadened customer participation through new offerings, including networked lighting controls and energy efficiency kits, diversifying energy savings opportunities for customers.
- The online applications introduced in 2022 continued to improve the customer experience in 2023. Several customers mentioned effective rebate structures that were easy to complete and had a quick turnaround. They also cited their appreciation for the cost savings, energy savings, and ability to contribute to a greener footprint.
- The C&I Prescriptive program expects the share of LED lighting installations to decline due to market saturation and regulatory changes. However, the number of HVAC, motor, and controls type measures are expected to increase in 2024.
- Customer satisfaction with the program remains high and is consistent with previous years.

Chart 26 – 2023 Prescriptive Program Spending and Verified Net Savings









DTE ELECTRIC AND DTE GAS

Non-Prescriptive Program

The Non-Prescriptive program provides customized incentives to C&I customers for the installation of innovative energy efficiency equipment and controls that decrease electricity or gas consumption.

Program Description

The program's components include custom measures that provide incentives to customers for measures they installed in qualified projects that are less common or more complex than prescriptive measures. As with prescriptive incentives, the custom incentive payment occurs after the equipment is installed and operational at the customer location.

Measure incentives were based on the estimated energy savings for the first 12 months:

- The Electric Non-Prescriptive program incentive was $0.08 per kWh.
- The Gas Non-Prescriptive program incentive was $3.50 per Mcf.

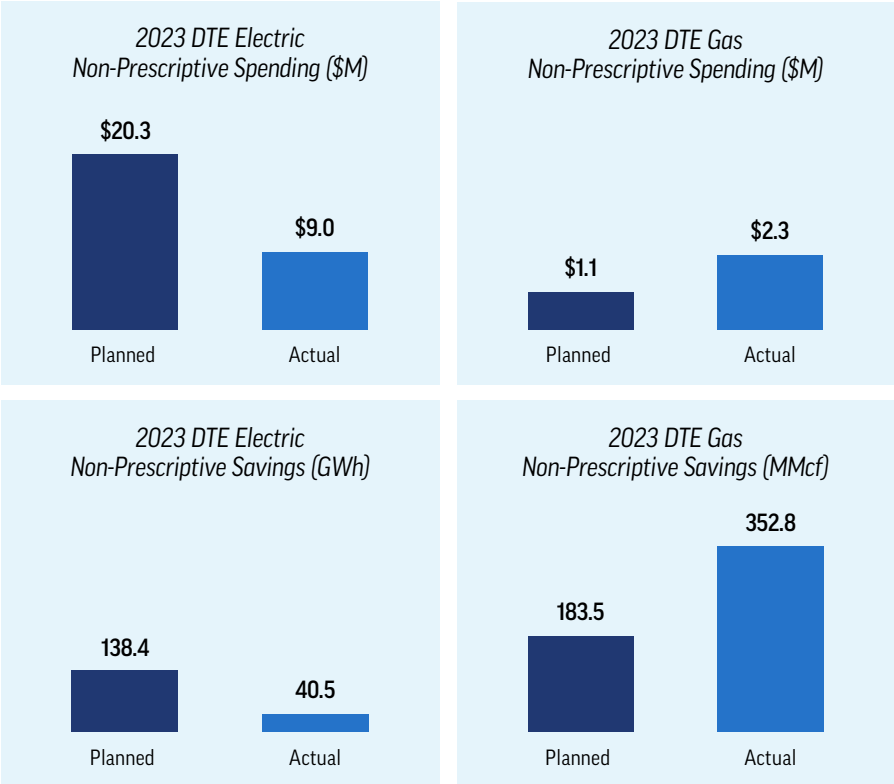
To qualify for the incentive, projects are required to have a one to eight-year simple payback for electric, a minimum of one-year simple payback for both gas and electric projects and a maximum of eight-year payback for electric-only projects. Incentives are capped at 50% of the total project cost.

Examples of Non-Prescriptive program measures implemented during 2023 include energy management system controls, energy efficient motors and variable frequency drives, industrial process equipment improvements and custom lighting projects with extended hours of use. Measures not eligible for an incentive include fuel switching (i.e., electric to gas or gas to electric); changes in operational or maintenance practices or simple controls modifications not involving capital costs; onsite electricity generation; and projects that involve peak shifting but no kWh savings, renewable energy or those in which the payback did not meet the Non-Prescriptive requirements.

Key Takeaways

- In 2023, the use of TRANE Trace as a simulation-based method of estimating energy savings continued to estimate energy and cost savings for customers with accuracy, especially those incorporating heating, ventilation, and air conditioning (HVAC) improvements.
- Large C&I productivity and process improvement projects contributed a greater share of the program's savings in 2023, while the share of savings from lighting improvements decreased.
- Strong customer and program relationships remain critical to fostering multi-year participation.

Chart 27 – 2023 Non-Prescriptive Program Spending and Verified Net Savings



C&I Midstream Platform

The C&I Midstream Platform offers a simplified marketing approach that targets equipment distributors and manufacturer representatives to encourage participating distributors to stock more energy efficient products and offer customers instant discounts at the time of purchase.

For all midstream programs in 2023, the implementation contractors' ongoing communications with distributors were well-received, and the program achieved high distributor satisfaction.

DTE ELECTRIC

Midstream Lighting Program

To achieve its goals, the program works with commercial lighting distributors across the state to offer discounts on energy efficient lighting products to C&I customers of all sizes.

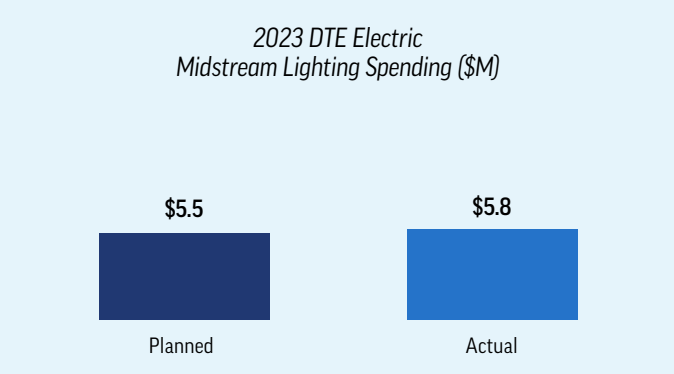
Program Description

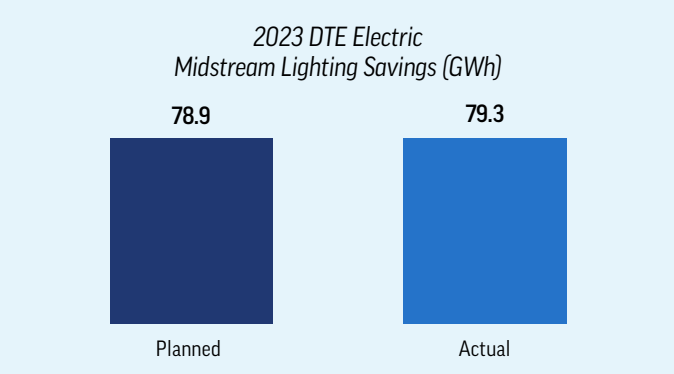
Program incentives encourage energy savings by allowing customers to receive instant discounts on energy efficient lighting measures, including a variety of different LED lamp types and occupancy sensors. By reducing the purchase price of energy efficient lighting products at the register instead of requesting a rebate using an application or through a scheduled appointment, DTE provides additional and easy access for program participation for customers that might not participate in other DTE C&I programs. The program also includes customer education and awareness about discounts through signage and other online means.

Key Takeaways

- The Midstream Lighting program continued to exceed its program savings goal in 2023, demonstrating its consistency and steadiness.
- In 2023, the program added four new distributors and one new measure of one-by-four panels.
- DTE removed the quantity caps for high bay and flat panel fixtures in the Midstream Lighting program based on distributor feedback to encourage program participation.
- The program reduced incentives by $5 per unit for measures including high bays and troffers.
- DTE and the program implementer continued their close collaboration with distributors, providing support through communications, marketing material, and trainings.

Chart 28- 2023 Midstream Lighting Program Spending and Verified Net Savings





DTE ELECTRIC AND DTE GAS

Midstream Food Service Program

The Midstream Food Service program targets food service cooking equipment distributors and provides point-of-purchase incentives to C&I customers of all sizes that purchase and install energy efficient food service equipment.

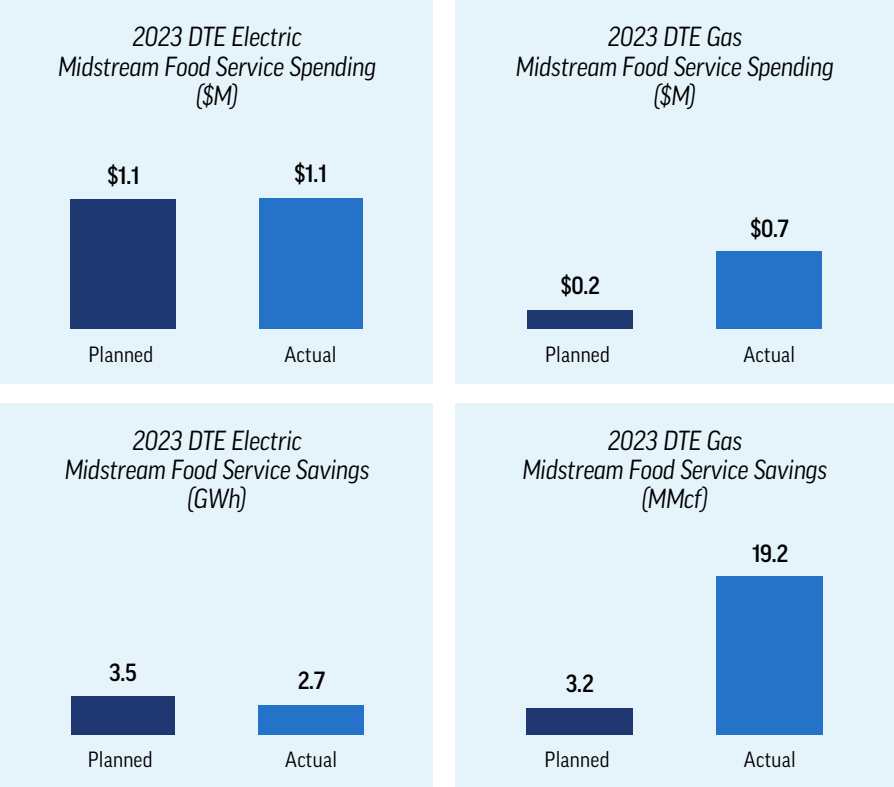
Program Description

The Midstream Food Service program works with commercial food service dealers to offer instant discounts on energy efficient (ENERGY STAR®-rated) food service equipment. Instant discounts encourage energy savings by reducing the purchase price of equipment at the point of purchase instead of requiring an application or scheduled appointment to participate. DTE hopes to capture program participation for customers that might not participate in other DTE C&I programs.

Key Takeaways

- The Midstream Food Service program introduced several new distributors in 2023, bringing the total to 37 distributors contributing to achieve the program's savings goal.
- In early 2023, the program introduced higher incentive amounts to encourage participation to the program, and adjusted incentives later in the year.
- The Midstream Food Service program added hand wrap machine as a new energy savings measure in 2023.

Chart 29 – 2023 Midstream Food Service Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Midstream HVAC Program

The Midstream HVAC program was designed to increase the market share of efficient HVAC systems by providing streamlined incentives to distributors, who leverage their sales and outreach capabilities to C&I end users of all sizes.

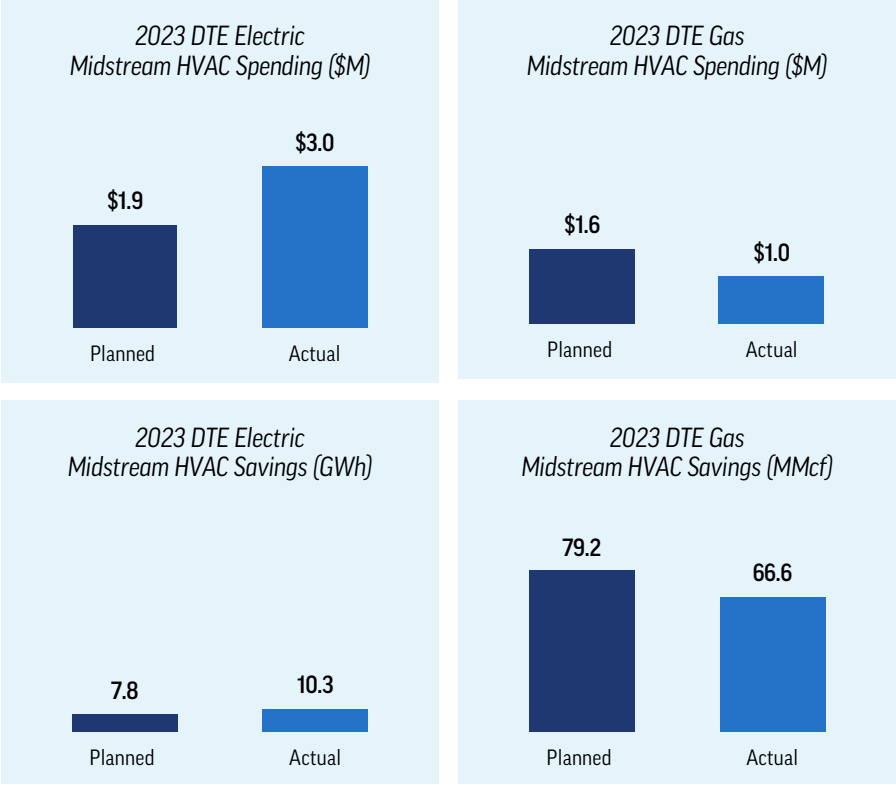
Program Description

The Midstream HVAC program works with commercial distributors across the state to offer discounts on energy efficient products. Incentives encourage energy savings by allowing customers to receive instant rebates on qualifying energy efficient Midstream HVAC equipment. By reducing the purchase price of energy efficient Midstream HVAC products at the register instead of requiring an application or scheduled appointment to participate, DTE hopes to capture program participation for customers that might not participate in other DTE C&I programs.

Key Takeaways

- The program achieved greater electric savings but less gas savings in 2023 compared to 2022.
- In 2023, the Midstream HVAC program included seven new distributors, bringing the total to 29.
- The program introduced new energy savings measures in 2023, including commercial heat pump water heaters, condensing units for air conditioner, guest hotel controllers, dual enthalpy economizers, water cooled chillers, and packaged terminal air conditioners and heat pumps. Distributor awareness of measures and products improved through trainings, physical marketing materials, online program information, and ongoing communications offered by the program.
- The program continued its mandatory 20% incentive pass through from distributors to customers in 2023.
- The program organized its second distributor round table event in 2023 and participated in energy efficiency conferences.

Chart 30 – 2023 Midstream HVAC Program Spending and Verified Net Savings



C&I Operational Platform

The C&I Operational Platform consists of programs developed to control energy consumption through a systematic approach to identify and improve building deficiencies and processes.

DTE ELECTRIC AND DTE GAS

Retro-Commissioning Program

The Retro-Commissioning program targets C&I buildings by providing a detailed energy audit and evaluation that identifies operational low-cost or no-cost, highly customized solutions to reduce operational energy consumption based on building-specific needs.

Program Description

The program offers energy expertise and valuable incentives to help offset the initial cost of investment to make operational improvements to the customer's building. The Retro-Commissioning program also provides recommendations for energy efficient capital investments customers can implement and receive an incentive through the Prescriptive or Non-Prescriptive programs. In 2023, the program continued its coordination efforts with the Strategic Energy Management program to ensure specific customers participated in the most beneficial program for their needs.

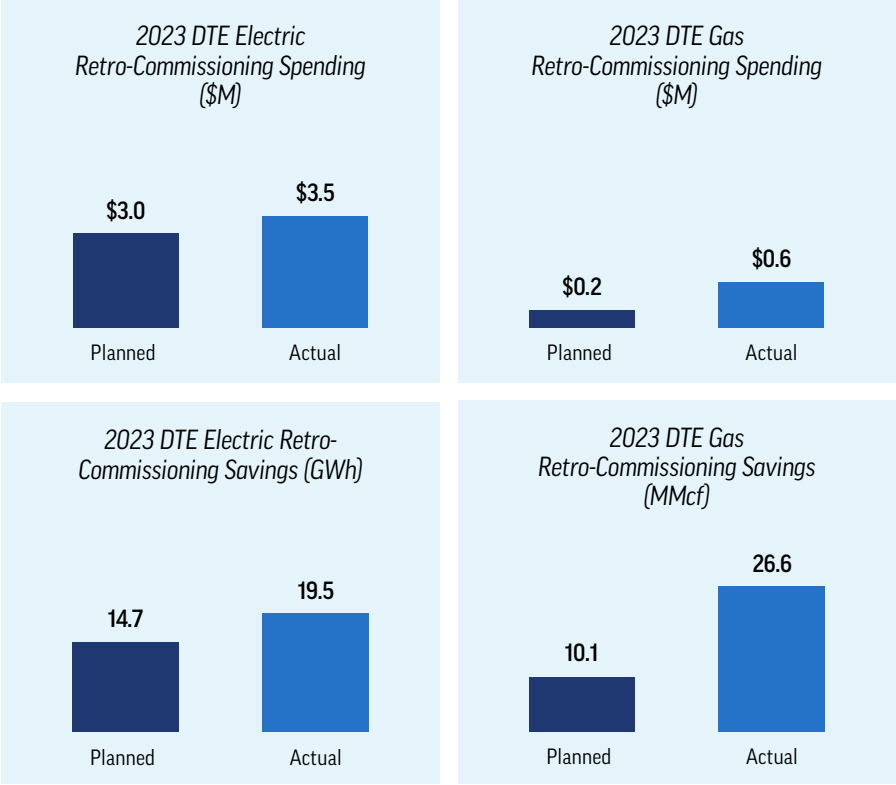
The Retro-Commissioning program includes two enrollment tracks for customers: a standard track and an express track. In the standard track, Retro-Commissioning program customers must have an annual electric consumption of 5,000,000 kWh or greater and are expected to have a building management system, to provide a nominal commitment of $10,000, and to implement recommendations that have an 18-month simple payback or less. The express track is available to customers having an annual electric consumption of 1,000,000 kWh or less and only requires enrolled sites to have a building management system.

DTE offers a Bonus Bank to encourage participation in DTE's C&I Prescriptive and Non-Prescriptive programs. For every kWh and therm saved from participating in the Retro-Commissioning program, DTE offers an additional bonus rebate of $0.01 and $0.10, respectively. Customers can use this bonus to obtain additional rebates for participating in these programs. The program began offering ad-hoc incentives to customers for completing certain tasks by a deadline.

Key Takeaways

- In 2023, the program's utility-reported savings increased by 27% for electric energy and by 58% for gas compared to 2022.
- Total individual project submissions increased from 46 Retro-Commissioning-only unique projects to 95 in 2023.
- In 2023, the program further expanded its service to industrial customers by building relationships and using a targeted customer outreach approach. The program continued serving the commercial sector in 2023.
- In 2023, the program team increased the amount of energy performance data in the final report it shares with the customer at the end of a project. This addition helps customers better understand the impact of Retro-Commissioning program measures on their facility's energy consumption.
- The program team assisted the Detroit Public Schools Community District by providing supplementation project verification information to enhance their ability to implement measures.
- The program continued offering an express track where contractors audit and make operational changes to the site during a single visit. The express track represented an overwhelming majority of the reported savings in 2023.

Chart 31 – 2023 Retro-Commissioning Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Strategic Energy Management Program

The Strategic Energy Management program provides technical support and financial incentives for C&I customers interested in managing energy continuously in a holistic approach through strategic energy management.

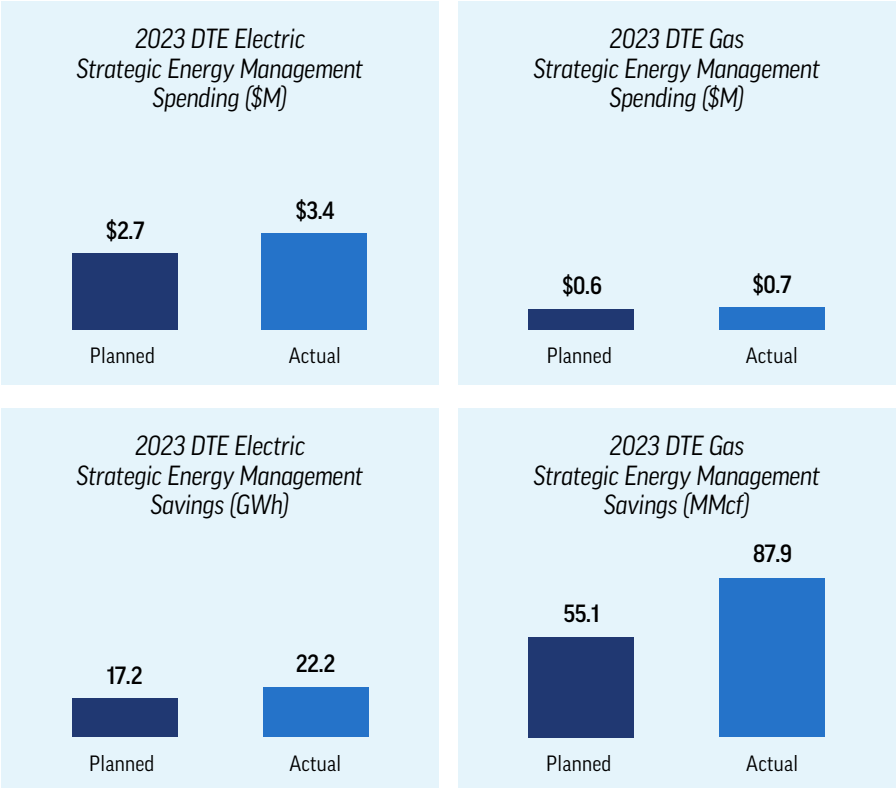
Program Description

The program provides incentives to C&I customers for making operational changes at their facilities. These operational changes primarily include HVAC and industrial process-related system adjustments that result in energy use reductions. This program offers up to 24 months of technical support, incentives for kWh and Mcf verified as well as major milestone achievement incentives.

Key Takeaways

- In 2023, the program's utility-reported savings decreased by 6% for electric energy and increased by 2% for gas savings compared to 2022.
- First introduced in 2022, the Stellantis™ Excellent Plant Shutdown (ExPS) initiative drove millions of kWh in program electric energy savings in 2023 and led other industrial customers outside of Stellantis™ to pursue ExPS measures with the DTE SEM program team.
- The program continued to engage long-term participants with multiple sites for enrolling additional facilities within their corporate portfolio.
- The program continued to offer virtual audits to access a customer's building management system remotely to identify opportunities for energy savings.
- The Strategic Energy Management program team engaged stakeholders to finalize a comprehensive measurement and verification plan for the program's industrial and commercial components.

Chart 32 – 2023 Strategic Energy Management Program Spending and Verified Net Savings



DTE ELECTRIC

Self-Direct Program

This program gives DTE C&I electric customers the opportunity to choose to self-direct and implement their own EWR Plan.

Program Description

DTE Electric placed a bill message on all commercial customer bills notifying them about the program and how to subscribe. All existing self-directed customers were sent personalized letters when it was time to reapply. Account managers followed up with a phone call after the letters were mailed to address customer questions. Program information was placed on the DTE website along with the required energy plan templates for customers to use to apply to the program. Customers choosing to self-direct are exempt from the mandatory EWR electric surcharge(s), except for the portion of the surcharge that funds the Income-Qualified program and program administration costs.

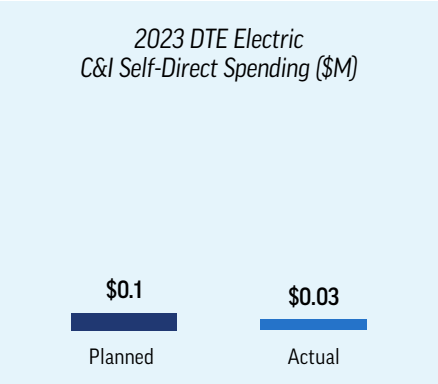
Key Takeaways

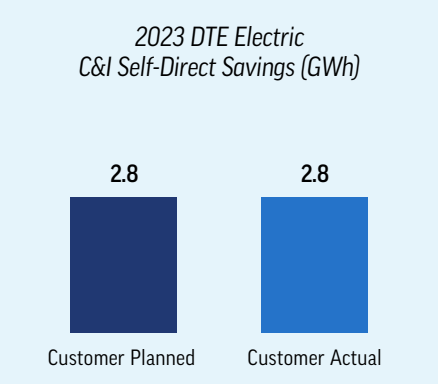
- In 2023, three electric customers enrolled in the Self-Direct program. All participating customers submitted annual reports in compliance with program requirements. All customers met their total required savings targets for 2023.
- To be eligible, customers must have an annual peak demand of 1 MW or more at a single site or in aggregate at multiple sites within DTE's service territory. Customers cannot include sites or accounts that have received an EWR rebate or incentive from an electric provider and are in the calculated waiting period.
- If the waiting period lapses after the Self-Direct plan filing deadline but before its plan year begins on January 1, a customer may include those sites or accounts during the upcoming plan period.
- The plan must provide aggregate energy savings that for each year meet or exceed the EWR performance standards based on the electricity purchases in the previous year for the site or sites it covered.

Table 8 – 2023 DTE Electric Self-Directed Program

		Term of Self-Direct	Total Meters Associated		Annual Report Summary		
Customers	**Admin**	**Years**	**Total Primary Meters**	**Total Secondary Meters**	**Supplied Annual Report**	**2023 MWh Savings Planned**	**2023 MWh Savings Achieved**
Customer		3	139	0	✓	1,982	1,982
Customer		2	77	0	✓	371	371
Customer		5	18	0	✓	399	399
Totals:	$31,000		234	0		2,753	2,753

Chart 33 – 2023 C&I Self-Direct Program Spending and Verified Net Savings





C&I Small Business Platform

The Small Business Platform provides small business customers with a path to energy savings and a means to begin their energy efficiency journey.

DTE ELECTRIC AND DTE GAS

Business Energy Consultation Program

The Business Energy Consultation program targets small businesses (primarily nonprofits, houses of worship, and customers representing $13,000 or less in revenue) by providing a no-cost energy assessment, direct install prescriptive measures, a report with energy savings recommendations and rebates for gas contractor-installed measures.

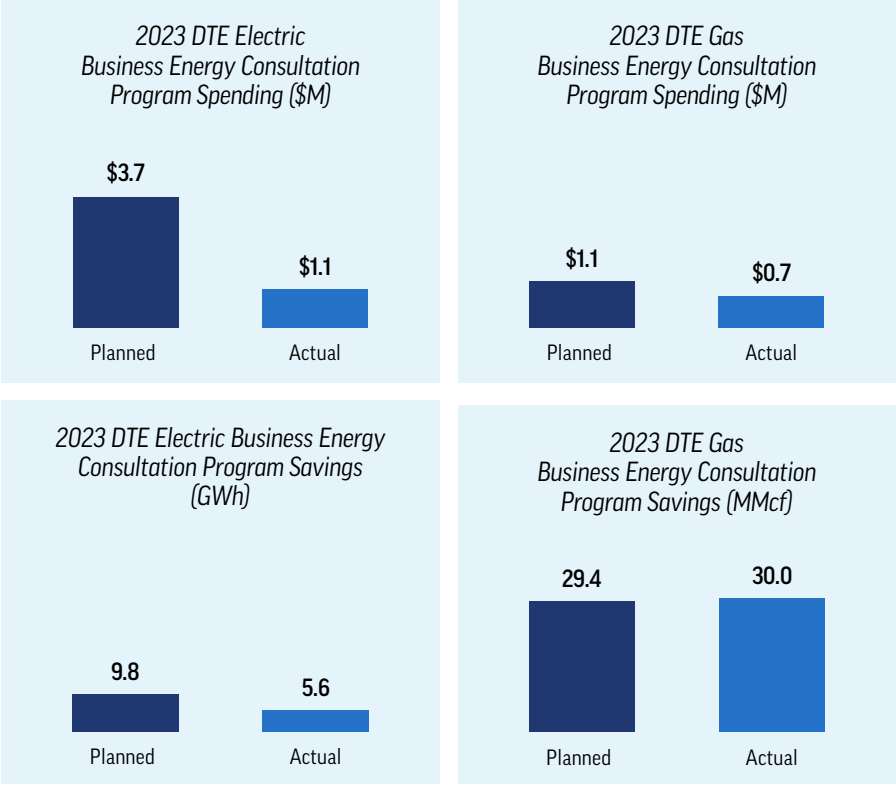
Program Description

Through the no-cost assessment, customers may receive prescriptive measures such as a programmable thermostat or LED bulbs at no cost. The Business Energy Consultation energy assessment report provides customers with energy efficiency recommendations and information on available incentives . After completing the assessment, the program provides referrals to other DTE EE programs that can help the customers install the recommended measures. The program focuses on direct install projects, with a goal to create energy efficiency engagement by providing an easy-to-follow process and eliminating barriers for customers who may have little energy experience.

Key Takeaways

- A new gas contractor joined the program in 2023, with a focus on achieving gas savings. The Business Energy Consultation program achieved 30,019 Mcf toward its 2023 gas savings target.
- In PY2023, the program added new measures such as air purifiers and open signs to help encourage customer participation.
- In 2023, customer satisfaction was 92%.

Chart 34 – 2023 Business Energy Consultation Program Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Find and Fix Programs

The Find and Fix programs include the Compressed Air program and Steam Trap program. The Compressed Air program targets small and medium C&I electric customers by identifying leaks in air compressor systems. The Steam Trap program targets small and medium C&I gas customers by identifying failed steam traps. Customers are responsible for fixing identified leaks and receive an incentive from DTE based on the volume of leaks fixed.

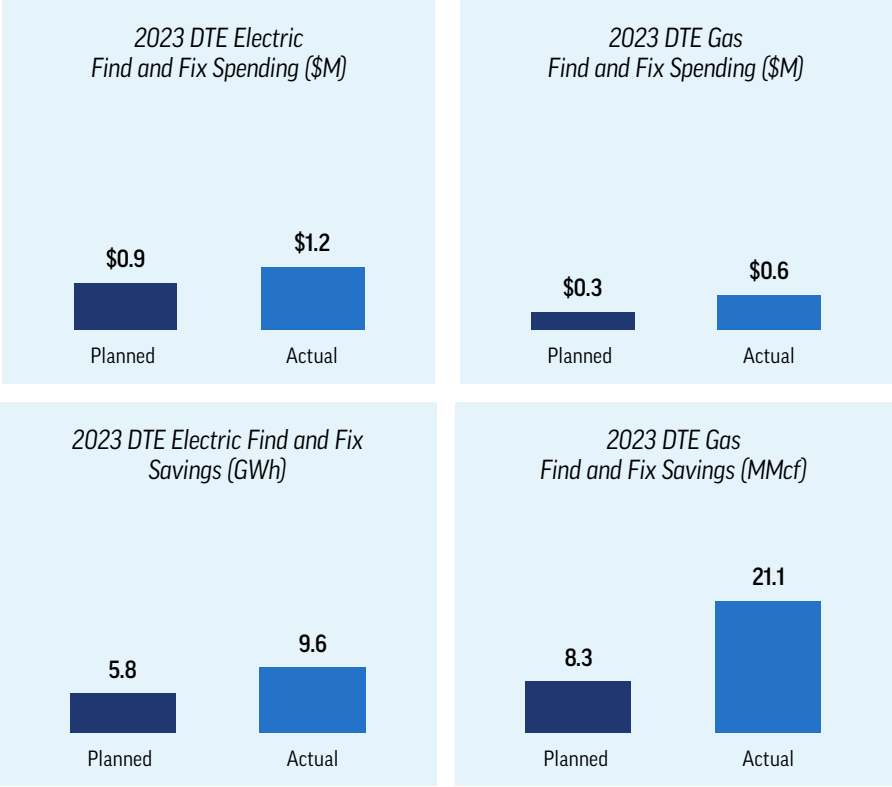
Program Description

Through no-cost compressed air and steam trap leak surveys, the Find and Fix programs help customers identify leaks in their compressed air systems and failed steam traps in their facilities. The implementation contractor conducts a leak survey, places tags at the location of each identified leak, and then provides the customer with a list of identified leaks for repair. Customers are responsible for repairing leaks in their compressed air systems and fixing or replacing failed steam traps. Customers receive an incentive from DTE based on the volume of leaks fixed. The programs intend to help customers identify and mitigate inefficiencies in their existing systems.

Key Takeaways

- The Compressed Air program added air dryers as an additional measure in 2023 to accurately capture additional savings for facilities with these appliances.
- In 2023, the Steam Trap program achieved the program's annual savings goal ahead of schedule. The program continues to be cost-effective.
- The Compressed Air program coordinated referrals with the Downstream program since similar customers participate in both; for example, the Downstream program referred customers with drains and nozzles in their facilities to participate in the Compressed Air program in 2023.
- The Find and Fix programs allow customers to participate year-after-year. Approximately 60% of the program's savings came from customers who previously participated and decided to participate again in 2023.
- The Find and Fix programs found success through in-person recruiting. The program's contractor increased participation by having representatives stop by eligible facilities to explain the programs in person.
- In 2023, customer satisfaction for both Find and Fix programs was 100%.

Chart 35 – 2023 Find and Fix Spending and Verified Net Savings



DTE ELECTRIC AND DTE GAS

Small Business Focus Program

The Small Business Focus program targets small and medium businesses by providing a no-cost energy assessment, direct install prescriptive measures, a report with energy savings recommendations and rebates for contractor-installed measures.

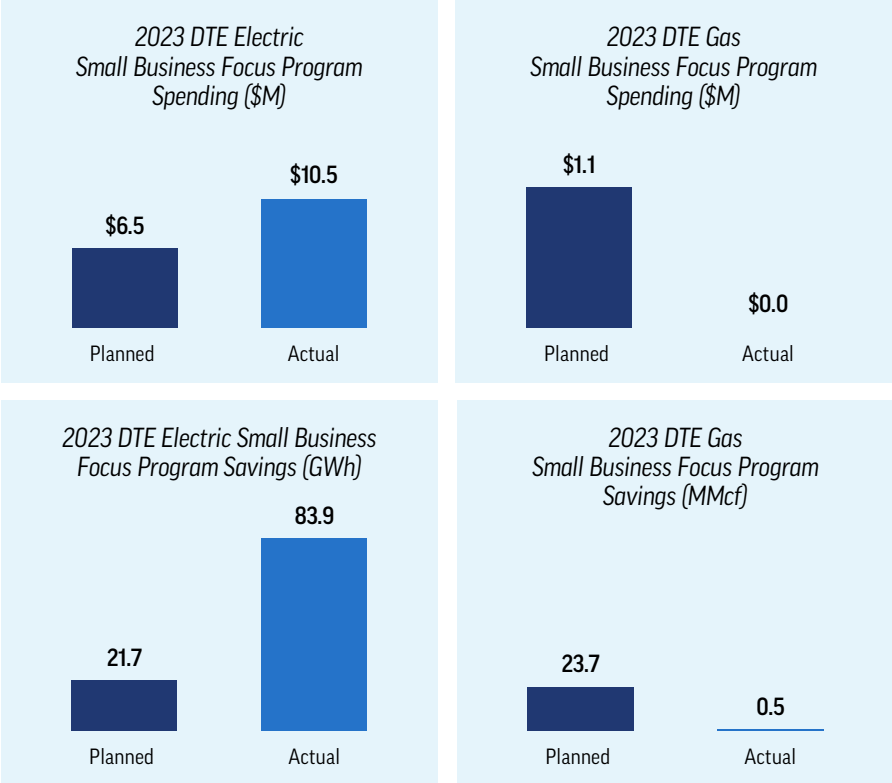
Program Description

Through the no-cost assessment, customers may receive prescriptive measures such as a programmable thermostat or LED bulbs at no cost. The Small Business Focus energy assessment report provides customers with energy efficiency recommendations and information on incentives and next steps. After completing the assessment, the program provides referrals to contractors who can install the recommended measures. The program primarily focuses on contractor projects, with a goal to create engagement with energy efficiency by providing an easy-to-follow process and eliminating barriers for customers who may have little energy experience.

Key Takeaways

- The program focused efforts within Oakland and Washtenaw counties in early 2023
- In 2023, the Small Business Focus program added new measures including air purifiers and open signs to encourage and broaden participation.
- Due largely to increased incentives, the Small Business Focus program saw significant savings growth. By year's end, the program achieved 83,900 MWh in savings, nearly quadrupling the planned goal.
- The program did not offer a gas program and directed customer leads instead to the Business Energy Consultation program.
- The Small Business Focus program introduced a modified assessment report to serve customer needs. The program began using this report in mid-November 2023 and it will be used exclusively in 2024. In 2024, Guidehouse will conduct customer interviews to understand how they experience the new report format.
- In 2023, the Small Business Focus program launched a new contractor portal to assist with the program's project scheduling.
- At the end of 2023, DTE Small Business program launched a new website to assist customers in accessing information about and participating in the program.

Chart 36 – 2023 Small Business Focus Program Spending and Verified Net Savings



C&I Emerging Measures and Approaches Platform

The C&I Emerging Measures and Approaches (EM&A) Platform promotes the installation of energy efficient technologies or delivery channel strategies that were recently commercialized in DTE's C&I program offerings. In 2023, the EM&A Platform consisted of the Commercial Retail Lighting program.

DTE ELECTRIC

Commercial Retail Lighting Program

The Commercial Retail Lighting program provides incentives to commercial customers through a retail upstream channel to improve their lighting efficiency. The program implementer coordinates with retail and manufacturing partners to design memorandums of understanding with the goal of driving down the costs of retail lighting.

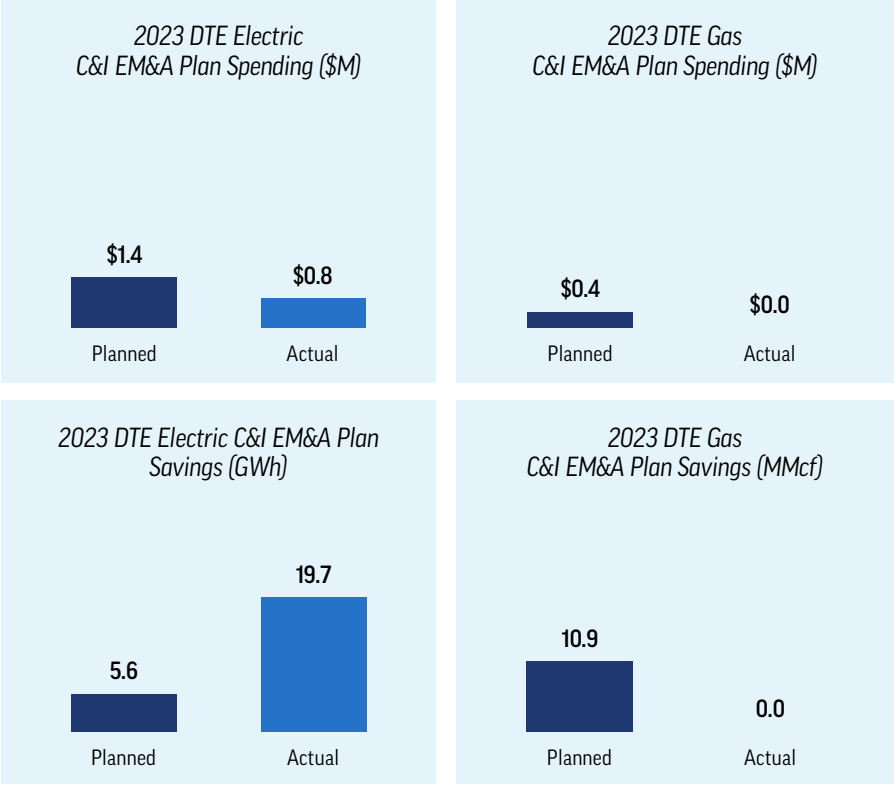
Program Description

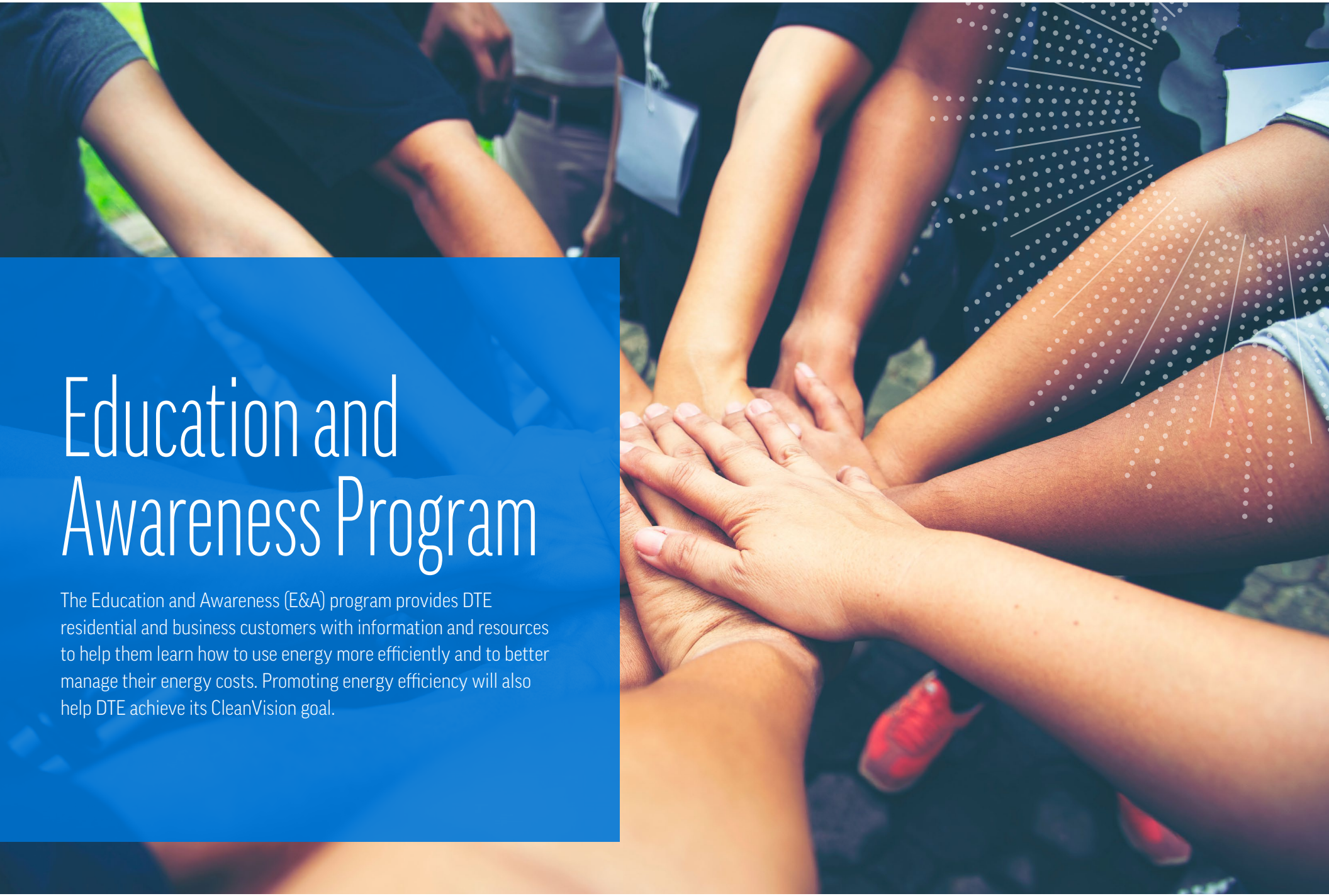
The Commercial Retail Lighting program coordinates with a number of retailers to offer lighting measures in-store. Similar to DTE's residential lighting programs, the Commercial Retail Lighting program helps customers reduce the cost of being energy efficient by providing rebates or discounts on upstream lighting.

Key Takeaways

- The Commercial Retail Lighting program identified opportunities to pursue energy savings at retail stores in the DTE territory.
- DTE promotes the program in retail stores and offers in-store point-of-purchase educational material. The program also offers informational sessions to in-store staff to increase program awareness.
- The program provides another avenue for small business customers to save money and energy, and supplements DTE's existing lighting programs.

Chart 37 – 2023 C&I EM&A Platform Spending and Verified Net Savings





Education and Awareness Program

The Education and Awareness (E&A) program provides DTE residential and business customers with information and resources to help them learn how to use energy more efficiently and to better manage their energy costs. Promoting energy efficiency will also help DTE achieve its CleanVision goal.

DTE ELECTRIC AND DTE GAS

Education and Awareness Program

The Education and Awareness (E&A) program provides DTE residential and business customers with information and resources to help them learn how to use energy more efficiently and to better manage their energy costs. Promoting energy efficiency will also help DTE achieve its CleanVision goal.

Program Description

The DTE energy efficiency-specific website, mass media, social media, direct to customer marketing, and outreach campaigns engage customers with energy efficiency information. In 2023, DTE continued to rely on such campaigns to target specific customer segments to increase their awareness of and adaption of energy efficiency.

Residential campaigns focused on low-cost or no-cost tips, programs, rebates, free tools and resources, ENERGY STAR® tips and initiatives such as pool pump education and ENERGY STAR Day promotions, heating and cooling season messaging, estimated energy- and money-saving opportunities, national Energy Efficiency Day initiatives, and environmentally focused calls to action. Messaging themes also encouraged energy efficient home improvements and behavioral changes to influence environmentally friendly energy consumption. Small business campaigns focused on tips, resources and program enrollment and shared how local small businesses used energy efficiency tactics to improve operations while maintaining comfort and ensuring environmentally conscious energy usage. DTE continued to highlight the non-energy benefits of making energy efficiency improvements to increase the comfort, and safety of their business and to improve the satisfaction of their customers and employees.

Key Takeaways

- The Education & Awareness team continued to partner with Gas and Electric marketing partners to deliver co-branded content in support of seasonal campaigns aimed to improve customer satisfaction with relevant and actionable energy efficiency messaging.
- DTE expanded customer engagement opportunities through participation in local partnerships that allowed for one-on-one, face-to-face interactions. This included leveraging on-site educational activations that communicate energy efficiency information in a fun and engaging way, printed collateral with calls to action and information and post-event surveying to gauge customer interest and recall.
- The Education and Awareness team continued to leverage customer insights, behavioral tendencies and marketing analytics to inform program strategies.

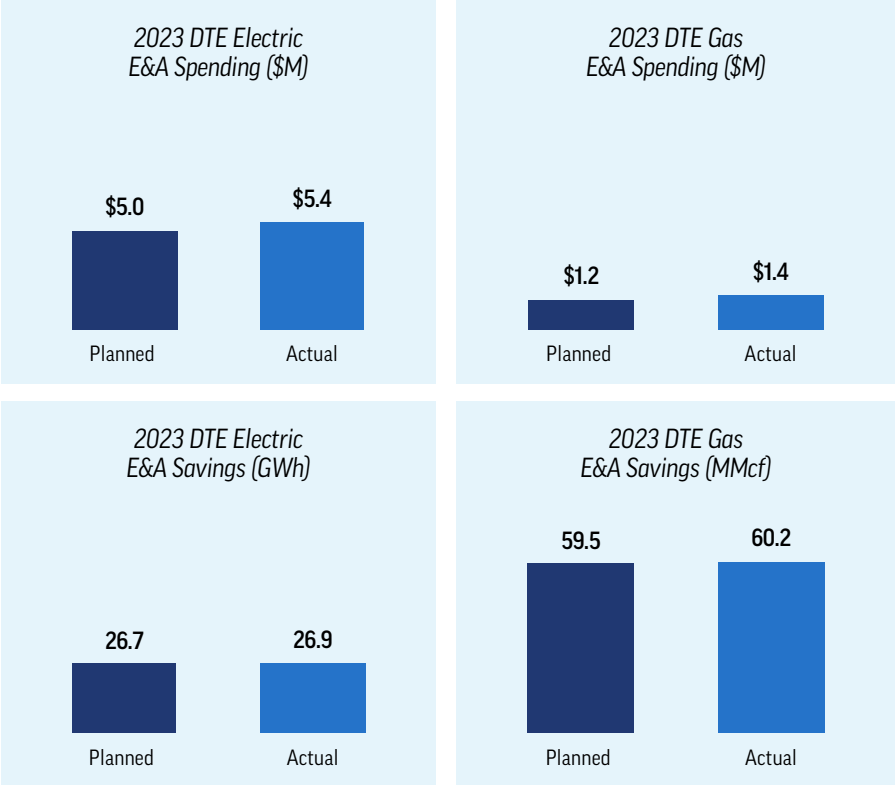
Residential

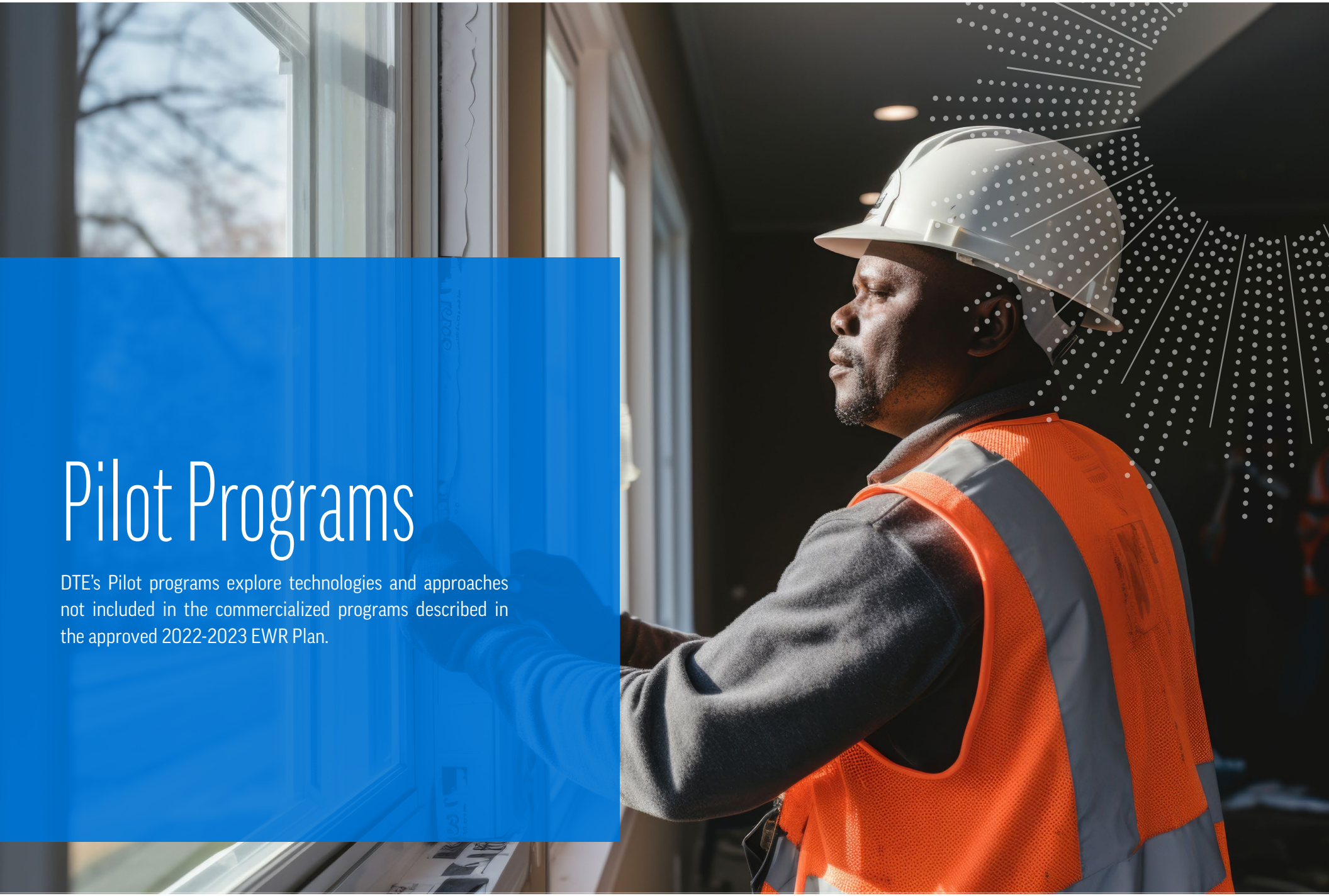
- DTE's Education and Awareness team enhanced collaborations with the broader Electric marketing team during the summer months to the promote cooling season. The teams executed an engaging communications plan that included influencer marketing; new, on-site collateral that communicated key seasonal messaging; and collaborations on public relations and mass media opportunities.
- DTE developed a series of lifestyle videos communicating no cost and low-cost tips for income-qualified customers may implement to further reduce their energy use.
- The Education and Awareness team continued to find new and engaging ways of communicating key messaging, including exploring various new social media tactics. The team tested and executed messaging across new platforms in a way that targeted specific groups of customers with relatable and educational messaging prompting further action and awareness.

Small Business

- DTE's Education and Awareness program rebranded the annual Business Pride Contest, renaming is the Small Business Energy Efficiency Makeover. This strategy allowed for more actionable messaging as well as a simpler entry mechanism and call to action. The program saw record breaking entries, engagement and overall campaign success.
- In 2023, DTE increased the Energy Smarts printed and digital magazine distribution, reaching more small business customers throughout DTE's territories across four quarterly issues. This publication delivers industry information, Michigan small business utility-related news and updates, energy efficiency tips and resources and DTE small business program and rebate information.
- The Education and Awareness team supported the development and launch of the newly designed and enhanced small business landing pages and led the integration of messaging that focused on educational tips, resources and tools. The team also executed a campaign promoting the re-launch of these new web pages through social, video, direct to customer communications and mass media tactics.

Chart 38 – 2023 E&A Spending and Verified Net Savings





Pilot Programs

DTE's Pilot programs explore technologies and approaches not included in the commercialized programs described in the approved 2022-2023 EWR Plan.

Program Description

The program enabled DTE to measure energy savings and test the cost-effectiveness of emerging technologies. It also tested customer adoption of new technologies and market adoption of existing technologies using new approaches. As designed, this program supported Residential and C&I programs.

Residential and C&I Pilot

Gas Heat Pumps (DTE Electric and DTE Gas)
Ongoing, launched Q3 2022

The Gas Heat Pump pilot intends to demonstrate a new product category for fuel-fired natural gas absorption heat pump (GAHP) technologies in commercial and residential applications and develop measures for the MEMD. This technology became commercially available in 2023 from multiple manufacturers. The pilot's goal is to time GAHP applicability with M&V in the near future to help develop a market for this new energy efficiency technology.

Residential Pilots

Real Estate Outreach and Education (DTE Electric and DTE Gas)
Ongoing, launched Q3 2022

The Real Estate Outreach and Education pilot built and is testing a new marketing channel for existing energy efficiency programs with real estate professionals and new homeowners. It established a DTE Real Estate Energy Consultant Network for real estate agents who completed training about energy efficiency and DTE energy efficiency programs The real estate agents then received further support, including marketing and educational materials, some of which was shared with new homeowners to direct them to efficiency coupons, promos, and other DTE incentives for pursuing efficiency upgrades. This pilot is expected to commercialize in 2024.

Thermostatic Radiator Valve (DTE Electric and DTE Gas)
Ongoing, launched Q1 2023

In March 2023, DTE launched its Thermostatic Radiator Valve (TRV) pilot at Phillips Manor Apartments, a multifamily building in Detroit. Approximately 200 valves were installed, allowing users to adjust the temperature of individual radiators according to their preferred settings. These valves help customers increase their comfort, save on cost, and contribute to reduced building emissions.

The pilot's savings analysis is ongoing with consideration for expanding the pilot to include additional income-qualified buildings in 2024 to generate more data.

C&I Pilots

Air Duct Sealing (DTE Electric and DTE Gas)
Ongoing, launched Q3 2022

The Air Duct Sealing pilot helps large commercial customers with leaking air ducts in their HVAC systems. This pilot collaborates with Aeroseal LLC, which developed a patented technology that injects sealant into pressurized ductwork to seal air leaks from the inside.

DTE offers customers an incentive to offset and make this a cost-effective solution. The pilot is focused on encouraging deeper customer relationships and broadening energy efficiency awareness and participation in the C&I Retro-Commissioning program.

C&I Advanced Keyboard (DTE Electric and DTE Gas)
Ongoing, launched Q3 2023

This pilot tests the effectiveness and energy savings potential of motion-sensing keyboards. These keyboards can put the computer to sleep after a pre-selected amount of time once no motion is detected after that set time. The goal of this pilot is to reduce energy waste from computers left on.

Commercial Refrigeration Swap (DTE Electric and DTE Gas)
Ongoing, launched Q1 2022

For the first phase of this pilot, the contractor swapped low greenhouse gas refrigerants on medium temperature walk-in refrigeration systems at seven small and medium customer sites. For the next phase, the contractor will design and implement an effort targeting 20 additional sites. The goal of this pilot is to reduce energy waste from refrigeration systems and deepen customer relationships.

CoolSaver (DTE Electric)
Ongoing, launched Q2 2023

The CoolSaver pilot intends to help customers improve the operational efficiency of their HVAC systems through an innovative air-conditioning (AC) tune-up. This tune-up involves the use of IManifold equipment. The pilot has an additional goal of building a network of participating contractors to help promote this service.

Energy Management Information System (DTE Electric and DTE Gas)
Ongoing, launched Q2 2023

To assist in the organizational management of energy, the Energy Management Information System (EMIS) pilot uses enhanced energy management information derived from meters for energy measurement, data collection and storage infrastructure, and software and reporting tools that convert data to information. The EMIS pilot will be implemented alongside DTE's Strategic Energy Management program as a mechanism to help customers save energy and develop a longer-term approach to energy management.

Failed Outside Air Dampers (DTE Electric)
Ongoing, launched Q2 2022

The Failed Outside Air Dampers (OADs) pilot assists large commercial customers using automatic OADs to distribute warm or cool air to their HVAC systems. When OADs fail, they can create more air ventilation than necessary, causing energy waste or even damage to the HVAC system. The pilot is working with the C&I Retro-Commissioning program to broaden customer relationships and participation. The pilot conducts an onsite assessment of DTE customers participating in the C&I Retro-Commissioning program to identify failed OADs, which the customer must repair.

Multifamily Strategic Energy Management (DTE Electric and DTE Gas)
Ongoing, launched Q1 2023

The Multifamily Strategic Energy Management pilot focused on implementing equipment control measures in multifamily buildings. These measures included Building Automation System (BAS) optimization, equipment tune-ups, HVAC setback and scheduling, and occupancy sensors. The pilot also offered in-person touchpoints to engage customers, these activities included energy scans operational and maintenance workshops and resident engagement events. The pilot concluded in 2023 and will continue as a commercialized offering in 2024.

Retro-Commissioning Suitcase (DTE Electric and DTE Gas)
Ongoing, launched Q1 2023

The Retro-Commissioning Suitcase pilot assists customers with small commercial buildings find energy savings opportunities. The software was developed by Pacific Northwest National Laboratory and Lawrence Berkeley National Laboratory to generate low or no-cost recommendations on how to improve a building's operating costs, comfort, and energy performance. This pilot is implemented alongside the C&I Retro-Commissioning program.

Resolute Building Intelligence (DTE Electric and DTE Gas)
Ongoing, launched Q3 2022

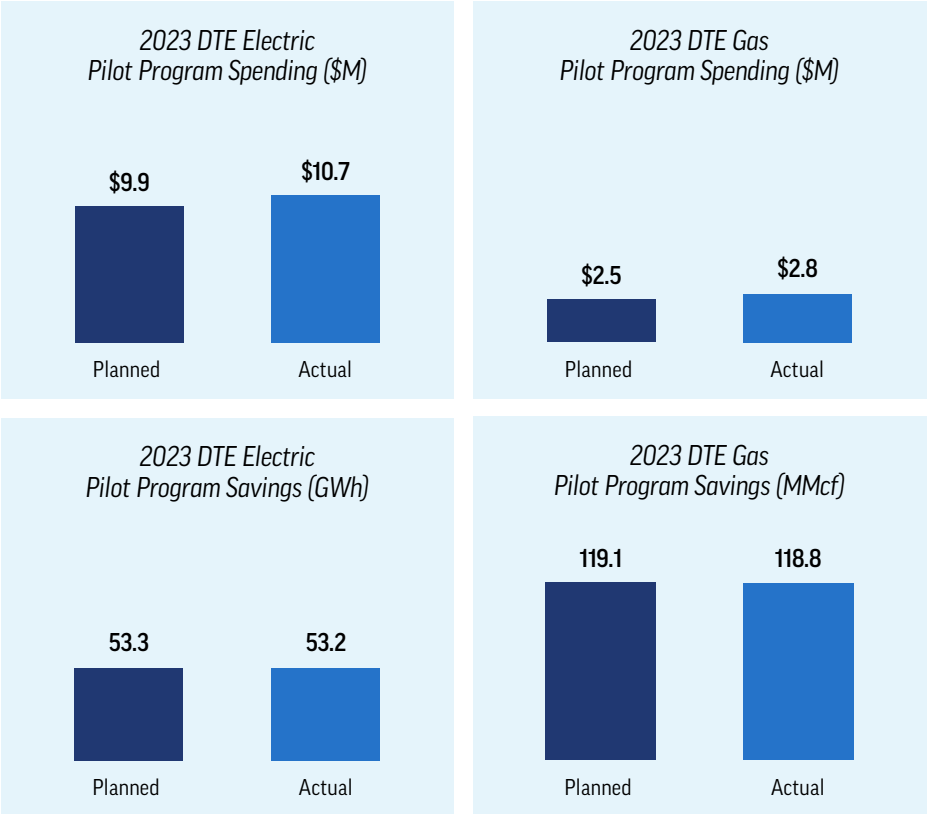
The Resolute Building Intelligence pilot is implemented along with the C&I Retro-Commissioning program to validate the results of participating customers. The pilot uses Resolute Building Intelligence (Resolute®) software to validate the energy conservation measures of the C&I Retro-Commissioning program results, helping shorten the overall program cycle time and save program cost.

Spending and Verified Net Savings Results

Pilot program funds were primarily spent on contracted services and incentives for the projects as well as on the cost of internal administration to manage the portfolio of projects.

Chart 39 summarizes the 2023 spending and verified net savings results of the Pilot program.

Chart 39 – 2023 Pilot Spending and Verified Net Savings



EE Program Achievements

Energy Savings

- Since the EE Portfolio's inception in 2009, over 10.3 million electric customers and over 5.0 million gas customers have directly participated in DTE's energy efficiency programs. DTE customers have saved over 10,000 GWh and almost 23,800 MMcf since the program started. The savings achieved so far will continue to lead to savings for years into the future.
- The electric savings are equivalent to the energy required to power nearly 915,000 homes for one year.[17]
- The gas savings are equivalent to the energy required to power over 170,000 homes for one year.[18]
- DTE's EE programs will help make CleanVision a reality.

Monetary Savings

- DTE's customers have benefited as a result of its energy efficiency offerings. Residential customers pay an average of $66.77 annually, or less than 3% of their total bill for combined energy efficiency gas and electric surcharges. Electric customers pay, on average, $38.00 and gas customers pay, on average, $28.77.

Economic Development Benefits

- DTE's EE Portfolio resulted in implementation contractors establishing local offices (in Detroit, Livonia, Lansing and Grand Rapids) and the hiring of local talent to operate and manage their respective programs.
- Through 2023, 496 Michigan-based jobs have been created by the implementation contractors under contract with DTE, as Table 9 summarizes. These jobs include field operations staff, appliance pick-up drivers, call center representatives and program managers.
- Customers and communities benefit from the new jobs and investment in the community.
- DTE highlighted workforce development in the energy efficiency space an area of focus in 2023. In partnership with Walker-Miller Energy Services, DTE launched the Energy Efficiency Academy, aimed to help meet the growing demand of energy-efficient home repairs in Detroit and grow the local skilled-trade workforce. The academy is designed to aid the energy efficiency industry by providing access to trainings, certifications, mentorship and resources to help meet the needs of a clean energy economy. As part of the academy, DTE facilitated a business incubator to enable its diverse certification application process and onboard contractors for DTE's EE programs. DTE also offered an eight-week certification program on Building Performance Institute's Building Analyst and Healthy Housing Principles.

Table 9 – Implementation Contractor Jobs

Implementation Contractor Name	Michigan-Based Jobs
Bradley+Company	17
CLEAResult	15
DNV	54
DTE	44
Energy Sciences	30
Energy Solutions	5
Franklin	2
ICF	41
Ignite	8
Leidos	4
Michigan Saves	73
NEF	11
Powerley	4
SEEL	79
Walker-Miller –– Franklin	99
Guidehouse	10
Total[19]	**496**

17 Equivalent home energy use is calculated using the U.S. Environmental Protection Agency Equivalency Calculator.
18 Equivalent home energy use is calculated using the U.S. Environmental Protection Agency Equivalency Calculator.
19 Total may not be exact due to rounding.

Diversity and Inclusion

DTE is committed to powering diversity. The collective efforts bring new businesses and jobs to Michigan while strengthening the vitality of our communities. Using innovative approaches to create meaningful business opportunities for minority- and women-owned firms, DTE has contributed to the growth of some of these firms now servicing the utility industry. DTE continues to provide minority- and women-owned firms with advocacy, training, mentoring and business opportunities and development experiences.

Table 10 – Diverse Suppliers

Name	Actual Spend	% Actual Spend
Dunamis Clean Energy Partners, LLC	$557,861	0.2%
Group O, Inc.	$876,884	0.4%
Ignite Social Media	$19,263,876	8.5%
Kaul Glove & Manufacturing Co.	$19	0.0%
PES Group, Inc.	$429,347	0.2%
REGROUP, Inc.	$1,771,299	0.8%
SEEL, LLC	$91,168,517	40.3%
Strategic Staffing Solutions	$1,039,272	0.5%
The Harmon Group, LLC	$263,694	0.1%
Walker-Miller Energy Services	$30,450,531	13.5%
Total[20]	**$145,821,300**	**64.4%**

Program Offerings and Participation

Although many of the EE programs are mature and functioning well in the market, DTE continues to innovate and develop new program offerings. Many of the 2023 programs were continuations of successful programs launched in prior years, and one new program moved out of the Emerging Measures and Approaches program. Customers have upgraded equipment, enabling them to be more energy efficient year after year. They have also been educated on actions they can take to save on their energy use on an ongoing basis. In 2023, approximately 1.5 million DTE Electric customers and over 530,000 DTE Gas customers took control of their energy use through the EE Portfolio and saved millions of dollars as a result.

To give some perspective on the magnitude of this effort, the following are some of DTE's 2023 accomplishments:

- DTE continued to expand the channels through which customers can participate in the EE programs including the expansion of residential and commercial midstream program offerings.
- The Residential programs served over 614,000 electric households and over 528,000 gas households.
- The C&I programs served over 837,000 electric businesses and over 2,200 gas businesses.
- DTE's new major renovations offering encourages energy efficiency upgrades in existing homes, helping neighborhoods meet minimum energy efficiency standards.
- A new "Energy Smart Seniors" program provides outreach at senior day centers regarding energy efficiency education and distributes energy efficiency kits
- The annual Business Pride Contest was renamed as the Small Business Energy Efficiency Makeover. This allowed for a simpler entry mechanism and call to action. The contest had a record-breaking number of entries and successfully engaged customers.
- DTE's new Workforce Development program through the Energy Efficiency Academy provides Detroit residents with a paid, multi-week training for Building Analyst and Healthy Home Evaluator certifications through the Building Performance Institute. Participants will receive professional guidance and be connected to a recruitment effort for clean energy jobs with competitive wages and benefits.
- Business applications served included lighting, lighting controls, HVAC and heating controls, food services and process electric.
- Most C&I markets were served, including light and heavy industry, retail, grocery, hospital, hotel and educational institutions.
- DTE invested over $50 million on Income-Qualified programs and continued programs launched in 2020 to target this segment.

20 Totals may not be exact due to rounding.

Conclusion

2023 was another successful year for DTE's EE Portfolio in all key areas: energy savings, spending and participation. Customers were made aware of energy efficiency benefits and the programs offered by DTE via innovative approaches and targeted marketing campaigns.

Customer experience was enhanced by improving the content of the website, creating new educational tools and resources and expanding social media and contests. Programs were upgraded and delivered with high quality, meeting the ever-rising level of customer expectations. Promising pilot programs were transitioned to full program offerings, and additional pilots were undertaken to stay ahead of the technology curve and to test innovative market approaches. Continuous improvement activity increased again in 2023 – several efforts were undertaken to eliminate defects and improve process efficiency. Collaboration with other utilities and the energy efficiency community at large provided additional benefit to DTE's customers.

Climate change is one of the defining issues of our era. That's why DTE Electric unveiled its 2022 CleanVision, our proposal to dramatically increase renewable energy and storage, hasten the retirement of our last two coal plants, and accelerate our carbon emissions reduction goals. DTE Gas plans to achieve net zero greenhouse gas emissions through an innovative plan that includes both its suppliers and customers by 2050. Our clean energy efforts are an important part of our mission in providing customers with clean, reliable and affordable power.

Opportunities and challenges lie ahead, and DTE is well-positioned to continue to provide value to its customers and other stakeholders through a robust and well-run energy efficiency program. DTE's strategic efforts have resulted in increased awareness, improved experiences and higher satisfaction among its customers.

In light of unprecedented industry and energy policy changes, 2024 will be another pivotal year for the EE Portfolio as DTE continues to work with key stakeholders on securing Michigan's energy future. These programs are also imperative because they will help DTE achieve its CleanVision goal of net zero carbon emissions by 2050. DTE will continue to innovate to become the best operated energy efficiency program in North America.