DTE Energy Company
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June 29, 2023

Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 West Saginaw Highway
Lansing, MI 48917

RE: In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016
MPSC Case No. U-21322

Dear Ms. Felice:

Attached for electronic filing in the above captioned matter are DTE Electric Company's and DTE Gas Company's Application for Approval of its Energy Waste Reduction Plan, and Direct Testimony and Exhibits of Witnesses Kevin L. Bilyeu, Reema A. Biel, George H. Chapel, Jose N. Goncalves, Rebecca M. Malfroid, Habeeb J. Maroun, Joshua Martens, Thac K. Nguyen, Matthew F. Pollack, Frank Sirwaitis, and Sarah A. Tocco. Also attached is the Proof of Service.

Very truly yours,

Breanne K. Reitzel

Digitally signed by Breanne K. Reitzel
Date: 2023.06.29 11:10:04 -04'00'

Breanne K. Reitzel

BKR/cdm
Attachments

cc: Service List

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016	)	Case No. U-21322 (Paperless e-file)

DTE ELECTRIC COMPANY'S AND DTE GAS COMPANY'S APPLICATION FOR APPROVAL OF ITS ENERGY WASTE REDUCTION PLAN

Applicants DTE Electric Company ("DTE Electric") and DTE Gas Company ("DTE Gas") (collectively, "DTE" or "Company"), file this Application for approval of their Energy Waste Reduction ("EWR") Plans pursuant to MCL 460.1001 *et seq*. (2008 PA 295, the Michigan Clean, Renewable, and Efficient Energy Act as amended by 2016 PA 342), and authority to implement EWR surcharges, and other related relief. In support of the relief requested in this Application, the Company respectfully states as follows:

1. DTE Electric is a subsidiary of DTE Energy Company, a Michigan corporation with its principal offices located at One Energy Plaza, Detroit, Michigan 48226. DTE Electric is a public utility subject to the jurisdiction of the Michigan Public Service Commission ("Commission") and is engaged in the generation and distribution of electricity and other related services to approximately two million residential, commercial and industrial customers within the State of Michigan.

2. DTE Gas is a subsidiary of DTE Energy Company, a Michigan corporation with its principal offices located at One Energy Plaza, Detroit, Michigan 48226. DTE Gas is a public utility subject to the jurisdiction of the Michigan Public Service Commission ("Commission") and

is engaged in the acquisition, storage, transportation, distribution, and sale of natural gas and other related services to approximately 1.3 million residential, commercial and industrial customers within the State of Michigan.

3. The "Clean, Renewable, and Efficient Energy Act," 2008 PA 295, MCL 460.1001 et seq. ("Act 295" or "PA 295") was signed into law on October 6, 2008. In December 2016, the legislature enacted 2016 PA 342 ("Act 342" or "PA 342") that amended in part and added new statutory provisions to PA 295. On March 28, 2017, the Commission issued an order on its own motion in Case No, U-18262 *et al.* in which it reviewed the expectations for EWR plans in light of the impacts of PA 342.

4. Act 295, as amended by Act 342, requires certain electric providers and natural gas providers to file EWR plans with the Commission for its review and approval every two years after initial approval of an EWR plan. On December 21, 2022, the Commission issued an order setting forth filing deadlines for the Company's new EWR plans. DTE files this Application and supporting testimony and exhibits in compliance with the Commission's March 28, 2017 Order, December 21, 2022 Order, and PA 295 as amended by PA 342, seeking Commission approval for a new two-year EWR plan for 2024 and 2025.

5. In this case the Company is proposing two-year plans (2024-2025) which are consistent with the two-year review period set forth in PA 295, as amended by PA 342, and consistent with the Commission's forward-looking, two-year biennial review process.

6. Consistent with the statutory requirements of Act 295, as amended by Act 342 and the requirements set forth in the Commission's March 28, 2017 Order, DTE's EWR Plan components are set forth in the testimony and exhibits attached to this Application. The testimony and exhibits describe all aspects of the EWR Plans in terms of policy and programs and provides

explanations and justifications for each of the proposed amendments including the addition and /or removal of programs including the performance incentive mechanism.

7. Among other things, DTE is proposing adjustments to the portfolio mix of existing programs included in the testimony and exhibits attached to this Application. In addition, the Company seeks Commission approval of to retain the existing deemed net free ridership adjustment factor of 0.92 to the energy savings of most programs, and approval of the performance incentive mechanism set forth in Section 75 of PA 295 as amended by PA 342.

8. Consistent with Section 73 of Act 295 as amended by PA 342, DTE 's EWR Plans describe how they will achieve compliance with MCL 460.1073, by proposing a set of cost effective EWR programs that provide benefits for each customer class, specifying necessary funding levels, explaining customer behaviors the programs are designed to influence, and describing how EWR program costs will be recovered consistent with MCL 460.1089. DTE's EWR Plans also describe how the Company plans, to the extent possible, to ensure charges collected from a customer rate class will be spent on EWR programs for that same rate class. Finally, DTE will demonstrate that the proposed EWR programs and funding are sufficient to ensure the achievement of applicable EWR standards.

9. DTE has developed a comprehensive portfolio of EWR programs that are designed to deliver electric and gas savings that meet the requirements outlined in Act 295 as amended by PA 342. The programs target all customer classes, including income-qualified and small business customers. For residential customers, the programs are designed to reduce electric and natural gas consumption. Commercial and industrial customers will be offered prescriptive incentives on proven technologies identified in the deemed savings database and also custom programs that allow for more sophisticated energy savings programs.

10. The testimony and exhibits filed with this Application demonstrate that DTE's proposed EWR Plans are reasonable and prudent and consistent with the requirements of Act 295 as amended by Act 342, thus warranting Commission approval of the recovery of annual EWR Plan levelized requested funding levels of approximately $51.8 million in 2024 and $51.3 million in 2025 for DTE Gas and $204.4 million in 2024, and in 2025 for DTE Electric.

11. DTE requests approval of surcharges that are designed to recover the costs of the EWR Plan. Consistent with the Commission's January 20, 2022 Orders in Case No. U-20876 (DTE Electric) and Case No. U-20881 (DTE Gas), surcharges for all classes will remain at levels approved by the Commission in those cases until the surcharges in this EWR Plan are approved.

12. DTE Electric's costs will be recovered from residential customers on a levelized per-kWh basis over the entire prospective time period of the plan (January 1, 2024 through December 31, 2025). The Company is also requesting approval of levelized per-meter surcharges for the commercial and industrial primary rate classes and another set of levelized per-meter surcharges for the commercial and industrial secondary rate classes for the time period of January 1, 2024 through December 31, 2025. DTE Electric expects to achieve energy savings in 2024 of 2.0% of 2024 planned retail sales, and in 2025 of 2.0% of 2025 planned retail sales consistent with PA 295, as amended by PA 342.

13. DTE Gas's costs will be recovered from residential customers on a levelized per-Ccf basis over the entire prospective time period of the plan (January 1, 2024 through December 31, 2025). The Company is also requesting approval of levelized per-Ccf surcharges for the commercial and industrial primary rate classes and end use transportation customers for the time period of January 1, 2024 through December 31, 2025. DTE Gas expects to achieve energy savings

in 2024 of 1.05% of 2024 planned retail sales, and in 2025 of 1.05% of 2025 planned retail sales consistent with PA 295 as amended by PA 342.

14. DTE requests that the Commission approve the establishment of base surcharges set forth in DTE Electric's proposed tariff to recover the costs of the EWR Plan from electric residential customers through a surcharge of $0.001750 per kWh and from C&I customers as follows:

Voltage	Monthly Consumption	Customers Without Self Directed Plans Energy Waste Reduction Surcharge	Customers With Self Directed Plans Energy Waste Reduction Surcharge
Secondary	0 – 850 kWh	***$4.85***/meter/month	***$1.04***/meter/month
Secondary	851 – 1,650 kWh	***$29.39***/meter/month	***$6.70***/meter/month
Secondary	Above 1,650 kWh	***$123.64***/meter/month	***$28.20***/meter/month
Primary	0 – 11,500 kWh	***$106.12***/meter/month	***$14.38***/meter/month
Primary	Above 11,500 kWh	***$1129.40***/meter/month	***$174.87***/meter/month

15. DTE Gas requests that the Commission approve the establishment of base surcharges set forth in DTE Gas's proposed tariff to recover the costs of the EWR plan from natural gas customers as follows:

	Rate Schedule No.	U-21322 Energy Waste Reduction Surcharge $/Ccf
A	Residential	***$0.02340***
2A	Multifamily Dwelling Class I	***$0.04670***
2A	Multifamily Dwelling Class II	***$0.04670***
GS-1	Non-Residential General Service	***$0.04670***
GS-2	Large Volume	
	<100,000 Mcf	***$0.04670***
	>100,000 Mcf	***$0.00301***
S	School	***$0.04670***
ST	Small Volume Transportation	***$0.00301***
LT	Large Volume Transportation	***$0.00301***
XLT	Extra Large Volume Transportation	***$0.00301***
XXLT	Double Extra Large Volume Transportation	***$0.00301***
	C&I/EUT Exploratory Program	***$0.00111***

16. In support of this Application, DTE is filing the direct testimony and exhibits of eleven witnesses (Ms. Biel, Mr. Bilyeu, Mr. Chapel, Mr. Goncalves, Ms. Malfroid, Mr. Maroun,

Mr. Martens, Mr. Nguyen, Mr. Pollack, Mr. Sirwaitis, and Ms. Tocco) concurrently with this Application. The testimony and exhibits provide support for the Company's revenue and expense items and proposed ratemaking items.

17. DTE Electric and DTE Gas are filing EWR Plan cases for the 2024-2025 time period concurrently. Consistent with past practice and for the sake of administrative efficiency and the convenience of all participating parties, DTE requests that the case be scheduled in the most efficient manner possible.

WHEREFORE, DTE respectfully requests that the Michigan Public Service Commission:

A. Determine that DTE's EWR Plans are reasonable and prudent, and that they meet all relevant requirements of Act 295, as amended by PA 342;

B. Approve the proposed 2024-2025 EWR Plan surcharges and the Performance Incentive Mechanisms;

C. Approve the necessary accounting authority described in DTE's testimony; and

D. Grant such other and further relief as is just and reasonable.

DTE ELECTRIC COMPANY and
DTE GAS COMPANY

By: Breanne K. Reitzel Digitally signed by Breanne K. Reitzel Date: 2023.06.29 11:10:25 -04'00'

Attorney for Applicant
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Dated: June 29, 2023

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

KEVIN. L. BILYEU

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF KEVIN L. BILYEU

Line No.

1 **Q1. What is your name, business address and by whom are you employed?**

2 A1. My name is Kevin L. Bilyeu (he/him/his). My business address is: One Energy
3 Plaza, Detroit, Michigan, 48226. I am employed by DTE Electric Company.
4

5 **Q2. On whose behalf are you testifying?**

6 A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas
7 Company (DTE Gas) (collectively, DTE).
8

9 **Q3. What is your educational background?**

10 A3. I graduated from Walsh College in 2008 with a Bachelor of Business
11 Administration. In 2012, I received a Master of Business Administration Degree
12 from the University of Michigan.
13

14 **Q4. What is your work experience?**

15 A4. Starting in 2006, I began my professional career with SEMCO Energy Gas
16 Company, progressing through a range of roles with increasing responsibility. In
17 2008, I took on the position of Billing Analyst, utilizing my expertise in the subject
18 matter to aid stakeholders, conducting reviews, managing projects, and devising
19 process enhancements. After that, I became Supervisor of Customer Accounting in
20 2011, leading tasks such as customer billing, remittance processing, inactive
21 collections, bad debt management, and financial reporting for the Customer
22 Accounting Department. Then, in 2013, I assumed the position of Manager,
23 Customer Energy Management, where I oversaw the administration, monitoring,
24 and development of Energy Waste Reduction (EWR) Programs, testified and

Line No.

supported EWR plan and reconciliation cases at the Michigan Public Service Commission (MPSC), and managed the home protection warranty program.

In 2015, I transitioned to DTE Electric, taking on the role of Principal Marketing Analyst of EWR Pilot Programs, where my responsibilities encompassed the development and management of new EWR programs. In 2016, I accepted the position of Principal Marketing Specialist of EWR Strategy, where my tasks included modeling energy efficiency in Integrated Resource Plans (IRP) for long-term strategy planning and developing sensitivities and recommendations to support EWR plan filings with the MPSC.

Finally, in 2018, I advanced to the position of Principal Supervisor of EWR Strategy, where I had overall responsibility for strategic development and planning of EWR programs, including IRPs and EWR regulatory filings.

Q5. What are your current job responsibilities?

A5. Starting in 2021, I assumed the role of Manager for EWR Strategy and Evaluation Measurement & Verification (EM&V). As Manager, I have overall responsibility for strategic development and planning of EWR programs, which includes Integrated Resource Plans (IRPs) and EWR regulatory filings. Additionally, I am responsible for ensuring program cost-effectiveness, evaluating EWR programs, and applying the results to further enhance DTE's offerings.

Line No.

1 **Q6. Are you a member of any professional organizations?**

2 A6. I am a member of the Association of Energy Services Professionals (AESP). AESP
3 is an organization that provides professional development programs, a network of
4 energy practitioners, and promotes the transfer of knowledge and experience to
5 promote energy efficiency programs. I am a member of the Consortium for Energy
6 Efficiency (CEE), engaging on its benchmarking committee. CEE is the United
7 States and Canadian consortium of gas and electric efficiency program
8 administrators whose goal is to accelerate the development and availability of
9 energy efficient products and services.

10

11 **Q7. Have you previously testified before the Michigan Public Service Commission**
12 **(MPSC or Commission)?**

13 A7. Yes. I provided testimony in the following cases:

14	U-17362	SEMCO Energy Gas Company EO Plan Filing
15	U-18419	DTE Electric Certificate of Necessity
16	U-20471	2019 DTE Electric Integrated Resource Plan
17	U-20876	2021-2022 DTE Electric EWR Plan
18	U-20881	2021-2022 DTE Gas EWR Plan
19	U-21193	2022 DTE Electric Integrated Resource Plan
20	U-21313	2022 DTE Electric and DTE Gas EWR Reconciliation

Line No.

1 **PURPOSE OF TESTIMONY**

2 **Q8. What is the purpose of your testimony?**

3 A8. I am providing policy testimony for DTE Electric and DTE Gas's biennial EWR
4 Plan, in accordance with the requirements set forth in Public Act 342 of 2016 (PA
5 342), Section 73(3) and as directed by the Commission in its April 12, 2018, Order
6 in Case No. U-18262. Specifically, I will:

7 1) Provide an overview of the 2024-2025 EWR Plan;
8 2) Summarize DTE's plan for administering the programs;
9 3) Detail the energy savings targets and the process to verify savings;
10 4) Discuss program spend and flexibility in program administration;
11 5) Provide cost allocations by customer class for the 2024-2025 EWR Plan;
12 6) Summarize the recovery mechanism for the 2024-2025 EWR Plan spend;
13 7) Describe DTE's proposal for a performance incentive mechanism;
14 8) Describe how DTE's 2024-2025 EWR Plan meets all the requirements set
15 forth in PA 342.

16

17 **Q9. Are you sponsoring any exhibits in this proceeding?**

18 A9. Yes, I am supporting the following exhibits:

Exhibit	Description
A-1	Portfolio Costs and Savings Summary – Electric
A-2	Portfolio Costs and Savings Summary – Gas
A-3	Customer Class Cost Allocation Percentages-Electric
A-4	Customer Class Cost Allocation Percentages-Gas
A-5	Customer Class Cost-Electric

Line No.

A-6	Customer Class Cost-Gas
A-7	Performance Incentive Mechanism-Electric
A-8	Performance Incentive Mechanism-Gas

Q10. Were these exhibits prepared by you or under your direction?

A10. Yes, they were.

Q11. Who is presenting testimony for DTE's 2024-2025 EWR Plan?

A11. The Company will present its case through ten witnesses, in addition to myself. The DTE witnesses are:

Mr. Joshua Martens, Principal Marketing Specialist, who will confirm the evaluation approach of the EWR programs, provide guidance on how the emerging EWR programs should be evaluated and support the use of deemed values for Net-to-Gross (NTG) ratios;

Ms. Rebecca Malfroid, Marketing Program Manager, who will be providing an overview of the cost-effectiveness calculations including the Utility Systems Resource Cost Test (USRCT) results;

Mr. Jose Goncalves, Manager, Residential and Education Programs, who will be providing an overview of the residential program portfolio for the 2024-2025 EWR Plan, the estimated energy savings and costs by program, residential program descriptions, and an overview of the Education program;

Line No.

1 **Ms. Sarah Tocco**, Manager, Commercial and Industrial (C&I) programs, who will
2 be providing an overview of the C&I Portfolio for the 2024-2025 EWR Plan, the
3 estimated energy savings, costs by program, and C&I program descriptions;
4
5 **Mr. Thac Nguyen,** Manager, Residential, Commercial and Industrial Pilot
6 Programs, who will be providing an overview of the pilot program for the 2024-
7 2025 EWR Plan, including details on estimated energy savings and costs, as well as
8 information about the pilots currently under consideration;
9
10 **Mr. Frank Sirwaitis,** Senior Strategist, Corporate Energy Forecasting, who will
11 provide DTE Electric's current electric sales forecast for the period 2023 - 2025 and
12 explain the basis for this forecast, support actual weather normalized sales for 2008
13 through 2022, and support the economic outlook assumptions;
14
15 **Mr. George Chapel**, Principal Marketing Specialist, Gas Supply and Planning, who
16 will describe DTE Gas's natural gas sales market forecast for the plan period 2023
17 - 2025 and show how that demand is changing over time;
18
19 **Ms. Reema Biel,** Manager, Regulatory Tax, who will provide calculations of the
20 deferred tax component of EWR prior year capitalized costs;
21
22 **Mr. Habeeb Maroun,** Regulatory Strategy Consultant, Revenue Requirements,
23 who will provide the calculations of revenue requirements by customer class for
24 program years 2024 and 2025 and will provide support for the calculation of the

Line No.

1 EWR surcharges that DTE Gas is proposing to facilitate the annual revenue recovery
2 for program years 2024 and 2025.
3
4 **Mr. Matthew Pollack,** Senior Strategist, Regulatory Economics, who will provide
5 support for the calculation of the EWR surcharges that the DTE Electric is proposing
6 to facilitate the annual revenue recovery for program years 2024 and 2025.
7
8 **Q12. How is the remainder of your testimony organized?**
9 A12. My testimony consists of the following sections:
10 Section A –2024-2025 EWR Plan Overview
11 Section B – Program Administration
12 Section C – Energy Savings Goals
13 Section D – Spending and Program Flexibility
14 Section E – Recovery Mechanism
15 Section F – Performance Incentive Mechanism
16 Section G – Summary
17
18 **SECTION A: 2024-2025 EWR PLAN OVERVIEW**
19 **Q13. Why is DTE proposing a 2024-2025 EWR Plan?**
20 A13. DTE is proposing its 2024-2025 EWR Plan with the following intents:
21 1) To comply with the two-year review period set forth in PA 342 and the
22 Commission's intended forward-looking, two-year biennial review process.
23 2) To affirm adjustments to the portfolio mix of existing programs, the addition of
24 new programs, and the removal of existing programs. These adjustments may

Line No.

be a result of changes in market conditions, energy efficiency baselines, or market saturation.

3) To affirm adjustments to gross energy savings. In this 2024-2025 EWR Plan, DTE intends to continue applying a deemed Net-to-Gross (NTG) factor of 0.92 to the energy savings of most programs.

4) To describe DTE's proposed 2024-2025 performance incentive mechanism.

Q14. What was the planning process DTE used to develop the 2024-2025 EWR Plan?

A14. The planning process for the 2024-2025 EWR Plan is consistent with the process DTE used in preparing previous EWR plans. The planning process involved four steps:

1) The first step was to develop an initial program measure mix built on experience, stakeholder feedback, and program objectives;

2) The second step involved estimating program size parameters (i.e., a minimum and maximum range of units per year by program);

3) The third step involved optimizing the program portfolio mix to reflect a portfolio that best meets the energy savings goals; and

4) The final step analyzed the output derived from the previous three steps to verify cost-effectiveness.

Q15. What objectives were considered when developing the 2024-2025 EWR Plan?

A15. The 2024-2025 EWR Plan was designed to meet energy savings levels specified by PA 342 and program objectives. There were several key considerations:

Line No.

1. Offer a diverse portfolio of programs that provide participation opportunities for all customers;
2. Ensure the portfolio provides opportunities for income-qualified customers;
3. Continue to provide customers a mix of EWR programs that have been successfully implemented in previous EWR plans and make program adjustments to account for changes in market conditions and market saturation;
4. Streamline programs to make participation for customers and participating contractors easier;
5. Ensure the portfolio is cost-effective as determined by the Utility Systems Resource Cost Test (USRCT);
6. Provide a pilot structure that encourages the development of new energy efficiency offerings and approaches; and
7. Educate customers on the benefits of using energy more efficiently.

Q16. Is DTE proposing to modify the EWR program structure from what was approved in prior EWR plans?

A16. In line with prior plan filings, the 2024-2025 EWR Plan categorizes programs into five primary groups. Additionally, a sixth category, Utility Shared Savings, has been included, as listed below:.

1. Residential Programs;
2. Income-Qualified Programs;
3. Commercial & Industrial Programs;
4. Education Programs;
5. Pilot Programs; and

Line No.

1 6. Utility Shared Savings

2

3 Further details of Residential, Income-Qualified, and Education programs are
4 covered in the testimony of Witness Goncalves. Further details of the Pilot program
5 are covered in the testimony of Witness Nguyen. Further details of C&I platforms
6 and programs are covered in the testimony of Witness Tocco.

7

8 **Residential Programs**

9 **Q17. What Residential Programs are included in the 2024-2025 EWR Plan?**

10 A17. The following Residential Programs are included in the 2024-2025 EWR Plan:

11 1. Appliance Recycling (DTE Electric only)
12 2. Residential Building Envelope
13 3. Multifamily Residential
14 4. School Program
15 5. Home Energy Reports
16 6. Multifamily Strategic Energy Management
17 7. Emerging Measures and Approaches

18 Witness Goncalves provides additional details of the Residential Programs in his
19 testimony.

20

21 Income-Qualified Programs

22 **Q18. What Income-Qualified Programs are included in the 2024-2025 EWR Plan?**

23 A18. The following Income-Qualified Programs are included in the 2024-2025 EWR
24 Plan:

25 1. Energy Efficiency Assistance

Line No.

1 2. Income-Qualified Multifamily

2 Witness Goncalves provides additional details of the Income-Qualified Programs in

3 his testimony.

4

5 **Commercial and Industrial (C&I) Programs**

6 **Q19. What C&I Programs are included in the 2024-2025 EWR Plan?**

7 A19. The following C&I Programs are included in the 2024-2025 EWR Plan:

8 1. Prescriptive

9 2. Non-Prescriptive

10 3. Retro-Commissioning

11 4. Strategic Energy Management

12 5. Small Business Program

13 6. Midstream Lighting (DTE Electric only)

14 7. Midstream Food Service

15 8. Midstream HVAC

16 9. Multifamily Common Areas

17 10. Find & Fix

18 11. C&I Energy Star Lighting (DTE Electric only)

19 12. Emerging Measures and Approaches

20 13. Self Direct (DTE Electric only)

21

22 Witness Tocco provides additional details of the C&I Programs in her testimony.

23

24

25

Line No.

1

2 Education Program

3 **Q20. What Education program is included in the 2024-2025 EWR Plan?**

4 A20. The Education program includes general education and awareness of EWR to DTE
5 Electric customers through marketing efforts using electronic, social, print,
6 broadcast, and other media as deemed appropriate. Witness Goncalves provides
7 additional details of the Education program in his testimony.

8

9 **Pilot Program**

10 **Q21. What is the objective of DTE's Pilot Program in this the 2024-2025 EWR Plan?**

11 A21. The objective of the Pilot Program is to make current programs as effective as
12 possible for customers, develop new program designs, explore new marketing
13 strategies and approaches, and to investigate the energy savings impact of emerging
14 technologies. Witness Nguyen provides additional details of the Pilot program in
15 his testimony.

16

17 **Q22. Does DTE plan to continue the Income-Qualified Health and Safety Pilot in**
18 **the 2024-2025 EWR Plan?**

19 A22. Yes. The 2022-2023 EWR Plan proposed by DTE includes the continuation of the
20 Income-Qualified Health and Safety Pilot, as outlined in the Settlement Agreement
21 for Case No. U-20373.

22

23 **Q23. Is DTE proposing to increase funding of the Income-Qualified Health and**
24 **Safety Pilot?**

Line No.

1 A23. Yes. DTE is proposing an increase in funding for the Income-Qualified Health and
2 Safety Pilot from 1% to 2% of the total EWR spend. By doubling the funding, DTE
3 will be able to extend its reach to more customers while it continues to assess the
4 pilot's effectiveness.
5
6 **Q24. Does DTE propose to continue funding the Income-Qualified Health and**
7 **Safety Pilot through an increase in total pilot program spend that exceeds the**
8 **5% spend limit described in Temporary Order, Case No. U-15800?**
9 A24. Yes. The Income-Qualified Health and Safety Pilot includes projects that are more
10 costly than traditional EWR measures at no cost to the customer. To ensure DTE
11 may continue investing in emerging technologies and programs at consistent levels,
12 the Company proposes to continue with an increase in its Pilot Program spend from
13 5% of total EWR spend to 7% of total EWR spend in both 2024 and 2025. This
14 increased pilot spend will be used to continue funding the Income-Qualified Health
15 and Safety Pilot. These pilot funds will be deemed to generate a proportional
16 amount of the required energy savings for the program year during which the
17 money is spent.
18
19 **Q25. Has the Commission provided guidance on pilot spend limitations?**
20 A25. Yes. The Commission found in Case No. U-18262 that "the 5% spending limitation
21 on pilot programs may be reevaluated in the context of plans or plan amendments.
22 In other words, if a provider can demonstrate that additional spending for pilot
23 programs is reasonable, such spending may be approved." The proposed pilot spend
24 increase is a reasonable level that allows DTE to continue testing, evaluating, and

Line No.

1 understanding a program focused on home repairs while also allowing continuity
2 assessing emerging technologies through its Pilot Program.
3
4 **Q26. Will DTE continue to utilize the Emerging Measures and Approaches**
5 **program to accommodate pilot programs?**
6 A26. Yes. In previous EWR plans, DTE used the Emerging Measures and Approaches
7 program to accommodate pilot programs, program enhancements, or new
8 marketing approaches that have become or may become commercialized prior to a
9 new plan filing. Since there are pilots that are less mature or have not been started
10 as of this filing that could develop rapidly into mature offerings, DTE will continue
11 to use this approach in the 2024-2025 EWR Plan.
12
13 **Utility Shared Savings**
14 **Q27. What are "Utility Shared Savings?"**
15 A27. Each year, utilities in Michigan perform EWR-related work that generates both
16 electric and gas savings at premises where they only provide single fuel service.
17 Utility Shared Savings are those savings that are currently being created by an
18 "originating" utility but remain unquantified and unclaimed by the utility providing
19 the relevant fuel service (the "receiving" utility).
20
21 **Q28. Which projects and activities are considered "eligible" when quantifying**
22 **Utility Shared Savings?**
23 A28. Utility Shared Savings-eligible projects must occur in the originating utility's
24 single-fuel service territory and generate savings of the opposite fuel type (e.g., the

Line No.

1 project must occur in a utility's electric-only service territory but generate gas
2 savings).
3
4 **Q29. Is DTE proposing to modify the methodology used to quantify Utility Shared**
5 **Savings used in the 2022 EWR annual Reconciliation, Case No. U-21313?**
6 A29. As 2022 was the first year Utility Shared Savings were claimed, the scope of this
7 effort was initially limited to measures with deemed electric and gas savings values.
8 DTE will collaborate with MPSC Staff and other utilities involved in the
9 collaboration of shared savings to discuss any potential modifications to the
10 methodology for quantifying Utility Shared Savings.
11
12 **Q30. What are the estimated savings for Utility Shared Savings in DTE's 2024-2025**
13 **EWR Plan?**
14 A30. Estimated savings for Utility Shared savings can be found in Exhibit A-1, page 1
15 and 2. The estimates savings are slightly less than the amount claimed in DTE's
16 2022 EWR Annual Reconciliation, Case U-21313.
17
18 **SECTION B: PROGRAM ADMINISTRATION**
19 **Q31. Has DTE's plan for administering EWR programs changed from what has**
20 **been previously approved?**
21 A31. No. DTE plans to continue using independent contractors selected through a
22 competitive bidding process to coordinate daily program activities in the field. DTE
23 will also continue to employ staff to manage the contractors and perform other
24 administrative tasks. DTE Electric and DTE Gas will continue to manage its
25 programs in conjunction using a combined staff.

Line No.

1 **Q32. How does DTE select contractors for program implementation?**

2 A32. DTE's EWR program management team, in partnership with its Supply Chain
3 management team, will utilize a Request for Proposal (RFP) process to select the
4 best contractor at a competitive cost. DTE will continue to utilize the RFP process
5 as contract terms expire.

6

7 **Q33. Is supplier diversity a part of DTE's overall strategy for EWR program**
8 **implementation?**

9 A33. Yes. EWR programs support DTE's Supplier Diversity Initiative[1]. The Supplier
10 Diversity Initiative is centered on DTE's commitment to help develop minority-
11 and women-owned suppliers. DTE's EWR programs have contributed to the
12 growth of some of these firms servicing the energy efficiency industry. The DTE
13 EWR programs will continue to provide minority- and women-owned firms with
14 advocacy, training, mentoring, and business opportunities and development
15 experiences.

16

17 **Q34. In DTE's most recent reconciliation, what percentage of total EWR spend was**
18 **invested with minority- and women-owned firms?**

19 A34. In 2022, 69% or $152 million of EWR dollars were invested with minority- and/or
20 women-owned firms. The Company plans to continue this approach towards EWR
21 implementation in the 2024-2025 EWR Plan. Updates regarding the level of
22 investment with minority- and women-owned firms are provided in the annual
23 report of DTE's EWR reconciliation filings.

24

[1] For more information visit: Who We Are | DTE Energy

Line No.

1 **Q35. Is DTE open to continued collaboration with other utilities administering**
2 **EWR programs and mutually beneficial research or evaluation?**
3 A35. Yes, if other utilities are agreeable to this coordination. DTE has partnered with
4 Consumers Energy on the Multifamily program, School program, Energy
5 Efficiency Assistance program, Residential Midstream HVAC program, Michigan
6 Heat Pump Collaborative, and market research. DTE has also partnered with
7 Efficiency United on the School program and statewide EWR forums. In addition,
8 DTE will continue to explore new opportunities to expand our collaboration with
9 energy efficiency program providers in Michigan to deliver programs jointly and
10 to share costs. The benefit of this flexibility in program delivery is to provide
11 Michigan customers with programs that are more cost-effective and improve
12 customer and participating contractor experiences.
13
14 **SECTION C: ENERGY SAVINGS GOALS**
15 **Q36. What are the annual energy saving targets for DTE in 2024 and 2025?**
16 A36. The energy savings target for DTE Electric is:
17 2024: 2.0% of 2023 planned retail sales
18 2025: 2.0% of 2024 planned retail sales
19
20 The below table outlines planned retails sales figures supported by Witness Sirwaitis
21 used to calculate the annual energy savings targets.
22
23
24
25

Line No.

1 **Table 1.- Forecasted Electric Sales and Annual Energy Saving Targets**

	2024	2025
Previous Year's Retail Sales (GWh)	44,389	44,313
Savings Targets (%)	2.0%	2.0%
Savings Targets (GWh)	888	886

2

3 The energy savings target for DTE Gas is:

4 2024: 1.05% of 2023 planned retail sales

5 2025: 1.05% of 2024 planned retail sales

6

7 The below table outlines planned retails sales figures supported by Witness Chapel

8 used to calculate the annual energy savings targets.

9

10 **Table 2.- Forecasted Gas Sales and Annual Energy Saving Targets**

	2024	2025
Previous Year's Retail Sales (MMcf)	193,523	194,221
Savings Targets (%)	1.05%	1.05%
Savings Targets (MMcf)	2,032	2,039

11

12 **Q37. Is DTE proposing any changes in the methodology used to calculate its annual**

13 **energy savings target?**

14 A37. No. The methodology used for 2024-2025 is the same method used in previous

15 EWR plans. DTE used service area weather normalized retail sales as a basis for

16 setting its energy savings target. Choice sales were included in the energy savings

17 calculation in the same manner as before.

18

Line No.

1 **Q38. Does the 2024-2025 EWR Plan achieve the annual energy saving targets?**

2 A38. Yes. The planned electric energy savings for the 2024-2025 EWR Plan is 888 GWh
3 and 886 GWh for 2024 and 2025, respectively, as shown in Exhibit A-1. The
4 planned gas energy savings for the 2024-2025 EWR Plan is 2,032 MMcf and 2,039
5 MMcf for 2024 and 2025, respectively, as shown in Exhibit A-2. Exhibit A-1 and
6 Exhibit A-2 provide a detailed breakdown of expected program net electric and gas
7 savings by program, respectively.

8

9 **Q39. What approach did DTE use to develop the planned energy savings for its**
10 **2024-2025 EWR Plan?**

11 A39. The plan portfolio is built by packaging relevant measures and programs for DTE
12 customers. To determine the energy savings for prescriptive measures, DTE used
13 the Michigan Energy Measures Database ("MEMD"), which was developed in
14 conjunction with the Commission Staff and other utilities specifically for the
15 Michigan market. In the MEMD, non-weather sensitive measure savings estimates
16 are standardized throughout the state. For weather sensitive measures, a weighting
17 calculation tool allows weighting the energy savings from measures based on the
18 mix of weather station locations throughout the DTE's service territory, vintage,
19 building type, and system. Except for custom measures or measures included in the
20 Behavior Reference Manual (BRM), this plan uses the MEMD for savings
21 calculations, measure lifetimes, and incremental cost estimates. The BRM is a
22 statewide database that provides the basis for determining savings resulting from
23 EWR programs designed to achieve energy savings by motivating customers to
24 adopt behaviors that result in more efficient energy consumption.

25

Line No.

1 **Q40. How will DTE verify the 2024-2025 energy savings?**

2 A40. Energy savings will be verified by an independent third-party evaluator. For
3 prescriptive programs the evaluation will use a three-step approach: (1) an audit of
4 reported EWR gross savings as reported by DTE compared to the values in the
5 MEMD and BRM, including a review of a statistically valid sample of applications
6 to determine the audited gross savings; (2) application of the appropriate
7 installation rate adjustment factor (IRAF) to determine verified gross savings; and
8 (3) application of appropriate NTG ratio to each program to determine verified net
9 savings. Thus, the verified net savings will include any adjustments for
10 inconsistencies in program tracking data, corrections for MEMD algorithms and
11 inputs, corrections based on any errors found in the application sample, as well as
12 the application of IRAF and NTGR values. The Company will utilize other savings
13 measurement approaches for programs delivering non-prescriptive measures or
14 measures included in the BRM (for example custom savings analysis performed by
15 a third-party evaluator) in determining the energy savings. Company Witness
16 Martens provides additional detail on DTE's 2024-2025 EWR verification efforts.
17

18 **Q41. Will the Company continue to employ independent evaluation, measurement,**
19 **and verification (EM&V) of its EWR programs?**

20 A41. Yes. DTE will continue to engage an independent third-party EM&V contractor to
21 review programs, provide metrics such as verification adjustments, monitor free
22 ridership levels, validate year-end energy savings totals and provide process
23 evaluations for the programs. In addition, EM&V work may include market
24 assessment studies, evaluation of pilot results, and evaluation of performance
25 incentive metrics.

Line No.

1

2 **Q42. What are the planned energy savings for the Pilot Program?**

3 A42. The planned electric energy savings for the Pilot Program is 62 GWh for 2024 and
4 62 GWh for 2025, as displayed in Exhibit A-1. The planned gas energy savings for
5 the Pilot Program is 142 MMcf for 2024 and 143 MMcf for 2025, as displayed in
6 Exhibit A-2. As in previous EWR Plans and specified in Attachment E of
7 Temporary Order U-15800, pilot savings are calculated proportional to the
8 percentage overall program costs.

9

10 **Q43. Are energy savings from the self-direct customers incorporated in the 2024-**
11 **2025 EWR Plan?**

12 A43. Yes. Projected energy savings provided to DTE Electric from self-direct customer
13 plans are incorporated into the Company's 2024-2025 EWR Plan. The projected
14 energy savings from self-direct customer plans will be counted as energy savings
15 toward the Company's goals during annual reconciliations. Per Section 93(7) of
16 PA 342:

17

18 "Projected energy savings from measures implemented under a self-directed
19 plan shall be attributed to the relevant provider's energy optimization programs
20 for the purposes of determining annual incremental energy savings achieved."

21

22 In instances where a customer amends or self-reports a change to their plan, the
23 changed energy savings will be incorporated into the subsequent year's program
24 energy savings results. The projected self-direct energy savings incorporated into
25 the 2024-2025 EWR Plan are 1.4 GWh for 2024 and 1.4 GWh for 2025 as shown
26 on Exhibit A-1.

Line No.

1 **Q44. Is DTE Electric proposing any changes in its approach towards self-direct**
2 **customers?**
3 A44. No. The Company will continue to use the same approach approved in its previous
4 EWR plan related to the self-direct option for customers.
5
6 **Q45. Are self-direct customers exempt from surcharges associated with the**
7 **program?**
8 A45. Yes, in part. All customer sites that choose to self-direct will continue to be exempt
9 from being billed the EWR surcharge other than the portion which funds income-
10 qualified programs.
11
12 **Q46. Can self-direct customers participate in DTE Electric's EWR program?**
13 A46. No. Self-direct customers may not participate nor benefit from the DTE Electric
14 EWR program for the years their self-direct plan is in effect. In addition, self-direct
15 customers or self-direct sites of customers may not participate in any DTE Electric
16 pilot programs.
17
18 **Q47. What is the weighted average measure life for the 2024-2025 EWR Plan?**
19 A47. The weighted average measure life is calculated by weighting measure life by net
20 savings. The electric weighted average measure life of the 2024-2025 EWR Plan
21 is 10.27 years for 2024 and 10.19 years for 2025 as shown in Exhibit A-1. The gas
22 weighted average measure life of the 2024-2025 EWR Plan is 9.59 years for 2024
23 and 9.78 years for 2025 as shown in Exhibit A-2.
24
25

Line No.

Q48. What are the planned lifetime savings for the 2024-2025 EWR Plan?

A48. The planned lifetime savings for the 2024-2025 EWR Plan is calculated by multiplying the first-year net savings by the weighted average measure life. The electric net lifetime savings is 9,120,165 MWh for 2024 and 9,028,434 MWh for 2025 as shown in Exhibit A-1. The gas net lifetime savings is 19,481 MMcf for 2024 and 19,941 MMcf for 2025 as shown in Exhibit A-2.

SECTION D: SPENDING AND PROGRAM FLEXIBILITY

Q49. Has the cost structure for EWR programs changed from the 2024-2025 EWR Plan?

A49. No. As in the previous EWR Plan, cost elements for the 2024-2025 EWR Plan include, but are not limited to, the following:

1) Direct costs of programs including incentives and rebates;
2) Costs for third party administrators or implementation contractors;
3) Incremental expenditures on material and media for customer education;
4) Incremental expenditures on services, materials, and incentives for pilot programs;
5) EM&V costs;
6) Program infrastructure costs such as IT services and products; and
7) Labor expenditures for administering and supporting the programs.

Q50. What is the planned annual spend for the 2024-2025 EWR Plan?

A50. The total spend for all electric programs is summarized in Table 3, below. They represent a summary of costs from Exhibit A-1.

Line
No.

Table 3.- Total Spending of All Electric EWR Programs ($M)[2]

Category	2024	2025
Residential Programs	$28.9	$28.1
Income-Qualified Programs	$43.8	$53.8
C&I Programs	$97.0	$98.1
Pilot Program	$13.9	$14.7
Education Program	$5.9	$6.3
EM&V Program	$8.5	$8.5
Total Spend	**$197.9**	**$209.4**

The total spend for all gas programs is summarized in Table 4, below. They represent a summary of costs from Exhibit A-2.

Table 4.- Total Spending of All Gas EWR Programs ($M)[3]

Category	2024	2025
Residential Programs	$12.9	$12.8
Income-Qualified Programs	$19.3	$19.3
C&I Programs	$11.6	$11.8
Pilot Program	$3.5	$3.5
Education Program	$1.5	$1.5
EM&V Program	$1.7	$1.7
Total Spend	**$50.6**	**$50.7**

Q51. Is DTE proposing to increase its level of investment in helping income-qualified customers reduce energy waste?

[2] Totals in table may not foot due to rounding
[3] Totals in table may not foot due to rounding

Line No.

1 A51. Yes. DTE Electric is significantly increasing its investment for aiding income-
2 qualified customers, with a 60% increase from its current investment of $33 million
3 to $54 million by 2025. In addition, DTE Gas will continue to uphold the increased
4 levels of investment for income-qualified customers included in the settlement
5 agreement in the 2022-2023 EWR Plan, with $19 million earmarked for both 2024
6 and 2025. Altogether, the combined investment in income-qualified programs for
7 both electric and gas services is set to rise to $73.1 million by 2025.
8
9 Since PA 342's removal of the EWR spend cap in 2017, DTE Electric and Gas have
10 over a six-fold increase in its income-qualified investment, from $11.8 million in
11 2017 to $73 million in 2025, representing a 26% compound annual growth rate
12 (CAGR). The Company has continued to increase its commitment towards income-
13 qualified customers year after year.
14
15 **Q52. What percentage of total and residential spend does income-qualified**
16 **investments represent?**
17 A52. In 2024 and 2025, investments in electric income-qualified projects will make up
18 22% and 26% of the total electric EWR spending, respectively. Similarly,
19 investments in gas income-qualified projects will represent 38% of the total gas
20 EWR spending in 2024 and 2025. When combined, income-qualified investments
21 in both electric and gas projects will make up 25% and 28% of the total EWR
22 spending in 2024 and 2025, respectively.
23
24 Furthermore, in 2024 and 2025, investments in electric income-qualified projects
25 will make up 60% and 66% of the electric residential EWR spending, respectively.

Line No.

1 Similarly, investments in gas income-qualified projects will represent 60% of the
2 gas residential EWR spending in 2024 and 2025. When combined, income-
3 qualified investments in both electric and gas projects will make up 60% and 64%
4 of the total residential EWR spending in 2024 and 2025, respectively.
5
6 **Q53. How are the Income-Qualified program, Pilot program and EM&V costs**
7 **allocated between customer rate classes?**
8 A53. The Income-Qualified program, Pilot program and EM&V costs are allocated
9 based on the estimated annual spend levels between the residential and C&I
10 programs. The DTE Electric Income-Qualified program, Pilot program and EM&V
11 costs are split between C&I secondary and C&I primary rate classes based on
12 historical and projected incentive costs for these customers. Exhibit A-3 calculates
13 the allocation percentages for distributing these costs between residential, C&I
14 secondary and C&I primary rate classes. These allocation percentages are applied
15 in Exhibit A-5 to distribute cost between customer rate classes.
16
17 The DTE Gas Income-Qualified program Pilot program, and EM&V costs are
18 allocated based on the estimated annual spend levels between the residential and
19 C&I/EUT programs. Exhibit A-4 calculates the allocation percentages for
20 distributing these costs between residential and C&I/EUT rate classes. The
21 allocation percentages of program costs between C&I and EUT is supported in
22 Witness Maroun's testimony. These allocation percentages are applied in Exhibit
23 A-6 to distribute cost between customer rate classes.
24
25 **Q54. How are Education program costs allocated between customer rate classes?**

Line No.

A54. DTE Electric utilizes a cost tracker to monitor the actual expenses of its Education Program, differentiating between residential and C&I customer classes. The cost tracker for 2022 is the basis for allocating Education program costs between residential and C&I in DTE's 2024-2025 EWR Plan. As detailed in Exhibit A-3, the Education costs allocated to the residential and C&I customer classes are 85% and 15%, respectively.

DTE Gas also utilizes a cost tracker to monitor the actual expenses of its Education Program, differentiating between residential and C&I/EUT customer classes. The cost tracker for 2022 is the basis for allocating Education program costs between residential and C&I/EUT in DTE's 2024-2025 EWR Plan. As detailed in Exhibit A-4, the Education costs allocated to the residential and C&I/EUT customer classes are 84% and 16%, respectively.

Q55. Is the Company proposing to capitalize any new program costs from the from the 2024-2025 EWR Plan?

A55. No. The 2024-2025 EWR Plan reflects zero new capital costs and will treat EWR program costs as O&M. DTE Electric will continue to amortize approved capital costs from 2019 through 2021 over the 5-year amortization period. DTE Gas will continue to amortize approved capital costs from 2020 through 2021 over the 5-year amortization period.

Q56. What is DTE reserving regarding spend flexibility?

A56. The Company reserves the ability to change program spend within a customer class and increase spend above the filed amounts for 2024-2025. PA 342 removed

Line No.

1 restrictions to program class spend change that were previously in place under PA
2 295. However, in its April 12, 2018 Order in Case No U-18262, the Commission
3 reaffirmed its determination in the June 3, 2010 order in Case No. U-15806, that
4 providers may change spending for programs within a customer class by up to 30%
5 without the need to file a Plan Amendment.
6
7 In addition to the 30% program class spend change control limit, DTE may need to
8 increase spend above planned amounts. The purpose of increasing spend above the
9 Plan amounts would be to ensure program continuity in those future years in cases
10 where programs have become oversubscribed, to provide an ability to adjust
11 incentive levels as needed for unanticipated market response, or to initiate
12 infrastructure improvements to enhance customer experience. DTE Electric will
13 seek to amend the 2024-2025 EWR Plan if it intends to exceed the budget by more
14 than 5%. DTE Gas will seek to amend the 2024-2024 EWR Plan if it intends to
15 exceed the budget by more than 12%. These plan amendment thresholds are
16 consistent with the percentages approved in the 2022-2023 EWR Plans.
17
18 **Q57. Is the Company proposing to modify its cost allocation between DTE Electric**
19 **and DTE Gas from the previous EWR Plan?**
20 A57. No. The approach will remain the same. Costs, to the extent possible, will be
21 directly charged. When that is not possible, the next approach will be to charge the
22 separate companies based on estimated effort or time allocation. When direct
23 charging or estimating is not practical for shared spending areas, costs will be
24 allocated based on annual spending budgets for the program.
25

Line No.

1 **Q58. Is the 2024-2025 EWR Plan cost-effective?**

2 A58. Yes. A USRCT score has been calculated based on the costs and energy savings
3 from the 2024-2025 EWR Plan excluding income-qualified programs and as
4 required by PA 342. As shown in Witness Malfroid's Exhibit A-12 the USRCT
5 score for the electric portfolio without income-qualified programs is 2.38 and thus
6 cost-effective. As shown in Witness Malfroid's Exhibit A-13 the USRCT score for
7 the gas portfolio without income-qualified programs is 1.67 and thus cost-effective.
8 Please refer to Witness Malfroid's testimony for additional details regarding the
9 USRCT calculation.

10

11 **SECTION E: RECOVERY MECHANISM**

12 **Q59. What are the funding levels are requested by DTE for the 2024-2025 EWR**
13 **Plan?**

14 A59. The funding levels requested by DTE Electric for the 2024-2025 EWR Plan are the
15 sum of the revenue recoveries calculated by Witness Pollack for the residential,
16 C&I secondary and C&I primary classes and shown on Exhibit A-36. Table 5
17 reflects the levelized requested funding levels for the 2024-2025 Plan years.

18

Table 5.- Electric EWR Plan Levelized Requested Funding Levels

Year	Amount ($ millions)
2024	$204.4
2025	$204.4

19

Line No.

1 The funding levels requested by DTE Gas for the 2024-2025 EWR Plan are the sum
2 of the revenue recoveries calculated by Witness Maroun for the residential, C&I,
3 and EUT classes and shown on Exhibit A-33. Table 6 reflects the levelized
4 requested funding levels for the 2024-2025 Plan years.
5

Table 6.- Gas EWR Plan Levelized Requested Funding Levels

Year	Amount ($ millions)
2024	$51.7
2025	$51.4

6
7 **Q60. What recovery mechanism will DTE use to fund the 2024-2025 EWR Plan?**
8 A60. DTE plans to continue the surcharge design methodology as approved in previous
9 EWR plans, which has been consistent over the history of the surcharge. This
10 methodology is discussed by Witness Pollack for DTE Electric and Witness
11 Maroun for DTE Gas and used to calculate a surcharge for each customer class that
12 is levelized across all months of the plan, January 2024 through December 2025.
13 Surcharges for all classes are developed on a levelized basis to keep the surcharge
14 consistent over both plan years.
15
16 **Q61. Will the structure of surcharges change with the 2024-2025 EWR Plan?**
17 A61. No. As discussed in the testimony of Witness Pollack, electric residential
18 surcharges will be applied based on kWh usage each month. Electric surcharges
19 for C&I secondary and C&I primary customers will be charged on a per meter per

Line No.

month basis. Section 89 (2) of PA 342 states that electric providers of EWR programs recover actual costs of implementing their approved plans in this manner.

Residential, C&I, and EUT gas surcharges will be applied based on ccf usage each month. Section 89 (2) of PA 342 states that gas providers of EWR programs recover actual costs of implementing their approved plans in this manner.

Q62. How will DTE ensure, to the extent feasible, that the revenues collected from a customer class are spent on programs that benefit that customer class?

A62. DTE has established specific accounting reports and tracking systems for customer incentives which enable monitoring of customer class spending. Reconciliation of under or over recoveries will continue to be performed on a class basis each year and included in the annual reconciliations filed with the Commission. As part of the monitoring and reconciliation process, DTE will continue to ensure, to the extent feasible, that the EWR program offerings are designed and positioned such that the revenues collected from a rate class are spent to benefit that customer class in a cost-effective, reasonable and prudent way.

Q63. How does DTE plan to handle EWR over/under recoveries for program costs covered under the 2024-2025 EWR Plan?

A63. The projected cumulative over/under recoveries related to actual program costs from the 2022-2023 EWR Plan are included in the derivation of the total revenue requirements for 2024 and 2025. Further details of over/under recoveries for program costs are discussed in the testimony of Company Witness Maroun.

Line No.

1

2 **Q64. How does DTE plan to handle the residual over/under recovery from the 2024-**
3 **2025 EWR Plan?**

4 A64. DTE will continue to rollover any over/under recoveries into future EWR
5 reconciliations and plans. When, and if, an EWR program comes to an end, DTE
6 will recommend treatment of residual over/under recovery amounts including
7 recovery of unamortized capitalized costs.

8

9 **SECTION F: PERFORMANCE INCENTIVE MECHANISM**

10 **Q65. Is DTE proposing a performance incentive mechanism for the 2024-2025 EWR**
11 **Plan?**

12 A65. Yes. The Company's proposed performance incentive mechanisms define the
13 program outcomes that allow the Company to earn the maximum performance
14 incentive award detailed in PA 342. The Company's proposed performance
15 incentive mechanisms is similar with what has been approved in previous EWR
16 plans. The basis for the performance incentive mechanism continues to be
17 exceeding savings goals in the areas of first year savings, lifetime savings goal, and
18 income-qualified spend as detailed in Exhibit A-7 for DTE Electric and Exhibit A-
19 8 for DTE Gas.

20

21 **Q66. How is the performance incentive be calculated?**

22 A66. The performance incentive is calculated based on a sliding scale method to
23 determine the financial incentive payment for exceeding savings goals in the areas
24 of first year savings, lifetime savings, and income-qualified spend. The first
25 component, first year savings, will determine the maximum incentive award

Line No.

1 possible, and the subsequent two metrics will be weighted to determine the earned
2 incentive award. The sum of the percentages earned in each of the two subsequent
3 metrics are added together (not to exceed the percentage reached in the first-year
4 savings component) and multiplied by the actual EWR program expenditures to
5 determine the financial incentive payment. A detail calculation of the performance
6 incentive mechanism is provided in Exhibit A-7 for DTE Electric and Exhibit A-8
7 for DTE Gas.
8
9 **Q67. Are there any modifications to the previously approved performance incentive**
10 **mechanism from the 2022-2023 EWR Plan?**
11 A67. Yes. First, the Company is proposing the elimination of the electrically heated
12 buildings and weatherization metric. This is because these measures, unlike in the
13 previous EWR plan, are now key focuses that are already included in the program
14 design of the 2024-2025 EWR Plan. Second, the maximum lifetime savings metric
15 is based on a 1.5% annual savings target, rather than 2%, to re-align with the
16 interrelated statutory provisions of PA 342 and PA 341.
17
18 **Q68. How is the lifetime savings metric calculated?**
19 A68. To calculate the lifetime savings metric, the first-year savings are multiplied by the
20 planned weighted average measure life to obtain the lifetime savings metric. The
21 measure life applied for electric is 10.27 years in 2024 and 10.19 years in 2025.
22 The measure life applied for gas is 9.59 years in 2024 and 9.78 years in 2025.
23
24 **Q69. Are there any changes to the income-qualified spend metric?**

Line No.

1 A69. No. The Company determined the minimum income-qualified spend metric based
2 on the Company's projected increased income-qualified spend, detailed in Exhibit
3 A-1 for DTE Electric and Exhibit A-2 for DTE Gas. The projected minimum
4 income-qualified spend metric is $29.2M in 2024 and $35.9M in 2025 for DTE
5 Electric. The projected minimum income-qualified spend metric is $14.5M in both
6 2024 and 2025 for DTE Gas.
7
8 **SECTION G: ADDITIONAL FUNDING SOURCES**
9 **Q70. Does the 2024/2025 EWR Plan consider the effects of the recently passed**
10 **Inflation Reduction Act?**
11 A70. No. It is too early to project the specific grant dollars that will be available to
12 Michigan (and the extent to which the tax credits will be utilized by Michigan
13 entities) served by DTE Electric and the resulting net impacts on EWR potential.
14 While the Inflation Reduction Act (IRA) and associated funds will likely help drive
15 the uptake of energy efficiency measures, it is unclear how these may impact
16 electric savings opportunities from utility programs and considering such factors as
17 increases in the baseline efficiency of installed equipment and decreasing Net-to-
18 Gross (NTG) ratios (driven by increases in free-ridership). Fully understanding the
19 impacts on the long-term opportunities for utility driven energy efficiency
20 improvements and net EWR savings will take time, especially since the specific
21 guidance and rules are yet to be developed for many key IRA provisions[4]. While
22 the legislation will affect the energy efficiency landscape in Michigan, it is too early

[4] For example, energy efficiency rebates available through the HOMES rebate program (Sec 50121) will be administered through State Energy Offices. There are multiple requirements to qualify, and the specific guidance and rules are under development.

Line No.

1 to quantify the impacts, let alone develop plans and forecasts upon net-utility EWR
2 program savings. It is reasonable that these IRA-driven opportunities will be
3 captured as specific guidance and rules are developed in Michigan.
4
5 **Q71. Is DTE intending to offer educational resources to customers about energy**
6 **efficiency-related IRA tax credits?**
7 A71. DTE may share information with customers and collaborate with program partners
8 to raise awareness about tax credits associated with energy-efficient measures.
9 However, it is important to note that any information provided be solely for
10 awareness purposes and should not be interpreted as tax advice or relied upon as
11 such, and the same would be communicated to customers.
12
13 **Q72. Does DTE plan to continue leveraging additional funding sources?**
14 A72. Yes. DTE will continue tracking and reporting on current and on-going
15 collaborations and efforts to leverage additional funding sources from federal, state,
16 and/or private sources for EWR participants in its annual reconciliations.
17
18 **SECTION G: SUMMARY**
19 **Q73. Does DTE's 2024-2025 EWR Plan meet the EWR plan requirements of PA**
20 **342?**
21 A73. Yes. In brief, the testimony and exhibits in this filing demonstrate that the 2024-
22 2025 EWR Plan:
23 1. Offers programs for each customer class, including income-qualified customers
24 as described in Section A – 2024-2025 EWR Plan Overview;

Line No.

1 2. Provides practical and effective administration of the proposed programs as
2 described in Section B – Program Administration;
3 3. Includes a process for obtaining an independent expert evaluation to verify
4 incremental energy savings as described in Section C – Energy Savings Goals;
5 4. Demonstrates that proposed programs and funding are sufficient to achieve the
6 applicable EWR standard as described in Section C – Energy Savings Goals;
7 5. Specifies the method used to calculate incremental energy savings as described
8 in Section C – Energy Savings Goals;
9 6. Specifies necessary funding levels as described in Section D – Spending and
10 Program Flexibility;
11 7. Is cost-effective under the USRCT test as described in Section D – Spending
12 and Program Flexibility;
13 8. Describes how the program costs will be recovered as described in Section E –
14 Recovery Mechanism;
15 9. Assures to the extent feasible that charges collected from a particular class are
16 spent on programs that benefit that class as described in Section E – Recovery
17 Mechanism; and
18 10. Proposes a financial incentive mechanism as approved in PA 342 – Section F –
19 Performance Incentive Mechanism.
20
21 DTE believes the approach and design of the EWR programs as presented in this
22 filing will result in significant customer benefits. DTE has taken a careful approach
23 to control costs and maintains a capable staff to help manage the contractors
24 implementing the programs. DTE believes that the EWR program, as outlined in
25 this filing and if approved with the requested flexibilities, is positioned to succeed

Line
No.

1 in meeting all the program objectives in a cost-effective, reasonable and prudent
2 way.
3
4 **Q74. Does this complete your direct testimony?**
5 A74. Yes, it does.
6

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

KEVIN L. BILYEU

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Portfolio Cost and Savings Summary-Electric

Case No.: U-21322
Exhibit: A-1
Witness: K.L. Bilyeu

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
					2024		2025	
Line No.	Energy Optimization Programs	Source	USRCT Results (1)	CCE Results $/kWh (1)	Net MWh Savings	Cost	Net MWh Savings	Cost
	Residential							
1	Appliance Recycling		1.78	$ 0.03	35,133	$ 8,556,378	35,133	$ 8,830,251
2	Residential Building Envelope		1.41	$ 0.03	19,436	8,196,818	18,499	7,414,213
3	Multifamily Residential		2.53	$ 0.02	1,810	501,514	502	114,577
4	School Program		0.79	$ 0.06	5,914	3,277,298	4,927	2,759,107
5	Home Energy Reports		0.96	$ 0.05	72,000	3,897,977	72,000	4,459,240
6	Multifamily Strategic Energy Management		0.80	$ 0.06	841	193,085	1,246	238,543
7	Emerging Measures and Approaches		0.59	$ 0.07	250	206,935	250	206,935
8	Residential Shared Savings		57.35	$ 0.00	4,579	45,350	4,579	45,350
9	Administrative and Infrastructure					4,047,928		4,047,928
10	**Residential Program Subtotal**		1.12	$ 0.04	139,963	$ 28,923,283	137,137	$ 28,116,144
	Income-Qualified							
11	Income-Qualfied attributed to Energy Efficiency Assistance				24,144	$ 26,170,619	25,379	$ 30,675,479
12	Income-Qualfied attributed to Multifamily Units				10,988	17,140,894	14,555	22,636,034
13	Income-Qualfied Adminstrative and Infrastructure					478,408		478,408
14	**Income-Qualfied Program Total**		0.26	$ 0.16	35,133	$ 43,789,921	39,934	$ 53,789,921
	Commercial & Industrial (C&I)							
15	Prescriptive		5.70	$ 0.01	258,355	$ 29,541,402	253,378	$ 29,387,935
16	Non-Prescriptive		6.72	$ 0.01	126,645	14,468,969	121,622	14,094,419
17	Retro-Commissioning		1.05	$ 0.05	25,570	5,350,322	26,853	5,662,620
18	Strategic Energy Management		0.91	$ 0.05	24,854	4,486,793	31,009	5,648,771
19	Small Business Program		1.62	$ 0.03	50,362	15,990,766	49,448	16,110,604
20	Mid-Stream Lighting		6.67	$ 0.01	80,189	7,612,978	80,189	7,744,421
21	Mid-Stream Food Service		0.81	$ 0.06	2,645	2,158,350	2,645	2,162,685
22	Mid-Stream HVAC		3.43	$ 0.02	18,123	5,589,491	18,123	5,619,198
23	Multifamily Common Areas		2.01	$ 0.02	595	219,303	595	219,577
24	Find and Fix		0.25	$ 0.19	10,961	2,362,032	11,471	2,490,869
25	C&I Energy Star Lighting		2.42	$ 0.02	20,026	4,293,706	19,662	4,042,181
26	Emerging Measures and Approaches		3.23	$ 0.01	750	108,568	750	108,568
27	C&I Shared Savings		62.63	$ 0.00	3,398	33,650	3,398	33,650
28	Self Direct		13.33	$ 0.00	1,425	50,000	1,425	50,000
29	Administrative and Infrastructure					4,714,020		4,714,020
30	**C&I Program Total**		2.80	$ 0.02	623,897	$ 96,980,351	620,567	$ 98,089,517
	Other Programs and Costs							
31	Pilot Program		2.06	$ 0.02	44,389	$ 9,897,146	44,313	$ 10,469,481
32	Health and Safety Pilot		2.06	$ 0.02	17,755	$ 3,958,858	17,725	$ 4,187,792
33	Education Program		2.11	$ 0.02	26,633	5,938,288	26,588	6,281,689
34	Evaluation, Measurement & Verification (EM&V)					8,455,074		8,455,074
35	**Other Programs and Costs Total**				88,777	$ 28,249,366	88,626	$ 29,394,036
36	**Total Costs & Energy Savings**	L10 + L14 + L30 + L35			887,770	$ 197,942,921	886,264	$ 209,389,618
37	**Portfolio (excluding Income-Qualified) USRCT & CCE**		2.38	$ 0.02				
38	Legislative Savings Reference (1% EWR Savings)	(2)			443,885		443,132	
39	Weighted Average Measure Life	(3)			10.27		10.19	
40	Lifetime Savings	(4)			9,120,165		9,028,434	

Notes:
(1) Exhibit A-12
(2) Legislative savings reference supported in Witness Bilyeu's testimony
(3) Weighted Average Measure Life of the Portfolio is calculated by weighting measure life by first yeart net energy savings
(4) Lifetime Savings is calculated as Weighted Average Measure Life (line 39) x First Year Net Energy Savings (line 36)

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Portfolio Cost and Savings Summary-Gas

Case No.: U-21322
Exhibit: A-2
Witness: K.L. Bilyeu
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
					2024		2025	
Line No.	DTE Gas Energy Waste Reduction Programs	Source	USRCT Results (1)	CCE Results $/Ccf (1)	Net Mcf Savings	Cost ($000)	Net Mcf Savings	Cost ($000)
	Residential							
1	Residential Building Envelope		1.59	$ 0.21	312,466	$ 8,877,961	311,402	$ 8,856,318
2	Multifamily Residential		1.69	$ 0.20	1,762	52,101	1,762	52,157
3	School Program		2.52	$ 0.15	152,071	1,090,952	138,641	1,009,899
4	Home Energy Reports		1.23	$ 0.39	203,199	800,320	203,932	809,663
5	Multifamily Strategic Energy Management		0.97	$ 0.44	8,874	152,557	12,680	154,929
6	Emerging Measures and Approaches		1.90	$ 0.19	12,037	250,000	12,037	250,000
7	Residential Shared Savings		150.25	$ 0.00	40,274	7,928	40,274	7,928
8	Administrative and Infrastructure					1,676,479		1,676,479
9	**Residential Program Total**		1.11	$ 0.32	730,684	$ 12,908,298	720,729	$ 12,817,373
	Income-Qualfied							
10	Income-Qualfied attributed to Energy Efficiency Assistance				39,380	$ 12,426,551	39,383	$ 12,426,551
11	Income-Qualfied attributed to Multifamily				75,720	6,715,168	75,839	6,715,168
12	Income-Qualfied Adminstrative and Infrastructure					168,026		168,026
13	**Income-Qualfied Program Total**		0.24	$ 1.41	115,100	$ 19,309,745	115,222	$ 19,309,745
	Commercial & Industrial (C&I) and End User Transport (EUT)							
14	Prescriptive		4.28	$ 0.07	462,709	$ 4,087,295	446,216	$ 3,931,202
15	Non-Prescriptive		5.91	$ 0.06	221,935	2,007,038	254,851	2,301,072
16	Retro-Commissioning		0.92	$ 0.45	16,892	331,427	16,892	331,169
17	Strategic Energy Management		1.95	$ 0.22	75,954	538,338	75,954	537,178
18	Small Business Program		1.64	$ 0.22	37,592	910,560	37,592	909,986
19	Mid-Stream Food Service		1.37	$ 0.24	14,449	526,951	14,449	526,731
20	Mid-Stream HVAC		2.26	$ 0.13	40,429	1,139,134	40,429	1,138,516
21	Multifamily Common Areas		2.25	$ 0.14	5,324	103,089	5,324	103,598
22	Find and Fix		0.60	$ 0.67	14,546	539,542	14,546	539,320
23	Emerging Measures and Approaches		4.24	$ 0.09	26,782	250,000	26,782	250,000
24	C&I Shared Savings		283.54	$ 0.00	66,399	13,072	66,399	13,072
25	Administrative and Infrastructure					1,186,727		1,186,727
26	**C&I and EUT Program Total**		2.33	$ 0.14	983,011	$ 11,633,174	999,434	$ 11,768,571
	Other Programs and Costs							
27	Pilot Program		1.59	$ 0.23	101,600	$ 2,530,201	101,966	$ 2,532,672
28	Health and Safety Pilot		1.59	$ 0.23	40,640	$ 1,012,081	40,786	$ 1,013,069
29	Education Program		1.59	$ 0.23	60,960	1,518,121	61,179	1,519,603
30	Evaluation, Measurement & Verification (EM&V)					1,692,405		1,692,405
31	**Other Programs and Costs Total**				203,199	$ 6,752,808	203,932	$ 6,757,749
32	**Total Costs & Energy Savings**	L9+ L13 + L26 + L31			2,031,994	$ 50,604,025	2,039,316	$ 50,653,439
33	**Portfolio (excluding Income-Qualified) USRCT & CCE**		1.67	$ 0.20				
34	Legislative Savings Target (Mcf)	(2)			1,451,425		1,456,655	
35	Weighted Average Measure Life	(3)			9.59		9.78	
36	Lifetime Savings (Mcf)	(4)			19,480,718		19,940,606	

Notes:
(1) Exhibit A-13
(2) Legislative savings target calculation supported in Witness Bilyeu's testimony
(3) Weighted Average Measure Life of the Portfolio is calculated by weighting measure life by first year net energy savings.
(4) Lifetime Savings is calculated as Weighted Average Measure Life (line 35) X First Year Net Energy Savings (line 32)

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Customer Class Cost Allocation Percentages-Electric

Case No.: U-21322
Exhibit: A-3
Witness: K.L. Bilyeu
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)
Line No.	**Allocation 1 - Residential and Commercial & Industrial (C&I) Customer Class Allocation**	**Source**	**2024 Cost**	**2025 Cost**	**2024 - 2025 Total**
1	Residential Program Costs	A-1, Sum of Lines 1-8	$ 24,875,355	$ 24,068,216	$ 48,943,571
2	Residential Education Costs (1)	A-1, Line 33 * 85%	5,047,544	5,339,435	10,386,980
3	Total	Line 1 + Line 2	$ 29,922,900	$ 29,407,651	$ 59,330,551
4	C&I Program Costs	A-1, Sum of Lines 15-28	$ 92,266,331	$ 93,375,498	$ 185,641,829
5	C&I Education Costs (1)	A-1, Line 33 * 15%	890,743	942,253	1,832,996
6	Total	Line 4 + Line 5	$ 93,157,074	$ 94,317,751	$ 187,474,825
7	Total Residential & C&I Program Costs	Line 3 + Line 6	$ 123,079,974	$ 123,725,402	$ 246,805,376
	Allocation Percentage				
8	Residential	Line 3 ÷ Line 7			24.0%
9	C&I	Line 6 ÷ Line 7			76.0%
10	Total	Line 8 + Line 9			100%
	Allocation 2 - C&I Secondary and C&I Primary Customer Class Allocation				**Primary/ Secondary Allocation**
11	C&I Secondary	(2)			79.6%
12	C&I Primary	(2)			20.4%
13	Total	Line 11 + Line 12			100%
	Summary - Allocation Percentages Residential, C&I Secondary and C&I Primary	**Source**			**Summary Allocation**
14	Residential	Line 8			24.0%
15	C&I Secondary	Line 9 * Line 11			60.5%
16	C&I Primary	Line 9 * Line 12			15.5%
17	Total	Line 14 + Line 15 + Line 16			100.0%

Notes:
(1) Witness Bilyeu's testimony supports Education cost allocation
(2) The allocation percentages on Lines 11 and 12 were calculated using the count of projects between primary and secondary in the Company's 2022 EWR programs.

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Customer Class Cost Allocation Percentages-Gas

Case No.: U-21322
Exhibit: A-4
Witness: K.L. Bilyeu
Page: 1 of 1

Line No.	(a) Allocation 1 - Residential, Commercial & Industrial (C&I) and End User Transport (EUT) Customer Class Allocation	(b) Source	(c) 2024 Cost	(d) 2025 Cost	(g) 2024 - 2025 Total
1	Residential Program Costs	A-2, Sum of Lines 1-7	$ 11,231,819	$ 11,140,895	$ 22,372,714
2	Residential Education Program Costs (1)	A-2, Line 29 * 84%	1,275,221	1,276,467	2,551,688
3	Total	Line 1 + Line 2	$ 12,507,040	$ 12,417,361	$ 24,924,402
4	C&I and EUT Program Costs	A-2, Sum of Lines 14-24	$ 10,446,447	$ 10,581,844	$ 21,028,290
5	C&I and EUT Education Program Costs (1)	A-2, Line 29 * 16%	242,899	243,137	486,036
6	Total	Line 4 + Line 5	$ 10,689,346	$ 10,824,980	$ 21,514,326
7	Total Residential & C&I/EUT Program Costs	Line 3 + Line 6	$ 23,196,386	$ 23,242,341	$ 46,438,728

	Allocation Percentage		Residential/ C&I and EUT Allocation
8	Residential	Line 3 ÷ Line 7	53.7%
9	C&I/EUT	Line 6 ÷ Line 7	46.3%
10	Total	Line 8 + Line 9	100.0%

Notes:
(1) Witness Bilyeu's testimony supports Education program cost allocation

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Customer Class Cost-Electric

Case No.: U-21322
Exhibit: A-5
Witness: K.L. Bilyeu
Page: 1 of 1

Line No.	(a) Description	(b) Source	(c) Allocation (3)	(d) 2024 Cost	(e) 2025 Cost
	Residential Customer Class				
1	Program Costs to be Capitalized	(1)		$ -	$ -
	Program Costs to be Expensed				
2	Program Costs	A-1, Line 10 - Line 9		$ 24,875,355	$ 24,068,216
3	Pilot Program	A-1, (Line 31 + 32) * Col. (c)	24.0%	3,330,901	3,523,522
4	Educational Program	A-3, Line 2		5,047,544	5,339,435
5	Residential Income-Qualified Program	A-1, Line 14 * Col. (c)	24.0%	10,526,838	12,930,778
6	Administration & Infrastructure	A-1, Line 9		4,047,928	4,047,928
7	EM&V	A-1, Line 34 * Col. (c)	24.0%	2,032,550	2,032,550
8	**Total Expenses**	Sum of Lines 2 through 7		$ 49,861,117	$ 51,942,430
9	**Total**	Line 1 + Line 8		$ 49,861,117	$ 51,942,430
	C&I Primary Customer Class				
10	Program Costs to be Capitalized (2)	(2)	20.4%	$ -	$ -
	Program Costs to be Expensed				
11	Program Costs (2)	A-1, (Line 30 - 29) * Col. (c)	20.4%	$ 18,821,048	$ 19,047,303
12	Pilot Program	A-1, (Line 31 + 32) * Col. (c)	15.5%	2,146,975	2,271,130
13	Educational Program	A-3, Line 5 * Col. (c)	20.4%	181,699	192,207
14	Residential Income-Qualified Program	A-1, Line 14 * Col. (c)	15.5%	6,785,206	8,334,697
15	Administration & Infrastructure	A-1, Line 29 * Col. (c)	20.4%	961,594	961,594
16	EM&V	A-1, Line 34 * Col. (c)	15.5%	1,310,106	1,310,106
17	**Total Expenses**	Sum of Lines 11 through 16		$ 30,206,628	$ 32,117,036
18	**Total**	Line 10 + Line 17		$ 30,206,628	$ 32,117,036
	C&I Primary Secondary Class				
19	Program Costs to be Capitalized (2)	(2)	79.6%	$ -	$ -
	Program Costs to be Expensed				
20	Program Costs (2)	A-1, (Line 30 - 29) * Col. (c)	79.6%	$ 73,445,283	$ 74,328,195
21	Pilot Program	A-1, (Line 31 + 32) * Col. (c)	60.5%	8,378,128	8,862,621
22	Educational Program	A-3, Line 5 * Col. (c)	79.6%	709,044	750,047
23	Residential Income-Qualified Program	A-1, Line 14 * Col. (c)	60.5%	26,477,877	32,524,446
24	Administration & Infrastructure	A-1, Line 29 * Col. (c)	79.6%	3,752,425	3,752,425
25	EM&V	A-1, Line 34 * Col. (c)	60.5%	5,112,419	5,112,419
26	**Total Expenses**	Sum of Lines 20 through 25		$ 117,875,176	$ 125,330,153
27	**Total**	Line 19 + Line 26		$ 117,875,176	$ 125,330,153

Notes:
(1) Residential program costs assumes there will be no capitalization of program costs
(2) C&I program costs assumes there will be no capitalization of program costs
(3) Allocation factors from Exhibit A-3

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Customer Class Cost-Gas

Case No.: U-21322
Exhibit: A-6
Witness: K.L. Bilyeu
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)
Line No.	**Description**	**Source**	**Allocation (3)**	**2024 Cost**	**2025 Cost**
	Residential Customer Class				
1	Program Costs to be Capitalized	(1)		$ -	$ -
	Program Costs to be Expensed				
2	Program Costs	A-2, Line 9 - Line 8		$ 11,231,819	$ 11,140,895
3	Pilot Program	A-2, (Line 27 + 28) * Col. (c)	53.7%	1,901,199	1,903,055
4	Educational Program	A-4, Line 2		1,275,221	1,276,467
5	Residential Income-Qualified Program	A-2, Line 13 * Col. (c)	53.7%	10,363,847	10,363,847
6	Administration & Infrastructure	A-2, Line 8		1,676,479	1,676,479
7	EM&V	A-2, Line 30 * Col. (c)	53.7%	908,341	908,341
8	**Total Expenses**	Sum of Lines 2 through 7		$ 27,356,905	$ 27,269,083
9	**Total**	Line 1 + Line 8		$ 27,356,905	$ 27,269,083
	C&I Customer Class				
10	Program Costs to be Capitalized	(2)		$ -	$ -
	Program Costs to be Expensed				
11	Program Costs	A-2, Line 26 - 25		$ 10,446,447	$ 10,581,844
12	Pilot Program	A-2, (Line 27 + 28) * Col. (c)	46.3%	1,641,083	1,642,685
13	Educational Program	A-4, Line 5		242,899	243,137
14	Residential Income-Qualified Program	A-2, Line 13 * Col. (c)	46.3%	8,945,899	8,945,899
15	Administration & Infrastructure	A-2, Line 25		1,186,727	1,186,727
16	EM&V	A-2, Line 30 * Col. (c)	46.3%	784,065	784,065
17	**Total Expenses**	Sum of Lines 11 through 16		$ 23,247,120	$ 23,384,356
18	**Total**	Line 10 + Line 17		$ 23,247,120	$ 23,384,356

Notes:
(1) Residential program costs assume zero capital expenditures
(2) C&I program costs assume zero capital expenditures
(3) Allocation factors from Exhibit A-4

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Performance Incentive Mechanism-Electric

Case No.: U-21322
Exhibit: A-7
Witness: K.L. Bilyeu

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Line No.		Legislative First Year Savings Tiers		Lifetime Savings (MWH)		Income-Qualified Spend	
1				Minimum (100%)		Minimum (100%)	
2				YR 2024	4,560,083	YR 2024	$ 29,193,281
3				YR 2025	4,514,217	YR 2025	$ 35,859,947
4				Maximum (150%)		Maximum (150%)	
5				YR 2024	6,840,124	YR 2024	$ 43,789,921
6				YR 2025	6,771,325	YR 2025	$ 53,789,921
7				Weight	80%	Weight	25%
8		% Savings	% Incentive	% Savings	% Incentive	% Spend	% Incentive
9	**Tier 1**	**1.00%**	**15.00%**	100%	12.00%	100%	3.00%
10		1.01%	15.10%	101%	12.08%	101%	3.04%
11		1.02%	15.20%	102%	12.16%	102%	3.08%
12		1.03%	15.30%	103%	12.24%	103%	3.12%
13		1.04%	15.40%	104%	12.32%	104%	3.16%
14		1.05%	15.50%	105%	12.40%	105%	3.20%
15		1.06%	15.60%	106%	12.48%	106%	3.24%
16		1.07%	15.70%	107%	12.56%	107%	3.28%
17		1.08%	15.80%	108%	12.64%	108%	3.32%
18		1.09%	15.90%	109%	12.72%	109%	3.36%
19		1.10%	16.00%	110%	12.80%	110%	3.40%
20		1.11%	16.10%	111%	12.88%	111%	3.44%
21		1.12%	16.20%	112%	12.96%	112%	3.48%
22		1.13%	16.30%	113%	13.04%	113%	3.52%
23		1.14%	16.40%	114%	13.12%	114%	3.56%
24		1.15%	16.50%	115%	13.20%	115%	3.60%
25		1.16%	16.60%	116%	13.28%	116%	3.64%
26		1.17%	16.70%	117%	13.36%	117%	3.68%
27		1.18%	16.80%	118%	13.44%	118%	3.72%
28		1.19%	16.90%	119%	13.52%	119%	3.76%
29		1.20%	17.00%	120%	13.60%	120%	3.80%
30		1.21%	17.10%	121%	13.68%	121%	3.84%
31		1.22%	17.20%	122%	13.76%	122%	3.88%
32		1.23%	17.30%	123%	13.84%	123%	3.92%
33		1.24%	17.40%	124%	13.92%	124%	3.96%
34	**Tier 2**	**1.25%**	**17.50%**	125%	14.00%	125%	4.00%
35		1.26%	17.60%	126%	14.08%	126%	4.04%
36		1.27%	17.70%	127%	14.16%	127%	4.08%
37		1.28%	17.80%	128%	14.24%	128%	4.12%
38		1.29%	17.90%	129%	14.32%	129%	4.16%
39		1.30%	18.00%	130%	14.40%	130%	4.20%
40		1.31%	18.10%	131%	14.48%	131%	4.24%
41		1.32%	18.20%	132%	14.56%	132%	4.28%
42		1.33%	18.30%	133%	14.64%	133%	4.32%
43		1.34%	18.40%	134%	14.72%	134%	4.36%
44		1.35%	18.50%	135%	14.80%	135%	4.40%
45		1.36%	18.60%	136%	14.88%	136%	4.44%
46		1.37%	18.70%	137%	14.96%	137%	4.48%
47		1.38%	18.80%	138%	15.04%	138%	4.52%
48		1.39%	18.90%	139%	15.12%	139%	4.56%
49		1.40%	19.00%	140%	15.20%	140%	4.60%
50		1.41%	19.10%	141%	15.28%	141%	4.64%
51		1.42%	19.20%	142%	15.36%	142%	4.68%
52		1.43%	19.30%	143%	15.44%	143%	4.72%
53		1.44%	19.40%	144%	15.52%	144%	4.76%
54		1.45%	19.50%	145%	15.60%	145%	4.80%
55		1.46%	19.60%	146%	15.68%	146%	4.84%
56		1.47%	19.70%	147%	15.76%	147%	4.88%
57		1.48%	19.80%	148%	15.84%	148%	4.92%
58		1.49%	19.90%	149%	15.92%	149%	4.96%
59	**Tier 3**	**1.50%**	**20.00%**	150%	16.00%	150%	5.00%

Note: The financial incentive is calculated by adding up the percentages earned in each of the 2 metrics. The incentive earned is the lesser of the percentage earned for Legislative First Year Savings Tiers or the combined percentages earned in the 2 other metrics. The total incentive award can not exceed the award based on the Company's Legislative First Year Savings Tiers achieved.

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Performance Incentive Mechanism-Gas

Case No.: U-21322
Exhibit: A-8
Witness: K.L. Bilyeu
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Line No.				Lifetime Savings (MCF)		Income-Qualified Spend	
1				Minimum (100%)		Minimum (100%)	
2				YR 2024	13,914,799	YR 2024	$ 14,482,309
3		Legislative First Year Savings Tiers		YR 2025	14,243,290	YR 2025	$ 14,482,309
4				Maximum (133%)		Maximum (133%)	
5				YR 2024	18,553,065	YR 2024	$ 19,309,745
6				YR 2025	18,991,053	YR 2025	$ 19,309,745
7				Weight	80%	Weight	25%
8		% Savings	% Incentive	% Savings	% Incentive	% Spend	% Incentive
9	**Tier 1**	**0.750%**	**15.00%**	100.0%	12.00%	100.0%	3.00%
10		0.755%	15.10%	100.7%	12.08%	100.7%	3.04%
11		0.760%	15.20%	101.3%	12.16%	101.3%	3.08%
12		0.765%	15.30%	102.0%	12.24%	102.0%	3.12%
13		0.770%	15.40%	102.7%	12.32%	102.7%	3.16%
14		0.775%	15.50%	103.3%	12.40%	103.3%	3.20%
15		0.780%	15.60%	104.0%	12.48%	104.0%	3.24%
16		0.785%	15.70%	104.7%	12.56%	104.7%	3.28%
17		0.790%	15.80%	105.3%	12.64%	105.3%	3.32%
18		0.795%	15.90%	106.0%	12.72%	106.0%	3.36%
19		0.800%	16.00%	106.7%	12.80%	106.7%	3.40%
20		0.805%	16.10%	107.3%	12.88%	107.3%	3.44%
21		0.810%	16.20%	108.0%	12.96%	108.0%	3.48%
22		0.815%	16.30%	108.7%	13.04%	108.7%	3.52%
23		0.820%	16.40%	109.3%	13.12%	109.3%	3.56%
24		0.825%	16.50%	110.0%	13.20%	110.0%	3.60%
25		0.830%	16.60%	110.7%	13.28%	110.7%	3.64%
26		0.835%	16.70%	111.3%	13.36%	111.3%	3.68%
27		0.840%	16.80%	112.0%	13.44%	112.0%	3.72%
28		0.845%	16.90%	112.7%	13.52%	112.7%	3.76%
29		0.850%	17.00%	113.3%	13.60%	113.3%	3.80%
30		0.855%	17.10%	114.0%	13.68%	114.0%	3.84%
31		0.860%	17.20%	114.7%	13.76%	114.7%	3.88%
32		0.865%	17.30%	115.3%	13.84%	115.3%	3.92%
33		0.870%	17.40%	116.0%	13.92%	116.0%	3.96%
34	Tier 2	**0.875%**	**17.50%**	116.7%	14.00%	116.7%	4.00%
35		0.880%	17.60%	117.3%	14.08%	117.3%	4.04%
36		0.885%	17.70%	118.0%	14.16%	118.0%	4.08%
37		0.890%	17.80%	118.7%	14.24%	118.7%	4.12%
38		0.895%	17.90%	119.3%	14.32%	119.3%	4.16%
39		0.900%	18.00%	120.0%	14.40%	120.0%	4.20%
40		0.905%	18.10%	120.7%	14.48%	120.7%	4.24%
41		0.910%	18.20%	121.3%	14.56%	121.3%	4.28%
42		0.915%	18.30%	122.0%	14.64%	122.0%	4.32%
43		0.920%	18.40%	122.7%	14.72%	122.7%	4.36%
44		0.925%	18.50%	123.3%	14.80%	123.3%	4.40%
45		0.930%	18.60%	124.0%	14.88%	124.0%	4.44%
46		0.935%	18.70%	124.7%	14.96%	124.7%	4.48%
47		0.940%	18.80%	125.3%	15.04%	125.3%	4.52%
48		0.945%	18.90%	126.0%	15.12%	126.0%	4.56%
49		0.950%	19.00%	126.7%	15.20%	126.7%	4.60%
50		0.955%	19.10%	127.3%	15.28%	127.3%	4.64%
51		0.960%	19.20%	128.0%	15.36%	128.0%	4.68%
52		0.965%	19.30%	128.7%	15.44%	128.7%	4.72%
53		0.970%	19.40%	129.3%	15.52%	129.3%	4.76%
54		0.975%	19.50%	130.0%	15.60%	130.0%	4.80%
55		0.980%	19.60%	130.7%	15.68%	130.7%	4.84%
56		0.985%	19.70%	131.3%	15.76%	131.3%	4.88%
57		0.990%	19.80%	132.0%	15.84%	132.0%	4.92%
58		0.995%	19.90%	132.7%	15.92%	132.7%	4.96%
59	Tier 3	**1.000%**	**20.00%**	133.3%	16.00%	133.3%	5.00%

Note: The financial incentive is calculated by adding up the percentages earned in each of the 2 metrics. The incentive earned is the lesser of the percentage earned for Legislative First Year Savings Tiers or the combined percentages earned in the 2 other metrics. The total incentive award can not exceed the award based on the Company's Legislative First Year Savings Tiers achieved.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

REEMA A. BIEL

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF REEMA A. BIEL

Line No.

1 **Q1. What is your name, business address and by whom are you employed?**

2 A1. My name is Reema A. Biel. My business address is One Energy Plaza, Detroit,
3 Michigan 48226. I am employed by DTE Energy Corporate Services, LLC.

4

5 **Q2. On whose behalf are you testifying?**

6 A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas
7 Company (DTE Gas) (collectively, DTE).

8

9 **Q3. What is your educational background?**

10 A3. I have a Bachelor of Accountancy from Walsh College in 1999 and earned my
11 Certified Public Accounting License in 2003.

12

13 **Q4. What is your work experience?**

14 A4. In 1995, I joined Coopers & Lybrand ("C&L") individual tax practice primarily
15 working on income tax compliance. In 1998, C&L merged with Price Waterhouse,
16 forming PricewaterhouseCoopers ("PwC") in which I began working in their
17 Business Compliance Group. In 2005, I was promoted to Tax Manager responsible
18 for the preparation and review of federal, state and foreign income tax returns for
19 multi-national corporations. In addition, I was responsible for the review of federal,
20 state and foreign quarterly and annual tax provision for multi-national companies.
21 I joined DTE Energy Company's Tax Department in 2007 as a Tax Principal
22 responsible for the preparation and review of the Company's federal income tax
23 returns and forecasts. I was promoted to Regulatory Tax Manager in February 2016
24 responsible for federal, state, and local income tax accounting and tax forecasting
25 for all regulatory filings.

Line No.

1 **Q5. Have you previously sponsored testimony before the Michigan Public Service**
2 **Commission (MPSC)?**

3 A5. Yes, I have sponsored testimony in the following cases:

4	U-20364	DTE Electric 2018 TRM Reconciliation
5	U-20366	DTE Electric 2018 EWR Reconciliation
6	U-20369	DTE Gas 2018 EWR Reconciliation
7	U-20703	DTE Electric 2019 EWR Reconciliation
8	U-20708	DTE Gas 2019 EWR Reconciliation
9	U-20711	DTE Electric 2019 PLD/TRM Reconciliation
10	U-20373	DTE Electric 2020 – 2021 EWR Plan
11	U-20429	DTE Gas 2020 – 2021 EWR Plan
12	U-20866	DTE Electric 2020 EWR Reconciliation
13	U-20871	DTE Gas 2020 EWR Reconciliation
14	U-20987	DTE Electric 2020 PLD/TRM Reconciliation
15	U-20881	DTE Gas 2022-2023 EWR Plan Filing
16	U-20876	DTE Electric 2022-2023 EWR Plan Filing
17	U-21206	Combined EWR 2021 Reconciliation-DTE Electric & DTE
18		Gas
19	U-21307	DTE Electric 2021 & 2022 TRM Reconciliation
20	U-21313	2022 DTE Electric and DTE Gas EWR Reconciliation

Line No.

1 **Purpose of Testimony**

2 **Q6. What is the purpose of your testimony?**

3 A6. The purpose of my testimony is to calculate the deferred tax component of Energy
4 Waste Reduction (EWR) capitalized costs, in support of DTE's 2024-2025 EWR
5 Plan (2024-2025 EWR Plan).

6

7 **Q7. Are you sponsoring any exhibits in this proceeding?**

8 A7. Yes. I am supporting the following exhibits:

9 | Exhibit | Description |
|---|---|
| 10 A-24 | DTE Electric Calculation of Deferred Taxes |
| 11 A-25 | DTE Gas Calculation of Deferred Taxes |

12

13 **Q8. Were these exhibits prepared by you or under your direction?**

14 A8. Yes, they were.

15

16 **Q9. Why are you calculating deferred taxes on Exhibit A-24 for DTE Electric and**
17 **Exhibit A-25 for DTE Gas?**

18 A9. For DTE Electric, the accumulated deferred tax balances represent the book to tax
19 difference related to prior year's capital expenditures. The accumulated deferred
20 tax balances are used by Company Witness Maroun as a component of EWR
21 capitalized costs for Commercial and Industrial (C&I) secondary and C&I primary
22 customer classes.

23

24 For DTE Gas, the accumulated deferred tax balances represent the book to tax
25 difference related to prior year's capital expenditures. The accumulated deferred tax

Line No.

1 balances are used by Company Witness Maroun as a component of EWR capitalized
2 costs for Commercial & Industrial (C&I) and End-User Transportation customer
3 classes.
4
5 **Q10. How did you develop the composite tax rate used for DTE Electric and DTE**
6 **Gas to calculate deferred taxes for the projected years?**
7 A10. For DTE Electric, the 25.9% is a composite tax rate comprised of the federal, state
8 and local tax rates. The projected rate of 25.9% for 2024 and 2025 (computed on
9 Witness Maroun's Exhibit A-31) is based on the following tax rates: (1) Federal
10 income tax rate of 21%, (2) Michigan Corporate income tax rate of 5.88%, and (3)
11 Municipal income tax rate of 0.33%.
12
13 For DTE Gas, the 26.2% is a composite tax rate comprised of the federal, state and
14 local tax rates. The projected rate of 26.2% for 2024 and 2025 (computed on
15 Witness Maroun's Exhibit A-32) is based on the following tax rates: (1) Federal
16 income tax rate of 21%, (2) Michigan Corporate income tax rate of 6.00%, and (3)
17 Municipal income tax rate of 0.56%.
18
19 **Q11. How are deferred taxes derived for DTE Electric and DTE Gas?**
20 A11. For DTE Electric, the EWR program costs that were capitalized for book purposes
21 in tax years 2021 and prior were deducted in the year incurred for tax purposes.
22 Starting in tax year 2022, EWR program costs are deducted in the year incurred for
23 both book and tax purposes. As a result, there are no deferred taxes related to the
24 2024 and 2025 EWR program costs. The cumulative deferred tax component on
25 Lines 14 and 24 of Exhibit A-24, is derived by applying the appropriate annual tax

Line No.

1 rate to the accumulated difference between the amount deducted for tax purposes
2 and the book amortization.
3
4 For DTE Gas, the EWR program costs that were capitalized for book purposes in
5 tax years 2020 and 2021 were deducted in the year incurred for tax purposes.
6 Starting in tax year 2022, EWR program costs are deducted in the year incurred for
7 both book and tax purposes. As a result, there are no deferred taxes related to the
8 2024 and 2025 EWR program costs. The cumulative deferred tax component on
9 Line 14 of Exhibit A-25, is derived by applying the appropriate annual tax rate to
10 the accumulated difference between the amount deducted for tax purposes and the
11 book amortization.
12
13 **Q12. Does the Tax Cuts and Jobs Act (TCJA) regulatory liability have an impact**
14 **on DTE's 2024 – 2025 EWR plan filing?**
15 A12. Yes. For DTE Electric, the TCJA regulatory liability related to EWR Program costs
16 is a component of total deferred taxes on Exhibit A-24, line 28.
17
18 For DTE Gas, EWR Program costs were treated as O&M for book and tax purposes
19 through 2019. As a result, there were no deferred taxes related to EWR Program
20 costs on December 31, 2017, that needed to be re-measured, and, therefore, no
21 corresponding TCJA regulatory liability was established within the DTE Gas EWR
22 Program.
23

Line No.

1 **Q13. Is the overall methodology for amortizing the TCJA regulatory liability for**
2 **excess deferred taxes related to DTE Electric consistent with prior**
3 **Commission orders?**
4 A13. Yes. Amortization started in May 2019 and continues to follow the same overall
5 methodology approved in DTE Electric's Case No. U-20162.

6 **Q14. Is the amortization of the TCJA regulatory liability reflected as a reduction to**
7 **DTE Electric's EWR program over/(under)-recovery for this filing?**
8 A14. Yes. The amortization of the TCJA regulatory liability is reflected as a reduction
9 to the EWR program over/(under) cost recovery on Witness Maroun's Exhibit A-
10 26, line 7. Since the amortization of the TCJA regulatory liability is post tax
11 adjustments, in order to include it in the pre-tax EWR program over/(under) cost
12 recovery, it must be grossed up (increased) for taxes.
13
14 **Q15. Does this complete your direct testimony?**
15 A15. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

REEMA A. BIEL

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Deferred Taxes - Electric
($)

Case No.: U-21322
Exhibit: A-24
Witness: R.A. Biel
Page: 1 of 1

Line No.	(a) Description	(b) 2022	(c) 2023	(d) 2024	(e) 2025	(f) Source
1	**Residential**					
2	Federal Tax Deduction 1/	-	-	-	-	Exhibit A-29 p. 1 Line 15
3	Book Expense (Amortization)	-	-	-	-	Exhibit A-29 p. 1 Line 27
4	Annual Timing Difference	-	-	-	-	Line 2 - Line 3
5	Cumulative Timing Difference	-	-	-	-	Cumul. Line 4
6	Deferred Tax Rate	25.90%	25.90%	25.90%	25.90%	Exhibit A-31
7	Cumul. Deferred Tax Asset/(Liab.)	-	-	-	-	Line 5 x Line 6
8	**Commercial and Industrial - Secondary**					
9	Federal Tax Deduction 1/	-	-	-	-	Exhibit A-29 p. 2 Line 15
10	Book Expense (Amortization)	7,070,731	10,474,965	5,294,071	3,765,317	Exhibit A-29 p. 2 Line 27
11	Annual Timing Difference	(7,070,731)	(10,474,965)	(5,294,071)	(3,765,317)	Line 9 - Line 10
12	Cumulative Timing Difference	20,864,641	10,389,676	5,095,604	1,330,287	Cumul. Line 11
13	Deferred Tax Rate	25.90%	25.90%	25.90%	25.90%	Exhibit A-31
14	Cumul. Deferred Tax Asset/(Liab.)	(5,403,942)	(2,690,926)	(1,319,762)	(344,544)	Line 12 x Line 13
15	Deferred Tax Liability Adjustment 2/					Manual Input
16	TCJA Regulatory Liability - C&I Secondary 3/	(1,528,190)	(1,380,598)	(1,233,007)	(1,085,415)	Calculated
17	C&I Secondary DTL & TCJA Regulatory Liability	(6,932,132)	(4,071,524)	(2,552,768)	(1,429,959)	Line 14 + 16
18	**Commercial and Industrial - Primary**					
19	Federal Tax Deduction 1/	-	-	-	-	Exhibit A-29 p. 3 Line 15
20	Book Expense (Amortization)	13,555,588	7,569,640	9,372,834	6,156,394	Exhibit A-29 p. 3 Line 27
21	Annual Timing Difference	(13,555,588)	(7,569,640)	(9,372,834)	(6,156,394)	Line 19 - Line 20
22	Cumulative Timing Difference	24,878,891	17,309,250	7,936,416	1,780,022	Cumul. Line 21
23	Deferred Tax Rate	25.90%	25.90%	25.90%	25.90%	Exhibit A-31
24	Cumul. Deferred Tax Asset/(Liab.)	(6,443,633)	(4,483,096)	(2,055,532)	(461,026)	Line 22 x Line 23
25	Deferred Tax Liability Adjustment 2/					Manual Input
26	TCJA Regulatory Liability - C&I Primary 3/	(1,151,867)	(1,040,620)	(929,374)	(818,127)	Calculated
27	C&I Primary DTL & TCJA Regulatory Liability	(7,595,500)	(5,523,716)	(2,984,905)	(1,279,153)	Line 24 + 26
28	Total DTL & TCJA Regulatory Liability	(14,527,632)	(9,595,241)	(5,537,674)	(2,709,112)	Line 7 + 16 + 25

Notes:
1/ For tax purposes program costs are 100% expensed.
2/ Deferred Tax Liability Adjustment to agree to Previously Filed Reconciliations
3/ TCJA Amortization was updated to reflect the methodology and amortization period approved in U-20162 Order recevied in May 2019

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Deferred Taxes - Gas
($)

Case No.: U-21322
Exhibit: A-25
Witness: R.A. Biel
Page: 1 of 1

Line No.	(a) Description	(b) 2022	(c) 2023	(d) 2024	(e) 2025	(f) Source
1	**Residential**					
2	Federal Tax Deduction	-	-	-	-	
3	Book Expense (Amortization)	-	-	-	-	
4	Annual Timing Difference	-	-	-	-	Line 2 - Line 3
5	Cumulative Timing Difference	-	-	-	-	Cumul. Line 4
6	Deferred Tax Rate	26.20%	26.20%	26.20%	26.20%	Exhibit A-32
7	Cumul. Deferred Tax Asset/(Liab.)	-	-	-	-	Line 5 x Line 6
8	**Commercial and Industrial/End User Transporation**					
9	Federal Tax Deduction	-	-	-	-	Exhibit A-30 p. 1 Line 12
10	Book Expense (Amortization)	1,005,617	1,663,676	1,005,617	652,948	Exhibit A-30 p. 1 Line 20
11	Annual Timing Difference	(1,005,617)	(1,663,676)	(1,005,617)	(652,948)	Line 9 - Line 10
12	Cumulative Timing Difference	3,472,381	1,808,705	803,088	150,140	Cumul. Line 11
13	Deferred Tax Rate	26.20%	26.20%	26.20%	26.20%	Exhibit A-32
14	Cumul. Deferred Tax Asset/(Liab.)	(909,764)	(473,881)	(210,409)	(39,337)	Line 12 x Line 13
15	Total Deferred Tax Liability	(909,764)	(473,881)	(210,409)	(39,337)	Line 7 + Line 14

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

GEORGE H. CHAPEL

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF GEORGE H. CHAPEL

Line No.

1 **Q1. What is your name, business address and by whom are you employed?**

2 A1. My name is George H. Chapel. My business address is One Energy Plaza, Detroit,
3 Michigan 48226. I am employed by DTE Gas Company (DTE Gas or Company).
4

5 **Q2. On whose behalf are you testifying?**

6 A2. I am testifying on behalf of DTE Gas Company (DTE Gas or the Company).
7

8 **Q3. What is your educational background?**

9 A3. In December 1985, I earned a Bachelor of Science degree from Central Michigan
10 University with a major in mathematics. In addition, I have attended numerous
11 industry conferences focusing on natural gas demand forecasting, sharing
12 knowledge and expertise with a nationwide range of industry peers.
13

14 **Q4. What is your business experience?**

15 A4. In April 1988, I was hired by Michigan Gas Company (MiGas) as a Rates and Gas
16 Supply Analyst where I performed various duties of increasing responsibility
17 arising out of the regulation of MiGas as a public utility. In 1993, the assets of
18 MiGas were rolled in with those of affiliate Southeastern Michigan Gas Company
19 and Battle Creek Gas Company. These companies were combined to form what is
20 known today as SEMCO Energy Gas Company (SEMCO). My duties with
21 SEMCO included demand forecasting, supply planning, supply purchasing,
22 nominating, and pipeline capacity management.
23

24 In May 1998, I was hired by the Company as a Gas Supply Analyst. My duties in
25 that capacity included supply purchasing and market analysis. In October 2000, I

Line No.

was promoted to Manager, Gas Supply. I assumed my current position on January 1, 2003.

Q5. What is your current position?

A5. My current position is Manager, Market Forecasting.

Q6. What are your responsibilities with DTE Gas as Manager, Market Forecasting?

A6. I am responsible for projecting the Company's rate schedule customer growth/decline, natural gas supply demand, as well as review and analysis of the natural gas market.

Q7. Have you previously provided testimony before the Michigan Public Service Commission (MPSC or Commission)?

A7. Yes. I sponsored testimony on behalf of SEMCO and its subsidiaries in a variety of cases before the Commission. These cases included two general rate cases, two Michigan Residential Conservation Surcharge cases, and several Gas Cost Reconciliation ("GCR") Plan and Reconciliation proceedings. I have also provided testimony in numerous regulatory proceedings for DTE Gas including GCR Plan and Reconciliation proceedings, EWR cases, as well as each of the Company's general rate cases over the past twenty years. My experience as a GCR and rate case witness began with SEMCO in 1990 and has continued with little interruption to the present day for DTE Gas.

Line No.

1 **Purpose of Testimony**

2 **Q8. What is the purpose of your testimony?**

3 A8. The purpose of my testimony is to describe DTE Gas's natural gas sales market
4 forecast for the Energy Waste Reduction (EWR) plan period of 2024-2025. This
5 testimony will lay out DTE Gas's demand forecast for 2024-2025 and show how
6 that demand is changing over time.

7

8 **Q9. Are you sponsoring any exhibits in this proceeding?**

9 A9. Yes. I am supporting the following exhibits:

Exhibit	Description
A-19	Market Outlook – 2024-2025 Weather Normalized Sales by Rate Class without EWR Program
A-20	Market Outlook – 2024-2025 Weather Normalized Sales by Rate Class with EWR Program
A-21	Market Outlook –2024-2025 Projected Average Number of Customers
A-22	Rate Schedule Historical Volume Normalization
A-23	End User Transportation Historical Volume Normalization

19

20 **Q10. Were these exhibits prepared by you or under your direction?**

21 A10. Yes, they were.

22

23 **MARKET OUTLOOK**

24 **Q11. What is DTE Gas's natural gas sales forecast for the 2023 through 2025**
25 **planning period?**

Line No.

1 A11. For calendar year 2023, I am forecasting pre-EWR program rate schedule sales
2 volumes of 160, 275 MMcf for DTE Gas's rate schedule sales customers (Exhibit
3 A-19, page 1 of 1, column (d), line 11). For calendar year 2024, pre-EWR program
4 rate schedule sales volumes are projected to be 162,317 MMcf (Exhibit A-19, page
5 1 of 1, column (e), line 11). Finally, for calendar year 2025, pre-EWR program rate
6 schedule sales volumes are projected to be 162,707 MMcf (Exhibit A-19, page 1 of
7 1, column (f), line 11). Rate schedule sales customers include Gas Cost Recovery
8 (GCR), Gas Customer Choice (GCC), and aggregate customers.
9
10 Pre-EWR forecasted volumes for DTE Gas's End-Use Transportation (EUT)
11 customers are 36,942 MMcf for 2023 (Exhibit A-19, page 1 of 1, column (d), line
12 17), 37,603 MMcf for 2024 (Exhibit A-19, page 1 of 1, column (e), line 17), and
13 38,009 MMcf for 2025 (Exhibit A-19, page 1 of 1, column (f), line 17).
14
15 **Q12. What are DTE Gas's current assumptions concerning expected pre-EWR**
16 **consumption from its rate schedule customers?**
17 A12. In this plan, DTE Gas has assumed that normal pre-EWR GCR/GCC customer
18 consumption behavior will closely resemble that shown in the most recently
19 completed 24-months ended July 2022.
20
21 **Q13. What are DTE Gas's projected targeted savings from the EWR program from**
22 **2023 through 2025?**
23 A13. On Exhibit A-19, page 1 of 1, line 23, I have projected cumulative demand
24 reductions due to the EWR program as follows: 3,695 MMcf in 2023, 5,699 MMcf

Line No.

1 in 2024, and 7,661 MMcf in 2025. Note that these savings are cumulative through
2 2025.
3
4 **Q14. What is DTE Gas's forecasted sales including the targeted savings from the**
5 **EWR program from 2023 through 2025?**
6 A14. Please see Exhibit A-20, page 1 of 1. For the rate schedule classes, the targeted
7 savings from Exhibit A-19, page 1 of 1, line 21 are allocated among the rate
8 schedule rate classes. Forecasted sales including the EWR targeted savings are
9 identified by year and by rate class on lines 1 through 11.
10
11 For the EUT classes, the targeted savings from Exhibit A-19, page 1 of 1, line 22
12 are allocated amongst the ST and LT classes of EUT customers. Forecasted sales
13 including the EWR targeted savings are identified by year and by rate class on
14 Exhibit A-20 lines 12 through 17.
15
16 **Q15. How are the EUT targeted savings calculated?**
17 A15. EUT targeted savings are calculated as a 1% volume reduction against ST and LT
18 volumes. Larger EUT rate classes (XLT and XXLT) are excluded as they would
19 significantly increase the annual energy savings target and provide only a small
20 number of customers unlikely to participate in the program since their volume is
21 primarily used for electric generation.
22
23 **Q16. What is your projection for average number of natural gas customers from**
24 **2023 through 2025?**

Line No.

1 A16. As reflected on Exhibit A-21, column (c), line 18, I project approximately 1.33
2 million total natural gas rate schedule customers (mean average) during 2023. This
3 number is expected to increase to approximately 1.34 million customers by 2024,
4 as shown in column (d), line 18, and finally, to 1.35 million customers by 2025.
5
6 **RESIDENTIAL SINGLE-FAMILY RATE SCHEDULE SALES MARKET**
7 **Q17. How did you develop the forecast for the single-family residential rate**
8 **schedule sales market, including both GCR and GCC customers?**
9 A17. Single family residential rate schedule customers are those customers identified as
10 Rate A. There are two key elements used in projecting volumes in the residential
11 rate schedule sales market. The first element is the forecast of the number of
12 customers, by month, in the seven different geographical market areas that DTE
13 Gas serves. DTE Gas's seven different service regions are as follows: Detroit/Ann
14 Arbor, Grand Rapids, Muskegon, Traverse City, Alpena, Sault Ste. Marie, and Iron
15 Mountain.
16
17 The second element is an analysis of the usage per customer per heating degree day
18 (HDD) at varying degrees of intensity. In this case, the Company is proposing to
19 use a three-step linear model that was developed for all rate classes to forecast usage
20 per HDD.
21
22 The combination of customer count and three-step linear heat load factors for each
23 respective market area yields the most accurate residential rate schedule sales
24 market forecast.

Line No.

1 **Q18. What is a Heating Degree Day?**

2 A18. A Heating Degree Day is a measure of how temperature relates to energy usage for
3 heating purposes; HDDs give an indication of a customer's likelihood of using their
4 furnace to heat their home or facility. Basically, the greater the number of HDDs,
5 the greater the heating demand. Mathematically, HDDs are defined as the greater
6 of A) 65 minus the average of the daily high and low temperature (in degrees
7 Fahrenheit), or B) zero. HDDs never have a negative value.

8

9 For instance, if the daily high temperature is 30 degrees and the daily low
10 temperature is 20 degrees, then the daily average temperature is 25 degrees. The
11 HDDs for that day then, are: 65 – 25 = 40 HDDs. If, on the other hand, the daily
12 high temperature is 90 degrees and the daily low temperature is 70 degrees, then the
13 daily average temperature is 80 degrees. The HDDs for that day then, are: 0, since
14 65 – 80 results in a negative value.

15

16 **Q19. How did you develop the forecast of the number of residential customers,**
17 **including both GCR and GCC?**

18 A19. A forecast of the number of customers by class, by month, is prepared using a recent
19 three-year historical average growth/loss rate calculated for each of DTE Gas's
20 seven demand regions. For this forecast, the historical three-year period was 36
21 months ended July 2022. The seven demand regions are: Detroit/Ann Arbor, Grand
22 Rapids, Muskegon, Traverse City, Alpena, Sault Ste. Marie, and Iron Mountain.
23 Once this regional forecast is developed, incremental customer growth and losses
24 are projected. Forecasted customer change is developed through a combination of
25 projected attachments and the 12-month historical look-back of net non-attachment

customer change to the growth/loss rate. Projected attachments are provided by the Company's Marketing Department and is their assessment of how many new customers the Company expects to attach through marketing efforts in expanding areas.

MULTI-FAMILY RESIDENTIAL, COMMERCIAL, & INDUSTRIAL MARKETS

Q20. How did you develop the forecast for multi-family residential, commercial, and industrial markets, including GCR, GCC, and Aggregate customers?

A20. The methodology used for forecasting volumes in the multi-family residential (Rate 2A), commercial (GS-1, GS-2), and industrial (GS-1, GS-2) rate schedule markets is essentially the same as that used for the single family residential market (Rate A). The process involves forecasting the number of customers for each year and calculating the average base load and usage per HDD per customer. As reflected on Exhibit A-20, page 1 of 1, line 10, with the inclusion of EWR targeted savings, I am projecting a change in multi-family residential, commercial, and industrial volumes from 45,253 MMcf in 2023 (column c) to 45,268 MMcf in 2024 (column d).

WEATHER NORMAL PERIOD

Q21. What is weather normalization and how is it used?

A21. Weather normalization is a technique that estimates what usage would be from a prior period had normal weather occurred. It adjusts actual volumes from past periods to eliminate the impact of non-normal weather on the data during that time. Weather normalized data is then used as a component to forecast future volumes.

Line No.

To calculate the forecasted volumes in this EWR Plan, the Company used a 15-year historical weather-normalized period as a factor.

Q22. What 15-year period is DTE Gas using in this plan?

A22. DTE Gas is calculating 15-year weather based upon weather from what the Company experienced during the 15-year period, 2008 to 2022.

Q23. Why is DTE Gas proposing to utilize 15-year normal to project forecasted demand requirements in this case?

A23. Consistent with the Commission Order in Case No. U-15985, DTE Gas utilizes the most recent calendar 15-year weather for its normal weather period in all regulatory filings.

Q24. Why is the weather normalization period important?

A24. Weather is one of the primary determinants of natural gas demand. If the Company can project Heating Degree Days more accurately, then it can more accurately project demand on its system. Accurate projections lead to optimal planning, which in turn reduces the gas costs DTE Gas will need to recover from its customers.

HISTORICAL YEAR WEATHER NORMALIZATION

Q25. How are historical years weather normalized?

A25. Please see Exhibits A-22 and A-23. These exhibits display the weather normalization for rate schedule customers for calendar year 2022 (Exhibit A-22) and for normalized deliveries to EUT customers (Exhibit A-23). Rate schedule normalization is done on Exhibit A-22 collectively for 1) single family residential

Line No.

customers (residential) and for 2) multi-family, commercial, and industrial customers (non-residential).

The rate schedule normalization technique is the same for both residential and non-residential. The monthly volumes are normalized by adjusting actual sales given the actual HDDs experienced juxtaposed with normal HDDs. The calendar year 2022 was colder-than-normal with respect to HDDs. Normalized sales for 2022, then, are less than actual sales.

Q26. What was the 2022 weather normalized consumption for DTE Gas's EUT customers?

A26. The normalized consumption for DTE Gas's EUT customers is summarized on Exhibit A-23, page 1 of 1, column (b). The 2022 weather normalized EUT volumes was actual billed consumption, adjusted for estimated normal weather.

Q27. Does this complete your direct testimony?

A27. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

GEORGE H. CHAPEL

Michigan Public Service Commission
DTE Electric Company and DTE Gas Company
DTE Gas Company
Market Outlook – Weather Normalized Sales by Rate Class without EWR Program-Gas
Weather Normalized Sales by Rate Class without EWR Program
Volumes in MMcf

Case No.: U-21322
Exhibit No.: A-19
Witness: G.H. Chapel
Page No.: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)
Line	**Description**	**Source**	**2022 (WN)**	**2023**	**2024**	**2025**
	Pre-EWR Forecast - Rate Schedule					
1	Residential - Rate A		1,116	1,095	1,099	1,091
2	Residential - Rate A Heat		113,708	112,962	114,517	114,923
3	**Single Family Residential Total**	Line 1 + Line 2	**114,825**	**114,057**	**115,616**	**116,014**
4	Rate 2A - Meter I (Multi-Family)		297	314	325	333
5	Rate 2A - Meter II (Multi-Family)		3,976	3,967	3,960	3,916
6	Rate GS-1		2,840	2,698	2,710	2,697
7	Rate GS-1 Heat		37,996	36,687	37,045	37,011
8	Rate GS-2		1,110	909	1,006	1,093
9	Rate S		1,678	1,645	1,655	1,643
10	**Multi-Fam Res/Com/Ind Total**	Sum of L5 through L9	**47,897**	**46,219**	**46,701**	**46,693**
11	**Rate Schedule Total**	Line 3 + Line 10	**162,722**	**160,275**	**162,317**	**162,707**
	Pre-EWR Forecast - End User Transport (EUT)					
12	ST		16,964	17,354	17,598	17,820
13	LT		21,696	19,589	20,005	20,189
14	XLT		30,985	29,371	29,371	29,371
15	XXLT		26,020	81,330	81,330	81,330
16	SC		59,801	0	0	0
17	**EUT Demand Total**	Sum of L12 through L16	**38,661**	**36,942**	**37,603**	**38,009**
18						
19	EUT Volume Subject to EWR	Line 12 + Line 13		**36,942**	**37,603**	**38,009**
20	**Total volumes in MMcf prior to EWR impact**	Line 11 + Line 19		**197,218**	**199,920**	**200,716**
	Projected Savings					
21	Rate Schedule Volume Savings Projection		1,644	3,348	4,980	6,569
22	EUT Volume Savings Projection		391	346	719	1,092
23	**Volume Savings Projection Total**	Line 21 + Line 22	2,034	3,695	5,699	7,661
24	Volumes for calculating the Legislative Savings Targets			**193,523**	**194,221**	**193,055**
	Notes:					
	(1) Weather Normalized			193,523	194,221	200,716

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Market Outlook – Weather Normalized Sales by Rate Class with EWR Program-Gas
Weather Normalized Sales by Rate Class with EWR Program
Volumes in MMcf

Case No.: U-21322
Exhibit No.: A-20
Witness: G.H. Chapel
Page No.: 1 of 1

	(a)	(b)	(c)	(d)	(e)
Line No.	**Description**	**Source**	**2023**	**2024**	**2025**
	Forecast w/ EWR - Rate Schedule				
1	Residential - Rate A		1,072	1,065	1,047
2	Residential - Rate A Heat		110,602	111,004	110,283
3	**Single Family Residential - Total**	Line 1 + Line 2	**111,674**	**112,069**	**111,330**
4	Rate 2A - Meter I (Multi-Family)		307	315	319
5	Rate 2A - Meter II (Multi-Family)		3,884	3,839	3,758
6	Rate GS-1		2,642	2,627	2,588
7	Rate GS-1 Heat		35,920	35,908	35,516
8	Rate GS-2		890	975	1,049
9	Rate S		1,610	1,604	1,577
10	**Multi-Fam Res/Com/Ind - Total**	Sum of L4 through L9	**45,253**	**45,268**	**44,808**
11	**Rate Schedule Total**	Line 3 + Line 10	**156,927**	**157,337**	**156,138**
	Forecast w/ EWR - End User Transport (EUT)				
12	ST		17,169	17,214	17,238
13	LT		19,427	19,670	19,679
14	XLT		40,944	41,469	40,920
15	XXLT		60,099	57,527	60,627
16	SC		10,741	9,060	10,138
17	**EUT Demand Total**	Sum of L12 through L16	**148,380**	**144,940**	**148,602**
18					
19	EUT volumes subject to EWR inc. EWR impact	Exhibit A-16, p1, L20 - Exhibit A-16, p1 L23	**36,596**	**36,884**	**36,917**
20	**Total volumes in MMcf after EWR impact (1)**	Line 11 + Line 19	**193,523**	**194,221**	**193,055**

Notes:
(1) Line 20 represents the total volumes in MMcf used in calculating the legislative energy savings targets within Witness Bilyeu's testimony.

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Market Outlook – Projected Average Number of Customers-Gas
Projected Average Number of Customers

Case No.: U-21322
Exhibit No.: A-21
Witness: G.H. Chapel
Page No.: 1 of 1

	(a)	(b)	(c)	(d)	(e)
Line	**Description**	**Source**	**2023**	**2024**	**2025**
	Forecast - Rate Schedule				
1	Residential - Rate A		18,068	18,035	18,002
2	Residential - Rate A Heat		1,212,054	1,222,604	1,233,916
3	**Single Family Residential - Total**	Line 1 + Line 2	**1,230,122**	**1,240,639**	**1,251,917**
4	Rate 2A - Meter I (Multi-Family)		1,431	1,475	1,519
5	Rate 2A - Meter II (Multi-Family)		4,985	4,960	4,935
6	Rate GS-1		4,918	4,907	4,896
7	Rate GS-1 Heat		86,512	86,843	87,260
8	Rate GS-2 Heat		64	69	74
9	Rate S		229	229	229
10	**Multi-Fam Res/Com/Ind - Total**	Sum of Lines L4 through L9	**98,138**	**98,482**	**98,912**
11	**Rate Schedule Total**	Line 3 + Line 10	**1,328,261**	**1,339,121**	**1,350,829**
	Forecast - End User Transport (EUT)				
12	ST		435	436	436
13	LT		88	88	88
14	XLT		22	22	22
15	XXLT		4	4	4
16	SC		1	1	1
17	**EUT Forecasted Customers Total**	Sum of Lines L12 through L16	**550**	**551**	**551**
18	**Customer Count Total**	Line 11 + Line 17	**1,328,811**	**1,339,672**	**1,351,380**

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Rate Schedule Historical Volume Normalization-Gas

Case No.: U-21322
Exhibit No.: A-22
Witness: G.H. Chapel
Page No.: 1 of 1

Weather Normalized Sales by Rate Class

Volumes in MMcf

MMcf @ 14.65

Line No.	(a) Description	(b) Source	(c) Annual 2022
1	A (R)		1,116
2	A (RH)		113,708
3			
4			
5	Total Single Family Res	Line 1 + Line 2	114,825
6			
7			
8	GS-1 (C)		2,079
9	GS-1 (CH)		37,996
10	GS-1 (I)		760
11	2A (R)		297
12	2A (RH)		3,976
13	GS-2 (C)		127
14	GS-2 (CH)		818
15	GS-2 (I)		164
16	S (CH)		1,678
17			
18	Total 2A, Com, & Ind	Sum of L8 through L16	47,897

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
End User Transportation Historical Volume Normalization-Gas

Case No.: U-21322
Exhibit No.: A-23
Witness: G.H. Chapel
Page No.: 1 of 1

Volumes in MMcf

Line No.	(a) 2022 Total Consumption	(b) TOTAL
1	**ST**	**17,214**
2	**LT**	**19,670**
3	**XLT**	**41,469**
4	**XXLT**	**57,527**
5	**SC**	**9,060**
6	**TOTAL**	**144,940**

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

JOSE N. GONCALVES

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF JOSE N. GONCALVES

Line No.

Q1. What is your name, business address and by whom are you employed?

A1. My name is Jose N. Goncalves (he/him/his). My business address is: One Energy Plaza, Detroit, MI 48226. I am employed by DTE Electric Company within the Business Planning and Development department; my title is Manager Residential Programs, Income Qualified and Education, Energy Waste Reduction (EWR).

Q2. On whose behalf are you testifying?

A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas Company (DTE Gas) (collectively, DTE).

Q3. What is your educational and work background?

A3. I graduated from Central Michigan University with a Bachelor of Science in Biology in 2007. In 2010, I graduated from The College of Charleston with a Master of Science in Environmental Studies. Prior to my employment with DTE Electric, I worked for ICF International from 2011 to 2017 in various and increasing roles from field analyst to Program Manager responsible for implementing several EWR programs including residential HVAC and Audit & Weatherization. Since joining DTE Electric, I have taken on different roles from Principal Marketing Specialist, Principal Supervisor and Manager within the EWR organization.

Q4. What are your current job responsibilities?

A4. As Manager of the Residential, Income Qualified and Education Energy Waste Reduction (EWR) programs, I am responsible for developing residential electric and gas product offerings that support DTE's overall energy efficiency program

Line No.

1 strategies. I am also responsible for promoting education and awareness regarding
2 the programs to our customer base.
3
4 **Q5. Are you a member of any professional organizations?**
5 A5. I am a member of the Association of Energy Services Professionals (AESP). AESP
6 is an organization that provides professional development programs, a network of
7 energy practitioners, and promotes the transfer of knowledge and experience to
8 promote energy efficiency programs. I am also a current member of the
9 Consortium for Energy Efficiency (CEE) serving on the Gas Topic and HVAC
10 committees. CEE is the United States and Canadian consortium of gas and electric
11 efficiency program administrators whose goal is to accelerate the development and
12 availability of energy-efficient products and services.
13
14 **Q6. Have you previously testified before the Michigan Public Service Commission**
15 **(MPSC or Commission)?**
16 A6. Yes. I provided testimony in the following cases:
17 U-20866 2020 DTE Electric EWR Reconciliation
18 U- 20871 2020 DTE Gas EWR Reconciliation

1 **Purpose of Testimony**

2 **Q7. What is the purpose of your testimony?**

3 A7. The purpose of my testimony in this 2024-2025 EWR Plan filing is to:

4 1) Provide an overview of DTE's residential EWR programs planned for the
5 period 2024-2025.

6 2) Describe program adjustments between the 2024-2025 EWR Plan and the
7 currently approved 2022-2023 EWR Plan (Case No. U-20876 and Case No. U-
8 20881).

9 3) Provide an updated program description for each of the residential programs.
10 Each program description highlights the target markets, eligible measures,
11 implementation, and marketing strategies, estimated participation, and an
12 estimated program budget and respective energy savings for the 2024-2025
13 EWR Plan period.

14 4) Describe the methodology used to establish a balanced residential portfolio with
15 an estimated budget and projected energy savings.

16 5) Provide an overview of the education and awareness program.

17

18 **Q8. Are you sponsoring any exhibits in this proceeding?**

19 A8. Yes. I am supporting the following exhibits:

20

21 | Exhibit | Description |
|---|---|
22 | A-14 | Residential and Education Portfolio, Program Descriptions, Measures
23 | | and Incentives |

24

25

Line No.

1 **Q9. Were these exhibits prepared by you or under your direction?**

2 A9. Yes, they were.

3

4 **Q10. What is DTE's objective in developing programs for its residential customers?**

5 A10. The objective of DTE's residential programs is to continue to build customer
6 awareness regarding the benefits of energy efficiency, to encourage customers to
7 participate in the various EWR offerings and services and make long-term
8 commitments to reduce their energy usage. These objectives are accomplished
9 through education and by offering a diverse portfolio of programs to create value
10 for customers through a range of participation options.

11

12 **Q11. Does DTE plan to make any program adjustments from the currently**
13 **approved 2022-2023 EWR plan?**

14 A11. Yes. DTE will continue to offer residential programs similar to those currently
15 being delivered as approved in the 2022-2023 EWR Plan and proposes to make a
16 few program modifications to refine and adjust programs in response to market
17 conditions, efficiency standards, and technology changes.

18 1. DTE will consolidate residential home products into a singular Residential
19 Building Envelope (RBE) program to simplify energy efficient offerings and
20 products for customers.

21 2. DTE will begin offering incentives for major home renovations. Major
22 renovations defined as homes undergoing a renovation on 50% or more of the
23 building. This is in addition to incentives already offered for new homes and
24 follows the same design and objective of incentivizing high-efficiency products

Line No.

and solutions from a whole home perspective early in the process to drive deeper and longer impacting energy savings.

3. Incorporation of comprehensive energy assessments in the Energy Efficiency Assistance (EEA) Income Qualified Program. Introduced in 2022, the program's capacity to conduct energy assessments is a new focus of the EWR plan for 2024-2025.
4. Sunsetting of windows and most LED lamps through retail channel. This modification comes as a result from years of successful EWR programs in driving efficient product adoption.
5. Schools program to expand its offering and incorporate a similar offering for senior citizens through education campaigns and energy efficiency measures at senior citizen centers.

More information around these modifications can be found in my Exhibit A-14

Q12. What is DTE's approach to provide program offerings for its residential customers?

A12. DTE's approach is to maintain a balanced portfolio by offering energy efficiency programs to all residential customers while including a broad array of technologies that may appeal to various customers. DTE will offer the following program elements:

1) Incentives for single family homeowners to purchase low-cost measures such as specialty LEDs, thermostats, qualified energy-efficient appliances, air conditioning equipment, and consumer electronics;

Line No.

2) Incentives for single family homeowners to retire old, working and inefficient appliances (refrigerators, freezers, etc.) that represent some of the highest loads and consumption levels in the home;
3) Incentives for single family homeowners for installing energy-efficient heating and cooling equipment;
4) Incentives for single family homeowners for weatherization and insulation measures that reduce energy consumption for both heating and cooling;
5) Incentives for energy-efficient heating and cooling equipment, weatherization and insulation measures and low-cost energy-efficient products to customers residing in multifamily complexes;
6) Home assessments to educate customers on their home's needs and the benefits of undertaking energy efficiency upgrades as a whole home approach;
7) Comprehensive measures and service offerings to DTE's Income-Qualified customers through coordination with multiple partners (including multifamily complexes);
8) Energy efficiency education and distribution of kits provided through schools;
9) Home energy reports that provide customer's usage comparison and tips to become more energy-efficient through behavioral changes;
10) Incentives to build and renovate homes beyond existing building codes to be more energy-efficient; and
11) New emerging measures and approaches program offerings to be identified through the Company's pilot efforts.

Line No.

1 **Q13. What is the overall portfolio of programs DTE plans to offer its residential**
2 **customers?**
3 A13. DTE is planning to offer a variety of residential programs, as highlighted below
4 and described in more detail in my Exhibit A-14, titled "Residential Portfolio,
5 Program Descriptions, Measures and Incentives, and Education":
6 - Appliance Recycling
7 - Residential Building Envelope Program
8 - ENERGY STAR® Appliances at retail
9 - Online Marketplace
10 - Heating Ventilation Air Conditioning (HVAC)
11 - Audit & Weatherization
12 - New Homes and Major Renovations
13 - Multifamily
14 - Multifamily Strategic Energy Management
15 - Schools
16 - Home Energy Report
17 - Emerging Measures and Approaches
18 - Income Qualified Energy Efficiency Assistance (EEA)
19 - Income Qualified Multifamily
20
21 **Q14. What is DTE's Appliance Recycling Program?**
22 A14. The Appliance Recycling Program (ARP) is designed to decrease the number of
23 working, yet inefficient primary and secondary refrigerators, freezers, room air
24 conditioners, dehumidifiers, small refrigerators, and small freezers in the residential
25 market. ARP focuses on producing cost-effective, long-term annual energy savings

Line No.

by educating customers on how much energy these inefficient appliances use and provide instant rebates to encourage customers to dispose of their inefficient primary and secondary appliances in an environmentally safe manner. See Exhibit A-14 for additional details on ARP.

Q15. What is DTE's Residential Building Envelope (RBE) Program?

A15. The Residential Building Envelope (RBE) Program is designed to continue providing residential customers with a wide variety of energy efficient measures and delivery channels encompassing several program elements under a singular platform. The structure of the RBE program reflects an evolution in residential offerings to align with current and upcoming market conditions, combining home product offerings into a single program. The program consists of five elements that have historically been implemented as singular programs, or elements of a program.

1. ENERGY STAR® Appliances - DTE will continue to increase market share of qualified products sold through retail sale channels by providing primarily upstream incentives to manufacturers to decrease customer costs, provide information and education to increase consumer awareness and acceptance of energy-efficient technologies. Eligible measures will mainly include appliances as the market for standard lamps has been transformed and DTE will no longer offer incentives for residential lighting measures at retail. DTE will continue to offer customer rebates on energy-efficient appliances, such as ENERGY STAR® room air conditioners, clothes washers, pool pumps, dehumidifiers, air purifiers and advanced power strips as well as consumer electronics products.

Line No.

1 DTE will also plan to offer customer rebates for insulation products sold
2 through retail channels.
3 2. Online Marketplace – DTE will continue to offer customer rebates on qualified
4 products such as Wi-fi enabled thermostats, advanced power strips, air
5 purifiers, pipe insulation, weather stripping, low-flow shower heads and
6 aerators, through the DTE Marketplace.
7 3. HVAC and Insulation - DTE will continue to offer customer rebates for
8 qualified products through a network of participating distributors and
9 contractors. HVAC products such as high efficiency furnaces, high efficiency
10 boilers, water heaters, air conditioners, heat pumps, heat pump water heaters
11 and Wi-Fi enabled thermostats as well as insulation products such as attic, rim
12 joist, wall, basement wall, floor, knee wall and crawlspace insulation. DTE may
13 also elect to use midstream incentives to dealers and distributors to stock,
14 promote, and sell high-efficiency products and equipment.
15 4. Audit & Weatherization - DTE plans to offer home assessments to educate
16 customers on their home's needs and the benefits of undertaking energy
17 efficiency upgrades as a whole home approach. DTE plans to offer rebates for
18 comprehensive assessments with a Building Performance Institute (BPI)
19 certified auditor that perform diagnostics of the building envelope such as
20 blower door testing and infrared imaging.
21 5. New Homes Construction – DTE plans to continue leveraging a network of
22 participating builders and energy raters to drive energy-efficiency construction
23 of new homes and major renovations of existing homes. This will be achieved
24 by providing performance-based incentives and, prescriptive-based incentives
25 for measures like heat pumps. The network of participating builders and energy

Line No.

1 raters is a vital delivery channel for participation giving customers the
2 opportunity to increase the efficiency of the home from the building phase,
3 resulting in long-term benefits.
4
5 See Exhibit A-14 for additional measure and implementation details on the
6 Residential Building Envelope Program.
7
8 **Q16. What is DTE's Multifamily Program?**
9 A16. The Multifamily program is designed to generate energy savings to multifamily
10 dwellings with three or more units by installing energy efficient measures. The
11 program provides incentives for energy efficient measures, in-unit or in common
12 areas, to existing and for new construction of multifamily projects. As a
13 continuation of a shift in the programs implementation and marketing strategy from
14 years 2022 and 2023, the multifamily program plans to continue implementing a
15 deeper energy savings strategy that includes incentives for heat pump measures and
16 heat pump water heaters, and weatherization measures such as insulation and
17 reduction of air infiltration. See Exhibit A-14 for additional detail on the
18 implementation strategies, measures and incentives for the Multifamily Program.
19
20 **Q17. What is DTE's Multifamily Strategic Energy Management Program?**
21 A17. The Multifamily Strategic Energy Management (SEM) Program is designed to
22 generate savings to multifamily properties through educational tools and one-on-
23 one interactions that promote action around reducing energy, such as workshops,
24 one-on-one events, energy management coaching and measurement of energy

Line No.

1 savings. See Exhibit A-14 for additional measure and implementation details on
2 the Multifamily SEM Program.
3
4 **Q18. What is DTE's School Program?**
5 A18. The Schools Program is designed to provide energy education to students to
6 influence families' energy behaviors. The program targets students in 4th through
7 12th grades, who will be provided with education and a "take-home" energy
8 efficiency kit that (1) raises awareness about how individual actions impact usage,
9 and (2) provides low-cost products that can provide reductions in energy
10 consumption. All educational materials and take-home efficiency kits are offered
11 free of charge to the schools and their students. The Schools Program also plans to
12 expand and incorporate a similar offering for senior citizens through education
13 campaigns and energy efficiency measures at senior citizen centers. See Exhibit A-
14 14 for additional detail on the implementation strategies, measures and incentives
15 for the Schools Program.
16
17 **Q19. What is DTE's Home Energy Report Program?**
18 A19. The Home Energy Report (HER) program seeks to change customer behavior to
19 cause a reduction in energy usage through the delivery of home energy reports to
20 randomly selected customers. These reports display a comparison of usage to
21 similar homes and trend analysis of customer energy usage. It also provides specific
22 and relevant efficiency recommendations to these customers. This makes it easier
23 for each customer to act on the recommendations and to participate in programs
24 most relevant to them. See Exhibit A-14 for additional detail on HER Program.
25

Line No.

1 **Q20. What is DTE's Emerging Measures and Approaches Program?**

2 A20. The Emerging Measures and Approaches Program in the residential portfolio
3 encompasses measures and approaches that are mature or nearly mature from the
4 pilot phase of program development. As discussed by Company Witness Bilyeu,
5 the Emerging Measures and Approaches program provides a transition point from
6 pilots that have been successfully completed or are expected to be completed soon.
7 This transition will allow DTE the opportunity to create an entry point for
8 commercialization of measures, approaches and programs not included in the plan
9 and incorporated into the mainstream programs.
10

11 **Q21. What is DTE's Income-Qualified Program?**

12 A21. The Income-Qualified program is designed to reduce the energy use of the DTE's
13 Income-Qualified customers through improvements to their existing home at no
14 cost to them. The program is available for all income-qualified customers -
15 homeowners, renters, and multifamily building owners. The Income-Qualified
16 program will meet its objectives through the contribution of the following sub-
17 programs:
18

19 1) Energy Efficiency Assistance (EEA) – DTE will continue to work with its
20 many partners, including local Community Action Agencies, government
21 agencies and nonprofit organizations to help eligible customers make
22 energy-saving improvements to their existing homes at no cost.
23

24 2) Multifamily - DTE will target income-qualified multifamily properties and
25 provide services and measures for both in-unit and common area spaces. In-

Line No.

unit no cost measures will include measures that are offered in the non-income-qualified multifamily program as well as more impactful measures such as refrigerators. Additionally, DTE will continue to encourage deeper energy savings measures by working with property owners and incentivizing the installation of building envelope measures, namely insulation and air sealing. Enhanced service offerings include a Level 1 assessment for income-qualified multifamily property owners to successfully identify energy efficiency projects that would lower their energy use.

See Exhibit A-14 for additional details on the implementation strategies, including whole home assessments, measures and incentives for EEA and Multifamily programs.

Q22. Is DTE planning to encourage comprehensive energy efficient improvements through its Income Qualified Programs?

A22. Yes. The income qualified Energy Efficiency Assistance (EEA) Program plans to continue engaging partners on the benefits of improving homes as a system. The EEA Program will encourage energy assessments as the first step in identifying energy efficiency improvement needs of a home using Building Performance Institute's (BPI) standards and diagnostic tools (e.g., blower door testing). The EEA program introduced a whole home assessment component in the 2022 program year and will continue it in the 2024-2025 plan.

Line No.

1 The Multifamily Program also will continue engaging property owners, managers
2 and landlords on the benefits of building level improvements, including insulation
3 and air infiltration reduction.
4
5 **Q23. Does DTE plan to test different outreach and engagement strategies to**
6 **implement the EEA Program, such as a neighborhood approach?**
7 A23. Yes. The EEA Program is planning to continue the implementation of a
8 Neighborhood level approach in plan year 2024. This will be a continuation of the
9 neighborhood approach initiative started in 2022 through a series of surveys
10 conducted to understand customer needs and potential impacts from energy
11 efficiency. Though the community event component of the neighborhood approach
12 is scheduled to take place in Q2 of 2023, the subsequent implementation of the EEA
13 Program is expected to extend into plan year 2024. The implementation component
14 will include energy assessments and installation of energy efficiency measures,
15 including insulation, air sealing and HVAC among others. Due to product and
16 contractor availability restraints, DTE anticipates the installation of measures for
17 the customers participating in the neighborhood approach to go into 2024. Findings
18 from this approach will be considered when determining its viability as a program
19 delivery approach for future years.
20
21 **Q24. Is DTE planning to continue collaboration with other Company departments**
22 **to promote its EWR programs to income qualified customers?**
23 A24. Yes. DTE's EWR team will continue to collaborate with DTE's Revenue
24 Management and Protection department to target customers participating in rate

Line No.

assistance programs, such as the Low-Income Self-Sufficiency Plan (LSP) and Shutoff Protection Plan (SPP).

Q25. What is DTE's approach to Education Programs in the 2024-2025 EWR Plan?

A25. Exhibit A-14 provides an overview of Education Programs in the 2024-2025 EWR Plan. Education programs will be used to provide general education and awareness of EWR to DTE customers through targeted marketing efforts across digital, social, print, broadcast and other marketing channels as deemed appropriate. Education funding will not be used to promote specific EWR programs, but to generally educate customers on the benefits of energy efficiency and direct them towards resources to learn more about what they can do to manage their energy use, save money, and be more environmentally conscious. Education funding may also be used to support the growth and adoption of energy efficiency technologies and measures through education campaigns for participating contractors, community partners and other stakeholders or in support of workforce development initiatives.

Q26. Is DTE planning to carry forward its workforce development initiative into the 2024-2025 EWR Plan?

A26. Yes. DTE is planning to continue the workforce development and mentorship initiative, launched in 2022, through the Education Program with an emphasis on equity and inclusion to bolster participating trade contractor engagement and growth in the space of energy efficiency. The initiative includes two participation paths. First, the technical training is designed to educate and train individuals in Building Performance Institute's (BPI) Building Analyst (BA) curriculum with the goal of achieving certification. Healthy Home Evaluator (HHE) certification is also

Line No.

available and encouraged for participants. The BPI training is an 8-week course divided into classroom and on-the-job training. The training guides participants through the written and field exams to achieve full BA certification. Second, Business Incubator (Incubator) is designed to assist local and diverse contractors participate in DTE's EWR programs and build market capacity to serve customers with energy efficiency. The Incubator training is comprised of in-person workshops, one-on-one business coaching sessions to grow the company's capability and participation in DTE's EWR programs. The in-person training sessions for the Incubator last 8-10 weeks but is only one element of the seven-to-nine-month period of support the program provides to participating contractors. This design allows for direct connection and support, ensures completion of business assessment and growth plans and demonstrates the commitment in the contractor's success through participation in DTE's EWR programs.

Q27. Is DTE planning to carry forward its educational heat pump initiative into the 2024-2025 EWR Plan?

A27. Yes. DTE plans to continue the work started in 2022 with other utilities in the State of Michigan to build an educational initiative on heat pump technology in a collaborative manner. The Michigan Heat Pump Collaborative (MIHPC) was established with the goal of educating stakeholders on heat pump technology, products and installation best practices for heating, cooling, and water heating applications. DTE plans to continue its participation and investment in the 2024-2025 plan years.

Line No.

1

2 **Q28. Are DTE's proposed programs and investments sufficient to ensure the**
3 **achievement of the energy savings target?**

4 A28. Yes. Many programs contained in this filing have been operating since 2009 and
5 continue to demonstrate strong customer interest and participation which has
6 helped drive performance to achieve the energy savings target.

7

8 See Exhibits A-1 and A-2 in Witness Bilyeu's testimony for additional detail in
9 program budget and savings.

10

11 **Q29. Will DTE change its implementation approach in its 2024-2025 EWR Plan**
12 **from the currently approved 2022-2023 EWR Plan?**

13 A29. No. With respect to the existing programs currently offered under DTE's currently
14 approved 2022-2023 EWR Plan, many of the existing Implementation Contractors
15 (IC) contracts were extended through 2025. DTE will continue to deliver a variety
16 of programs by hiring Implementation Contractors to execute the plan as needed.

17

18 **Q30. What approach will DTE use to make changes to its residential portfolio**
19 **spending?**

20 A30. DTE will use the same process to make changes in its residential portfolio as in the
21 approved 2022-2023 EWR Plan. That process involves having the flexibility to
22 reallocate budgets between programs, adjust incentive levels, and add new and/or
23 related measures to the residential programs to respond quickly to market
24 conditions. For example, DTE may find it necessary to move funds from one
25 program to another, within Commission-ordered reallocation limits, to avoid

Line No.

1 having to suspend a program that is very successful in the market. This flexibility
2 was exercised in the past and has allowed DTE to maintain market momentum and
3 meet customer expectations. Program flexibility is further discussed in Witness
4 Bilyeu's testimony.
5
6 **Q31. Are DTE's residential programs in this 2024-2025 Plan, excluding income-**
7 **qualified residential customers, cost-effective?**
8 A31. Yes. The residential electric portfolio is projected to be delivered at an overall
9 USRCT score of 1.12. The residential gas portfolio is projected to be delivered at
10 an overall USRCT score of 1.11. The expected benefit-cost test results for each of
11 the residential programs are detailed in Witness Bilyeu's Exhibit A-1 for electric
12 programs and Exhibit A-2 for gas programs.
13
14 **Q32. Does this complete your direct testimony?**
15 A32. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

JOSE N. GONCALVES

DTE ELECTRIC AND DTE GAS

Residential Portfolio, Program Descriptions, Measures and Incentives, and Education

Table of Contents

Appliance Recycling Program

Program Element	Appliance Recycling Program
Objective	The objective of the program is to produce cost-effective, long-term annual energy savings and demand reduction by removing from the utility grid operable, inefficient, and secondary appliances in an environmentally safe manner and to prevent those appliances from being resold in the secondary used appliance market.
Target Market	All residential customers taking service from DTE Electric are eligible for this program regardless of their choice of supplier. The primary target market will be customers with working inefficient second and third refrigerators and freezers, dehumidifiers, room air conditioners, and small refrigerators and freezers.
Program Duration	This program was launched in 2009 and is an ongoing element of the program portfolio.
Program Description	The program will produce cost-effective long-term annual energy savings in the residential market by removing operable, inefficient refrigerators, freezers, dehumidifiers, room air conditioners and small refrigerators and freezers from the utility grid in an environmentally safe manner. Older refrigerators and freezers can be some of the least efficient electrical appliances in the home. Often these old appliances are used when they are not functioning properly and as a result, they use electricity very inefficiently. DTE Electric has contracted with a certified recycling agency that will be responsible for the recycling process of dismantling the refrigerators, freezers, and dehumidifiers and room air conditioners, and removing oils and refrigerants. Certain market barriers exist to the replacement of old existing appliances with energy-efficient products, including difficulty in finding places to recycle old appliances, inability to deliver appliances to the drop-off location, lack of financial resources, competition for funds with other household budget items, and lack of awareness/knowledge about the benefits and costs of new energy efficiency measures. The program is designed to minimize these market barriers and encourage customers to dispose of old inefficient appliances and to increase the market share of ENERGY STAR® appliances by offering incentives, convenient scheduling of appointments, cost-free pick-up of qualifying appliances and rebates at the time of pickup.
Eligible Measures	The measures listed below will be in the program offering, but DTE Electric reserves the right to revise the eligible measures as needed to reflect changes in current market conditions, Evaluation Measurement & Verification (EM&V) results, and program experience. • Refrigerators • Freezers • Dehumidifiers • Room air conditioners • Small refrigerators (less than 10 cubic ft) • Small freezers (less than 10 cubic ft)

Implementation Strategy	DTE Electric will provide program management and oversight, vendor referrals, tracking and reporting oversight, and regulatory review. DTE Electric will utilize an Implementation Contractor(s) (IC) to provide implementation services, including the pick-up and proper disposal of the appliances in an environmentally safe manner, rebate application and incentive processing, incentive payments, education and training, community outreach, tracking, verification, customer support, and marketing. Customers will receive an incentive to have their old, working appliance recycled. A dehumidifier, room air conditioner, small refrigerator or small freezer can be scheduled for pick-up in conjunction with a large refrigerator or freezer. Customers participating in a drop off event can drop off small appliances without needing to drop off large appliances.
Marketing Strategy	The marketing and communications strategy will be designed to inform customers of the availability and benefits of the program and how they can participate. Direct marketing will be the primary source of communication to manage the implementation of this program and scheduling of the appliance pick-up or to generate customer awareness of drop-off events. Marketing activities will include: • Brochures that describe the benefits and features of the program including program contact information. The brochures will be available for various public awareness events (presentations, seminars, etc.). • Bill inserts, bill messages and email messages to targeted customers. • Informational content on DTE Electric's website. • Customer representatives trained to promote the program to their customers. • Presentations to key retailers and supplier groups to actively solicit their participation in the program. • Direct mail to potential customers based on zip code for the appliance pick-up to optimize travel costs. • Specific outreach activities to identify key retailer groups for target marketing. • PR Events, Facebook, Email, streaming videos, high impact displays and Twitter posts • Paid Media; Broadcast Television Advertising and Radio
Estimated Measure Count	The estimated measure count for this program is shown in Table 1 at the bottom of this appendix.

Appliance Recycling Program, continued

Estimated Budget

The estimated budget for the program is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$8,556	$8,830

Savings Targets

The estimated net MWh energy savings for the program is shown below.

Year	2024	2025
Annual MWh saved	35,133	35,133

Residential Building Envelope (RBE) Program

Program Element	Residential Building Envelope Program
Objective	The objective of the RBE program is to encourage residential customers to install energy-efficient equipment in their homes.
Target Market	All residential customers taking service from DTE are eligible for this program regardless of their choice of supplier.
Program Duration	In its planned structure as RBE, the program is new for 2024. However, the RBE program includes several channels that have been individual programs, many launched as far back as 2009.

Program Description	The program provides incentives to residential customers for a wide variety of energy-efficient measures and delivery channels for new and existing single-family homes. The RBE program incorporates several incentives to drive adoption of energy efficiency in homes through the following channels or approaches.
	
	ENERGY STAR ® products
	
	• Retailers to build market share and usage of ENERGY STAR ® products.
	  ○ Provide midstream incentives to retailers to increase sales of ENERGY STAR consumer electronics where many of the products are more efficient than the standard ENERGY STAR baseline.
	  ○ Introduced in the program in 2022, following a pilot stage, nationwide retail stores provide a hybrid approach by offering a split incentive via midstream for retailers and instant incentives for customers.
	  ○ Provide incentives to customers for the installation of products to reduce energy use in the home or in small business, such as room air conditioners, electronics, and appliances.
	  ○ Marketing mechanism for retailer and high efficiency product suppliers to promote energy-efficient equipment and products to end users.
	
	• E-commerce through the DTE Marketplace, designed to:
	  ○ Provide instant incentives and promotes energy efficiency products such as Wi-Fi enabled thermostats, advanced power strips, water saving measures, insulation, and others.
	  ○ Meet a shift in customer purchasing habits towards web-based retail.
	  ○ Provide incentives and information to customers for the installation of products not commonly available at “brick and mortar” retail stores. Examples of such products include advanced power strips, thermostatic water saving showerheads, and others.
	
	The retailer and E-commerce approaches in the RBE program address several barriers to participation. First barrier is price. Midstream incentives and Marketplace incentives are provided for customers to lower upfront cost of the item and stimulate earlier replacement. Second barrier is retailer participation. Through retailer education, in-field sales support (signs, advertising, etc.) and stimulated market demand, retailers will stock mor product, provide special promotions and plan sales strategies around these ENERGY STAR ® products.

Heating, Ventilation & Air Conditioning (HVAC)

- Network of participating distributors and contractors designed to:
  - Provide incentives for customers to purchase higher efficiency equipment as specified within the program.
  - Provide technical information, education and training to contractors and homeowners so that they can understand the benefits of the high efficiency alternatives as the best choice for customers.
  - Provide a marketing mechanism for contractors and equipment distributors to promote high efficiency equipment.
  - Provide incentives for product distributors to encourage stocking of high efficiency equipment, reducing purchasing costs for contractors and removing product availability as a barrier for adoption.

Audit & Weatherization

- Home Assessments to educate customers on improvements that can be undertaken to improve efficiency, comfort, and overall quality of living in their home. The home assessment element of the RBE program incentivizes two distinct paths of participation that address two different stages in the process of improving the home. First, by offering an energy assessment to customers in need of guidance or a starting point. Second, by incentivizing comprehensive assessments performed by a Building Performance Institute (BPI) certified auditor.

  - Provide educational information to residential customers who are unable to identify the causes of high energy usage in the home. These customers will first interact with an RBE specialist who will assist, through a series of questions, with determining if the cause of the usage can be identified or, if an assessment needs to be scheduled.
  - Provide a diagnostic assessment, utilizing infrared scanning and usage monitoring tools, and engaging with the customer on usage, efficiency and energy rates (when appropriate) to drive awareness and reduction of energy usage.
  - Provide incentives for comprehensive energy assessments (CEA) performed by a BPI certified auditor. These energy efficiency professionals provide the required analysis to assure the efficacy of installed measures by conducting “test in” and “test out” analysis of the home. The house is also analyzed to ensure that combustion safety issues are adequately addressed when providing insulation and air sealing measures in the home. Customers will pay a market-based fee for the CEA directly to the participating contractor and will receive incentives from the program. The program offers an incentive for the CEA to encourage customer participation by reducing that initial cost barrier.

The home assessment approach is designed to overcome some of the key barriers in the residential existing homes market – lack of information about how the home uses energy and the actions that will save the most energy and money. The program provides this educational resource to consumers and makes it as easy as possible for them to take the appropriate action.

New Homes Construction

- Network of participating builders and energy raters to drive energy efficient construction of new homes and major renovations of existing homes using the concept of home as a system, resulting in long-term benefits from the onset.
    - Provide incentives for construction of higher efficiency new homes,
    - Provide incentives for construction of higher efficiency homes undergoing major renovation - 50% or more of the original home
    - Provide technical information, education and training to builders and energy raters on the benefits of high efficiency construction as the best choice to consumers.
    - Generate market awareness and ability for customers to identify builders constructing high efficiency homes.
    - Provide a marketing mechanism for builders to promote high efficiency homes.

Certain barriers exist to the adoption of energy-efficient equipment and new construction including lack of investment capital, competition for funds with other home investments or amenities, lack of awareness/knowledge about the benefits and costs of energy efficiency measures, lack of education and skills of the contractor, and technology performance uncertainties. If the equipment is installed without efficiency in mind, there might not be the opportunity to make these improvements until many years later when the equipment fails. Avoiding this lost opportunity at the time of construction and initial install allows energy efficiency to be optimized and is usually less costly than equipment replacement later. This program is designed to help overcome these market barriers and encourage greater adoption of energy-efficient homes in the residential market.

Eligible Measures

Technologies and measures included in the program may vary over time based on opportunities found in the market. The program measures may include but are not limited to:

- Clothes Washers and Dryers (including heat pump dryers)
- Dehumidifiers
- Room Air Conditioners
- Air Purifiers
- Pool Pumps
- Advanced Power Strips
- Specialty LED lights
- ENERGY STAR® electronics
- Wi-Fi enabled Thermostats
- Central AC units
- Central AC tune-ups
- Heat Pump units
- Heat Pump (Hybrid) water heaters
- High Efficiency Gas Water Heaters
- High Efficiency Furnace
- High Efficiency Boiler
- Heating system tune-ups

	• Insulation (Attic, Rim Joist, Wall, Basement Wall, Floor, Knee Wall and Crawlspace) • Air Sealing
Implementation Strategy	DTE will provide program management and oversight, vendor referrals, tracking and reporting oversight, and regulatory review. DTE will use an Implementation Contractor(s) (IC) to provide implementation services, contractor, distributor and builder training and education, application and incentive processing, incentive payments, tracking, verification, technical support, customer support, and marketing. To make the program effective, the IC works with builders, retailers, equipment distributors and contractors. Those market participants are key in making sure high efficiency equipment is available, and key for selling the high efficiency alternative directly to customers as customers replace or upgrade existing equipment. The IC will be responsible for supporting these market participants with training, marketing/promotion and program assistance. By having these market participants sell and promote energy-efficient equipment, customers will better understand the benefits of the higher efficiency choices. The incentives for the program may be paid to the customer, builder, distributor, or manufacturer. The implementation of this program will be coordinated between DTE Gas and DTE Electric where their territories overlap. For territory that overlaps with another utility provider, the program will be coordinated with them as much as possible, depending on the similarity of the programs.
Marketing Strategy	The marketing and communications strategy will be designed to inform homeowners, builders, contractors and equipment distributors of the availability and benefits of the program and how they can participate. The strategy will include outreach to key partners including contractors, equipment distributors, trade associations, and other parties of interest in the market. An important part of the marketing plan will be the content and functionality on DTE's website, which will direct customers to information about the program. A combination of strategies will be utilized, including local media advertising, outreach and presentations at professional and community forums and events, and direct outreach to key contractors. Marketing and communication plans may include: • Education seminars implemented in each market to provide details about how to participate in the program. The seminars will be tailored to the needs of homeowners, contractors, and equipment distributors. • Brochures describing the benefits and features of the program including program application forms and worksheets. These brochures will be mailed upon request and distributed through the Company and the website. They will also be available through various public awareness events (presentations, home shows, etc.). • Targeted direct mailings used to educate homeowners on the benefits of the program and explaining how they can apply. • Customer and trade partner outreach including presentations informing interested parties about the benefits of the program and how to participate. • Print advertisements to promote the program placed in selected local area newspapers and trade publications. • Company's website content providing program information resources, contact information, participating contractors, Facebook and Twitter posts to other relevant service and information resources. • Digital advertisements to generate awareness of the program across digital and social media spaces. • Presence at conferences and public events used to increase general awareness of the program and distribute program promotional materials.

- Presentations to customers and trade allies to actively solicit their participation in the program.

The marketing strategy will identify key customer segments and groups for targeted marketing and will prepare specific outreach activities for these customers. DTE will oversee the development of content, messaging, branding, and calls to action of all the marketing and collateral materials used to promote the program.

Estimated Measure Count

The estimated measure count for this program is shown in Table 1 at the bottom of this appendix.

Estimated Budget

The estimated budget for the program is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$8,197	$7,414
Gas Budget ($Thousands)	$8,878	$8,856

Savings Targets

The estimated net MWh and net MCF energy savings for the program is shown below.

Year	2024	2025
Annual MWh saved	19,436	18,499
Annual MCF saved	312,466	311,402

Multifamily Program

Program Element	Multifamily Program
Objective	The objective of the Multifamily Program is to increase the installation of high efficiency measures in multifamily properties and produce immediate energy savings.
Target Market	All multifamily buildings with three or more units and taking service from DTE are eligible for this program. This includes both condominiums and apartments.
Program Duration	This program was launched in 2009 and is an ongoing element of the program portfolio.
Program Description	The program provides Incentives for eligible energy-efficient measures, either in-unit or in common areas, to building owners, managers, or contractors. The program also provides incentives for market rate new construction multifamily projects. The multifamily market has significant barriers to energy efficiency: • The primary barrier is that the tenant often pays the energy bill and does not own the building so cannot make energy efficiency improvements directly. • For the owner there is little incentive to improve energy efficiency since tenants typically pay the energy bill except for common areas which is passed on to tenants through their rent. • Building owners and managers also have little time to implement or develop knowledge of energy efficiency measures. • Building owners and managers have limited capital budgets to expend on energy efficiency measures. • The market is becoming saturated as the larger properties have participated in the program, leaving smaller, harder to reach properties as potential program supply.
Eligible Measures	The technologies to be included within this program may vary over time based on opportunities found in the marketplace. The following is a sample of program measures. In unit measures may include but is not limited to: • Programmable thermostat • Furnaces (for customers with gas heat served by DTE Gas) • Heat pumps (for customers with electric heat served by DTE Electric) • Heat pump water heaters (for customers with electric heat served by DTE Electric) • Domestic water heaters • Room air conditioners Common area measures may include but is not limited to: • Hard wired LED fixtures and LED screw-in lamps • LED exit signs • Efficiency focused system controls – sensors, timers, dimmers • LED parking lot and safety lighting

Implementation Strategy

DTE will provide program management and oversight, vendor referrals, tracking and reporting oversight, and regulatory review. DTE will utilize an Implementation Contractor(s) (IC) to provide implementation services, including outreach, marketing and building assessments.

The IC will be responsible for training and education, co-pay processing, tracking, verification, technical support, customer support, and marketing. DTE and its IC will work with apartment associations and property management firms to reach those building owners that own and operate larger facilities throughout the area.

The implementation of this program will be coordinated between DTE Gas and DTE Electric where their territories overlap. For territory that overlaps with another utility provider, the program will be coordinated with them as much as possible, depending on the similarity of the programs.

Marketing Strategy

The marketing and communications strategy will be designed to inform building owners and managers of the availability and benefits of the program and how they can participate in the program. The strategy will include outreach to apartment associations and building owner/management groups. More specifically, the marketing and communications plan will include:

- Education seminars/meetings to provide details about how to participate in the program. The seminars will be tailored to the needs of building owners, managers and participating contractors.
- Fliers that describe the benefits and features of the program including program applications.
- Customer and contractor outreach and presentations (e.g. apartment associations and building owner organizations) informing interested parties about the benefits of the program and how to participate.
- Website content providing program information resources, contact information, downloadable applications and links to other relevant service and information resources.
- Presence at conferences and industry events used to increase general awareness of the program and distribute program promotional materials.
- Presentations to key customers and customer groups to actively solicit their participation in the program.
- The marketing strategy will identify key customer segments and groups for target marketing and will prepare specific outreach activities for these customers, for example, dormitories.
- Collaborative efforts with other utility providers in areas where DTE only serves gas or electric customers.
- Quarterly newsletter to provide participating contractors timely program updates, education, and relevant content to enable successful outreach efforts.

Estimated Participation

The estimated measure count for this program is shown in Table 1 at the bottom of this appendix.

Estimated Budget

The estimated budget for the program (residential) is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$502	$115
Gas Budget ($Thousands)	$52	$52

Savings Targets

The estimated net MWh and net MCF energy savings for the program (residential) is shown below.

Year	2024	2025
Annual MWh saved	1,810	502
Annual MCF saved	1,762	1,762

Multifamily Strategic Energy Management (SEM) Program

Program Element	Multifamily Program
Objective	The objective is to offer Multifamily properties an innovative, low to no-cost approach to saving energy
Target Market	All multifamily properties with three or more units under one roof, taking service from DTE are eligible for the program.
Program Duration	This program was launched in 2023.
Program Description	In addition to offering multifamily properties an innovative, low to no-cost approach to saving energy the program also provides tools and education that promote action around reducing energy in multifamily residences, builds lasting relationships with multifamily property managers, and achieve persistent energy savings. The program is designed with four main elements: • Collaborative group workshops • One-on-one events • Energy Management coaching • Measurement of energy savings
Eligible Measures	The program will provide an incentive to the Multifamily property managers of $0.02 per kWh of electricity savings and $0.15 per therm of gas savings. All savings achieved through participation in other DTE EWR programs will be removed from the final savings measured by the energy model.
Implementation Strategy	DTE will provide program management and oversight, vendor referrals, tracking and reporting oversight, and regulatory review. DTE will utilize an Implementation Contractor(s) (IC) to provide implementation services, including outreach, marketing and building assessments. The IC will be responsible for recruiting property management firms through local outreach, referrals from past participants, and establishing relationships with local professional associates and industry events. Upon recruitment of participating cohort, the selected multifamily property managers energy champion (designated individual within the multifamily organization that will be the lead participant) will be trained and an energy scan will be conducted in the facility. A model for savings tracking will be created and a register of potential improvements and projects will be shared. Energy savings will be determined in the models once improvements have been made. Finally, the program will evaluate, report, and celebrate the successes. The implementation of this program will be coordinated between DTE Gas and DTE Electric where their territories overlap. For territory that overlaps with another utility provider, the program will be coordinated with them as much as possible, depending on the similarity of the programs.
Marketing Strategy	Direct property outreach through energy advisors will be the primary source of marketing for the program. The program will also utilize presentations, tip sheets, and email communications to engage with the participants throughout the program.
Estimated Participation	The program will have two cohorts of approximately five property management companies.

Estimated Budget

The estimated budget for the program (residential) is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$193	$239
Gas Budget ($Thousands)	$153	$155

Savings Targets

The estimated net MWh and net MCF energy savings for the program (residential) is shown below.

Year	2024	2025
Annual MWh saved	841	1,246
Annual MCF saved	8,874	12,680

Schools Program

Program Element	Schools Program
Objective	The Schools program is designed to influence students and their families as well as senior citizens to take actions that can reduce their home energy use and increase efficiency.
Target Market	4th through 12th grade students and their teachers as well as senior citizens in centers receiving service from DTE .
Program Duration	Program was launched in 2012 and is an ongoing element of the program portfolio. Senior citizens component was added in 2023.
Program Description	DTE will utilize an Implementation Contractor(s) (IC) to implement a comprehensive energy efficiency education program in its service territory. A take home energy efficiency kit will be provided to students and senior citizens. School kits and online resources include a "Home Energy Worksheet" that students return to their teacher, submit online or use the postage paid envelope included in the kit to return to IC. The Home Energy Worksheet (1) gathers energy usage data from the household and (2) states that individual energy efficiency devices included in the kit (i.e. energy efficient showerhead, faucet aerator, advanced power strip, window insulation, etc.) were installed. Students can learn to conserve energy resources by using energy more efficiently at home and at school. Teachers also participate in the school program, giving them the opportunity to become "sold" on the value of the program, continue the energy efficiency education, and the opportunity for the program to produce additional energy savings. Senior citizens receive a similar kit and abbreviated version of the Home Energy Worksheet that is completed during the presentation. Approach: • Provide quality energy efficiency education correlated to MI Education Academic Standards. • Coordinate with senior centers, recreational centers, and support services centers in DTE service territory to provide live or virtual presentations on using energy efficiently, safely, and wisely. • Gather and report measurable savings garnered from distribution and installation of energy efficiency measures included in kits provided to students. • Provide branding opportunity for DTE. • Provide non-traditional setting opportunities for DTE's message of concern for energy efficiency, safety, and the environment. • Support children of customers and schools in learning about and becoming energy efficient. In addition to energy efficiency measures, the program kits may include but is not limited to: • Home Energy Worksheet • Energy efficiency poster game with installation instructions • Family activity guide • Shower Timer • Plumber's tape • Flow rate test bag • "Turn It Off" stickers • Mercaptan safety stickers
Eligible Measures	The technologies to be included within this program may vary over time based on opportunities found in the marketplace. Measures may include but are not limited to: • Faucet aerators • Window insulation kit • Energy efficient showerhead • Water-heater pipe wrap • LED night light

- Advanced power strips
- LED task light

Implementation Strategy

DTE will provide program management and oversight, vendor referrals, tracking and reporting oversight, and regulatory review. DTE will utilize an IC to provide implementation services, including outreach, marketing, in school and virtual education and kits purchasing and distribution.

The IC will work closely with DTE to identify eligible schools with a focus on selecting a diverse variety of schools. The IC will analyze, by community, relative program participation and effectiveness, particularly in the form of household response. The exact number of schools will depend on how many students participate at each school. The take home energy kits under this program may be offered in collaboration with another utility school's program to maximize program effectiveness.

The IC will work with community centers to serve senior citizens in DTE's service territory as well as in collaboration with other utilities.

Marketing Strategy

The program is marketed through an email, direct mail letter, postcards and fliers to school districts and senior centers within DTE's service territory. A grant is offered to participating schools and senior centers for distribution of kits and assistance in collecting data. Families from participating schools are encouraged to complete their Home Energy Worksheet by randomly providing one classroom winner a gift card when providing a valid adult email on their returned Home Energy Worksheet.

Estimated Measure Count

The estimated measure count for this program is shown in Table 1 at the bottom of this appendix.

Estimated Budget

The estimated budget for the program is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$3,277	$2,759
Gas Budget ($Thousands)	$1,091	$1,010

Savings Targets

The estimated net MWh and net MCF energy savings for the program is shown below.

Year	2024	2025
Annual MWh saved	5,914	4,927
Annual MCF saved	152,071	138,641

Home Energy Report Program

Program Element	Home Energy Report Program
Objective	The objective of the Home Energy Report (HER) Program is to change customers' behavior(s) to cause a reduction in energy usage. The energy reduction outcome will be achieved as results of providing behavior changing treatments to customers. The treatments will be delivered through various channels and program aspects to include, but not limited to, the delivery of home energy reports to selected customers.
Target Market	All residential customers served by DTE may be targeted by the HER Program.
Program Duration	Program was launched in 2013 with the HERs treatment and is an ongoing component of the program.
Program Description	The HER Program provides motivation for customers to change current behavior and practices in their home to more energy efficient behaviors. Customers selected to receive the HER treatment will be provided with home energy reports delivered by mail and/or email. The reports can display a comparison and trend analysis of customer energy usage to efficient and inefficient similar homes and targets specific and relevant efficiency recommendations to these customers making it easier for each customer to act on the recommendations and to participate in the programs most relevant to them. DTE will assess customers' change in behavior and reduction in energy consumption as a direct result of being influenced by these reports. The home energy report has been updated with a new comparative graph that compares the customer to similar homes and an Efficiency Zone. The Efficiency Zone represents the 20% of similar homes that used the least energy for the period. The report now includes access to a home energy survey that, when completed, provides an expanded home profile specific to the customer.
Eligible Measures	HER measures in the Michigan Behavioral Resource Manual (BRM) to include: HER for the various years and energy consumption ranges. HER may include wave(s) evaluated via custom savings approach.
Implementation Strategy	DTE will provide program management and oversight, performance tracking/review and reporting oversight, and regulatory review. DTE will utilize an Implementation Contractor(s) (IC) to provide implementation services, including random selection of customers to receive home energy reports, mailing reports, managing email communications to report recipients, and evaluating performance. Customers will have the opportunity to opt out of the program at any point in time; and if need be, new customers will be added to the list of participants.
Marketing Strategy	The HER Program is an opt-out program, no marketing will be required to generate participation, but the available marketing modules within the report will be utilized, if needed, to promote other energy efficiency programs.

Home Energy Report Program, continued

Estimated Participation

The estimated participation for the program is shown below.

Year	2024	2025
HER Report Recipients - Electric	750,000	750,000
HER Report Recipients – Gas	210,000	210,000

Estimated Budget

The estimated budget for the program is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$3,898	$4,459
Gas Budget ($Thousands)	$800	$810

Savings Targets

The estimated net MWh and net MCF energy savings for the program is shown below.

Year	2024	2025
Annual MWh saved	72,000	72,000
Annual MCF saved	203,199	203,932

Emerging Measures and Approaches Program

Program Element	Emerging Measures and Approaches Program
Objective	The program will further advance pilots before fully scaling and commercializing new program or program components. The objective is to test and develop new program designs, test new marketing strategies and approaches to most effectively serve the energy needs of customers, and to further assess the energy savings impact and market potential of emerging technologies.
Target Market	All customer segments served by DTE will be served by the Emerging Measures and Approaches Program.
Program Duration	Individual programs added to the emerging category will have their own duration and will depend on the success of pilot programs being considered for future emerging program spend.
Program Description	The program encompasses measures and approaches that are mature or nearly mature from the pilot phase of program development. Some important components include customer research to get the "voice of the customer" and benchmark against "best in class" companies or organizations related to current and future programs and technologies. The program provides incentives to introduce new products to demonstrate proof of product, technology application, technology acceptance, market participation, maximum customer return on investment and positive political impact. The program also will determine product performance, customer satisfaction and energy saving of emerging technologies.
Eligible Measures	Individual programs added to the emerging category will have their own measures and will depend on the success of pilot programs being considered for future emerging program spend.
Implementation Strategy	Like commercialized programs, DTE will provide program management and oversight, performance tracking/review and reporting oversight, and regulatory review. DTE will utilize an Implementation Contractor(s) (IC) to provide implementation services which may vary depending on the emerging program.
Marketing Strategy	Marketing strategy of Emerging Measures and Approaches Program will be dictated by the technology, the program or marketing approach being tested.
Estimated Budget	The estimated budget for the program is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$207	$207
Gas Budget ($Thousands)	$250	$250

Savings Targets	The estimated net MWh and net MCF energy savings for the program is shown below.

Year	2024	2025
Annual MWh saved	250	250
Annual MCF saved	12,037	12,037

Income-Qualified - Energy Efficiency Assistance

Program Element	Energy Efficiency Assistance Program
Objective	The objective of the program is to reduce the energy use of income-qualified customers through improvements to their existing home at no cost to them.
Target Market	All income-qualified customers living in a single-family dwelling (1-2 units) receiving service from DTE. Specifically, the target market is customers with household incomes at or below 200% Federal Poverty Level (FPL) or 80% Area Median Income. Active enrollment in the DTE Low Income Self Sufficiency Plan or Michigan state income-qualified public assistance programs (SNAP, WIC, LIHEAP, etc.) may also qualify the customer for the program. In addition, the program will annually allocate up to $1,000,000 to service customers with income levels between 201-300% FPL.
Program Duration	Program was launched in 2009 and is an ongoing element of the program portfolio.

Program Description	The Energy Efficiency Assistance program provides funding to approved participating partners allowing them to expand their income-qualified services by installing energy-efficient equipment and providing home weatherization services. Through community partnerships, DTE can better support the communities they serve by helping income-qualified customers reduce their energy usage and bills.
	
	For income-qualified customers the program is designed to provide funding to approved participating partners so they can provide the following products and services:
	• Complete weatherization improvements which may include wall insulation, basement insulation, attic insulation, rim band joist and manufactured home belly insulation, and air infiltration reduction. DTE may also provide a “whole home bonus” to encourage projects that take a whole home approach and include multiple measures.
	• Replace inefficient refrigerators, determined by manufacture date or on-site testing, with high efficiency ENERGY STAR® refrigerators.
	• Replace inefficient gas water heaters with high efficiency units.
	• Replace inefficient gas heating systems such as furnaces or boilers with high efficiency units.
	• Encourage the installation of heat pump products with increased incentive amounts, including but not limited to:
	  ○ Air source heat pump
	  ○ Minisplit ductless heat pump
	  ○ Minisplit cold climate heat pump
	  ○ Heat pump water heater
	  ○ Heat pump clothes dryer
	• Provide technical information, education, and support to participating partners so they can understand and comply with program requirements.
	• Provide customer-facing education materials, where appropriate.
	• Identify additional funding sources to deepen impact and bolster program offerings.

Income-Qualified Energy Efficiency Assistance, continued

Eligible Measures	The measures to be included in the EEA program may include but are not limited to: • ENERGY STAR® qualified LED light bulbs • Refrigerator replacements • Whole home weatherization measures such as insulation, air sealing, doors and windows • Electric heat pump water heaters • Heat pumps • Dehumidifiers • Air purifiers • Central and window air conditioners • Air Conditioning tune-ups • Programmable or Wi-Fi enabled thermostats • High efficiency furnaces • High efficiency boilers • Heating system tune-ups • ENERGY STAR® doors and windows • Energy efficient clothes dryers
Implementation Strategy	DTE will provide program management and oversight, performance tracking/review and reporting oversight, and regulatory review. DTE will utilize an Implementation Contractor(s) (IC) to provide services, including outreach, marketing, participating partner funding, tracking of spend and savings, and continuously building the infrastructure to support this program. Customer outreach and intake will primarily be performed by approved participating organizations that include non-profit organizations and community action agencies. DTE will coordinate with internal departments to refer customers to the EEA program when appropriate. For example, customers with no working heating system, hot water or refrigeration, or customers on rate assistance programs, may be referred to the program. For internal referrals, DTE and its IC will coordinate to schedule a whole home assessment for customers to 1) assist with immediate need and 2) learn of additional opportunities to improve the home. DTE will encourage and incentivize program partners to conduct whole home assessments as part of the program. DTE will continue to collaborate with the DTE Revenue Management and Protection department to enroll customers participating in rate assistance programs such as the Low-Income Self-Sufficiency Plan (LSP), Shutoff Protection Plan (SPP) and the Payment Stability Pilot (PSP)[1]. The implementation of this program will be coordinated between DTE Electric and DTE Gas where their territories overlap. For territory that overlaps with another utility provider, the program will be coordinated with them as appropriate.
Marketing Strategy	The education and promotional materials will be developed as needed to support each approved participating organization. The marketing and communications strategy for participating partners will be designed to help recruit participants and explain DTE's involvement in the program. DTE and its IC will continue to test a neighborhood approach in customer outreach of the program. Implementation of the neighborhood approach introduced in 2023 is expected to continue into 2024, if current market barriers persist. Such barriers include, partner and contractor availability, product price and availability (such as insulation, high efficiency hvac equipment, etc.).

[1] Refer to MPSC Case No. U-20929 for additional information on the PSP.

Estimated Measure Count

The estimated measure count for this program is shown in Table 1 at the bottom of this appendix.

Estimated Budget

The estimated budget for the EEA program is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$26,171	$30,675
Gas Budget ($Thousands)	$12,427	$12,427

Savings Targets

The estimated net MWh and net MCF energy savings for the EEA program is shown below.

Year	2024	2025
Annual MWh saved	24,144	25,379
Annual MCF saved	39,380	39,383

Income-Qualified Program - Multifamily

Program Element	Low Income – Multifamily Program
Objective	The objective of the program is to increase the installation of high efficiency measures in income-qualified multifamily properties.
Target Market	Income–qualified multifamily dwellings with 3 or more units which would meet one of the following guidelines: 1. Participation in an affordable housing program for example LIHTC, HED, MSHDA or HUD; 2. Location in a HUD qualified low income census tract; 3. Rent roll documentation that rents charged are affordable to households that meet 80% if the area median income and 80% of median market rent; 4. Tenant income information at 200% of the Federal Poverty Level or at or below 80% of the median income.
Program Duration	Program was launched in 2019 and is an ongoing element of the program portfolio.
Program Description	The Multifamily Income-Qualified program provides incentives for eligible energy-efficient measures, either in-unit or in common areas, to building owners, managers, or contractors. Prescriptive rebates are substantially increased compared to non-income-qualified incentives to spur saving investment. Building owners may be responsible for paying a portion of the cost of the installed common area measures. For properties with no capital to invest in deeded projects to replace, or install, deeper retrofit measures such as heat pumps, heat pump water heaters, insulation and infiltration reduction, the program offers incentives that cover the full cost of the measure(s). This is done on a limited basis. More specifically, the program is designed to: • Ensure that the participation process is clear, easy to understand and simple for building owners. • Provide rebates for the installation of efficiency improvements for common area measures and certain in-unit measures. There are several ways for landlord customers to participate in the Income-Qualified Multifamily Program: 1. <u>An Energy Advisor (EA) reaches out to a property.</u> The Energy Advisor contacts a property to determine interest. If the customer is interested, an appointment is setup for the EA to meet with the property representative. The EA does a basic walk through of the property to determine age, type and condition of the property's equipment and building envelope. The EA meets with the property representative to present the initial findings and potentially offer a Level 1 assessment. If the customer accepts, an Energy Concierge will schedule an appointment to perform the assessment. During the assessment, the Energy Concierge collects information about building envelope (insulation, windows, doors, etc.) and the age and condition of equipment (furnaces, AC units, boilers, hot water tanks, appliances, etc.). The findings are presented to the customer including potential energy savings (If one fuel is DTE and the other is from a different utility, rebates for both fuels will be included in the results), the rebates associated with the recommendations that would lessen the cost, a simple payback and the financing options that are available. If the customer wants to proceed with any of the recommendations, the Energy Concierge will identify contractors (unless the customer has a contractor(s) they prefer to work with), send bid proposals, help the customer evaluate the bids and select the contractor, manage and inspect the installation, and pay the rebates promptly.

2. A participating contractor brings a project from a customer to DTE
The program will accept the reservation letter if funds are available and when the project is complete, will process the final application and pay the rebate promptly. The customer will be contacted and offered the other services we provide, such as a Level 1 assessment as a follow up.

3. Customer inquiries to DTE about the program.
If the building owner/property manager inquires with DTE directly, an Energy advisor will follow up with the customer and proceed through the EA process.

4. Collaboration with other Income-Qualified programs.
DTE plans to collaborate with the Michigan Housing Development Authority (MSDHA) to identify potential projects and collaborations, specifically related to those developments receiving financing to encourage and incentivize energy efficient measures within those projects.

Financing

DTE along with Michigan Saves may offer building owner customers financing incentives in the form of interest rate buy down in addition to rebates for efficient products.

Income-Qualified New Construction
The program also provides rebates for income-qualified new construction projects.

The multifamily market has significant barriers to energy efficiency:

- The primary barrier is that the tenant often pays the energy bill and does not own the building so cannot make energy efficiency improvements directly.
- For the owner, there is little incentive to improve energy efficiency inside tenant units since tenants typically pay the energy bill except for common areas which is passed on to tenants through their rent.
- Building owners and managers also have little time to implement or develop knowledge of energy efficiency measures.

Income-Qualified Program – Multifamily, continued

Eligible Measures	The technologies to be included within this program may vary over time based on opportunities available in the marketplace. The following is a sample of program measures. In-Unit Measures: • Room air conditioners • Water Heaters • Thermostats • Furnaces • Heat Pumps Non-In-Unit Measures (full cost covered): • LED screw-in lamps • LED exit signs • Efficiency focused system controls – occupancy sensors, timers, dimmers • Heating system tune ups • Programmable thermostats • Aerators and pipe wrap Non-In-Unit Measures • Chiller tune-up • LED fixtures • Heat Pump Water Heaters • Heat Pumps • Insulation • Air Sealing
Implementation Strategy	For the Multifamily Income-Qualified Program, DTE will provide program management and oversight, vendor referrals, tracking and reporting oversight, and regulatory review. DTE will utilize an Implementation Contractor(s) (IC) to provide implementation services, including outreach, marketing and Level 1 building assessments. The IC will also be responsible for training and education, co-pay processing, tracking, verification, technical support, customer support, and marketing. DTE and its IC will work with apartment associations and property management firms to reach those building owners that own and operate facilities throughout the area. The implementation of this program will be coordinated between DTE Gas and DTE Electric where their territories overlap. For territory that overlaps with another utility provider, the program will be coordinated with them as much as possible, depending on the similarity of the programs.
Marketing Strategy	For the Multifamily Income-Qualified Program, the marketing and communications strategy will be designed to inform building owners and managers of the availability and benefits of the program and how they can participate in the program. The strategy will include outreach to building owner/management groups. More specifically, the marketing and communications plan will include:

- Education seminars/meetings to provide details about how to participate in the program. The seminars will be tailored to the needs of building owners, building managers and participating contractors.
- Fliers that describe the benefits and features of the program including program applications.
- Targeted direct mailings used to educate building owners on the benefits of the program and explaining how they can apply.
- Customer and contractor outreach and presentations informing interested parties about the benefits of the program and how to participate.
- Website content providing program information resources, contact information, downloadable applications and links to other relevant service and information resources.
- Presence at conferences and industry events used to increase general awareness of the program and distribute program promotional materials.
- Presentations to key customers and customer groups to actively solicit their participation in the program.
- The marketing strategy will identify key customer segments and groups for target marketing and will prepare specific outreach activities for these customers for example senior living facilities.
- Collaborative efforts with other utility providers in areas where DTE only serves gas or electric customers.

The program will continue to market property owners and managers with a focus on deeper energy measures, such as building insulation, infiltration reduction, heat pumps and heat pump water heaters (for electrically heated properties).

Estimated Measure Count

The estimated measure count for this program is shown in Table 1 at the bottom of this appendix.

Estimated Budget

The estimated budget for the Multifamily Income-Qualified Program is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$17,141	$22,636
Gas Budget ($Thousands)	$6,715	$6,715

Savings Targets

The estimated net MWh and net MCF energy savings for the Multifamily Income-Qualified Program is shown below.

Year	2024	2025
Annual MWh saved	10,988	14,555
Annual MCF saved	75,720	75,839

Education Programs

Program Element	Educational Programs
Objective	The objective of the Education Program is to provide information and education to raise awareness about energy efficiency and conservation. The Education Program will continue to provide the basis for more program specific efforts aimed at getting customers to participate in DTE's Energy Waste Reduction portfolio of programs.
Target Market	The target markets are all residential and small to medium business customer segments served by DTE's EWR Programs. Additionally, educational efforts on customer and contractor awareness include initiative focused on contractor training, product knowledge, applicability, impacts to their business model and other considerations, and the education initiative focused on heat pump technology for product distributors, contractors, and customers.
Program Duration	Program was launched in 2009 and is an ongoing element of the program portfolio.
Program Description	The Education Program will provide information to raise awareness about energy efficiency and conservation, giving customers valuable information on the benefits of actively participating in energy efficiency behaviors and improvements using tools and resources for customers to implement these actions at their home or business. The Education Program is aimed at increasing customer awareness of energy and cost savings opportunities as well as the long-term environmental benefits associated with energy efficiency and conservation. The educational information will be delivered through a variety of communication channels throughout DTE's service area. The Education Program may increase customer participation in the programs by raising customer awareness of the benefits of energy efficiency and conservation programs, how to enroll in programs and rebates, educating them about how much energy and cost savings they can expect, actions to implement no or low-cost energy saving tactics, and the long-term environmental benefits associated with these actions. The energy efficiency educational tools and resources made available to customers include; dedicated web pages, blogs and online videos, the DTE Insight App where customers can measure real time usage, the DTE appliance and electronics Comparison Tool, the online Energy Efficient Interactive Home, and printed brochures and handouts outlining programs, rebates and tips. These engaging tools and resources enable customers to take direct action to educate themselves on energy efficiency tactics and implement them in their homes or businesses. The Education Program will be primarily focused on direct marketing to DTE customers but will also make it easy for contractors and community partners to support the energy efficiency efforts by providing easy access to sharable educational materials. Program education and information will be provided through a variety of different communication channels. The following are examples of communication channels that might be considered. • Web Content • Social Media (Facebook, Twitter, LinkedIn, YouTube, Instagram, Nextdoor, Pinterest) • Residential Seminars

	• DTE Energy and/or Industry Conferences • Television Advertising • Radio Advertising • Digital Advertising • Print Advertising • Direct Mail • Email and Electronic Newsletters • Bill Inserts and Messages • Community Events and Sponsorships • On-site event activation • Trainings and webinars on new technologies and industry best practices • Trade Publication Advertising • Case Studies
Eligible Measures	The Education Program is not designed to specifically promote eligible measures but do support and promote energy efficiency and conservation messages throughout DTE's service territory.
Implementation Strategy	The Education Program educates our customers on the benefits of energy efficiency and conservation efforts. The Education program will provide general information on energy efficiency and conservation in support of specific marketing messages. Started in 2022 in collaboration with other Michigan utilities (Michigan Heat Pump Collaborative), the Education Program will build on its efforts to generate customer awareness and contractor knowledge around new and upcoming technologies, with an initial focus on heat pump technology for space and water heating. The program is taking that two-pronged approach to ensure customers understand the benefits these products present in the comfort, air quality and efficiency of their home, but also take into consideration the applicability of this and other efficiency products in their specific home. The second part of the approach is focused on contractor training, product knowledge, applicability, impacts to their business model, and other considerations that may be preventing this and other technologies from growing in the Michigan market. The Education Program will also continue to build on the workforce development initiative it started in 2021 – Energy Efficiency Academy. The initiative includes two participation paths, 1) Technical training and 2) Business Incubator. • Technical training is designed to educate and train individuals looking to grow in the energy efficiency industry in Building Performance Institute's (BPI) Building Analyst curriculum with the goal of achieving certification. The program also offers, and encourages, participants to pursues Healthy Home Evaluator (HHE) certification. • Business Incubator is designed to assist local, and diverse, contractors participate in DTE's EWR programs and build market capacity to serve customers with energy efficiency. The Incubator training is comprised of in-person workshops, one-on-one business coaching sessions to grow the company's capability and participation in DTE's EWR programs.
Marketing Strategy	The marketing strategy for the Education Program is to: provide general information about energy efficiency and conservation, communicate how readily available and accessible program participation and customer rebates are, enable customers to understand the benefits of participating and, encourage adoption of energy saving tactics at their home or business. Cost savings and the long-term environmental benefits are also frequently communicated.

Estimated Participation	The number of verified customer touches made by the Education Programs will be a measure of how many customers are impacted by the program.
Estimated Budget	The estimated budget for Education Program, including Administrative costs, is shown below.

Year	2024	2025
Electric Budget ($Thousands)	$5,938	$6,282
Gas Budget ($Thousands)	$1,518	$1,520

Savings Targets	The estimated energy and capacity savings from the Education Program will be a percentage of the annual savings that is proportional to the amount spent, up to 3%.

Year	2024	2025
Annual MWh saved	26,633	26,588
Annual MCF saved	60,960	61,179

Table 1. Measures, Incentives and Estimated Units for Residential and Income Qualified Programs

Measure by Program	Proposed Incentive	Incentive Units	Estimated # of Electric Units	Estimated # of Gas Units
Appliance Recycling				
Dehumidifier recycling	$20	per unit	1,200	0
Freezer recycling	$50	per unit	5,000	0
Refrigerator recycling	$50	per unit	32,500	0
Room AC recycling	$20	per unit	1,500	0
Small Freezer	$20	per unit	100	0
Small Refrigerator	$20	per unit	700	0
Residential Building Envelope	**Proposed Incentive**	**Incentive Units**	**Estimated # of Electric Units**	**Estimated # of Gas Units**
ENERGY STAR Products				
Clothes Washers	$25	per unit	2,000	9,000
Clothes Dryers	$25	per unit	4,200	4,200
Heat Pump Dryer	$500	per unit	60	0
Consumer Electronics	$5- $10	per unit	4,100	0
Dehumidifiers	$5- $25	per unit	5,100	0
Pool Pumps	$100	per unit	250	0
Air Purifiers	$5- $25	per unit	1,200	0
Refrigerators	$10-$15	Per unit	19,000	0
Room Air Conditioners	$25-$50	per unit	3,600	0
Wi-Fi Thermostat	$50	per unit	5,000	2,500
Water Saving Measures	$1 - $15	per unit	3,300	1,500
Window Film	$1 - $5	per unit	800	230
Weather Stripping	$1 - $5	per unit	850	250
Advanced Power Strips	$10 - $20	per unit	12,800	0
Bathroom Fans	$10-$25	per unit	10	0
LED Night lights	$0.50 - $2.00	per unit	10,000	0
Audit & Weatherization + HVAC				
Furnace (95%+ AFUE)	$100 -$500	per unit	0	11,000

Furnace Tune-up	$50 - $100	per tune-up	0	1,400
Water heater (Natural Gas)	$75-$125	per unit	0	575
Boiler (Natural Gas)	$800	per unit	0	400
Boiler Tune up	$50 - $100	per unit	0	50
Air Conditioner	$100-500	per unit	6,500	0
AC Tune Up	$50-$100	per tune-up	50	0
Heat Pump (Air Source)	$250-$850	per system	50	0
Heat Pump (Ground Source)	$525 - $800	per system	30	0
Heat Pump (Mini split)	$1,000	per system	60	0
Heat Pump Water Heater	$750	per unit	10	0
Insulation (each of Attic, Basement wall, Crawlspace, Floor, Kneewall, Rim Joist, Wall)[1]	$50 - $150	per home	1,900	3,400
Infiltration reduction[1]	$75-150	per home	100	150
Wi-Fi Thermostat[1]	$50	per unit	8,000	3,200
New Homes[2]				
Homes served by DTE Electric[1]		per home	1,700	0
Homes served by DTE Gas[1]		per home	0	1,500
Furnace (96%+ AFUE)	$200 - $250	per unit	0	1,600
Water heater (Natural Gas)	$100 - $200	per unit	0	100
Heat Pump (Air Source)	$750 - $850	per home	10	0
Heat Pump (Ground Source)	$800 - $900	per home	0	3
Heat Pump Water Heater	$750 - $850	per unit	13	0
Infiltration reduction[1]	$125 - $275	per home	745	1,200
Ventilation (ERV or HRV)[1]	$250	per home	30	50
Attic Insulation	$500 - $600	per home	230	350
Wall Insulation	$700	per home	5	5
Slab Insulation	$700	per home	20	30
Windows (up to 150 sq ft)	$6 - $10	per sq ft	13	5
LED Lighting (100%)	$100	per home	1,500	0
Pay for Performance	$0.25	per kWh saved	1,700	0
Pay for Performance	$10	per MCF saved	0	1,500
ENERGYSTAR® Bonus	$300	per home	180	165
Multifamily	**Proposed Incentive**	**Incentive Units**	**Estimated # of Electric Units**	**Estimated # of Gas Units**
Exterior and Interior common area lighting	$0.75 - $15.00	per unit	59,000	0
Interior Occupancy Sensor	$10 - $50	per sensor	100	0

Exterior Occupancy Sensor	$0.40	per watt controlled	1,600	0
Air Conditioner	$75 - $275	per unit	80	0
Room Air Conditioner	$350 - $500	per unit	50	0
Chiller tune-up	$10	per unit	0	0
Heat Pump (Air Source) <1.5 ton	$1,400	per system	220	0
Heat Pump (Air Source) >1.5 ton	$2,400	per system	40	0
Heat Pump tune-up	$5.00	per ton	0	0
Boiler	$600 - $1,500	per system	0	20
Boiler Tune-up	$150 - $350	per unit	0	10
Boiler Water Reset Control	$0.50	per input MBH	0	0
Steam Trap	$275	per unit	0	125
Furnace (high efficiency)	$125 - $175	per unit	0	300
Furnace tune-up	$40 - $80	per unit	0	30
Thermostat	$10 - $20	per unit	0	0
Water Heater (Natural Gas)	$85 - $350	per unit	0	0
Heat Pump Water Heater	$500	per unit	500	0
Pipe Wrap	$0.20 - $3.00	per 3ft unit	2,500	2,500
Insulation (Roof/Attic, Wall)	$300	per unit	0	0
Infiltration Reduction (30% or more)	$300	per unit	0	0
Duct sealing	$150	per unit	0	0
ENERGY STAR Door[1]	$10	per unit	200	425
ENERGY STAR Window	$0.25	per unit	0	0
ENERGY STAR Clothes Washer	$25	per unit	100	0
ENERGY STAR Clothes Dryer	$25	per unit	100	75
ENERGY STAR Refrigerator	$25	per unit	50	0
Bathroom Exhaust Fan	$25	per unit	25	0
LED Lighting (T-lamps)	$4.00 - $8.00	per unit	0	0
ASHRAE Level II Audit	$10,000	per audit	151	151
Income Qualified - Energy Efficiency Assistance	**Proposed Incentive**	**Incentive Units**	**Estimated # of Electric Units**	**Estimated # of Gas Units**
LED Bulbs	$2 - $12	per bulb	950,000	0
Infiltration reduction	$200 - $1,000	per home	250	500
Insulation	$2.50 - $5.00	per sq ft	1,500	2,300
Windows	$200 - $800	per unit	130	340
Air Purifier	$100 - $250	per unit	500	0
Dehumidifier	$300 - $2,000	per unit	300	0

Thermostat	$70 - $150	per unit	400	900
Refrigerator – ENERGY STAR	$1,300	per unit	1,100	0
Room Air Conditioner	$250 - $350	per unit	20	0
Central Air Conditioner	$5,000	per unit	700	0
Air Conditioner Tune-up	$250	per unit	5	0
Furnace (95%+ AFUE)	$3,750	per unit	0	350
Furnace / Air Conditioner Combo	$9,000	per unit	550	0
Furnace Tune-up	$250	per unit	0	200
Boiler (95%+ AFUE)	$7,500	per unit	0	30
Boiler Tune-up	$250	per unit	0	2
Water Heater	$2,000 - $3,250	per unit	0	280
Heat Pump (Air Source)	$10,000-$15,000	per system	0	0
Heat Pump Water Heater	$3,000	per unit	3	0
Duct Insulation	$50	per system	0	5
Ductwork repair/replacement	$2,300	per system	0	140
Attic Hatch	$50	per unit	0	75
ENERGY STAR Door	$750	per door	0	40
Pipe Wrap	$1.00 - $5.00	per 3ft section	0	35
1.5 gpm Showerhead	$5.00 - $15.00	per unit	0	35
1.5 gpm Kitchen Aerator	$1.50 - $5.00	per unit	0	35
1.0 gpm Bathroom Aerator	$0.50 - $1.50	per unit	0	35
Income Qualified - Multifamily	**Proposed Incentive**	**Incentive Units**	**Estimated # of Electric Units**	**Estimated # of Gas Units**
LED Exit signs	$100	per fixture	400	0
LED Stairwell Bi-level control	$1,000	per unit	20	0
Exterior and Interior common area lighting	$0.75 - $1.50	per bulb	800,000	0
Interior Occupancy Sensor	$50-$100	per sensor	1,300	0
Exterior Occupancy Sensor	$1.20	per watt controlled	500	0
Air Conditioner	$1,500	per unit	150	0
Room Air Conditioner	$250 - $550	per unit	15	0
Chiller tune-up	$10	per ton	0	0
Heat Pump (Air Source)	$5,000 - $6,000	per system	330	0
Boiler	$2,400 - $7,500	per unit	0	5
Boiler Tune-up	$180 - $675	per unit	0	70
Steam Trap	$300	per unit	0	1,750
Furnace (High efficiency)	$900 - $1,900	per unit	0	900
Furnace tune-up	$50 - $80	per unit	0	425

Thermostat[1]	$80 - $100	per unit	230	120
Water Heater (Natural Gas)	$350 - $900	per unit	0	130
Heat Pump Water Heater	$1,000 - $4,500	per unit	325	0
Pipe Wrap[1]	$4 - $10	per linear ft	325	1,325
Insulation (Roof/Attic, Wall)	$1,600	per home	250	720
Infiltration Reduction (30% or more)	$2,000	per home	250	1,850
Duct sealing	$400	per 1,000 sq ft	0	0
ENERGY STAR Door[1]	$100	per unit	100	100
ENERGY STAR Window	$4.00	per sq ft	0	0
ENERGY STAR Air Purifier	$40	per unit	0	0
ENERGY STAR Dehumidifier	$40	per unit	0	0
ENERGY STAR Clothes Washer	$150	per unit	125	0
ENERGY STAR Clothes Dryer	$150	per unit	125	25
ENERGY STAR Refrigerator	$150	per unit	125	0
Bathroom Exhaust Fan	$75	per unit	125	0
ASHRAE Level II Audit[1]	$6,000 - $10,000	per Audit	15	15
School Program	**Proposed Incentive**	**Incentive Units**	**Estimated # of Electric Units**	**Estimated # of Gas Units**
School Kits			35,600	32,400
LED Night light	$1.75	per unit	35,600	0
LED Task light	$7.00 - $10	per unit	31,500	
1.5 gpm Showerhead	$3.80	per unit	5,300	27,900
1.5 gpm Kitchen Aerator	$1.80	per unit	2,600	0
1.0 gpm Bathroom Aerator	$.80	per unit	8,700	33,700
Pipe Wrap	$1.00	per 3 ft unit	14,000	51,500
Tier 1 Advanced Power Strip	$15	per unit	26,600	0
Window insulation kit - 90.42 sq. ft	$5 - $10	per Kit	29,200	20,200
Behavior Program	**Proposed Incentive**	**Incentive Units**	**Estimated # of Reports**	**Estimated # of Reports**
Home Energy Reports	N/A	per customer	750,000	210,000

[1] Customers receiving service from DTE Electric and DTE Gas (Combo) are included in both Electric and Gas estimates.
[2] New Homes savings are calculated using modeled savings, per home. The incentives are structured as prescriptive plus performance.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

REBECCA M. MALFROID

Line No.

Q1. What is your name, business address and by whom are you employed?

A1. My name is Rebecca M. Malfroid (she/her/hers). My business address is: One Energy Plaza, Detroit, MI 48226. I am employed by DTE Electric Company.

Q2. On whose behalf are you testifying?

A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas Company (DTE Gas) (collectively, DTE).

Q3. What is your educational background?

A3. I graduated from Wayne State University with a Bachelor of Science Degree in Mathematics in 2014.

Q4. What is your work experience?

A4. In January 2014, I was hired by DTE Electric as a Student Co-op in the Energy Optimization (EO) Evaluation Measurement and Verification (EM&V) team, and in September 2014, I was hired as an Associate Marketing Analyst for the same team within the Business Planning and Development Department. My responsibilities in this role included supporting the evaluation of the EO programs through impact and process evaluation, participating in the state EO Collaborative, and internal reporting. In 2017, I was promoted to the position of Marketing Analyst for the Energy Waste Reduction (formerly EO) EM&V and my responsibilities included leading the EM&V efforts for the residential programs, supporting Energy Waste Reduction (EWR) regulatory filings, participating in the state EWR Collaborative and technical subcommittee, running cost-effectiveness testing using DSMore, Demand Side Management Option/Risk Evaluator. In 2018, I was

Line No.

1 promoted to Principal Marketing Analyst for the EWR Strategy team. My
2 responsibilities in this role included running cost-effectiveness testing and building
3 EWR models for plan filings. One of my key responsibilities was providing support
4 for EWR witnesses in regulatory filings such as EWR reconciliations, EWR Plans,
5 as well as the Company's most recent IRP. My duties included drafting testimony,
6 preparing exhibits, researching, and providing analysis for audit and discovery
7 requests in such cases. In 2021, I became a Principal Marketing Specialist and my
8 responsibilities included developing EWR plan modeling sensitivities, running
9 cost-effectiveness testing for EWR filings, and strategic planning.
10
11 **Q5. What is your current position?**
12 A5. In 2022, I became a Marketing Program Manager. I am responsible for developing
13 EWR models for planning, running cost-effectiveness testing, regulatory support,
14 and strategic planning.
15
16 **Q6. Are you a member of any professional organizations?**
17 A6. I am a member of the Association of Energy Services Professionals (AESP). AESP
18 is an organization that provides professional development programs, a network of
19 energy practitioners, and promotes the transfer of knowledge and experience to
20 promote energy efficiency programs.
21
22 **Q7. Have you previously testified before the Michigan Public Service Commission**
23 **(MPSC or Commission)?**
24 A7. Yes. I provided testimony in the following cases:
25 U-20866 2020 DTE Electric EWR Reconciliation

Line No.		
1	U-20871	2020 DTE Gas EWR Reconciliation
2	U-20876	2022-2023 DTE Electric EWR Plan
3	U-20881	2022-2023 DTE Gas EWR Plan
4	U-21206	2021 DTE Electric and DTE Gas EWR Reconciliation
5	U-21313	2022 DTE Electric and DTE Gas EWR Reconciliation

Line No.

1 **PURPOSE OF TESTIMONY**

2 **Q8. What is the purpose of your testimony?**

3 A8. The purpose of my testimony is to support the Company's approach to determining
4 cost-effectiveness, including details regarding the method and tools used for the
5 cost-effectiveness calculation. I also provide the calculation results showing the
6 2024-2025 EWR plan is cost-effective.

7

8 **Q9. Are you sponsoring any exhibits in this proceeding?**

9 A9. Yes, I am supporting the following exhibits:

Exhibit	Description
A-12	Cost-Effectiveness Test Results-Electric
A-13	Cost-Effectiveness Test Results-Gas

13

14 **Q10. Were these exhibits prepared by you or under your direction?**

15 A10. Yes, they were.

16

17 **Cost Effectiveness Tests**

18 **Q11. What is the purpose of the cost-effectiveness tests?**

19 A11. Cost-effectiveness tests (CETs) are performed to ensure that energy savings are
20 achieved in a cost-effective manner for the utility and its customers. As required by
21 PA 342, EWR plans must meet the Utility System Resource Cost Test (USRCT) to
22 be approved. Additionally, in accordance with the temporary order in Case No. U-
23 15800, the plan will also include cost-effectiveness test results for the Total
24 Resource Cost Test, Rate Impact Measure Test, and Participant Cost Test.

25

Line No.

Q12. How did the Company determine the cost-effectiveness of the 2024-2025 EWR Plan?

A12. The DSMore cost analysis tool was used to calculate and report the cost-effectiveness results of the 2024-2025 EWR Plan using the USRCT. Consistent with PA 342, the USRCT is defined as the total net present value of life cycle avoided costs, divided by the sum of program costs.

Q13. What inputs are used in running DSMore?

A13. There are two major groups of inputs used in running DSMore: the utility inputs and the program inputs.

Utility input assumptions contain utility specific information, including load shapes, the commodity and non-commodity cost of electricity, customer energy rates, line losses, weather, and discount rates.

Program input assumptions include information about individual energy efficiency measures and the programs they are being implemented through. The major program inputs include measure type, measure unit, measure size, deemed savings from the 2023 Michigan Energy Measures Database (MEMD) or custom measure savings assumptions, the operations/implementation costs, incentive costs, incremental measure costs, participation levels, measure life, assumed hours of operation, and applicable time of day or seasonal impact.

Q14. At what level of detail were the CETs calculated?

Line No.

1 A14. CETs were performed at the entire DTE EWR portfolio level and at the individual
2 program level. The portfolio level includes all EWR programs except for the
3 income-qualified programs. Other levels include the aggregation of: 1) residential
4 programs (excluding income-qualified), 2) C&I programs, 3) Pilot programs, 4)
5 Health and Safety Pilot, and the 5) Education program. The CET results for each of
6 these aggregated levels are shown on Lines 1 through 6 on my exhibits A-12 and
7 A-13. The income-qualified programs were excluded from the aggregations as
8 Section 71(4)(G) of PA 342 specifically excludes low-income in the requirement
9 for cost-effectiveness.
10
11 CETs were also calculated at the program level. For DTE Electric, these levels
12 included the income-qualified programs, eight residential programs, and fourteen
13 C&I programs. My Exhibit A-12 shows the DTE Electric CET results for the
14 residential programs on Lines 7 through 14, and for the C&I programs on Lines 15
15 through 28. The residential programs include: 1) Appliance Recycling, 2)
16 Residential Building Envelope, 3) Multifamily Residential, 4) School Program, 5)
17 Home Energy Reports, 6) Multifamily Strategic Energy Management, 7) Residential
18 Emerging Measure and Approaches and 8) Residential Shared Savings. The C&I
19 programs include: 1) Prescriptive, 2) Non-Prescriptive, 3) Retro-Commissioning, 4)
20 Strategic Energy Management, 5) Small Business Program, 6) Mid-Stream
21 Lighting, 7) Mid-Stream Food Service, 8) Mid-Stream HVAC, 9) Multifamily
22 Common Areas, 10) Find and Fix, 11) C&I Energy Star Lighting, 12) C&I Emerging
23 Measures and Approaches, 13) C&I Shared Savings, and 14) Self-Direct.
24 For DTE Gas, USRCT scores were calculated for the income-qualified programs,
25 seven residential programs, and eleven C&I programs My Exhibit A-13, shows the

Line No.

1 DTE Gas CET results for the residential programs on Lines 7 through 13, and for
2 the C&I programs on Lines 14 through 24. The residential programs include: 1)
3 Residential Building Envelope, 2) Multifamily Residential, 3) Schools, 4) Home
4 Energy Reports, 5) Multifamily Strategic Energy Management, 6) Residential
5 Emerging Measure and Approaches, and 7) Residential Shared Savings. The C&I
6 programs include: 1) Prescriptive, 2) Non-Prescriptive, 3) Retro-Commissioning, 4)
7 Strategic Energy Management, 5) Small Business Program, 6) Mid-Stream Food
8 Service, 7) Mid-Stream HVAC, 8) Multifamily Common Areas, 9) Find and Fix,
9 10) C&I Emerging Measures and Approaches, and 11) C&I Shared Savings.
10
11 **Q15. Is the 2024-2025 EWR Plan cost-effective?**
12 A15. Yes. USRCT scores have been calculated based on the costs and energy savings
13 from the 2024-2025 EWR Plan excluding income-qualified programs and as
14 required by PA 342. Application of this test shows that the score is 2.38 for DTE
15 Electric and 1.67 for DTE Gas. Thus the 2024-2025 EWR Plan is cost-effective for
16 both DTE Electric and DTE Gas. The EWR electric portfolio excluding income-
17 qualified USRCT score is shown in Exhibit A-12, line 1, column (b), and the EWR
18 gas portfolio excluding income-qualified USRCT score is shown in Exhibit A-13,
19 line 1, column (b).
20
21 **Q16. Does this complete your direct testimony?**
22 A16. Yes, it does.
23

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

REBECCA M. MALFROID

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Cost Effectiveness Test Results-Electric

Case No.: U-21322
Exhibit: A-12
Witness: R.M. Malfroid
Page: 1 of 1

Line No.	(a) Description	(b) USRCT	(c) TRC Test	(d) RIM Test	(e) Participant Test	(f) CCE Results $/kWh (1)
	All Programs					
1	Portfolio - excludes the Income-Qualified Program	2.38	1.36	0.46	2.29	0.02
2	Residential Programs - excludes the Income-Qualified Program	1.12	1.09	0.42	9.02	0.04
3	C&I Programs	2.80	1.40	0.46	2.10	0.02
4	Pilot Program	2.06	2.06	0.39		0.02
5	Health and Safety Pilot	2.06	2.06	0.39		0.02
6	Education Program	2.11	2.11	0.47		0.02
	Residential Programs					
7	Appliance Recycling	1.78	1.78	0.50		0.03
8	Residential Building Envelope	1.41	1.21	0.48	2.10	0.03
9	Multifamily Residential	2.53	3.02	0.54	3.86	0.02
10	School Program	0.79	0.79	0.37		0.06
11	Home Energy Reports	0.96	0.96	0.37		0.05
12	Multifamily Strategic Energy Management	0.80	0.90	0.35		0.06
13	Emerging Measures and Approaches	0.59	0.59	0.31		0.07
14	Residential Shared Savings	57.35	57.35	0.65		0.00
	C&I Programs					
15	Prescriptive	5.70	1.69	0.57	1.65	0.01
16	Non-Prescriptive	6.72	2.38	0.47	2.72	0.01
17	Retro-Commissioning	1.05	0.42	0.43	0.77	0.05
18	Strategic Energy Management	0.91	0.48	0.40	1.16	0.05
19	Small Business Program	1.62	1.38	0.36	3.28	0.03
20	Mid-Stream Lighting	6.67	1.60	0.49	1.89	0.01
21	Mid-Stream Food Service	0.81	0.68	0.30	2.05	0.06
22	Mid-Stream HVAC	3.43	2.10	0.56	2.29	0.02
23	Multifamily Common Areas	2.01	1.31	0.39	2.00	0.02
24	Find and Fix	0.25	0.10	0.18	0.35	0.19
25	C&I Energy Star Lighting	2.42	1.64	0.41	2.72	0.02
26	Emerging Measures and Approaches	3.23	3.23	0.38		0.01
27	C&I Shared Savings	62.63	62.63	0.45		0.00
28	Self Direct	13.33	13.33	0.42		0.00
29	Income-Qualified Programs	0.26	0.32	0.18	8.02	0.16

Notes:
(1) Cost of Conserved Energy (CCE) calculated from DSMore
Source: Company Records (Option Value DSMore)

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Cost Effectiveness Test Results-Gas

Case No.: U-21322
Exhibit: A-13
Witness: R.M. Malfroid
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)
Line No.	**Description**	**USRCT**	**TRC Test**	**RIM Test**	**Participant Test**	**CCE Results $/Ccf (1)**
	All Programs					
1	Portfolio - excludes the Income-Qualified Program	1.67	1.10	0.51	1.89	$0.20
2	Residential Programs - excludes the Income-Qualified Program	1.11	0.76	0.39	1.81	$0.32
3	C&I/EUT Programs	2.33	1.48	0.61	1.97	$0.14
4	Pilot Program	1.59	1.59	0.48		$0.23
5	Health and Safety Pilot	1.59	1.59	0.48		$0.23
6	Education Program	1.59	1.59	0.45		$0.23
	Residential Programs					
7	Residential Building Envelope	1.59	0.74	0.44	1.11	$0.21
8	Multifamily Residential	1.69	0.43	0.44	0.56	$0.20
9	School Program	2.52	2.52	0.48		$0.15
10	Home Energy Reports	1.23	1.23	0.41		$0.39
11	Multifamily Strategic Energy Management	0.97	0.45	0.37	1.22	$0.44
12	Emerging Measures and Approaches	1.90	1.90	0.45		$0.19
13	Residential Shared Savings	150.25	150.25	0.59		$0.00
	C&I/EUT Programs					
14	Prescriptive	4.28	1.34	0.70	1.13	$0.07
15	Non-Prescriptive	5.91	3.93	0.73	4.04	$0.06
16	Retro-Commissioning	0.92	0.83	0.44	6.49	$0.45
17	Strategic Energy Management	1.95	1.67	0.58	2.61	$0.22
18	Small Business Program	1.64	1.46	0.56	3.07	$0.22
19	Mid-Stream Food Service	1.37	0.62	0.52	0.76	$0.24
20	Mid-Stream HVAC	2.26	3.53	0.61	3.22	$0.13
21	Multifamily Common Areas	2.25	0.41	0.61	0.39	$0.14
22	Find and Fix	0.60	0.60	0.35	2.98	$0.67
23	Emerging Measures and Approaches	4.24	4.24	0.70		$0.09
24	C&I Shared Savings	283.54	283.54	0.83		$0.00
25	Income-Qualified Programs	0.24	0.26	0.18	2.3	$1.41

Notes:
(1) Cost of Conserved Energy (CCE) calculated from DSMore
Source: Company Records (Option Value DSMore)

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

HABEEB J. MAROUN

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF HABEEB J. MAROUN

Line No.

1 **Q1. What is your name, business address and by whom are you employed?**

2 A1. My name is Habeeb J. Maroun (he/him/his). My business address is One Energy
3 Plaza, Detroit, Michigan, 48226. I am employed by DTE Energy Corporate
4 Services, LLC as a Regulatory Strategy Consultant in the Revenue Requirements
5 Department of the Regulatory Affairs Organization.

6

7 **Q2. On whose behalf are you testifying?**

8 A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas
9 Company (DTE Gas) (collectively, DTE).

10

11 **Q3. What is your educational background?**

12 A3. I received a Bachelor of Science Degree in Mechanical Engineering from the
13 University of Michigan in 2001, a Master's in Finance from Walsh College in 2009,
14 and a Master's in Business Administration from the University of Michigan in
15 2015.

16

17 **Q4. What is your work experience?**

18 A4. From 2002 to 2004, I was employed by Lear Corporation and participated in their
19 engineering rotational program. After program completion, I accepted a position
20 in product engineering where I managed several vehicle programs. In 2005, I left
21 Lear to pursue a role as an independent consultant managing procurement for an
22 international glass distributor. In 2009, I assumed additional responsibilities
23 leading the client's expansion from distribution to fabrication. In 2015, I concluded
24 this work to finish my MBA and begin a summer internship with DTE Energy in
25 their Corporate Development group. In this role, I developed revenue requirement

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models and scenarios. I joined DTE Energy full-time in 2016 as a Senior Strategist within DTE Electric, including roles within the Business Planning and Development and Fossil Generation organizations, where I performed financial analysis, strategic planning, and provided rate case support. In 2019, I accepted a position in Regulatory Affairs as a Principal Financial Analyst in their Revenue Requirement group and was promoted to Regulatory Strategy Consultant in 2022.

Q5. What are your current job responsibilities?

A5. As a Regulatory Strategy Consultant for Revenue Requirements within DTE Energy's Regulatory Affairs organization, my responsibilities include the preparation of revenue requirements, cost of service and rate design studies for regulatory filings, along with regulatory analysis and research.

Q6. Have you previously testified before the Michigan Public Service Commission (MPSC or Commission)?

A6. Yes. I provided testimony in the following cases:

U-20484	DTE Electric's 2018 Renewable Energy Plan Reconciliation
U-20642	DTE Gas's 2019 Rate Case
U-20837	DTE Electric's 2020 Revised AMI Opt-Out Program
U-20940	DTE Gas's 2021 Rate Case
U-20836	DTE Electric 2022 Rate Case
U-21297	DTE Electric 2023 Rate Case

Line No.

1 **PURPOSE OF TESTIMONY**

2 **Q7. What is the purpose of your testimony?**

3 A7. My testimony in this proceeding calculates Energy Waste Reduction (EWR)
4 revenue requirements, for Electric and Gas, by customer class for DTE's 2024-
5 2025 biennial EWR Plan. Throughout my testimony, I will refer to this current
6 plan as EWR, consistent with the change in legislation resulting from 2016 Public
7 Act 342 (PA 342). References to previous surcharges and plan cases may be
8 referred to as Energy Optimization (EO), consistent with the law in effect at the
9 time. More specifically, my testimony covers the following:

10 1) The calculation of the DTE Electric and DTE Gas revenue requirements by
11 customer class for 2024 and 2025 using program costs provided by DTE
12 Witness Bilyeu.

13 2) For DTE Electric, I will show that the total calculated revenue requirement
14 for the periods 2024 and 2025 is $55.4 million for residential customers,
15 $258.7 million for commercial and industrial (C&I) secondary customers,
16 and $96.1 million for C&I primary customers.

17 3) For DTE Gas, I will show that the total calculated revenue requirement for
18 the periods 2024 and 2025 is $52.3 million for residential customers, and
19 $50.8 million for Commercial and Industrial (C&I) and End-Use
20 Transportation (EUT) customers.

21

22 **Q8. Are you sponsoring any exhibits in this proceeding?**

23 A8. Yes. I am sponsoring the following exhibits:

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1 **DTE Electric**

Exhibit	Description
A-26	Annual Revenue Requirement by Class – Electric
A-29	Calculation of Return on Capitalized Costs - Electric
A-31	Pre-Tax Rate of Return and Revenue Conversion Factors - Electric

DTE Gas

Exhibit	Description
A-27	Annual Revenue Requirement by Class - Gas
A-28	Revenue Requirement Summary by Class – Gas
A-30	Calculation of Return on Capitalized Costs - Gas
A-32	Pre-Tax Rate of Return and Revenue Conversion Factors - Gas
A-33	Calculation of EWR Surcharges - Gas
A-34	Calculation of Income-Qualified Percentage For the C&I/EUT Exploratory Program - Gas
A-41	Proposed Energy Waste Reduction Surcharge Tariff Sheet - Gas

Q9. Were these exhibits prepared by you or under your direction?

A9. Yes, they were.

Q10. What are the components of the revenue requirements for DTE Electric's and DTE Gas's 2024-2025 EWR Plan?

A10. The annual revenue requirement for DTE's 2024-2025 EWR Plan consists of: (1) the "Return On" capitalized program costs; (2) the "Return Of" capitalized program costs; (3) program costs that will be expensed in the defined program year; and for

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1 DTE Electric only, (4) amortization of the TCJA regulatory liability related to the
2 re-measurement of deferred tax liabilities. Also included in the 2024 revenue
3 requirement for this 2024-2025 EWR Plan are: (1) the actual over/under recovered
4 cumulative EWR balances as of December 31, 2022; and (2) the 2023 estimated
5 over/under recovered EWR balances with the related carrying charges. DTE is
6 including the 2022 balance and estimated 2023 over/under recoveries to minimize
7 the over/under recovery balance going forward.
8
9 **Q11. What do you mean by the "Return On" and the "Return Of" capitalized**
10 **program costs?**
11 A11. As approved in DTE's initial EO Plan, Case No. U-15806 (first approved EO Plan),
12 certain program costs were capitalized and amortized over a five-year period. The
13 "Return Of" program costs are the annual amortization amounts of these capitalized
14 costs that will be recovered over a five-year period. The "Return On" program costs
15 are the pre-tax rate of return DTE Electric and DTE Gas need to recover the
16 underlying long-term debt costs and the return on common equity used to finance
17 the unamortized program costs that were capitalized. For DTE Electric, this 2024-
18 2025 EWR Plan reflects the Return On and Return Of the unamortized portion of
19 program costs capitalized since the inception of DTE's EO plan in 2009. For DTE
20 Gas, this 2024-2025 EWR Plan reflects the Return On and Return Of the
21 unamortized portion of program costs capitalized beginning in 2020.

Line No.

1 **Q12. How are the December 31, 2022 EWR over/under recovery balances**
2 **determined?**
3 A12. The December 31, 2022 EWR over/under recovery balances are the differences
4 between DTE EWR surcharge revenues realized and actual EWR costs incurred
5 through 2022, inclusive of carrying charges through 2023, for the respective
6 customer classes. The amounts used in my calculations on Exhibit A-26 (Electric)
7 and A-27 (Gas) are the filed balances in DTE Electric's 2022 EWR reconciliation
8 filing, Case No. U-21313.
9
10 **Q13. How are the estimated 2023 EWR over/under recovery balances determined?**
11 A13. The estimated 2023 EWR over/under recovery balance for each class is the
12 difference between DTE's estimated EWR surcharge revenues and EWR costs
13 anticipated to be incurred in 2023.
14
15 **DTE Electric EWR**
16 **Q14. What information is displayed on Exhibit A-26?**
17 A14. Exhibit A-26, titled "Annual Revenue Requirement by Class - Electric", is a three-
18 page exhibit that presents the 2024-2025 EWR revenue requirement amounts for
19 the residential, C&I secondary, and C&I primary customer classes for DTE
20 Electric. The format and line items included on each page are identical. Page 1
21 reflects the 2024-2025 EWR revenue requirement amounts for the residential
22 customer class. Pages 2 and 3 reflect the 2024-2025 EWR revenue requirement
23 amounts for the C&I secondary and C&I primary customer classes, respectively.
24 The total annual EWR revenue requirement amounts (line 12 of pages 1, 2 and 3)

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1 are used by Company Witness Pollack to derive the levelized EWR surcharges for
2 each respective customer class for DTE Electric.
3
4 The EWR revenue requirement amounts for the capitalized costs include the Return
5 On Capitalized Costs (line 2) and Return Of Capitalized Costs (line 3). These
6 amounts are carried forward from Exhibit A-29 for the respective customer class.
7 Line 6 reflects the EWR program costs to be expensed in the program year. The
8 costs for the residential and commercial classes are supported by and detailed on
9 Exhibit A-5, sponsored by Witness Bilyeu. Line 7 represents the amortization of
10 the TCJA regulatory liability related to the re-measurement of deferred tax liabilities
11 which was provided by Company Witness Biel. Line 8 is the revenue requirement
12 for the capitalized and expensed program costs, as well as amortization. Line 9
13 represents the actual cumulative EWR over/under recovery balances as of December
14 31, 2022. Line 10 represents the 2023 EWR estimated over/under recovery
15 balances. Line 11 represents estimated 2023 carrying charges on the amounts
16 reflected on lines 9 and 10. Line 12 is the total EWR revenue requirement used by
17 Witness Pollack on Exhibits A-37 through A-39 to derive the proposed DTE Electric
18 levelized EWR base surcharges for the respective customer classes.
19
20 **Q15. Why are you including estimated carrying charges on line 11 of Exhibit A-26?**
21 A15. The balances on line 9 include carrying charges through 2022. The amount on line
22 10 is the estimated over/under recovered amount for 2023 but does not reflect
23 carrying charges for 2023. Carrying charges will be accrued on these balances
24 during 2023. Since these balances are being rolled into the 2024 revenue

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1 requirements, carrying charges are being calculated to reflect an estimate of what
2 will be incurred through the end of 2023.
3
4 **Q16. How are the estimated carrying charges, shown on line 11 of Exhibit A-26,**
5 **calculated for DTE Electric?**
6 A16. The estimated 2023 carrying charges on line 11 are based on a full year's worth of
7 accrued interest on the 2022 cumulative over/under recovery balances as of
8 December 31, 2022, and a half year of accrued interest on the 2023 estimated
9 over/under recovery. The calculation consists of line 9 plus the simple average of
10 line 10 (line 10/2) multiplied by the average 2023 short-term debt rate of 5.35%.
11 The average 2023 short-term debt rate was provided by DTE's Treasury
12 Department.
13
14 **Q17. Have you calculated the Return On capitalized costs for DTE Electric in this**
15 **case?**
16 A17. Yes. Exhibit A-29, titled "Calculation of Return On Capitalized Costs - Electric",
17 is a three-page exhibit that derives the Return On and Return Of DTE Electric's
18 EWR program costs that were capitalized for the three customer classes. The format
19 and Line items included on each page are identical. Page 1 reflects the calculation
20 for the residential customer class. Since DTE Electric stopped capitalizing
21 residential program expenses in 2010, the capitalized costs were fully amortized
22 and Return On and Return Of capitalized costs are zero for 2024-2025.
23
24 Pages 2 and 3 reflect the calculation for the C&I secondary and C&I primary
25 customer classes, respectively. The Return On component (line 4) is based on

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1 average capitalized costs (line 2) multiplied by the pre-tax rate of return (line 3)
2 derived on Exhibit A-31. Similar to the residential class, the Company stopped
3 capitalizing new C&I program costs starting in 2022. The Return Of component
4 (amortization), line 27, is based on a 5-year amortization period assuming half year
5 convention in the first year and the last year. These amounts are carried forward to
6 Exhibit A-26.
7
8 **Q18. How are the average capitalized costs, that are shown on line 14 of Exhibit A-**
9 **29, computed in this 2024-2024 EWR Plan?**
10 A18. Average capitalized costs are computed in this 2024-2025 EWR Plan using the
11 same approach that was used in the First Approved EO Plan. On each of the 3
12 pages of Exhibit A-29, ending capitalized costs balances are derived from gross
13 plant (line 8) less accumulated amortization (lines 9 and 10) and accumulated
14 deferred income taxes (line 12). The accumulated deferred tax balances are
15 supported on Exhibit A-24, sponsored by Witness Biel. Average capitalized costs,
16 shown on line 14, are computed as a simple average of the year ending capitalized
17 costs balances shown on line 13.
18
19 **Q19. Why are the accumulated deferred taxes that are shown on line 12 of Exhibit**
20 **A-29 included in the derivation of DTE Electric's EWR capitalized costs,**
21 **rather than as a component of pre-tax cost of capital?**
22 A19. The pre-tax rate of return used in the calculation of the Return On capitalized costs
23 is based on DTE Electric's permanent capital structure and does not reflect the
24 MPSC's traditional inclusion of accumulated deferred taxes (zero cost financing)
25 in deriving the rate of return. Therefore, to properly determine EWR's Return On

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capitalized costs, accumulated deferred taxes associated with EWR must be taken into consideration as a reduction. Absent this deferred tax offset adjustment to each year's capitalized costs, it would be necessary to calculate a pre-tax rate of return for each year to reflect the annual effect of changes in zero cost of capital that result from deferred taxes.

Q20. Have you calculated a Pre-Tax Rate of Return and Revenue Conversion factor for DTE Electric in this case?

A20. Yes. Exhibit A-31, titled "Pre-Tax Rate of Return and Revenue Conversion Factors", derives the pre-tax rate of return of 9.36% used in calculating the Return On capitalized program costs for DTE Electric. The components used in the calculation are based on DTE Electric's permanent capital structure as approved by the MPSC in its most recent general rate case, Case No. U-20836. Column (b), lines 1 and 2 reflect DTE Electric's authorized permanent capital structure of 50% debt and 50% common equity. Column (c), line 1, is DTE Electric's current long-term debt rate of 5.35% as provided by DTE's Treasury Department. Column (c), line 2 is DTE Electric's authorized return on common equity of 9.9% from its most recent general rate case, Case No. U-20836. Column (d) is the weighted cost of capital based on the 50% debt/50% equity and the cost rates. A conversion factor is applied to the weighted costs of debt and common equity to derive the pre-tax return shown in column (f).

Q21. What is the basis for using this authorized capital structure in deriving the pre-tax rate of return?

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1 A21. Both 2008 PA 295 for EO and 2008 PA 295 as amended by 2016 PA 342 for EWR
2 allow recovery of the incremental cost of implementing DTE Electric's EWR
3 program. The calculation on Exhibit A-31 reflects DTE Electric's currently
4 authorized capital structure per the Commission's Order in Case No. U-20836 and
5 accurately depicts DTE Electric's incremental cost of capital associated with
6 establishing 2024-2025 EWR base surcharges.
7
8 **Q22. What are the conversion factors in column (e) of Exhibit A-31?**
9 A22. The conversion factors derived on Exhibit A-31 are multiplication factors that
10 convert the DTE Electric rate of return into a pre-tax rate of return. Each dollar of
11 revenue the Company receives is subject to the Michigan corporate income tax,
12 municipal income tax, and federal income tax. The equity conversion factor of
13 1.3496 is applied to the equity weighted cost and the debt conversion factor of
14 1.0000 is applied to the debt weighted cost.
15
16 **Q23. How is the equity conversion factor calculated?**
17 A23. The equity conversion factor is calculated in column (c) on lines 4 through 11 of
18 Exhibit A-31 based on the relationship between pre-tax and after-tax income.
19 Income tax rates taken into consideration in the calculation include: (1) Michigan's
20 flat corporate income tax rate of 5.88% that went into effect in January 2012
21 (adjusted for the DTE Electric's apportionment rate (98.00% X 6.00%) supplied by
22 the DTE Energy Tax Department), (2) municipal income tax rate of 0.33%, and (3)
23 the federal income tax rate of 21.00%. The pre-tax income base of 100% on line 4
24 is adjusted for the impacts of all the defined income taxes on lines 5 through 8. The
25 resulting after-tax income on line 10 of 74.09% is divided into the pre-tax income

Line No.

1 base of 100% on line 4 with the resulting quotient being 1.3496 on line 11, column
2 (c).
3
4 **Q24. What is the debt conversion factor for DTE Electric?**
5 A24. Given the debt component of the overall Rate of Return is deductible for tax
6 purposes, there is no need for a debt conversion factor to convert the debt
7 component to its pre-tax equivalent. Thus, a debt conversion factor of 1.0000 is
8 applied to the rate of return debt component and it remains unchanged as a pre-tax
9 debt cost. In prior years, a minor debt gross-up factor for the debt component was
10 required to reflect the tax effect of the Gross Receipts component of the Michigan
11 Business Tax. However, effective with Michigan flat corporate income tax rate
12 that went into effect in January 2012, there is no longer a separate gross receipts
13 tax component.
14
15 **DTE Gas EWR**
16 **Q25. What information is displayed on Exhibit A-27?**
17 A25. Exhibit A-27 titled "Annual Revenue Requirement by Class - Gas" is a two-page
18 exhibit that presents the 2024-2025 EWR revenue requirement amounts for the
19 residential and C&I/EUT customer classes for DTE Gas. The format and line items
20 included on both pages are identical. Page 1 reflects the 2024-2025 EWR revenue
21 requirement amounts for the residential customer class. Page 2 reflects the 2024-
22 2025 EWR revenue requirement amounts for the C&I and EUT customer classes.
23 The total EWR revenue requirement amounts (line 11 of pages 1 and 2) are used on
24 Exhibit A-33 to derive the levelized EWR surcharges for each customer class.
25

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1 The EWR revenue requirement amounts for the capitalized costs include the Return
2 On Capitalized Costs (line 2) and Return Of Capitalized Costs (line 3). These
3 amounts for the residential customer class reflect zero costs and the amounts for the
4 C&I and EUT customer classes are carried forward from Exhibit A-30. Line 6
5 reflects the EWR program costs to be expensed in the program year. The costs for
6 the residential and C&I/EUT classes are supported by and detailed on Exhibit A-6,
7 sponsored by Witness Bilyeu. Line 7 is the revenue requirement for both capitalized
8 and expensed program costs. Line 8 represents the actual cumulative EWR
9 over/under recovery balances as of December 31, 2022. Line 9 represents the 2023
10 EWR forecasted over/under recovery balances. Line 10 represents estimated 2023
11 carrying charges on the amounts reflected on Lines 8 and 9. Line 11 is the total
12 EWR revenue requirement used on Exhibit A-33 to derive the proposed DTE Gas
13 levelized EWR base surcharges for the respective customer class.
14
15 **Q26. Why are you including estimated carrying charges on line 10 of Exhibit A-27?**
16 A26. The balances on line 8 include carrying charges through 2022. The amount on line
17 9 is the forecasted over/under recovered amount for 2023 but does not reflect
18 carrying charges for 2023. Carrying charges will be accrued on these balances
19 during 2023. Since these balances are being rolled into the 2024 revenue
20 requirements, carrying charges are being calculated to reflect an estimate of what
21 will be incurred through the end of 2023.
22
23
24

Line No.

1 **Q27. How are the estimated carrying charges, shown on line 10 of Exhibit A-27,**
2 **calculated for DTE Gas?**
3 A27. The estimated 2023 carrying charges on line 10 are based on a full year's worth of
4 accrued interest on the 2022 cumulative over/under recovery balances as of
5 December 31, 2022 and a half year of accrued interest on the 2023 forecasted
6 over/under recovery. The calculation consists of line 8 plus the simple average of
7 line 9 (line 9/2) multiplied by the forecasted 2023 short-term debt rate of 5.35%.
8 The forecasted 2023 short-term debt rate was provided by DTE's Treasury
9 Department.
10
11 **Q28. What information is displayed on Exhibit A-28?**
12 A28. Exhibit A-28 entitled "Revenue Requirement Summary by Class - Gas" presents a
13 summary of the 2024-2025 DTE Gas EWR revenue requirement for the residential
14 and C&I/EUT customer classes as calculated on Exhibit A-27.
15
16 **Q29. Have you calculated the Return On capitalized costs for DTE Gas in this case?**
17 A29. Yes. Exhibit A-30, titled "Calculation of Return On Capitalized Costs - Gas", is an
18 exhibit that derives the Return On and Return Of DTE Gas's EWR program costs
19 that were capitalized for the C&I and EUT customer classes. The Return On
20 component (line 4) is based on average capitalized costs (line 2) multiplied by the
21 pre-tax rate of return (line 3) derived on Exhibit A-32. The Return Of component
22 (amortization), line 20, is based on a 5-year amortization period assuming ½ year
23 convention in the first year and the last year. These amounts are carried forward to
24 Exhibit A-27.
25

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1 Exhibit A-30 reflects amortization of program costs capitalized by DTE Gas during
2 the years of 2024 and 2025. While the Company was approved to capitalize program
3 costs as proposed within the 2020-2021 EWR Plan (Case No. U-20429), as
4 discussed in Witness Bilyeu's testimony, the Company stopped capitalizing new
5 C&I/EUT program costs starting in 2022 for DTE Gas. Program costs capitalized
6 during through 2021 will continue to be amortized based on the 5-year amortization
7 period.
8
9 **Q30. How are the average capitalized costs shown on line 11 of Exhibit A-30**
10 **computed in this 2024-2025 EWR Plan?**
11 A30. Average capitalized costs are computed in this 2024-2025 EWR Plan using the same
12 approach that was used in the First Approved EO Plan. On Exhibit A-30, ending
13 capitalized costs balances are derived from gross plant (line 6) less accumulated
14 amortization (line 7) and accumulated deferred income taxes (line 9). The
15 accumulated deferred tax balances are supported on Exhibit A-25, sponsored by
16 Company Witness Biel. Average capitalized costs, shown on line 11, are computed
17 as a simple average of the year ending capitalized costs balances shown on Line 10.
18
19 **Q31. Why are the accumulated deferred taxes that are shown on line 9 of Exhibit A-**
20 **30 included in the derivation of DTE Gas's EWR capitalized costs, rather than**
21 **as a component of pre-tax cost of capital?**
22 A31. The pre-tax rate of return used in the calculation of the Return On capitalized costs
23 is based on DTE Gas's permanent capital structure and does not reflect the MPSC's
24 traditional inclusion of accumulated deferred taxes (zero cost financing) in deriving
25 the rate of return. Therefore, to properly determine EWR's Return On capitalized

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costs, accumulated deferred taxes associated with EWR must be taken into consideration as a reduction. Absent this deferred tax offset adjustment to each year's capitalized costs, it would be necessary to calculate a pre-tax rate of return for each year to reflect the annual effect of changes in zero cost of capital that result from deferred taxes.

Q32. Have you calculated a Pre-Tax Rate of Return and Revenue Conversion factor for DTE Gas in this case?

A32. Yes. Exhibit A-32, titled "Pre-Tax Rate of Return and Revenue Conversion Factors", derives the pre-tax rate of return of 9.51% used in calculating the Return On capitalized program costs. The components used in the calculation are based on DTE Gas's permanent capital structure as approved by the MPSC in its most recent general rate case, Case No. U-20940. Column (b), lines 1 and 2 reflect DTE Gas's authorized permanent capital structure of 49% debt and 51% common equity. Column (c), line 1, is DTE Gas's cost of long-term debt of 5.45% and is also DTE Gas's current long-term debt rate as provided by DTE's Treasury Department. Column (c), line 2 is DTE Gas's authorized return on common equity of 9.9% from its last general rate case, Case No. U-20940. Column (d) is the weighted cost of capital based on the capital structure and the cost rates. A conversion factor is applied to the weighted costs of debt and common equity to derive the pre-tax return shown in column (f).

Q33. What is the basis for using this authorized capital structure in deriving the pre-tax rate of return?

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A33. Both 2008 PA 295 for EO and 2008 PA 295 as amended by 2016 PA 342 for EWR allow recovery of the incremental cost of implementing DTE Gas's EWR program. The calculation on Exhibit A-32 reflects DTE Gas's currently authorized capital structure per the Commission's Order in Case No. U-20940 and accurately depicts DTE Gas's incremental cost of capital associated with establishing 2024-2025 EWR base surcharges.

Q34. What are the conversion factors in column (e) of Exhibit A-32?

A34. The conversion factors derived on Exhibit A-32 are multiplication factors that convert the DTE Gas rate of return into a pre-tax rate of return. Each dollar of revenue the Company receives is subject to the Michigan corporate income tax, municipal income tax, and federal income tax. The equity conversion factor of 1.3547 is applied to the equity weighted cost and the debt conversion factor of 1.0000 is applied to the debt weighted cost.

Q35. How is the equity conversion factor calculated?

A35. The equity conversion factor is calculated in column (c) on lines 4 through 11 of Exhibit A-32 based on the relationship between pre-tax and after-tax income. Income tax rates taken into consideration in the calculation include: (1) Michigan's flat corporate income tax rate of 6.00% that went into effect in January 2012, (2) municipal income tax rate of 0.56%, and (3) the federal income tax rate of 21.00%. The pre-tax income base of 100% on line 4 is adjusted for the impacts of all the defined income taxes on lines 5 through 8. The resulting after-tax income on line 10 of 73.82% is divided into the pre-tax income base of 100% on line 4 with the resulting quotient being 1.3547 on line 11, column (c).

Line No.

1

2 **Q36. What is the debt conversion factor for DTE Gas?**

3 A36. Similar to Electric, given the debt component of the overall Rate of Return is
4 deductible for tax purposes, there is no need for a debt conversion factor to convert
5 the debt component to its pre-tax equivalent for DTE Gas. Thus, a debt conversion
6 factor of 1.0000 is applied to the rate of return debt component and it remains
7 unchanged as a pre-tax debt cost. In prior years, a minor debt gross-up factor for the
8 debt component was required to reflect the tax effect of the Gross Receipts
9 component of the Michigan Business Tax. However, effective with the Michigan
10 flat corporate income tax rate that went into effect in January 2012, there is no longer
11 a separate gross receipts tax component.

12

13 DTE Gas Rate Design

14 **Q37. What information is displayed on Exhibit A-34?**

15 A37. Exhibit A-34 entitled "Calculation of Income-Qualified Percentage For the
16 C&I/EUT Exploratory Program (EEP) – Gas" derives the percentage of the
17 C&I/EUT 2024-2025 EWR revenue requirement that represents income-qualified
18 programs. The EEP percentage calculated on line 5 is used on Exhibit A-33 to
19 derive the levelized EWR surcharge for participants in the EEP. Line 2 reflects the
20 income-qualified EWR program costs expensed in the program year for C&I and
21 EUT. The income-qualified costs for the C&I/EUT customer class are supported on
22 Exhibit A-6, sponsored by Witness Bilyeu. Line 3 is equal to line 2. Line 4
23 represents the total revenue requirement for C&I/EUT customers before any
24 offsetting amounts for the 2022 cumulative over/under recovery balances or 2023's
25 projected over/under recovery amounts and comes from line 7 of page 2 of Exhibit

Line No.

A-27. Line 5 is the income-qualified percentage of the total C&I/EUT revenue requirement, and it is calculated by dividing line 3 by line 4. Line 5 is the EEP percentage used to derive the new EEP surcharge.

Q38. How does DTE Gas propose to recover its EWR Revenue Requirement?

A38. DTE Gas plans to assess levelized customer surcharges to recover the 2024 to 2025 EWR revenue requirement. The surcharges are designed to recover from each customer class the revenue requirement amounts associated with the EWR program for each respective customer class. These levelized surcharges are derived on Exhibit A-33.

Q39. How were the customer surcharges on Exhibit A-33 derived?

A39. Consistent with the methodology used by DTE Gas in its currently approved EWR Plan, the customer surcharges in this 2024-2025 EWR Plan were derived based on the revenue requirement amounts calculated on Exhibit A-27 and the forecasted billing determinants supported by page 2 of Exhibit A-20, sponsored by Company Witness Chapel. I am calculating a two-year levelized rate. Column (b), lines 1 through 2, represent the total revenue requirement for the respective periods for the two customer classes. Column (c), lines 1 through 3, represent the total billing determinants, by customer class, for the respective time periods. For this two-year period, I then calculated the Net Present Value (NPV) of the total revenue requirement to be collected from each customer class, shown in column (d), on lines 1 through 3, and of the corresponding billing determinants, shown in column (e). The C&I NPV revenue requirement on line 2 column (d) reflects a reduction for the EUT revenue requirement amount on line 3. I will discuss the reason for this

Line No.

1 reduction in the next Q&A of my testimony. The levelized surcharges were
2 calculated by dividing the NPV of total revenue requirement for each customer class
3 by the NPV of the corresponding forecasted billing determinants. The resulting
4 levelized surcharges, on a per Mcf basis, for each customer class are shown in
5 column (f).
6
7 **Q40. How were the EUT and C&I NPV revenue requirements in column (d) on lines**
8 **2 and 3 of Exhibit A-33 derived?**
9 A40. To maintain an equal percentage rate change for the EUT and C&I rate classes, I
10 was required to simultaneously solve for the NPV revenue requirement for EUT and
11 C&I. The NPV revenue requirement for EUT on line 3, column (d), is subtracted
12 from the NPV of the total revenue requirement of the combined C&I/EUT class to
13 get the NPV revenue requirement for C&I alone, shown on line 2, column (d). The
14 sum of line 2 and line 3, column (d), represents the NPV of the total revenue
15 requirement of the combined C&I/EUT class. The resulting NPV numbers for each
16 class produce surcharges that reflect an equal percentage change for both C&I and
17 EUT customers from their currently effective base EWR surcharges, as shown in
18 column (j).
19
20 **Q41. How was the surcharge on line 6 of Exhibit A-33 for the proposed EEP**
21 **surcharge calculated?**
22 A41. As directed by Witness Bilyeu, I derived the EEP surcharge by multiplying the
23 proposed EUT surcharge on line 3 by the EEP (income-qualified) percentage
24 calculated on Exhibit A-34. The resulting rate is listed on line 6 of Exhibit A-33.
25

Line No.

1 **Q42. What interest rate did you use to calculate the NPV of total revenue**
2 **requirement and billing determinants on Exhibit A-33?**
3 A42. I used a discount rate of 4.75% for 2024 and 4.25% for 2025 to calculate the NPVs.
4 These rates are based on DTE Gas's estimated short-term borrowing costs and were
5 supplied to me by DTE's Treasury Department.
6
7 **Q43. What does the section under the title "Levelized Revenue Requirement", on**
8 **Lines 10 through 13 of Exhibit A-33 represent?**
9 A43. Lines 10 through 13 represent the amount of revenue DTE Gas expects to collect
10 during 2024 and 2025 based on the forecasted volumes for the respective years and
11 billed at the proposed levelized rates.
12
13 **Q44. What are the levelized surcharges DTE Gas is proposing to implement?**
14 A44. As shown on Exhibit A-33, column (f), DTE Gas is proposing that the Commission
15 approve the levelized EWR surcharges of $0.2340/Mcf for residential customers;
16 C&I surcharges of $0.4670 Mcf; EUT surcharges of $0.0301/Mcf, and EEP
17 surcharges of $0.0111/Mcf based on the revenue requirements presented in my
18 testimony for each customer class. Exhibit A-33, column (g) shows these levelized
19 surcharges converted to $/Ccf.
20
21 **Q45. What are the amounts listed on columns (h), (i) and (j) of Exhibit A-33?**
22 A45. The amounts listed in column (h) are the Base EWR Surcharges DTE Gas is
23 currently allowed to collect, as approved by the Commission in Case No. U-20881,
24 they do not include any performance incentive surcharges. The amounts listed in
25 column (i) are the absolute change from currently approved base EWR rates if the

Line No.

1 proposed EWR rates, shown in column (g), are approved. The amounts shown in
2 column (j) are the percent change in the customer classes' surcharges.
3
4 **Q46. What information is presented on Exhibit A-41?**
5 A46. Exhibit A-41 is an illustrative update of the tariff sheet that would be effective upon
6 Commission approval of the proposed EWR base surcharges. This exhibit is
7 currently populated with the base surcharges proposed on Exhibit A-33. When the
8 actual tariff sheet is filed for approval following a Commission Order, the EWR rate
9 reflected on the sheet will be the total of the base surcharge and the performance
10 incentive component in effect at the time. Consistent with prior Commission orders,
11 I am proposing these surcharges be implemented on a bills rendered basis effective
12 for the January 2024 billing cycle for all classes.
13
14 **Q47. Does this complete your direct testimony?**
15 A47. Yes, it does.
16

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

HABEEB J. MAROUN

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Annual Revenue Requirement by Class - Electric
Residential
($)

Case No.: U-21322
Exhibit: A-26
Witness: H.J. Maroun

	(a)	(b)	(c)	(d)	(e)
Line No.	**Description**	**Source**	**2024**	**2025**	**Total**
1	Capitalized Costs:				
2	Return On Capitalized Costs	Exh A-29, Pg 1, Line 4	$ -	$ -	$ -
3	Return Of Capitalized Costs - Amortization (5-Years)	Exh A-29, Pg 1, Line 26	-	-	-
4	Total Revenue Requirement - Capital Costs	Line 2 + Line 3	$ -	$ -	$ -
5	Expenses:				
6	Program Costs to be Expensed	Exh A-5, Pg 1 Line 8	49,861,117	51,942,430	101,803,546
7	Amortization of TCJA Regulatory Liability	n.a. (4)	-	-	-
8	Revenue Requirement - Total Costs	Line 4 + Line 6 + Line 7	$ 49,861,117	$ 51,942,430	$ 101,803,546
9	Actual Cum. (Over) / Under Recovery as of 12/31/22 (1)	WP HJM-E1	(26,350,774)		(26,350,774)
10	2023 Estimated (Over) / Under Recovery	WP HJM-E2	(18,163,992)		(18,163,992)
11	2023 Estimated Carrying Charges (2)	(3)	(1,895,653)		(1,895,653)
12	Total Revenue Requirement	Line 8 thru Line 12	$ 3,450,697	$ 51,942,430	$ 55,393,126

(1) Filed cumulative ending balance in Case No. U-21313, Exhibit A-18, Pg 1, Line 11
(2) Short-term debt rate provided by DTE Treasury Department
(3) (Line 9 + Line 10 / 2) x 5.35%
(4) No TCJA Amortization for Residential since there was no deferred taxes to remeasure at 12/31/2017.

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Annual Revenue Requirement by Class - Electric
Commercial and Industrial Secondary
($)

Case No.: U-21322
Exhibit: A-26
Witness: H.J. Maroun

	(a)	(b)	(c)	(d)	(e)
Line No.	**Description**	**Source**	**2024**	**2025**	**Total**
1	Capitalized Costs:				
2	Return On Capitalized Costs	Exh A-29, Pg 2, Line 4	$ 417,926	$ 117,592	$ 535,518
3	Return Of Capitalized Costs - Amortization (5-Years)	Exh A-29, Pg 2, Line 26	5,294,071	3,765,317	9,059,389
4	Total Revenue Requirement - Capital Costs	Line 2 + Line 3	$ 5,711,997	$ 3,882,910	$ 9,594,907
5	Expenses:				
6	Program Costs to be Expensed	Exh A-5, Pg 1 Line 26	117,875,176	125,330,153	243,205,329
7	Amortization of TCJA Regulatory Liability	WP RAB-2	(199,179)	(199,179)	(398,358)
8	Revenue Requirement - Total Costs	Line 4 + Line 6 + Line 7	$ 123,387,994	$ 129,013,883	$ 252,401,877
9	Actual Cum. (Over) / Under Recovery as of 12/31/22 (1)	WP HJM-E1	(18,297,000)		(18,297,000)
10	2023 Estimated (Over) / Under Recovery	WP HJM-E2	24,945,335		24,945,335
11	2023 Estimated Carrying Charges (2)	(3)	(311,602)		(311,602)
12	Total Revenue Requirement	Line 8 thru Line 12	$ 129,724,728	$ 129,013,883	$ 258,738,611

(1) Filed cumulative ending balance in Case No. U-21313, Exhibit A-18, Pg 1, Line 11
(2) Short-term debt rate provided by DTE Treasury Department
(3) (Line 9 + Line 10 / 2) x 5.35%

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Annual Revenue Requirement by Class - Electric
Commercial and Industrial Primary
($)

Case No.: U-21322
Exhibit: A-26
Witness: H.J. Maroun

	(a)	(b)	(c)	(d)	(e)
Line No.	**Description**	**Source**	**2024**	**2025**	**Total**
1	Capitalized Costs:				
2	Return On Capitalized Costs	Exh A-29, Pg 3, Line 4	$ 785,182	$ 257,096	$ 1,042,278
3	Return Of Capitalized Costs - Amortization (5-Years)	Exh A-29, Pg 3, Line 26	9,372,834	6,156,394	15,529,228
4	Total Revenue Requirement - Capital Costs	Line 2 + Line 3	$ 10,158,016	$ 6,413,490	$ 16,571,506
5	Expenses:				
6	Program Costs to be Expensed	Exh A-5, Pg 1, Line 17	30,206,628	32,117,036	62,323,664
7	Amortization of TCJA Regulatory Liability	WP RAB-2	(150,131)	(150,131)	(300,261)
8	Revenue Requirement - Total Costs	Line 4 + Line 6 + Line 7	$ 40,214,514	$ 38,380,396	$ 78,594,910
9	Actual Cum. (Over) / Under Recovery as of 12/31/22 (1)	WP HJM-E1	33,341,965		33,341,965
10	2023 Estimated (Over) / Under Recovery	WP HJM-E2	(17,116,127)		(17,116,127)
11	2023 Estimated Carrying Charges (2)	(3)	1,325,939		1,325,939
12	Total Revenue Requirement	Line 8 thru Line 12	$ 57,766,291	$ 38,380,396	$ 96,146,686

(1) Filed cumulative ending balance in Case No. U-21313, Exhibit A-18, Pg 1, Line 11
(2) Short-term debt rate provided by DTE Treasury Department
(3) (Line 9 + Line 10 / 2) x 5.35%

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Annual Revenue Requirement by Class - Gas
Residential
($)

Case No: U-21322
Exhibit: A-27
Witness: H.J. Maroun
Page: 1 of 2

	(a)	(b)	(c)	(d)	(e)
Line No.	**Description**	**Source**	**2024**	**2025**	**Total**
1	Capitalized Costs:				
2	Return On Capitalized Costs	(1)	$ -	$ -	$ -
3	Return Of Capitalized Costs - Amortization (5-Years)	(1)	-	-	-
4	Total Revenue Requirement - Capital Costs	Line 2 + Line 3	$ -	$ -	$ -
5	Expenses:				
6	Program Costs to be Expensed	Exh A-6, Pg 1, Line 8	27,356,905	27,269,083	54,625,988
7	Revenue Requirement - Program Costs	Line 4 + Line 6	$ 27,356,905	$ 27,269,083	$ 54,625,988
8	Actual Cum. (Over) / Under Recovery as of 12/31/22 (2)	WP HJM-G1	$ 948,897		$ 948,897
9	2023 Estimated (Over) / Under Recovery	WP HJM-G2	(3,211,623)		(3,211,623)
10	2023 Estimated Carrying Charges (3)(4)	(4)	(35,145)		(35,145)
11	Total Revenue Requirement	Line 7 thru Line 10	$ 25,059,035	$ 27,269,083	$ 52,328,118

(1) No unamortized capitalized costs in 2024-2025
(2) Filed cumulative ending balance in U-21313 Exhibit A-29 col (c) line 10
(3) Short-term debt rate provided by DTE Treasury Department
(4) (Line 8 + Line 9 / 2) x 5.35%

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Annual Revenue Requirement by Class - Gas
Commercial & Industrial / End-Use Transportation
($)

Case No: U-21322
Exhibit: A-27
Witness: H.J. Maroun
Page: 2 of 2

	(a)	(b)	(c)	(d)	(e)
Line No.	**Description**	**Source**	**2024**	**2025**	**Total**
1	Capitalized Costs:				
2	Return On Capitalized Costs	Exh A-30, Pg 1, Line 4	$ 91,656	$ 33,452	$ 125,108
3	Return Of Capitalized Costs - Amortization (5-Years)	Exh A-30, Pg 1, Line 26	1,005,617	652,948	1,658,565
4	Total Revenue Requirement - Capital Costs	Line 2 + Line 3	$ 1,097,273	$ 686,399	$ 1,783,673
5	Expenses:				
6	Program Costs to be Expensed	Exh A-6, Pg 1, Line 17	23,247,120	23,384,356	46,631,476
7	Revenue Requirement - Program Costs	Line 4 + Line 6	$ 24,344,393	$ 24,070,756	$ 48,415,149
8	Actual Cum. (Over) / Under Recovery as of 12/31/22 (1)	WP HJM-G1	$ 7,992,008		$ 7,992,008
9	2023 Estimated (Over) / Under Recovery	WP HJM-G2	(5,840,136)		(5,840,136)
10	2023 Estimated Carrying Charges (2)	(3)	271,349		271,349
11	Total Revenue Requirement	Line 7 thru Line 10	$ 26,767,614	$ 24,070,756	$ 50,838,370

(1) Filed cumulative ending balance in U-21313 Exhibit A-29 col (c) line 10
(2) Short-term debt rate provided by DTE Treasury Department
(3) (Line 8 + Line 9 / 2) x 5.35%

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Revenue Requirement Summary by Class - Gas
Summary of All Classes
($)

Case No: U-21322
Exhibit : A-28
Witness: H.J. Maroun
Page: 1 of 1

Line No.	(a) Description	(b) Source	(c) 2024	(d) 2025	(e) Total
1	Residential	Exh A-27, Pg 1, Line 11	$ 25,059,035	$ 27,269,083	$ 52,328,118
2	C&I/EUT	Exh A-27, Pg 2, Line 11	26,767,614	24,070,756	50,838,370
3	Total Revenue Requirement - All Classes		$ 51,826,649	$ 51,339,838	$ 103,166,488

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Return on Capitalized Costs - Electric
Residential
($)

Case No.: U-21322
Exhibit: A-29
Witness: H.J. Maroun
Page: 1 of 3

Line No.	(a) Description	(b) Source	(c) 2022 (1)	(d) 2023	(e) 2024	(f) 2025
1	Return on Capitalized Costs					
2	Average Capitalized Costs	Line 14				
3	Pre-Tax Rate of Return	Exh A-31, Pg 1, Line 3 Col (f)				
4	Return on Capitalized Costs	Line 2 x Line 3				
5	Ending Capitalized Costs					
6	Plant in Service	Line 15 + prior year	$ 3,762,277	$ 3,762,277	$ 3,762,277	$ 3,762,277
7	Retired Plant in Service	2022 EWR Rec; Exh A-10 Pg 1 Ln 16	(3,762,277)	(3,762,277)	(3,762,277)	(3,762,277)
8	Gross Plant	Line 6 + Line 7	-	-	-	-
9	Accumulated Amortization	Line 27 + prior year	(3,762,277)	(3,762,277)	(3,762,277)	(3,762,277)
10	Retired Accumulated Amoritzation	2022 EWR Rec; Exh A-10 Pg 1 Ln 20	3,762,277	3,762,277	3,762,277	3,762,277
11	Net Plant	Sum Lines 8 to 10	-	-	-	-
12	Accumulated Deferred Taxes	Exh A-24, Line 7	-	-	-	-
13	Ending Capitalized Costs (2)	Line 11 + Line 12	-	-	-	-
14	Average Capitalized Costs	Simple Avg of Line 13	-	-	-	-
15	Program Costs Capitalized less CWIP (2)	Exh. A-5, Pg 1, Line 1	-	-	-	-
16	Program Costs Capitalized		-	-	-	-
17	**Amortization Book Expense (1/2 yr convention)**					
18	2017	5 year	-			
19	2018	5 year	-	-		
20	2019	5 year	-	-	-	
21	2020	5 year	-	-	-	-
22	2021	5 year	-	-	-	-
23	2022	5 year	-	-	-	-
24	2023	5 year		-	-	-
25	2024	5 year			-	-
26	Adjustment					-
27	**Total Amortization**	Sum of L18:L26	$ -	$ -	$ -	$ -

Source:
(1) The details in column (c) are the actual amounts presented in the 2022 EWR Reconciliation, Case No. U-21313
(2) The detail in columns (d)-(f) are the forecasted amounts for 2023-2025

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Return on Capitalized Costs - Electric
Commercial and Industrial - Secondary
($)

Case No.: U-21322
Exhibit: A-29
Witness: H.J. Maroun
Page: 2 of 3

	(a)	(b)	(c)	(d)	(e)	(f)
Line No.	**Description**	**Source**	**2022 (1)**	**2023**	**2024**	**2025**
1	Return on Capitalized Costs					
2	Average Capitalized Costs	Line 14			$ 4,465,327	$ 1,256,415
3	Pre-Tax Rate of Return	Exh A-31, Pg 1, Line 3 Col (f)			9.36%	9.36%
4	Return on Capitalized Costs	Line 2 x Line 3			$ 417,926	$ 117,592
5	Ending Capitalized Costs					
6	Plant in Service	Line 15 + prior year	$ 77,503,392	$ 77,503,392	$ 77,503,392	$ 77,503,392
7	Retired Plant in Service	2022 EWR Rec; Exh A-10 Pg 1 Ln 16	(17,316,708)	(17,316,708)	(17,316,708)	(17,316,708)
8	Gross Plant	Line 6 + Line 7	60,186,684	60,186,684	60,186,684	60,186,684
9	Accumulated Amortization	Line 27 + prior year	(56,603,917)	(67,078,883)	(72,372,954)	(76,138,271)
10	Retired Accumulated Amoritzation	2022 EWR Rec; Exh A-10 Pg 1 Ln 20	17,316,708	17,316,708	17,316,708	17,316,708
11	Net Plant	Sum Lines 8 to 10	20,899,474	10,424,509	5,130,438	1,365,120
12	Accumulated Deferred Taxes	Exh A-24, Line 14	(6,932,132)	(4,071,524)	(2,552,768)	(1,429,959)
13	Ending Capitalized Costs (2)(4)	Line 11 + Line 12	13,967,342	6,352,985	2,577,669	(64,839)
14	Average Capitalized Costs	Simple Avg of Line 13	16,513,252	10,160,163	4,465,327	1,256,415
15	Program Costs Capitalized less CWIP (2)	Exh. A-5,Pg 1, Line 19	-	-	-	-
16	Program Costs Capitalized		-	-	-	-
17	**Amortization Book Expense (1/2 yr convention)**					
18	2017	5 year	332,924			
19	2018	5 year	941,967	470,951		
20	2019	5 year	995,447	987,356	493,678	
21	2020	5 year	2,070,152	2,070,152	2,070,152	1,035,076
22	2021	5 year	2,730,241	2,730,241	2,730,241	2,730,241
23	2022	5 year				
24	2023	5 year				
25	2024	5 year				
26	Adjustment (3)			4,216,266		
27	**Total Amortization**	Sum of L18:L26	$ 7,070,731	$ 10,474,965	$ 5,294,071	$ 3,765,317

Source:
(1) The details in column (c) are the actual amounts presented in the 2022 EWR Reconciliation, Case No. U-21313
(2) The detail in columns (d)-(f) are the forecasted amounts for 2023-2025
(3) Offsetting adjustments made to rebalance accumulated amortization between C&I Secondary and Primary
(4) Negative balance in 2025 primarily due to TCJA Regulatory Liability

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Return on Capitalized Costs - Electric
Commercial and Industrial - Primary
($)

Case No.: U-21322
Exhibit: A-29
Witness: H.J. Maroun
Page: 3 of 3

Line No.	(a) Description	(b) Source	(c) 2022 (1)	(d) 2023	(e) 2024	(f) 2025
1	Return on Capitalized Costs					
2	Average Capitalized Costs	Line 14			$ 8,389,273	$ 2,746,941
3	Pre-Tax Rate of Return	Exh A-31, Pg 1, Line 3 Col (f)			9.36%	9.36%
4	Return on Capitalized Costs	Line 2 x Line 3			$ 785,182	$ 257,096
		0				
5	Ending Capitalized Costs					
6	Plant in Service	Line 15 + prior year	$ 108,257,417	$ 108,257,417	$ 108,257,417	$ 108,257,417
7	Retired Plant in Service	2022 EWR Rec; Exh A-10 Pg 1 Ln 16	(24,717,696)	(24,717,696)	(24,717,696)	(24,717,696)
8	Gross Plant	Line 6 + Line 7	83,539,721	83,539,721	83,539,721	83,539,721
9	Accumulated Amortization	Line 27 + prior year	(83,357,775)	(90,927,416)	(100,300,250)	(106,456,644)
10	Retired Accumulated Amoritzation	2022 EWR Rec; Exh A-10 Pg 1 Ln 20	24,717,696	24,717,696	24,717,696	24,717,696
11	Net Plant	Sum Lines 8 to 10	24,899,641	17,330,001	7,957,167	1,800,773
12	Accumulated Deferred Taxes	Exh A-24, Line 24	(7,595,500)	(5,523,716)	(2,984,905)	(1,279,153)
13	Ending Capitalized Costs (2)	Line 11 + Line 12	17,304,142	11,806,285	4,972,261	521,620
14	Average Capitalized Costs	Simple Avg of Line 13	22,270,864	14,555,213	8,389,273	2,746,941
15	Program Costs Capitalized less CWIP (2)	Exh. A-5,Pg 1, Line 10	-	-	-	-
16	Program Costs Capitalized		-	-	-	-
17	**Amortization Book Expense (1/2 yr convention)**					
18	2017	5 year	736,050			
19	2018	5 year	2,021,299	1,010,649		
20	2019	5 year	2,827,827	2,804,844	1,402,422	
21	2020	5 year	3,628,037	3,628,037	3,628,037	1,814,018
22	2021	5 year	4,342,376	4,342,376	4,342,376	4,342,376
23	2022	5 year	-			
24	2023	5 year				
25	2024	5 year				
26	Adjustment (3)			(4,216,266)		
27	**Total Amortization**	Sum of L18:L26	$ 13,555,588	$ 7,569,640	$ 9,372,834	$ 6,156,394

Source:
(1) The details in column (c) are the actual amounts presented in the 2022 EWR Reconciliation, Case No. U-21313
(2) The detail in columns (d)-(f) are the forecasted amounts for 2023-2025
(3) Offsetting adjustments made to rebalance accumulated amortization between C&I Secondary and Primary

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Return on Capitalized Costs - Gas
Commercial & Industrial/End-Use Transportation
($)

Case No.: U-21322
Exhibit: A-30
Witness: H.J. Maroun
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)
Line No.	**Description**	**Source**	**2022 (1)**	**2023**	**2024**	**2025**
1	Return on Capitalized Costs					
2	Average Capitalized Costs	Line 11			$ 963,751	$ 351,740
3	Pre-Tax Rate of Return	A-32, Line 3, Col (f)			9.51%	9.51%
4	Return on Capitalized Costs	Line 2 x Line 3			$ 91,656	$ 33,452
5	Ending Capitalized Costs					
6	Gross Plant	Line 12 + prior year	$ 5,028,088	$ 5,028,088	$ 5,028,088	$ 5,028,088
7	Accumulated Amortization	Line 26 + prior year	(1,555,707)	(3,219,383)	(4,225,001)	(4,877,948)
8	Net Plant	Line 6 + Line 7	3,472,380	1,808,704	803,087	150,139
9	Accumulated Deferred Taxes	Exh A-25 Line 14	(909,764)	(473,881)	(210,409)	(39,337)
10	Ending Capitalized Costs (2)	Line 8 + Line 9	2,562,616	1,334,824	592,678	110,803
11	Average Capitalized Costs	Simple Avg of Line 10	1,281,308	1,948,720	963,751	351,740
12	Program costs Capitalized less CWIP (2)	Exh. A-6,Pg 1, Line 1	-	-	-	-
13	Program costs Capitalized					
	Amortization Book Expense (1/2 yr convention)					
14	2020	5 year	705,339	705,339	705,339	352,670
15	2021	5 year	300,278	300,278	300,278	300,278
16	2022	5 year				
17	2023	5 year				
18	2024	5 year				
19	Adjustment (3)	5 year		658,058		
20	**Total Amortization**	Sum of L14:L19	1,005,617	1,663,676	1,005,617	652,948

Source:
(1) The details in column (c) are the actual amounts presented in the 2022 EWR Reconciliation, Case No. U-21313
(2) The detail in columns (d)-(f) are the forecasted amounts for 2023-2025
(3) Includes adjustments related to amortization incorrectly recorded in 2020 and 2021

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Pre-Tax Rate of Return and Revenue Conversion Factors - Electric

Case No: U-21322
Exhibit: A-31
Witness: H.J. Maroun
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)
Line No.	**Description**	**Ratio (1)**	**Cost (2)(3)**	**Rate of Return**	**Conversion Factor**	**Pre-Tax Rate of Return**
1	Debt	50.0%	5.35%	2.67%	1.0000	2.67%
2	Common Equity	50.0%	9.90%	4.95%	1.3496	6.69%
3	Total	100.00%		7.63%		9.36%

(1) Authorized Capital Structure per U-20836 Final Order issued November 18, 2022, DTE Electric's General Rate Case
(2) Cost of Equity authorized per U-20836 Final Order issued November 18, 2022, DTE Electric's General Rate Case
(3) Long-term debt rate provided by DTE Treasury Department

	(a)	(b)	(c)	(d)
	Description	**Source**	**Equity Conversion Percent**	**Debt Conversion Percent**
4	Base		100.00%	100.00%
5	Michigan Corporate Income Tax Rate		5.88%	
6	Municipal Tax Rate		0.33%	
7	Federal Income Tax (FIT) Base	L4 - L5 - L6	93.79%	100.00%
8	FIT Rate		21.00%	0.00%
9	FIT Obligation	Line 7 * Line 8	19.70%	0.00%
10	Net Income	L7 - L9	74.09%	100.00%
11	Revenue Conversion Factor	L4/L10	1.3496	1.0000
12	Composite Federal, State, and Local Tax Rate	L4 - L10	25.90%	

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Pre-Tax Rate of Return and Revenue Conversion Factors - Gas

Case No: U-21322
Exhibit: A-32
Witness: H.J. Maroun
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)
Line No.	**Description**	**Ratio (1)**	**Cost (2)(3)**	**Rate of Return**	**Conversion Factor**	**Pre Tax Rate of Return**
1	Debt	49.00%	5.45%	2.67%	1.0000	2.67%
2	Common Equity	51.00%	9.90%	5.05%	1.3547	6.84%
3	Total	100.00%		7.72%		9.51%

(1) Authorized Capital Structure per U-20940 Order issued December 9, 2021, DTE Gas's General Rate Case
(2) Cost of Equity authorized per U-20940 Order issued December 9, 2021, DTE Gas's General Rate Case
(3) Long-term debt rate provided by DTE Treasury Department

	(a)	(b)	(c)	(d)
	Description	**Source**	**Equity Conversion Percent**	**Debt Conversion Percent**
4	Base		100.00%	100.00%
5	Michigan Corporate Income Tax Rate		6.00%	
6	Municipal Tax Rate		0.56%	
7	Federal Income Tax (FIT) Base	L4 - L5 - L6	93.44%	100.00%
8	FIT Rate		21.00%	0.00%
9	FIT Obligation	Line 7 * Line 8	19.62%	0.00%
10	Net Income	L7 - L9	73.82%	100.00%
11	Revenue Conversion Factor	L4/L10	1.3547	1.0000
12	Composite Federal, State, and Local Tax Rate	L4 - L10	26.20%	

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Energy Waste Reduction Surcharges - Gas

Case No: U-21322
Exhibit : A-33
Witness: H.J. Maroun
Page: 1 of 1

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
		Nominal Value		**Present Value**		**Levelized Surcharge**				
Line No.	**Customer Class**	**Total Revenue Requirement (1)**	**Total Determinants (2)**	**NPV of Revenue Requirement (3)**	**NPV of Total Determinants (3)**	**Levelized Surcharge per Mcf (4)**	**Levelized Surcharge per Ccf**	**Currently Effective Base EWR Surcharge per Ccf (5)**	**Change Col. g less Col. h**	**Percent Change Col. i/Col. h**
1	Residential	$ 52,328,118	223,399	$ 48,893,965	208,936	$ 0.2340	$ 0.02340	$ 0.02742	$ (0.00401)	-15%
2	C&I	50,838,370	90,076	39,339,923	84,247	$ 0.4670	$ 0.04670	$ 0.05254	$ (0.00585)	-11%
3	EUT	N/A	293,542	8,256,324 (6)	274,448	$ 0.0301	$ 0.00301	$ 0.00339	$ (0.00038)	-11%
4	Total	$ 103,166,488	607,017	$ 96,490,212	567,631					
5	C&I/EUT Exploratory Program (EEP) percentage (7)					36.95%				
6	C&I/EUT Exploratory Program Rate (EEP) Line 3 * Line 5					$ 0.0111	$ 0.00111	$ 0.00112	$ (0.00001)	-1%

Billing Determinants (MMcf) (8)

		2024	**2025**	**Total**
7	Residential	112,069	111,330	223,399
8	C&I	45,268	44,808	90,076
9	EUT	144,940	148,602	293,542

Levelized Revenue Requirement ($000) (9)

		2024	**2025**	**Total**
10	Residential	$ 26,226	$ 26,053	$ 52,279
11	C&I	21,138	20,923	42,062
12	EUT	4,360	4,470	8,831
13	Total Levelized Revenue	$ 51,724	$ 51,447	$ 103,171
14	NPV of Line 13 (3)	$ 49,379	$ 47,111	$ 96,490

Source:
(1) Exhibit A-27
(2) Lines 7 - 9, Col. (g)
(3) Utilized a discount rate of 4.75% for 2025 and 4.25% for 2025, which are DTE Gas's estimated short-term borrowing rate and was supplied by the DTE Treasury Department. See Workpapers HJM-G3 and HJM-G4
(4) Column (d) / Column (e)
(5) Currently Effective Base EWR surcharge as approved in Case No. U-20881
(6) NPV revenues to be collected from EUT so rate change is equalized between C&I and EUT
(7) EEP percentage per Line 5 of Exhibit A-34
(8) Exhibit A-20 Page 2
(9) Billing Determinants on lines 7-9 multiplied by the levelized rates on column (f) Lines 1-3

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Calculation of Income-Qualified Percentage For the C&I/EUT Exploratory Program - Gas

Case No: U-21322
Exhibit: A-34
Witness: H.J. Maroun
Page: 1 of 1

Line No.	(a) Description	(b) Source	(c) 2024	(d) 2025	(e) Total
1	Expenses:				
2	Income-Qualified Program costs	Exh A-6, Page 1, line 14	$ 8,945,899	$ 8,945,899	$ 17,891,798
3	Revenue Requirement - Program Costs	Line 2	$ 8,945,899	$ 8,945,899	$ 17,891,798
4	Total Revenue Requirement (All Costs)	Exh A-27, Page 2, Line 7	$ 24,344,393	$ 24,070,756	$ 48,415,149
5	Percentage Attributtable to Income-Qualified (EEP)	Line 3/Line 4			36.95%

D2. SURCHARGES AND INFRASTRUCTURE RECOVERY MECHANISM

D2.1 Surcharges

Rate Schedule No.		U-21322 Energy Waste Reduction Surcharge $/Ccf		U-20940 IRM Surcharge $/Customer
A	Residential	***$0.02340***		$2.19
2A	Multifamily Dwelling Class I	***$0.04670***		$14.03
2A	Multifamily Dwelling Class II	***$0.04670***		$14.03
GS-1	Non-Residential General Service	***$0.04670***		$10.06
GS-2	Large Volume			$10.06
	<100,000 Mcf	***$0.04670***		
	>100,000 Mcf	***$0.00301***		
S	School	***$0.04670***		$133.58
ST	Small Volume Transportation	***$0.00301***		$507.24
LT	Large Volume Transportation	***$0.00301***		$2,466.62
XLT	Extra Large Volume Transportation	***$0.00301***		$14,011.30
XXLT	Double Extra Large Volume Transportation	***$0.00301***		$3,502.51
	C&I/EUT Exploratory Program	***$0.00111***		

In addition to the above surcharges/ (credits), Rate Schedules A, 2A, GS-1, GS-2, and S are subject to Rule C7, Gas Cost Recovery, and may be subject to Rule C8, Customer Attachment Program.

The Energy Waste Reduction Surcharge is implemented on a "bills rendered" basis and is effective for a twelve-month period commencing with the billing cycle following January 1, 2024 and ending December 31, 2024.

The IRM is effective beginning with the first cycle of the January 2022 billing month and will change on a bill cycle basis thereafter each January based on the tables on Sheet No. D-2.01

This is only the proposed incremental language for the EWR surcharge. This language would be added to the current Sheet D-2 in effect at the time the surcharge was approved. Because the surcharge(s) currently in effect may change between the time this sheet is proposed and its approval, only the language and rates at issue in this case are included. DTE Gas proposes this incremental language tariff to avoid confusion at the time of final tariff issuance.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

JOSHUA MARTENS

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF JOSHUA MARTENS

Line No.

Q1. What is your name, business address and by whom are you employed?

A1. My name is Joshua Martens (he/him/his). My business address is: One Energy Plaza, Detroit, MI 48226. I am employed by DTE Electric Company.

Q2. On whose behalf are you testifying?

A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas Company (DTE Gas) (collectively, DTE).

Q3. What is your educational background?

A3. I have a Bachelor of Science degree in Physics from the University of Michigan and a Master of Science degree in Civil Engineering from the University of Colorado Denver.

Q4. What is your current and prior work experience?

A4. For the past eight years I have been employed in the energy efficiency industry as a management consultant, evaluator, and implementation contractor for private sector firms, non-profits, and state government on all matters related to energy efficiency demand-side management ("DSM") program planning, design and evaluation. I am currently a Principal Marketing Specialist for DTE, working as part of the Evaluation, Measurement, and Verification (EM&V) and Strategy team for our Energy Waste Reduction (EWR) programs.

Prior to joining DTE directly in January 2022, I was an Energy Engineer II for Franklin Energy. In this role, I oversaw the implementation of the Telecom program

Line No.

for DTE. I conducted energy audits of data centers and other customers in the telecommunications field. I collaborated with customers to propose energy efficiency upgrades and assist them in processing rebate applications for completed projects.

From August 2015 to April 2021, I was a Senior Consultant in the Energy, Sustainability and Infrastructure group at Guidehouse Inc., a global energy consulting firm. At Guidehouse, I specialized on energy efficiency program evaluation, program design, and implementation support for electric and natural gas utilities in Michigan. In these roles, I have assisted with impact evaluation, process evaluation, market effects research, codes and standards, net-to-gross (NTG) research, and measure characterization. Program design support activities included emerging technology assessments, design planning, implementation support, baseline studies, potential studies, benefit-cost analysis, and best practices and benchmarking research.

Before going back to graduate school for a career change to the energy industry, I spent four years as a high school science teacher in Mount Pleasant, SC.

Q5. Do you hold any certifications or are you a member of any professional organizations?

A5. I have been a member of the Association of Energy Service Professionals since 2015, and I am a Certified Energy Manager (CEM) with the Association of Energy Engineers (AEE).

Line No.

Q6. What are your current duties and responsibilities?

A6. As a Principal Marketing Specialist, I oversee EM&V activities for DTE's EWR programs, with my primary responsibility over the Residential programs. This involves coordinating with the team of independent evaluators at Guidehouse and the DTE program managers to ensure evaluation activities are accurate, comprehensive, useful, and adherent to state requirements. Additionally, I support the Strategy activities of the entire EE portfolio, including development of exhibit models and coordination with the Energy Waste Reduction Collaborative work group at the Michigan Public Service Commission (MPSC).

Q7. Have you previously provided support in cases before the MPSC?

A7. Yes. I provided support in the following case:

U-21313 2022 DTE Electric and DTE Gas EWR Reconciliation

Line No.

1 **Purpose of Testimony**

2 **Q8. What is the purpose of your testimony?**

3 A8. I am providing policy testimony for DTE's 2024-2025 EWR Plan, in accordance
4 with the requirements set forth in Public Act 342 of 2016 (PA 342), Section 73(3)
5 and as directed by the Commission in its April 12, 2018, Order in Case No. U-
6 18262. Specifically, I will:
7 1) confirm that summary evaluation plans are applicable and proper for assessing
8 energy impacts and for improving the operations of the programs in the Company's
9 2024-2025 EWR Plan, including the approach for both current and emerging EWR
10 programs;
11 2) review the evaluation budget for this plan;
12 3) comment on the ability of the proposed programs plans to achieve their energy
13 savings goals;
14 4) provide testimony on DTE's 2024-2025 EWR planned evaluation efforts; and
15 5) recommend the continued use of a deemed NTG value of 0.92 for most of the
16 portfolio, with exceptions for measures whose savings values or estimates have
17 been derived through a billing analysis or measures for income-qualified
18 customers.
19

20 **Q9. Are you sponsoring any exhibits in this proceeding?**

21 A9. Yes. I am sponsoring the following exhibits:

	Exhibit	Description
22		
23	A-9	Summary Program Evaluation Plans
24	A-10	Net Energy Savings Adjustments-Electric
25	A-11	Net Energy Savings Adjustments-Gas

Line No.

1 **Q10. Were these exhibits prepared by you or under your direction?**

2 A10. Yes, they were.

3

4 **Q11. In your opinion, will the summary evaluation plans filed by DTE in its 2024-**
5 **2025 EWR Plan accurately and reliably document the savings achieved by**
6 **DTE's proposed programs?**

7 A11. Yes. I have authored the summary evaluation plans for the 2024-2025 cycle (see
8 Exhibit A-9) and they are consistent with the rigor and quality of prior evaluation
9 efforts, and in alignment with evaluation best practices for energy efficiency
10 programs. These evaluation plans describe the array of methods and protocols third-
11 party evaluators will use to verify energy and demand savings and will serve as an
12 important resource for assessing the reliability of the Michigan Energy Measures
13 Database (MEMD) estimates. These summary evaluation plans will need to be
14 supported with detailed implementation-level plans that follow industry protocols
15 for accuracy, independence, and bias free results. The approaches I have provided
16 represent a reasonable and cost-effective approach to reliably documenting the
17 impacts of the programs and the portfolio as a whole.

18

19 **Q12. Have you reviewed the program plans proposed by DTE in its 2024-2025 EWR**
20 **Plan?**

21 A12. Yes, I have.

22

23 **Q13. In your opinion, are these programs capable of reaching their energy savings**
24 **goals?**

Line No.

1 A13. Yes. DTE is proposing a broad and comprehensive suite of proven energy
2 efficiency programs, combining both established and highly successful DSM
3 programs, with more nascent programs to capture new and emerging opportunities.
4 DTE's experienced and professional management of DSM program operations and
5 third-party implementation contractors will help to ensure program savings goals
6 are achieved while emphasizing the highest levels of customer and contractor
7 satisfaction. DTE's proposed energy efficiency programs are designed to influence
8 customers and contractors who would not have taken the program-incented or
9 recommended action(s) in the absence of the program, to take action and capture
10 the net energy efficiency potential.
11
12 The program plans are similar to previously approved DTE programs. They are also
13 consistent with other energy efficiency programs implemented across the country
14 that routinely capture similar levels of savings. In addition, DTE's programs are
15 consistent with the level of savings achieved from leading programs in other states.
16 With respect to program design and evaluation, DTE works with some of the
17 leading experts in the field who draw on a deep wealth of industry knowledge to
18 ensure all aspects of new and established programs follow best practices whenever
19 possible.
20
21 I have also reviewed the savings associated with the measures offered by DTE's
22 programs and compared those to the MEMD. The projected energy savings are
23 consistent with the MEMD for both non-weather sensitive and weather sensitive
24 measures for DTE's customers use conditions.

Line No.

If the DTE 2024-2025 programs are appropriately funded, implemented, and managed, then I fully expect the programs to be successful in reaching their objectives to the extent that the market is capable of supporting these energy efficiency initiatives and the economy allows those investments to proceed. However, the health of the Michigan economy can influence energy efficiency investments and constitutes the largest uncertainty to a program's success, even if well implemented.

Q14. Are DTE's evaluation contractors capable of conducting reliable studies of these programs?

A14. Yes. DTE's independent evaluation contractor, Guidehouse, is one of the leading evaluation firms, globally, and is very experienced in this field. They have performed the evaluation of DTE's portfolio since 2012.

Q15. Are the evaluation approaches used for assessing the DTE portfolio capable of providing reliable estimates of the program savings achievements?

A15. Yes, the evaluation plans I have prepared, combined with the capabilities of DTE's independent evaluation contractor will provide reliable estimates of program savings. DTE's evaluation contractor will follow standard evaluation protocols and frameworks which guide much of the industry's evaluation planning efforts. These protocols were developed to ensure transparency and quality within the evaluation process and to provide objective and reliable gross and net energy savings estimates. DTE's evaluation contactors will continue to follow these protocols and frameworks in the detailed evaluation planning process and in the implementation of these studies.

Line No.

The key evaluation protocols that help guide most program evaluation efforts in the United States for energy efficiency programs are the U.S. Department of Energy's (USDOE) Uniform Methods Evaluation Protocols (UMP)[1] . Reference to the UMP evaluation protocols will be used to help guide the DTE detailed evaluation plans prepared by the evaluation consulting team prior to launching the associated evaluation efforts.

Q16. What is an installation rate adjustment factor and how is it determined?

A16. An installation rate adjustment factor (IRAF) is a ratio of verified gross savings to utility reported savings. It represents an average percentage of reported measures confirmed by the independent evaluator as properly installed, functioning and, if applicable, utilized by the customer. The analysis is based on a statistically significant sample of firsthand verification observations, and the resulting IRAF values are weighted based on the claimed savings for each measure.

Q17. How will DTE apply the IRAF adjustments shown in Exhibits A-10 and A-11?

A17. The numbers shown on Exhibits A-10 and A-11 for IRAF adjustments are the actual weighted average values that will be applied in the 2023 reconciliation and are used as preliminary estimates for 2024 and 2025. The Company applies the evaluated IRAF completed for the year prior to the year being reconciled as the basis for adjusting energy savings values for reconciliation purposes. Thus, the IRAF values from the program year 2022 evaluation (which will be completed in 2023), will be utilized for the 2024 program year. Going forward, each program years' gross

[1] https://www.nrel.gov/docs/fy18osti/70472.pdf

Line No.

energy savings will be adjusted, prospectively, in similar fashion. Applying the IRAF prospectively allows the Company to manage its portfolio with some certainty concerning the adjustments made to its energy savings at the end of a program year.

Q18. What is a Net-to-Gross (NTG) ratio and how is it determined?

A18. A Net-to-Gross ratio is a ratio of verified net savings to verified gross savings. The net savings reflect customer reported influence of the utility program on their energy use behavior.

Typically, net savings is defined in the following way:

Net savings = (evaluated verified gross savings) – (free-rider savings) + (participant spillover savings) + (market effects).

This definition allows for the counting of all savings achieved by the programs within a portfolio and allows for the attribution of savings to the program that the program caused while not counting savings that would have been achieved without the program. Evaluations that are conducted based on this definition and in which the evaluations are funded to document effects for each of these definitional components can be expected to have higher NTG values.

Q19. What experience do you have conducting NTG analysis?

A19. I have been working as an energy efficiency program design and evaluation professional since 2015. I have been involved with design, implementation, and analysis of NTG studies. I have monitored how the NTG approaches and the results

Line No.

of that analysis change over time, responding to program changes, market changes, as well as policy changes associated with the NTG assessment approach and the definitions that have been established in state and national evaluation protocols.

Q20. Are NTG ratios across the country determined using consistent definitions and approaches?

A20. No. In my experience, approaches to conducting NTG research and what elements are included can vary significantly, and often is a function of policy and/or evaluation methods employed. The definition used to specify net savings and the selection of the evaluation approaches used to quantify NTG ratios can vary significantly. This causes variance in NTG values across the country which are driven by differences in how NTG values are defined, and the evaluation approaches used to establish NTG ratios; therefore, producing different values where the differences have little to do with the program or its impact in the market.

Q21. Can you share your professional opinion on the use of deemed NTG ratios?

A21. Deemed NTG values are appropriate for almost all programs and measures, when programs are well designed, and baseline efficiency is regularly updated and/or appropriately defined. Mature programs, such as those delivered by DTE, generate spillover and market effects which are difficult, complex, and costly to fully capture. If accurately captured, these effects would offset or outweigh the free ridership effects, resulting in NTG values greater than 1.0. Given the variance, cost and effort required to continually evaluate these impacts, it is not recommended (nor is it common practice in the industry) to spend ratepayer funds on such studies. As such, deemed values should be set conservatively at levels close 1.0.

Line No.

1

2 **Q22. Do you have a recommendation for a deemed NTG value for the energy**
3 **efficiency programs?**

4 A22. Yes. I recommend using a deemed NTG value of 0.92 for the appropriate measure
5 components of the portfolio, which, is a conservative number and excludes a
6 significant part of the unmeasured program-induced savings achieved as a result of
7 changing the future behaviors of participants. This behavior change often results in
8 the replication of those energy saving actions outside of the program. In addition,
9 when mid-term and longer-term spillover induced savings are added, the NTG
10 value is again increased. Setting a deemed NTG value of 0.92, while being
11 conservative, recognizes that the programs provide savings for; A) their current
12 participants, B) for the replicated behaviors of participants as they take similar
13 actions in the future, and for C) others as the participant's actions are replicated by
14 non-participating members within their communication circles. As such, for the
15 2024-2025 cycle, I recommend continuing with the deemed NTG value of 0.92 for
16 all programs, except for the income qualified programs which have a deemed NTG
17 of 1.0 or the measures in which the savings are calculated as part of a billing
18 analysis and therefore are already net savings. These are the same values DTE has
19 proposed, and the commission has approved in the 2020-2021 and 2022-2023
20 Biennial Plan Filings.

21

22 **Q23. How will DTE apply the NTGRs shown in Exhibits A-10 and A-11?**

23 A23. The numbers shown on Exhibits A-10 and A-11 for Free Ridership adjustments are
24 weighted average NTGRs adopted for EWR planning purposes. Measure level
25 NTGRs will be applied in the 2024 and 2025 EWR reconciliations.

Line
No.

1

2 **Q24. Does this complete your direct testimony?**

3 A24. Yes, it does

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

JOSHUA MARTENS

Summary Evaluation Plans

DTE 2024 – 2025 Energy Waste Reduction – U-21322
Energy Waste Reduction Program Portfolio

Prepared by

Joshua Martens, Principal Marketing Specialist

June 30, 2023

For
DTE Electric Company and DTE Gas Company

This document presents the Summary Evaluation Plans established for the purpose of guiding the independent evaluation efforts for DTE Electric and DTE Gas (DTE) 2024–2025 Energy Waste Reduction (EWR) Program Portfolio. This plan focuses on the electric and gas measures evaluation.

These plans are designed to guide the detailed evaluation planning process of DTE's independent evaluation contractor(s). The Summary Evaluation Plan is provided to ensure that the DTE 2024-2025 EWR program evaluation efforts employ at least the minimum level of data collection activities and analysis efforts required to meet rigorous evaluation standards and protocols and deliver reliable findings that can be used to support progress tracking and reporting objectives. The evaluation contractor(s) selected by DTE to implement the 2024-2025 EWR cycle's independent evaluation efforts will develop detailed evaluation plans for each program. Those plans will include the program-specific data collection components outlined in this Summary Plan and specify how the analysis efforts will be structured to provide DTE with reliable estimates of energy impacts. The analysis efforts to be used are presented in this Summary Evaluation Plan, however the evaluation contractor is encouraged to supplement the activities described below, to the extent allowed within the evaluation budget, when such efforts address necessary needs of a dynamic industry. This Summary Evaluation Plan should be considered a minimum approach plan to be supplemented via the detailed evaluation planning process undertaken each year by the selected evaluation contractor(s).

The following Summary Evaluation Plans are designed to adhere to the evaluation community's current versions of evaluation protocols, as appropriate and cost-effective, with specific reference to the U.S. Department of Energy's (USDOE) Uniform Methods Protocols (UMP) for Evaluation (https://www.energy.gov/eere/about-us/ump-protocols). The UMP presents different types of whole facility and end-use M&V (measurement and verification) approaches to be incorporated into the DTE detailed evaluation plans prepared by the evaluation consulting team prior to launching the associated evaluation efforts.

These referenced protocols and frameworks are designed to guide the planning and implementation of reliable program evaluation results required to support DTE's understandings of the effects of their Energy Waste Reduction Plan's programs. The Summary Evaluation Plans are designed to guide the evaluation of each program included in the DTE plan. To

ensure that evaluation efforts are independent and reliable, all of DTE's 2024-2025 EWR program cycle detailed evaluation plans will comply with the approaches, the data collection methods and the analysis standards described in these referenced documents, as applicable and cost-effective.

The following Summary Electric and Gas Energy Impact Evaluation Plans are presented below:

Overall Electric and Gas Plan Guidance

The evaluations of DTE's Energy Waste Reduction Plan programs, or bundles of smaller program initiatives into an aggregated "platform" program, are designed and implemented to assess the program's net energy impacts within 10% absolute precision at a confidence level of 90% for each reporting period, where cost-efficient, ensuring the results of each program's evaluation produce accurate and rigorous results.

To support this requirement and to help support the evaluations included in this Summary Evaluation Plan the following evaluation requirements are provided:

Sampling: The evaluations conducted by DTE will follow the sampling guidance presented in the Uniform Methods Protocol, Chapter 11, Sample Design Cross-Cutting Protocol (October 2017). This framework presents generally accepted guidance on sampling strategies needed to evaluate energy efficiency programs and discusses a range of sampling approaches that are typically applied to energy efficiency programs. Sampling for DTE evaluations will be conducted targeting 90% confidence and 10% absolute precision. This provision ensures all key data sources used to determine impact estimates are unbiased and representative of the greater population of participants affected by the program. It also requires that all impact findings be based on levels of confidence that are reflective of the population served by the programs such that identical studies conducted on that same program, using the same methods, would replicate the evaluation's findings within the specified limits of the sample confidence. That is, the impact estimates must be statistically representative of the impacted population. However, DTE's third-party evaluator(s) must also consider the costs associated with achieving this sample precision level in the context of the intended use of the results as well as an individual program's overall impact within the portfolio. As a result, the third-party evaluator may determine to retain the 90/10 program-level precision requirement, relax the requirement, or make it more stringent based on the specific information need and use of the study's results. In the event the 90/10 confidence/precision level is adjusted, DTE's third-party evaluator must document the reason for doing so in the respective evaluation plan.

Net-to-Gross Adjustments and Associated Baselines: The evaluations conducted by DTE's third-party evaluator(s) will follow the analysis practices for net-to-gross (NTG) assessment presented in the USDOE's UMP, Chapter 23, Estimating Net Savings. This protocol presents generally accepted guidance on assessing NTG strategies needed to evaluate net energy savings and discusses a range of approaches that are typically applied to energy efficiency programs. The evaluation contractor will specify the NTG approach selected for each program to be evaluated, however those approaches must follow the practices and approaches covered by the UMP, which may include the coordination between pre-participation energy use baseline approaches and the selection of the associated NTG approaches. The evaluation contractor will incorporate into their detailed plan how they intend to deal with free riders using standard

practice and/or code baselines (if applicable) and determine the appropriate practice for applying net adjustments or for identifying the energy use associated with an applied baseline practice.

In Michigan, net savings are defined as those that would not have occurred in the absence of the program, and thus evaluation studies, when possible within the scope and budgets allocated to the evaluation tasks, should incorporate the savings association with spillover (short and longer term).

Uncertainty: The evaluations conducted by DTE's third-party evaluator(s) will be conducted to provide the greatest estimation accuracy for the portfolio as a whole and for each program in the portfolio within the budgets allocated. This means that the programs with the highest estimated gross savings and those with the greatest risk of energy impact estimation error will also receive the highest levels of evaluation focus allowed within the evaluation budget, while providing reliable evaluation results across the portfolio in the 2024-2025 Energy Waste Reduction portfolio. Evaluation contractors will rely on the California Evaluation Framework, June 2004, Chapter 12, Uncertainty, or equivalent for guidance on evaluation estimation accuracy and resource allocation.

Verification Efforts: Structuring product installation and use verification efforts into the impact evaluation for each program is essential to assessing verified gross savings and to confirm technology use conditions. Verification efforts can be costly when they are conducted on-site by energy-use assessment experts, or relatively inexpensively when they are incorporated into program-specific interviews and surveys. Verification efforts are typically conducted via these two approaches, via the evaluation effort's contacts with those responsible for the installation and use of the program-covered equipment. This Summary Evaluation Plan does not specify program-by-program verification efforts; however, each program evaluation will employ a product installation and use conditions verification effort. The exact nature of this effort for each program is best incorporated into the detailed evaluation plans submitted by the evaluation contactor. Each plan submitted to DTE for review and approval will specify an approach (or combination of approaches) for its verification efforts of each program or platform. These efforts will be used to estimate verified gross energy savings to support a comparison between verified savings levels and the ex-ante projected savings from DTE's program tracking data.

Metered Data: The programs offered by DTE are designed to change energy use within participant's homes or businesses. These changes are often reflected in the utility's metered data. DTE maintains at least hourly data for each customer account that can be utilized by the contractors. Likewise, evaluation contractors may use data loggers and equipment specific submetering consistent with IPMVP protocols to monitor the energy use and operation for pieces of equipment or groups of equipment. The evaluation contractor will present and discuss the selection of metered data to be used in the evaluation and justify its selection.

This Summary Evaluation Plan does not specify when or where utility meter data or end-use metering will be employed to support the 2024-2025 EWR evaluation effort. These decisions are typically included in the detailed evaluation plans developed for each individual program (or program grouping) and are based on the risk of estimation error at the program or portfolio level linked to the evaluation budgets and the need for high-resolution evaluation results. While metered data is not specified in this Summary Evaluation Plan, it is expected that the evaluation contractor will employ utility or end-use meters on programs, or parts of programs in which high-

resolution energy estimates are needed. These programs are typically the programs with the largest energy savings forecasts and thus have the highest uncertainty around the estimation error bands. While this Summary Evaluation Plan does not specify when or where metering will be used to support the impact estimate, the evaluation contractor will specify the programs, the types of customers and the equipment on which utility meters or end-use meters will be used to help estimate the energy savings achieved by the programs being evaluated. Metered data will typically be used for assessing the pre and/or post-program participant condition or used to calibrate the pre-program energy use condition for comparison with the post-program condition under the use or weather and use conditions associated with each participant.

Engineering and Simulation Modeling: The process of energy impact estimations that does not rely on metered data can be based on the use of engineering analysis of the difference between the pre- and post-program conditions tailored to the *as-used* conditions. The estimation process can also use building or equipment simulation modeling approaches in which the pre- and/or post-program condition can be modeled by applying calibrated energy impact models to identify the gross difference in energy use. Calibration is performed by incorporating utility meter or end-use meter data and weather data as required. These estimates are often supported by the verification results (to confirm assumed conditions) that are incorporated into the model or the engineering assessment. This Summary Evaluation Plan does not specify which program evaluation plan will employ which types of assessment approaches, however the detailed evaluation plans developed by the evaluation contactor will specify which analytical approach (or combination of approaches) will be employed to evaluate each program, the data to be used in that approach, and the technologies evaluated according to each approach.

Process Evaluations: Each program will have at least one process evaluation over the plan cycle unless specified by DTE that a process evaluation is not required for any specific program. Process evaluations focus on the efficiency and effectiveness of the program's design, structure and operations in a way that the results of a study can be used to not only document the operations of the programs, but also be used to guide future program improvements. As a result, process evaluations focus on issues specific to each program and the needs of DTE and its implementation contractor(s) to maintain efficient and effective programs. Process evaluation activities may include surveys with program participants, non-participants, trade allies, and other program stakeholders to gather insights into their satisfaction with the program design, rebate levels, and other program-related experiences. The process evaluations of DTE's portfolio will be designed and conducted in consultation with the independent evaluation contractors. The process evaluations will be designed to address specific researchable issues identified during the evaluation planning process. These can include such items as the efficiency of operations, the ability of program activity to impact the targeted market, the ability of the tracking system to support the program's management, reporting, the effectiveness of messaging and outreach, and oversight needs. There are numerous additional areas of focus for any given process evaluation. These topics (researchable questions) include those listed in the California Evaluation Framework or the NY Evaluation Guidance and can be used to help guide the evaluation planning process. The implementation of the process evaluation efforts will focus on addressing each of the important researchable issues as agreed to with DTE and incorporated into the final detailed program-specific process evaluation plans submitted to and approved by DTE. The DTE process evaluation efforts will be consistent with the California Evaluation Framework, June 2004, Chapter 8, Process Evaluations, and the California Evaluation Protocols, April 2006, Process Evaluation Protocol, or the NY Evaluation Guidance, wherever possible. The methods presented in these documents are standard operating procedures for the

evaluation field and provide significant latitude to the evaluation efforts pertaining to their design and operational procedures.

Market Effects Evaluations: Market effects evaluations are not specified in this Summary Evaluation Plan and are not included in the evaluation budgets allocated to the evaluation efforts. However, to the extent possible, without increasing evaluation costs, the program evaluations should be designed to collect information on the effects of the programs on the way the energy efficient product markets stock, price and sell the type of energy efficient equipment covered in the Energy Waste Reduction Portfolio, including trends with number of engaged contractors, average project size, etc.

Impact Evaluations: The evaluation actives for the 2024-2025 Energy Waste Reduction portfolio are not limited to those impact evaluation efforts described below in this Summary Evaluation Plan. The independent evaluator may also suggest additional impact evaluation tasks and approaches, to be reviewed and approved by DTE. Evaluation contractors are encouraged to modify this evaluation plan overview to reflect additional current or best practices to the extent that they improve or enhance the ability of the evaluation efforts to provide reliable and accurate program impact estimations. The final detailed evaluation plans will be reviewed by DTE and assessed for their ability to provide reliable energy impact evaluation findings.

The following sections provide program-specific energy impact evaluation guidance and are in addition to the process evaluation efforts planed for each program and to be presented in the detailed evaluation plans submitted by the evaluation contractor(s).

Residential Programs

Residential Building Envelope (RBE) Program

The Residential Building Envelope (RBE) Program initiates a restructuring of several offerings which had previously existed as distinct programs. These programs all served a similar purpose, namely to encourage customers to install energy-efficient equipment in their homes, and have therefore, been combined as channels under the RBE program. The evaluation activities of the new channels will be similar to the activities conducted on the legacy programs and are presented here as such for clarity and consistency with previous plan filings:

ENERGY STAR® Products Channel

The Energy Star channel serves residential and commercial customers through retail and online offerings. The channel provides customer downstream incentives as well as midstream and upstream incentives to stock and sell program-discounted energy efficient products such as Wi-Fi enabled thermostats, advanced power strips, room A/C, and small electronics and appliances, such as televisions, clothes washers and dryers, computers and monitors, smart power strips, and thermostatic showerheads.

Midstream and upstream delivery are typically harder to evaluate because they do not enroll participants whose energy efficient product purchase and use conditions can be documented. Thus, the evaluation relies on assessing the purchase and use conditions of customers buying

the program-covered products via the program discounts and comparing those activities to other non-program associated market behaviors for those same products.

The evaluation of this channel will be coordinated with the C&I Energy Star Lighting Program and may use the following efforts:

- In-store observations of sales approaches in participating and non-participating stores
- Interviews with participating and non-participating retail mangers responsible for product sales
- Intercept surveys with customers
- Trade ally interviews
- Interviews with program design and implementation managers
- Tracking system reviews and verification efforts
- The use of DTE mail in and on-line records to identify and contact participants and if possible, the use of trade ally web or purchase tracking approaches for identifying customers for interviews or surveys to understand use conditions and associated behaviors
- Tracking system review, verification, and deemed savings tracking accuracy

The evaluation may focus its efforts on in-store data collection using both observations of sales approaches and the characteristics of those sales approaches and their relation to channel incentives and services. The evaluation approach might also, when possible and if customer records can be acquired, examine sales and anticipated use of the program-covered products for a sample of retail and web customers buying program covered products, and assess the customer's key drivers for their purchase decisions to assess the program's impact on those decisions. The evaluation will also interview a sample of participating and non-participating retail trade allies to assess the impact of the channel on retail sales and sales approaches. Lastly, the evaluation will interview program design and key implementation managers to assess the strategies and approaches leading to the programmatic efforts to acquire net energy savings purchase behavior.

Residential Heating, Ventilation, and Air Conditioning (HVAC) Channel

The Residential HVAC channel provides customer down-stream and distributor / contractor midstream incentives for the early replacement or replace-on-failure of program covered HVAC equipment instead of less efficient equipment. The channel also covers tune-ups and HVAC-related equipment including central AC units, AC tune-ups, heat pumps, high-efficiency furnaces and gas water heaters, tankless natural gas water heaters, and high efficiency gas boilers. The channel works via contractors as well as direct appeals to customers. The evaluation may focus on:

- Participant surveys
- Interviews with HVAC contractors and distributors
- Interviews with program implementation managers, key stakeholders and operators including those responsible for market interaction strategies, program design and contractor outreach efforts
- Tracking system review, verification, and deemed savings tracking accuracy
- Interviews with program managers

Surveys will be used to assess current use and use conditions and the influence of the channel on participant purchase decisions. Contractor and distributor interviews may be conducted to assess the influence of the channel on stocking, customer interaction, and sales practices. The evaluation will interview program design and key implementation managers to assess the strategies and approaches leading to the programmatic efforts to acquire net energy savings purchase behavior via contractor networks, customer decisions and other efforts. Tracking system reviews will be conducted to support verification and installation assessment efforts. Program manager interviews will identify all routes on which the evaluation should focus their energy impact assessments (and help focus the process evaluation's objectives).

Audit and Weatherization (AW) Channel

The DTE Audit and Weatherization channel is designed to acquire energy savings within the participant population by encouraging customers to install weatherization and HVAC measures. It has two participation paths, prescriptive and performance. The prescriptive path allows participants who want to do it themselves without the need of a specialist, while the performance path utilizes trade ally specialists to assess and install a more complete set of measures or equipment in the home. Incentives and educational efforts are the primary tools used by DTE in achieving this objective. The evaluation approach for this program may consist of:

- Participant surveys
- Interviews with installation contractors and their key management staff responsible for participation in service offerings
- Interviews with program implementation stakeholders and operators
- Tracking system review, verification, and deemed savings tracking accuracy
- Interviews with program managers

Participant surveys will be used to assess current use and use conditions and the influence of the channel on participant participation, energy education, product selection, choice and purchase decisions, and to assess the degree to which the channel influences those considerations and decisions. Contractor and contractor management interviews will be conducted to assess the influence of the channel on customer acquisition, interaction and education, product offerings and customer decision processes. Tracking system reviews will be conducted to verify installations. Lastly, the evaluation will interview program design and key implementation managers to assess the strategies and approaches leading to the programmatic efforts to achieve energy savings and help focus the process evaluation's objectives.

New Homes Construction (NHC) Channel

The New Home Construction channel is designed to encourage the construction of highly efficient homes by incentivizing above-code, higher efficiency designs and materials. The channel involves the coordination between builders, inspectors, and customers throughout the construction process.

The evaluation will include a process and impact assessment. The process evaluation will focus on assessing operational performance and providing recommendations for cost effective channel changes that contribute effectiveness or efficiencies to the channel's operations. The

energy impact evaluation will address savings by estimating energy impacts from an "as would have been built" condition, assuming the building code as the energy baseline and calibrating that baseline via interviews with channel participating builders, inspectors, and customers making construction decisions. The evaluation will consist of:

- Surveys or interviews with customers making building decisions
- Interviews with program managers
- Interviews with builders, inspectors and contractors involved in the construction decision process
- Tracking system review, verification, and deemed savings tracking accuracy

Engineering calculations or building model assessment based on the difference between the "as would have been built", and the "as built" condition as determined through field verification, with the applicable building code serving as the baseline modified for the "as would have been built" condition.

Appliance Recycling Program

The DTE Appliance Recycling Program provides rebates for collection and recycling of inefficient yet still operable refrigerators, freezers, dehumidifiers and room air-conditioners. The evaluation process will use methods that align with the most recent U.S. DOE Uniform Methods Protocol, for Refrigerator Recycling Evaluation Protocol 2017 https://www.nrel.gov/docs/fy17osti/68563.pdf. This protocol is now standard practice for evaluating recycling or appliance pick-up/turn-in programs that are designed to remove inefficient appliances from participant's homes. The results from the application of the U.S. DOE protocol allow the DTE program impacts to be compared with other programs within Michigan and across the country. Energy impacts are based on the pre-program use of the recycled equipment as they apply to the individual paths associated with the use and disposition of the equipment, in the "*as would have been used*" condition, in the absence of the program. The use of this protocol produces more reliable net savings estimates than other program evaluation methods which act to limit the assessment to only the in-home participant's savings. To accomplish this study, the evaluation may include:

- Participant surveys
- Interviews with recycling contractors and their key operations staff responsible for enrollment and participation in service offerings
- Tracking system review, verification, and deemed savings tracking accuracy
- Interviews with program managers

The participant surveys will help identify the "as would have been used" conditions, the market disposition paths count and the disposition in the absence of the program. The interviews with contractors and key management staff will assess the program's influence on participation and energy savings actions and to help assess the recycling efforts that ensure the units are not placed back in use. Tracking system reviews will identify types and size of units and counts for baseline conditions. Program manager interviews will help identify the operational approaches that need to be assessed for energy impacts.

Multifamily Residential and Multifamily Income-Qualified

The Multifamily Program provides prescriptive and customer rebates for building owners towards the installation of high efficiency lighting, refrigerators, HVAC upgrades and tune-ups, and weatherization measures in tenant units. The impact evaluation will consist of the following:

- Interviews with property managers
- Interviews with program implementation contractors
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site verification to verify measure installation and operation.

The interviews with DTE program managers, multifamily property managers and the implementation contractors will identify all ways in which savings are expected (and help focus the process evaluation needs). The tracking system reviews will identify participants and actions to be assessed.

Multifamily Strategic Energy (SEM) Management

The Multifamily SEM Program offers Multifamily properties innovative, low to no-cost approaches to saving energy. The program also provides tools and education that promote action around reducing energy in multifamily residences, builds lasting relationships with multifamily property managers, and achieve persistent energy savings. The impact evaluation will consist of the following:

- Interviews with property managers
- Interviews with program implementation contractors
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site observations and verification efforts and selected M&V
- Billing analysis if circuits can be isolated, verified or calibrated modeling or engineering analysis of building systems and impacts

The interviews with DTE program managers, multifamily property managers and the implementation contractors will identify all ways in which savings are expected (and help focus the process evaluation needs). The tracking system reviews will identify participants and actions to be assessed.

School Program

The School Program works with grades 4 – 12 and teaches children about energy and ways to save energy. The program curriculum on energy saving ideas and technologies can be delivered via in-person class-room sessions or via on-line webinar presentations. The program

distributes kits with measures that students take home to install in their homes that reduce energy use. The program focuses on water heating and air sealing measures. The program also encourages interaction between parent and student to achieve additional savings beyond those in the kit. The evaluation may consist of the following efforts:

- Participant Surveys for parents of students receiving kits
- Teacher interviews
- Interviews with implementation contractor
- Review of kit contents and their energy savings potential
- Tracking system review, verification, and deemed savings tracking accuracy
- Interviews with program managers

The participant (take home) surveys will focus on which measures were installed from the kits and what additional actions were taken by the students and their parents. The teacher interviews and the implementation contractor interview will focus on the degree of participation and the distribution of kits. The review of the kit contents will identify the measures on which direct savings are to be estimated from kit use. Tracking system reviews will be conducted to verify numbers of students served and technology and education received that can be expected to drive savings. Interviews with program managers will help identify the types of actions taken and the energy saving approaches that must be assessed.

Home Energy Report (HER) Program

The Home Energy Report (HER) program provides information to large populations of customers via a periodic Home Energy Report detailing customer's comparative level of energy use. The report also provides recommendations on how to control energy use and provides references to other opportunities DTE offer to help the customer save energy..

The program will be evaluated by following the impact evaluation protocol presented in evaluation protocol *The USDOE Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures,* 2020, Chapter 17: *Residential Behavior Evaluation Protocol*. This is a rigorous protocol and is designed to identify small levels of energy savings from large populations where experimental design is employed. Particular attention will be employed by the evaluation contractor to match the DTE program with the appropriate opt-in and opt-out program evaluation method.

Savings from behavior programs similar to HER are typically in the 1% to 2% range, which requires an evaluation based on metered analysis of a large population of participants compared to a randomly assigned control group using regression analysis. An important component of an evaluation of an experimental design is to first verify the equivalence of the participant and control group. The evaluator will verify there are no statistically significant differences in pre-program energy consumption, or customer demographic and housing characteristics if data are available. Once the experimental design has been verified and validated, the evaluator can use the methods described in Chapter 17 to estimate savings.

The process evaluation will assess customer satisfaction and experience as well as the operations of the program and the adequacy of the style and content of the report and make recommendations that can be expected to cost effectively improve program performance.

Income-Qualified Energy Efficiency Assistance Program (EEA)

The Energy Efficiency Assistance Program provides no-cost energy efficiency improvements in participant's homes. The program covers higher cost items such as furnace replacements or repairs, refrigerator replacements and weatherization, as well as low-cost items such as LED bulbs, water measures, pipe insulation and thermostats among other actions. The evaluation may consist of the following activities:

- Participant surveys
- Interviews with contractors, Community Action Agencies (CAAs), Non-Profit Organizations (NPOs)
- Tracking system review, verification, and deemed savings tracking accuracy
- Interviews with program managers
- On-site verification to verify measure installation and operation

The evaluations will survey program participants to confirm installation and use conditions to feed the impact estimate. Interviews with contractors, CAAs and NPOs will be conducted to confirm the program coverage and participation levels. Tracking systems will be reviewed to assess the accuracy and counts of participation and to support the impact estimates. Interviews with program managers will help identify the types of actions taken and the energy saving approaches that must be assessed.

Commercial and Industrial (C&I) Programs

The C&I Portfolio consists of five Platforms and the Self-direct program. These Platforms were established to focus on creating energy efficiency programs so that all business customers could potentially participate in one of the C&I programs. These platforms include: a) Small Business Platform, b) Downstream Platform; c) Midstream Platform; d) Operational Platform; e) Emerging Measures and Approaches Platform.

Small Business Platform

Small Business (SB) Program

The Small Business (SB) program concentrates on small-medium business customers that require additional guidance on their energy efficiency journey. This program's process is to engage small-medium business customers through an energy assessment and provide energy efficiency recommendations based on the assessment findings. The outreach team then explains the assessment and recommendations encouraging the customer to implement the recommendations. If the customer agrees to move forward, the outreach team provides the customer with trade allies that can provide costs for the project and complete the installation. The program covers a wide range of energy consuming equipment including lighting, motors, air conditioning, ventilation, etc. The evaluation efforts include:

- Surveys or interviews with participants
- Interviews with program managers
- Interviews with program implementation contractors
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site verification to verify measure installation and operation
- Calibrated engineering estimations or calibrated modeling assessments and potentially billing analysis for larger projects.

Mid-Stream Lighting Program (MSL)

The Mid-Stream Lighting (MSL) program employs a comprehensive marketing plan that is focused on increasing the penetration and use of LED technologies in C&I facilities by impacting point-of-sale decisions. The program also relies on market trade allies to encourage the adoption of program-covered lighting measures. Primary measures include LED lighting, LED retrofit kits, and occupancy sensors. A process and impact evaluation will be conducted that may employ the following activities:

- Surveys or interviews with participants (distributors) and end-users
- Interviews with program managers
- Interviews with market trade allies
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site verification to verify measure installation and operation

Mid-Stream Food Service Program (MSFS)

The Mid-Stream Food Service program (MSFS) is primarily a gas program; however, the evaluation will be coordinated with the Mid-Stream Lighting and HVAC programs to effect evaluation efficiency. MSFS aims to enhance the adoption of high efficiency cooking and refrigeration equipment by offering incentives to distributors. A process and impact evaluation will be conducted that may employ the following activities:

- Surveys or interviews with participants (distributors)
- Interviews with program managers
- Interviews with market trade allies
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site verification to verify measure installation and operation

Mid-Stream HVAC Program (MSHVAC)

The Mid-Stream HVAC (MSHVAC) program is focused on increasing the penetration and use of heating, ventilation, and air conditioning technologies in C&I facilities by impacting point-of-sale decisions. The program also relies on market trade allies to encourage the adoption of program-covered HVAC measures. This program may be difficult to evaluate because the end-user may not be aware of the program. A process and impact evaluation will be conducted that may employ the following activities:

- Surveys or interviews with participants (distributors)
- Interviews with program managers
- Interviews with market trade allies
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site verification to verify measure installation and operation

Downstream Platform

C&I Prescriptive Program (CIP)

The Commercial and Industrial Prescriptive (CIP) Program provides incentives to C&I customers for energy efficient equipment. The program covers a wide range of energy consuming equipment including lighting, HVAC, refrigeration, motors, pumps, system controls and others. The program maintains an approved list of qualifying equipment, which indicates the incentives for each type and/or size of equipment. The evaluation shall employ the following activities:

- Surveys or interviews with participants
- Interviews with program managers
- Interviews with program implementation contractors
- Interviews with trade allies
- On-site verification to verify measure installation and operation
- Tracking system review, verification, and deemed savings tracking accuracy

The surveys or interviews with participants and on-site verification will help determine the *as installed and used* conditions and confirm the installed and incented equipment type, size and application as well as assess customer experience with the program. For large projects, the evaluation may use interviews rather than surveys. The interviews with program managers will help identify the range of approaches that need to be assessed and the equipment covered by the program. The interviews with implementation contactors will confirm the program's approach for energy savings and the range of energy savings paths to be assessed. New construction contractors, if any, will be included in the interviews to assess the modifications to their standard construction approaches and equipment selection with their clients. The tracking system reviews will support the verification efforts and focus the impact assessment on the evaluated participants.

C&I ENERGY STAR Lighting Program (C&I ES)

The C&I Energy Star Program (C&I ES) serves C&I customers through retail offerings with key market components to retailers and trade allies. The program provides both participant and up-stream incentives to stock and sell program-discounted energy efficient products such as LED standard and selected specialty lighting products. These programs are typically hard to evaluate because they do not enroll participants whose energy efficient product purchase and use conditions can be documented. Thus, the evaluation relies on assessing the purchase and use conditions of customers buying the program-covered products via the program discounts and comparing those activities to other non-program associated market behaviors for those same products.

The evaluation of this program will be coordinated with the residential ENERGY STAR program and may use the following efforts:

- In-store observations of sales approaches in participating and non-participating stores
- Interviews with participating and non-participating retail mangers responsible for product sales
- Intercept surveys with customers
- Trade ally interviews
- Interviews with program design and implementation managers
- Tracking system reviews and verification efforts
- The use of DTE mail in and online records to identify and contact participants and if possible, the use of trade ally web or purchase tracking approaches for identifying customers for interviews or surveys to understand use conditions and associated behaviors
- Tracking system review, verification, and deemed savings tracking accuracy

The evaluation may focus its efforts on in-store data collection using both observations of sales approaches and the characteristics of those sales approaches and their relation to program incentives and services. The evaluation may also via store intercepts and if purchase records can be acquired, (which is not expected) examine sales and anticipated use of the program-covered products for a sample of retail customers buying program covered products and assess the customer's key drivers for their purchase decisions to assess the program's impact on those decisions. The evaluation may also interview a sample of participating and non-participating retail trade allies to assess the impact of the program on retail sales and sales approaches. Lastly, the evaluation will interview program design and key implementation managers to assess the strategies and approaches leading to the programmatic efforts to acquire net energy savings purchase behavior.

C&I Non-Prescriptive Program (CINP)

The Commercial and Industrial Non-Prescriptive Program (CINP) provides incentives for energy efficient equipment or process improvements not covered in the prescriptive program. Because

this program includes non-typical equipment or non-typical uses of energy efficient equipment, special care should be taken to assess the wide range of projects and technology use conditions covered in this program. This program may require more on-site verification efforts than the other programs in the portfolio. This program may also require on-site metering and/or utility meter analysis if the utility meters are sufficiently segregated to the electrical circuits being affected by the program and the expected impacts are sufficient to allow utility meter analysis. The sampling and assessment strategies for this evaluation should be stratified by size and type of customer and actions to minimize estimation error risks. Care should be taken in the sample design and selection approach to minimize program-level estimation error. The evaluations may utilize some or all of the following efforts:

- Surveys or interviews with participants
- Interviews with program managers
- Interviews with program implementation contractors
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site verification, with metering where necessary, to verify measure installation and operation
- Assessment of billing data if it can be isolated, or calibrated engineering estimations or calibrated modeling assessments

The surveys and interviews with participants will document the equipment is installed and operating, consistent with the size, quantity, and efficiency levels as reported. The interviews with program managers will help to identify the range of efficiency related actions taken and any observations that should be considered that impact energy savings. Contractor interviews will identify how the equipment is being installed or used to save energy. The tracking system review will support the verification efforts as well as the sampling and sample stratification needs. On-site visits may be required to confirm equipment use, type, and configuration and to support any metering required. Where applicable and cost-effective, on-site metering and verification efforts may be warranted along with billing analysis or calibrated modeling assessments.

Multifamily Common Area

The Multifamily Common Area Program provides prescriptive and customer rebates for building owners towards the installation of high efficiency lighting, refrigerators, HVAC upgrades and tune-ups, and weatherization measures in common areas of multifamily buildings (lobbies, hallways, stairwells, parking lots). The impact evaluation will consist of the following:

- Interviews with property managers
- Interviews with program implementation contractors
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site verification to verify measure installation and operation.

The interviews with DTE program managers, multifamily property managers and the implementation contractors will identify all ways in which savings are expected (and help focus

the process evaluation needs). The tracking system reviews will identify participants and actions to be assessed.

Operational Platform

Retro-commissioning Program (RCx)

DTE's Retro-commissioning Program (RCx) focuses on maximizing the efficient use of building HVAC systems and their associated controls, among other things. They are more difficult to evaluate than standard energy efficiency programs because every participant has a unique set of building and building use characteristics, as well as equipment and equipment control strategies. Likewise, retro-commissioning projects can range from small, isolated adjustments of only one or a few HVAC controls, to a large multiple staged and coordinated HVAC equipment configuration with multiple control strategies for different parts of a participant's facility. Pre- and post-participation on-site evaluation activities with unique metering, monitoring and verification (M&V) efforts are often required to reliably assess savings.

The program will be evaluated by following the impact evaluation protocol presented in evaluation protocol "*The USDOE Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures,* December 2017, Chapter 16: *Retrocommissioning Evaluation Protocol* (and IPMVP). To the extent allowed by the evaluation budget, the study will be guided by the sampling protocols for retro-commissioning programs discussed in the California Evaluation Protocols. The evaluation may consist of the following:

- Interviews with program managers
- Interviews with program implementation contractors and trade allies
- Interviews with building owners and operators
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site observations and verification efforts and selected M&V
- Verified or calibrated modeling or engineering analysis of building systems and impacts
- Pre/post regression analysis with non-routine adjustments

Strategic Energy Management Program (SEM)

The Strategic Energy Management Program (SEM) is a comprehensive building and building systems approach for identifying energy efficiency opportunities within a facility. It provides whole-building operations assessment, and then tailors the actions and equipment that can lower energy use. The evaluation is specifically structured for each participant selected in the evaluation sampling strategy. The sampling strategy will need to be informed by the protocols identified above with respect to sampling, measurement and verification (M&V), analysis and the way in which results are addressed at the program participation population level. These programs are among the most difficult to evaluate because of the numerous energy efficiency configurations that can be selected, the phased-in approach that is often used by participants, and because of the interactive effects of the measures installed and the actions taken. Pre- and post-participation on-site evaluation activities with unique metering, M&V efforts are often required to reliably assess savings. The evaluation will consist of the following:

- Interviews with program managers
- Interviews with program implementation contractors and trade allies
- Interviews with building owners and operators
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site observations and verification efforts and selected M&V
- Billing analysis if circuits can be isolated, verified or calibrated modeling or engineering analysis of building systems and impacts

Find and Fix Program

The objective of the Find and Fix Program is to assist business customers that may not have the understanding or technical capabilities to identify leaks in compressed air and steam systems. The program will educate customers on how the system uses energy, and that there are potential areas for improvement that would reduce the energy use for that system. A system assessment is completed for the customer to find leaks and then fix or replace them.

The evaluation efforts may include:

- Surveys or interviews with participants
- Interviews with program managers
- Interviews with program implementation contractors
- Tracking system review, verification, and deemed savings tracking accuracy
- On-site observations and verification efforts and selected M&V
- Calibrated engineering estimations or calibrated modeling assessments and potentially billing analysis for larger projects.

Self-Direct Program

The Self-Direct Program will not require an evaluation by the independent evaluation contractor. Participants of this program must design, execute, and file their own energy waste reduction plans in order to opt out of paying the EWR surcharge.

Residential / Commercial & Industrial Emerging Measures and Approaches Program

DTE currently utilizes an approach for testing new programs or technologies which suggest a promise for further development and deployment as standard parts of the EWR portfolio, for both the Residential and C&I sectors. When new programs or technologies are incorporated into the EWR portfolio they will be evaluated using approaches that assure accurate and unbiased results. Depending on the size of the new program areas that are commercialized, evaluation methods may vary. For example, if the new program areas added to the portfolio represent initially a very small amount of savings and budget, then this program area may receive more limited evaluation initially. While it is not possible to develop summary evaluation plans for programs or initiatives that may be developed in the future, it is possible to establish a general framework for planning those evaluations for use when they are needed.

When new programs or technologies are placed in the EWR portfolio they will be evaluated in accordance the industry standard approaches and protocols refenced above, recognizing the unique aspects of these emerging measures and approaches. The Emerging Measures and Approaches program is a “test program” designed to test new measures and approaches to offering measures across sectors. This program may have components with significant savings, or components with limited savings, however it is important to understand what and how savings are being provided if emerging approaches are to be incorporated into larger offerings.

This evaluation may conduct a process evaluation to assess a limited, but targeted scope of researchable issues to be defined by DTE in concert with their evaluation contactor that focus on potential operational approaches, and “program roll-out and scaling” issues for those equipment or approaches that may provide potential for cost effective savings. The impact evaluation will be based on modeling, metering, or engineering assessment of impacts informed by participant interviews on use and use conditions. The evaluation will be focused on providing DTE with decision quality information allowing assessment of future program or measure potentials. The evaluation may consist of:

- Surveys or interviews with participants
- Interviews with program managers
- Interviews with trade allies and key stakeholders
- Assessment of billing data if measures can be isolated, or calibrated engineering estimations or calibrated modeling assessments, with metering, measuring and verification as required for rigor
- On-site visits if needed to calibrate impact estimates
- Tracking system review, verification, and deemed savings tracking accuracy

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Net Energy Savings Adjustments-Electric

Case No.: U-21322
Exhibit: A-10
Witness: J.W. Martens
Page: 1 of 1

	(a)	(b)	(c)	(d)
Line No.	**DTE Electric - Energy Waste Reduction Programs**	**Installation Rate Adjustment Factor**	**Net-to-Gross Ratio**	**Total Net Adjustment Col (b) * Col (c)**
	Residential Programs			
1	Appliance Recycling	90%	92%	82%
2	Residential Building Envelope	98%	96%	95%
3	Multifamily Residential	97%	92%	89%
4	School Program	58%	92%	53%
5	Home Energy Reports	100%	100%	100%
6	Multifamily Strategic Energy Management	100%	92%	92%
7	Emerging Measures and Approaches	100%	100%	100%
8	Residential Shared Savings	100%	100%	100%
9	Income-Qualfied attributed to Energy Efficiency Assistance	86%	100%	86%
10	Income-Qualfied attributed to Multifamily Units	97%	100%	97%
	C&I Programs			
11	Prescriptive	100%	92%	92%
12	Non-Prescriptive	89%	92%	82%
13	Retro-Commissioning	100%	92%	92%
14	Strategic Energy Management	100%	92%	92%
15	Small Business Program	91%	92%	84%
16	Mid-Stream Lighting	83%	92%	76%
17	Mid-Stream Food Service	100%	92%	92%
18	Mid-Stream HVAC	97%	92%	89%
19	Multifamily Common Areas	97%	92%	89%
20	Find and Fix	100%	92%	92%
21	C&I Energy Star Lighting	88%	92%	81%
22	Emerging Measures and Approaches	100%	100%	100%
23	C&I Shared Savings	100%	100%	100%
24	Self Direct	100%	100%	100%
	Other Programs			
25	Education	100%	100%	100%
26	Pilots	100%	100%	100%

Michigan Public Service Commission
DTE Gas Company
2024 - 2025 Energy Waste Reduction Plan
Net Energy Savings Adjustments-Gas

Case No.: U-21322
Exhibit: A-11
Witness: J.W. Martens
Page: 1 of 1

Line No.	(a) DTE Gas - Energy Waste Reduction Programs	(b) Installation Rate Adjustment Factor	(c) Net-to-Gross Ratio	(d) Total Net Adjustment Col (b) * Col (c)
	Residential Programs			
1	Residential Building Envelope	100%	96%	95%
2	Multifamily Residential	97%	92%	89%
3	School Program	50%	92%	46%
4	Home Energy Reports	100%	100%	100%
5	Multifamily Strategic Energy Management	100%	92%	92%
6	Emerging Measures and Approaches	100%	100%	100%
7	Residential Shared Savings	100%	100%	100%
8	Income-Qualfied attributed to Energy Efficiency Assistance	81%	100%	81%
9	Income-Qualfied attributed to Multifamily	97%	100%	97%
	C&I/EUT Programs			
10	Prescriptive	99%	92%	91%
11	Non-Prescriptive	89%	92%	82%
12	Retro-Commissioning	100%	92%	92%
13	Strategic Energy Management	100%	92%	92%
14	Small Business Program	93%	98%	91%
15	Mid-Stream Food Service	100%	92%	92%
16	Mid-Stream HVAC	100%	92%	92%
17	Multifamily Common Areas	97%	92%	89%
18	Find and Fix	100%	92%	92%
19	Emerging Measures and Approaches	100%	100%	100%
20	C&I Shared Savings	100%	100%	100%
	Other Programs			
21	Education	100%	100%	100%
22	Pilots	100%	100%	100%

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

THAC K. NGUYEN

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF THAC K. NGUYEN

Line No.

1 **Q1. What is your name, business address and by whom are you employed**

2 A1. My name is Thac K. Nguyen (he/him/his). My business address is: One Energy
3 Plaza, Detroit, Michigan, 48226. I am employed by DTE Electric Company with
4 the position of Manager of Residential, Commercial and Industrial Pilots in the
5 Energy Waste Reduction (EWR) group.

6

7 **Q2. On whose behalf are you testifying?**

8 A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas
9 Company (DTE Gas) (collectively, DTE).

10

11 **Q3. What is your educational background?**

12 A3. I graduated from the Washington University John M. Olin School of Business with
13 a Bachelor of Science in Business Administration in 2001.

14

15 **Q4. What is your work experience?**

16 A4. In 2001, I was hired by The Detroit Edison Company, which is now known as DTE
17 Electric. Over the years my role and responsibilities included managing multiple
18 residential and Commercial and Industrial (C&I) programs and services. My areas
19 of work included Customer Marketing, Customer Research & Information, Energy
20 Distribution President's Staff, Strategy & Corporate Development, Gas Field
21 Services, Federal Affairs and Environmental Initiatives. In 2014, I accepted the
22 position of Principal Marketing Specialist with the Energy Optimization group. My
23 primary job responsibilities included the program management of the Company's
24 HVAC Program, Home Performance Program, and the Insulation and Windows

Line No.

Program. In 2019, I assumed the position of Principal Supervisor; and in 2021, I was promoted to Manager in the Energy Waste Reduction group.

Q5. Do you hold any certifications or are you a member of any professional organizations?

A5. I am a member of the Association of Energy Services Professionals (AESP). AESP is an organization that provides professional development programs, a network of energy practitioners, and promotes the transfer of knowledge and experience to promote energy efficiency programs. I am a member of the Consortium for Energy Efficiency (CEE) engaging on its Emerging Tech Committee. CEE is the United States and Canadian consortium of gas and electric efficiency program administrators; whose goal is to accelerate the development and availability of energy efficient products and services. Finally, I am a Certified Energy Manager (CEM) by the Association of Energy Engineers (AEE).

Q6. What are your current duties and responsibilities?

A6. As the Manager of Residential, Commercial and Industrial Pilots, I am responsible for the development of new electric and gas offerings within the market rate programs. Additionally, I am responsible for the EWR Contact Center, which supports all EWR residential programs.

Q7. Have you previously sponsored testimony before the Michigan Public Service Commission (MPSC or Commission)?

A7. Yes. I have sponsored testimony and exhibits before the MPSC in the following cases:

Line No.	**Case No.**	**Description**
1		
2	U-20703	2019 DTE Electric Waste Reduction Reconciliation
3	U-20708	2019 DTE Gas Waste Reduction Reconciliation
4	U-20836	2022 DTE Electric General Rate Case
5	U-21206	2021 DTE Waste Reduction Reconciliation
6	U-21297	2023 DTE Electric General Rate Case

Line No.

1 **Purpose of Testimony**

2 **Q8. What is the purpose of your testimony?**

3 A8. The purpose of my testimony in this 2024-2025 EWR Plan filing is to:

4 1) Provide an overview of the approach used by the DTE Pilot Program
5 (Program) to design and deliver pilots

6 2) Provide estimations for energy savings and associated costs

7 3) Provide information about current pilots and potential pilots for 2024-2025

8

9 **Q9. Are you sponsoring any exhibits in this proceeding?**

10 A9. Yes, I am supporting the following exhibit:

11 | Exhibit | Description |
|---|---|
12 | A-16 | Pilot Program Description |

13

14 **Q10. Was the exhibit prepared by you or under your direction?**

15 A10. Yes, it was.

16

17 **Pilot Program**

18 **Q11. What is the objective of DTE's Pilot Program?**

19 A11. The objective of the Program is to develop promising program designs, investigate
20 emerging technologies, and test new marketing approaches. The Pilot Program
21 enables DTE to assess potential energy savings; measure cost effectiveness of new
22 technologies; and expand how customers can reach EWR's commercialized
23 programs.

24

25 **Q12. What customer segments are served by DTE's Pilot Program?**

Line No.

A12. The DTE's Pilot Program supports residential, income-qualified, and commercial and industrial customers.

Q13. How is the DTE's Pilot Program delivered?

A13. The Program delivers its pilots through research and experimentation. The Pilot Program provides resources to introduce new products, to demonstrate proof of product, technology application, technology acceptance and test new marketing approaches. The program also helps determines product performance, customer satisfaction and energy savings of emerging technologies.

Q14. How are pilots developed, managed, and implemented?

A14. To develop and manage pilots, DTE's Pilot Program utilizes implementation contractors and leverages a structured 5-stage process:

1) **Ideation** – A new concept can originate from various sources. It is run through Ideation using various checklists to ensure the opportunity has strategic fit.
2) **Business Case** – After secondary research is performed and energy savings potential identified, a framework for the new measure, program or approach is drafted.
3) **Design** – During this stage, needs and resources to bring the pilot forward is identified including timing and costs. Key performance metrics are codified.
4) **Execution** – The pilot is in the field following the roadmap developed in the prior stage. Key performance metrics are monitored.
5) **Commercialization –** Post pilot execution, during this stage, the decision is made whether or not to introduce the new measure, program or approach to

Line No.

the wider market through the residential or C&I programs, new or existing, for all eligible customers.

Q15. How is DTE's Pilot Program funded?

A15. Along with projected spends, Pilot's spending allowance is detailed in Witness Bilyeu's testimony including Exhibit A-1 and A-2. The Program funds are spent on contracted services, participant incentives as well as on the cost of internal administration to manage the portfolio of pilots.

Q16. How is DTE's Pilot Program energy savings determined?

A16. The Program energy savings are determined based on the method prescribed by the Commission's December 4, 2008 Temporary Order in Case No. U-15800. In that order the Commission determined that the pilot funds will be deemed to generate proportionate energy savings per dollar of spend to that of the overall portfolio during each program year. Pilot's projected savings are detailed in Witness Bilyeu's testimony including Exhibit A-1 and A-2.

Q17. What are DTE's Pilot Program areas of focus?

A17. The Pilot Program has and will continue to evolve over time as dictated by the changing needs of customers and new technologies. An important component of the Program is to conduct customer research related to current and future programs. Examples of new technologies, program concepts, and marketing approaches under consideration include:

1) Cold climate electric and gas heat pumps
2) Residential and C&I upstream and midstream programs

Line No.

1 3) Residential income-qualified offerings
2 4) Delivering programs through new marketing channels including TV, radio,
3 print, digital and social media
4 5) Develop new marketing approaches to solicit small business participation
5
6 **Q18. What pilots does DTE's Pilot Program plan to carry forward into the 2024-**
7 **2025 EWR Plan?**
8 A18. In addition to the potential pilots from the areas of focus above, DTE intends to
9 carry forward the following pilots:
10
11 Residential and C&I Thermal Heat Pumps Pilot
12 The Thermal Heat Pumps Pilot shall demonstrate a new product category for fuel-
13 fired natural gas heat pump technologies in both commercial and residential
14 applications and seek to develop measures for the Michigan Efficiency Measure
15 Database (MEMD). Results shall leverage laboratory performance data sets from
16 various gas heat pumps, along with new laboratory testing, field demonstrations
17 and EM&V reporting. The pilot is focused on emerging equipment that will be
18 commercially available. Pilot results shall lead to future market development and
19 reporting of technical work papers.
20
21 Residential Income-Qualified Health and Safety Pilot
22 The Health and Safety Pilot's goal is to provide funding through EEA program
23 partners and participating contractors to overcome health and safety issues that
24 prevent the delivery of energy efficient products and services (walkaways) for
25 single-family and multifamily buildings. DTE delivers measures to owner-

Line No.

1 occupied households, with a standard approval limit of $10,000 per household
2 (combined if dual fuel) and requires pre- and post-photographs as part of the quality
3 assurance and control process. Additional resources may be leveraged to assist
4 customers in greater need. DTE proposes a substantial increase in funding for the
5 Income-Qualified Health and Safety Pilot as detailed in Witness Bilyeu's
6 testimony.
7
8 Residential Codes and Standards Pilot
9 The Codes and Standards Pilot's goal is to promote the adoption and adherence of
10 more energy efficient practices. While current DTE EWR programs are designed
11 to promote customer purchase and upgrades to higher efficiency equipment through
12 outreach, education, and incentive, these programs often capture only a portion of
13 the potential energy savings in the market. Market intervention through codes
14 adoption efforts can help maximize energy savings opportunities. There are also
15 societal benefits associated with the implementation of energy efficiency codes and
16 standards. High-efficiency building practices, which can cost more than standard-
17 efficiency building practices, become the new baseline practices. This typically
18 results in two positive effects: (1) eliminating less-efficient building practices from
19 the market; and (2) reducing costs through increasing the volume of formerly more
20 expensive high-efficiency building practices. While some markets are more
21 receptive to adopting both more stringent codes and standards, the DTE Codes and
22 Standards Pilot will focus and prioritize the path for adoption of more energy
23 efficient residential building energy codes in Michigan.
24
25 C&I Business Energy Reports (BER) Pilot

Line No.

The BER pilot's goal is to support DTE's small and medium business customers and generate customer awareness of energy efficiency through featured programs and measures from various DTE channels. Customers receive bi-monthly reports highlighting energy usage pattern unique to the business with specific self-serve solutions and resources that will help save energy. Since small and medium customers do not have assigned DTE account managers, this pilot can improve customers understanding of their energy usage, encourage participation in DTE's Energy Efficiency programs, provide no cost energy saving tips, and promote other DTE initiatives across various groups.

C&I Energy Data Hub Pilot

Energy Star Portfolio Manager is a secure online tool that businesses can use to track their building's energy consumption and compare their buildings to other similar buildings nationwide. The tool was created by the Environmental Protection Agency to help building owners run energy management programs and gain recognition for their energy-saving efforts. The DTE Energy Data Hub pilot provides commercial and industrial building owners the ability to share and automatically upload their aggregate whole building energy data directly to their Energy Star Portfolio Manager account. The pilot reduces the resources needed by the customer to manually upload electric and/or gas usage data directly into Energy Star Portfolio Manager by the building owner.

Q19. Does this complete your direct testimony?

A19. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

THAC K. NGUYEN

DTE Pilot Program

Program Element	DTE Pilot Programs
Objective	The objective of the Pilot Programs is to make current programs as effective as possible for customers, develop new program designs, explore new marketing strategies and approaches, and investigate the energy saving impact of emerging technologies.
Target Market	All customer segments served by DTE will be served by the pilot programs. Program design and new marketing approaches will be dependent on the specific technology or program.
Program Duration	January 2024 to December 2025
Program Description	Pilot programs are designed to enrich the effectiveness of the Energy Waste Reduction Programs. The Pilot Programs will evolve over time and will be dictated by the changing needs of customers and new technologies. An important component of the Pilot Program will be to conduct customer research related to current and future programs and technologies. The Energy Waste Reduction Programs are designed to permit all customers to have reasonable access to program benefits. The Pilot Programs will help improve the effectiveness and customer reach of the Energy Waste Reduction Programs. The Pilot Programs provide incentives to introduce new products to demonstrate proof of product, technology application, technology acceptance, and market acceptance. The Pilot Program also helps determines product performance, customer satisfaction, and energy savings of emerging technologies.

Eligible Measures	Different technologies, programs, and marketing approaches may be considered in the Pilot Program. Below are examples of pilot concepts being considered:
	• Technologies
	  ○ Cold climate heat pumps
	  ○ Energy controls, monitors, and management for C&I customers
	  ○ Various technology demonstrations
	
	• Programs
	  ○ Residential and C&I upstream and midstream programs
	  ○ Residential income-qualified service offerings
	  ○ Cross utility collaboration programs
	
	• New marketing approaches
	  ○ Deliver marketing messages through radio, print and electronic media
	  ○ Develop new marketing approaches for soliciting small business participation

Implementation Strategy	Implementation strategy considers current programs, market research, vendor recommendations, and industry best practices. The implementation of this program will be coordinated between DTE Electric and DTE Gas where service territories overlap.

Program Element	DTE Pilot Programs (cont.)
Marketing Strategy	Marketing strategy of the Pilot Programs will be dictated by the technology, the program or marketing approach being investigated.
EM&V Requirements	Impact and process evaluation will be conducted on each Pilot Program. This research will be conducted by independent third-party evaluation contractor. To provide validity and additional insight into the research, DTE will work with the evaluation contractor.
Estimated Budget	The estimated budget for the Pilot Program, including administrative costs, is displayed below.

Year	Electric Budget ($Thousands)	Gas Budget ($Thousands)
2024	13,856	3,542
2025	14,657	3,546

Savings Targets	The estimated energy and capacity savings from the Pilot Programs will be a percentage of the annual savings proportional amount spent, up to 6%.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

MATTHEW F. POLLACK

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF MATTHEW F. POLLACK

Line No.

1 **Q1. What is your name, business address and by whom are you employed?**

2 A1. My name is Matthew F. Pollack (he/him/his), and my business address is One
3 Energy Plaza, Detroit, Michigan, 48226. I am employed by DTE Energy Corporate
4 Services LLC within Regulatory Affairs as a Senior Strategist.

5

6 **Q2. Who are you testifying on behalf of?**

7 A2. I am testifying on behalf of DTE Electric Company (DTE Electric).

8

9 **Q3. What is your educational background and employment history?**

10 A3. I received a Bachelor of Electrical Engineering with an emphasis on Power Systems
11 Analysis from Michigan Technological University in 2016.
12 From 2017 until 2020, I was employed by PPL Corporation as an Electrical
13 Engineer in the Short Circuit Transmission Planning department. From 2020 until
14 2022 I was employed by Xcel Energy Inc. as an Electrical Engineer in the Real
15 Time Planning department. My main duties involved preforming the real time and
16 day ahead studies, complete LiDAR line load requests, and maintaining compliance
17 with Southwest Power Pool. In July of 2022 I started my current position at DTE
18 Energy as a Senior Strategist.

19

20 **Q4. Have you previously sponsored testimony before the Michigan Public Service**
21 **Commission (MPSC)?**

22 A4. Yes. I sponsored testimony in the following cases:

23 **Case No.** **Description**

24 U-21297 2023 DTE Electric General Rate Case

25 U-21307 2021-2022 TRM Reconciliation

Line No.

1 **Purpose of Testimony**

2 **Q5. What is the purpose of your testimony?**

3 A5. The purpose of my direct testimony is to support the calculation of the Energy
4 Waste Reduction (EWR) surcharges which I am proposing to facilitate the full
5 recovery of DTE Electric's EWR program spend proposed in this 2024-2025 EWR
6 Plan filing (Plan). Throughout my testimony, all references to the EWR surcharge
7 are addressing the base surcharge; any EWR performance incentive surcharges are
8 proposed and approved separate from the EWR Plan in the annual EWR
9 reconciliations.

10

11 **Q6. Are you sponsoring any exhibits in this proceeding?**

12 A6. Yes. I am supporting the following exhibits:

13 Exhibit Description
14 A-35 Summary of Energy Waste Reduction Surcharges - Electric
15 A-36 Summary of Energy Waste Reduction Surcharges – Electric
16 A-37 Summary of Energy Waste Reduction Surcharges – Electric
17 A-38 Summary of Energy Waste Reduction Surcharges – Electric
18 A-39 Summary of Energy Waste Reduction Surcharges - Electric
19 A-40 Proposed Energy Waste Reduction Surcharge Tariff Sheet - Electric

20

21 **Q7. Were these exhibits prepared by you or under your direction?**

22 A7. Yes, they were.

23

24 **Q8. Are you proposing any changes to how the current residential EWR electric**
25 **surcharges are designed, developed, or applied to residential customers?**

Line No.

1 A8. No. This case is updating the amount of the surcharge to reflect the proposed
2 changes to the EWR programs and respective revenue requirements. The
3 methodology used to calculate the residential surcharges has not changed from the
4 methodology used in all preceding plans since the Commission's approval of the
5 original Energy Optimization (EO) plan in its June 2, 2009 order in Case No. U-
6 15806, including the current EWR surcharge approved by the Commission on
7 January 20, 2022 in Case No. U-20876 2022-2023 EWR Plan. The base surcharge
8 remains a levelized amount over all applicable months.
9
10 **Q9. Are you proposing any changes to how the current commercial and industrial**
11 **EWR surcharges are designed, developed, or applied?**
12 A9. No. Here, a levelized surcharge across all months of 2024 and 2025 is proposed.
13 No changes have been made to the usage level breakpoints used in designing the
14 surcharges for the commercial and industrial secondary and primary voltage classes
15 (the detail for which is shown on Exhibit A-38, for the secondary class and Exhibit
16 A-39, for the primary class). The commercial and industrial customer surcharges
17 will continue to be applied to customers on a per meter basis, necessitating the
18 usage-based structure the Company has consistently applied since the
19 Commission's approval of the original EO plan in its June 2, 2009 order in Case
20 No. U-15806.
21
22 **Q10. Will you explain the information presented on Exhibits A-35, A-36, A-37, A-**
23 **38, and A-39?**
24 A10. Exhibit A-35, is a summary of the EWR surcharges proposed in this proceeding for
25 all customer groups. These surcharges carry forward to Exhibit A-40, the

Line No.

1 Company's proposed electric tariff sheet for illustrative purposes. Exhibit A-36,
2 summarizes the total revenue that will be billed to all customer classes over the
3 implementation period spanning the 2024 and 2025 calendar years. This page is a
4 summary of the amounts calculated for the various customer classes as detailed on
5 Exhibits A-37, A-38, and A39. The total revenue for all program offerings is
6 provided on lines 1 through 9. The total revenue on lines 1 through 9 is made up
7 of the revenue for Income-Qualified program offerings as shown on lines 29
8 through 37, and revenue for all program offerings other than Income-Qualified, as
9 shown on lines 15 through 23. These amounts are shown independently because a
10 customer who opts to self-direct their own EWR plan is only billed the portion of
11 the EWR surcharge designed to recover the revenue requirements of the Income-
12 Qualified programs. As discussed by Company Witness Tocco, only certain
13 customers are eligible to self-direct their own EWR plan.
14
15 Exhibits A-37, A-38, and A-39, provide the revenue requirements, billing
16 determinants, proposed surcharges, and total revenue for the various classes. For each
17 of these categories I show the detail for the Income-Qualified programs separate
18 from the detail for all other programs. This reflects the fact that the number of
19 customers within the commercial and industrial classes paying for the Income-
20 Qualified programs differs from the number of customers paying for all other
21 programs because of customers who are self-directing their plans. I will address this
22 in more detail later in my testimony.
23
24 Exhibit A-37 is the detail for the residential class and shows all inputs used to
25 determine the proposed surcharge, and the resulting revenue. The Income-Qualified

Line No.

1 program revenue requirements on line 2 were provided by Company Witness Bilyeu
2 on Exhibit A-5, and the total revenue requirements on line 3 were provided by
3 Company Witness Maroun on Exhibit A-26. The billing determinants used in
4 calculating the residential surcharge are the forecasted service area residential sales
5 for the respective time periods, provided by Company Witness Sirwaitis on Exhibit
6 A-17 and are shown on lines 6 and 7. The basis of this forecast is explained in
7 Witness Sirwaitis' testimony. The levelized surcharges are shown on lines 10 and 11,
8 and the annual revenue that results from applying the levelized surcharge to the
9 forecasted sales each year is shown on lines 14 and 15, respectively.
10
11 The detail for the commercial and industrial secondary customers is shown on
12 Exhibit A-38. The layout and type of information provided is in the same format as
13 the residential page. However, for this class of customers, the applicable billing
14 determinants are the number of meters, and all inputs, and the proposed surcharges are
15 split into three separate sub-levels based on average monthly consumption. This is
16 done in the same manner, with the same consumption level break points, as in the
17 current EWR Plan. All of the meter counts shown on the exhibit are an annual total,
18 representing the total number of meters that will be charged in each respective year.
19 The Income-Qualified program revenue requirements on line 2 were provided by
20 Witness Bilyeu on Exhibit A-5, and the total revenue requirements on line 3 were
21 provided by Witness Maroun on Exhibit A-26.
22
23 Exhibit A-39 provides the same information for the commercial and industrial
24 primary classes, the only difference being that there are only two sub-levels within
25 the class. This structure and these specific usage-based break points are also

Line No.

1 consistent with all the previously approved EWR Plan filings. All of the meter counts
2 shown on the exhibit are an annual total, representing the total number of meters that
3 will be charged in each respective year.
4
5 **Q11. What interest rate was used to calculate the net present value (NPV) of the**
6 **revenue requirements shown on Exhibits A-37, A-38, and A-39?**
7 A11. To calculate the NPVs, a current forecast of DTE Electric's short-term debt rate
8 through 2025, as provided by the Company's Treasury department was used. The
9 annual rates used were 4.75% for 2024 and 4.25% for 2025.
10
11 **Q12. How are the revenues calculated on Exhibits A-37, A-38, and A-39?**
12 A12. The annual revenues for all classes are calculated by multiplying the billing
13 determinants for each year by the applicable levelized surcharge. For the residential
14 class (on Exhibit A-37), the total revenue from program offerings other than
15 Income-Qualified on line 14 is equal to the billing determinants specific to those
16 programs on line 6, multiplied by the surcharge specific to those programs on line
17 10. Similarly, the total revenue from Income-Qualified program offerings on line
18 15 is equal to the respective billing determinants on line 7, multiplied by the
19 surcharge on line 11.
20
21 For both the commercial and industrial secondary and primary classes, the surcharge
22 used in the calculation of the revenue is specific to the consumption level sub-class.
23 For example, looking at Exhibit A-38, the total revenue from program offerings
24 other than Income-Qualified from commercial and industrial secondary customers
25 with a monthly consumption level between 0 and 850 kWh in 2024 is on line 27,

Line No.

column (b). This amount is calculated by multiplying the number of meters in 2024 for that sub-class in column (b), line 7, by the levelized surcharge, as shown on line 17. Similarly, on Exhibit A-39, the total revenue in 2024 from program offerings other than Income-Qualified from commercial and industrial primary customers with a monthly consumption level between 0 and 11,500 kWh is on line 23, column (b). This amount was calculated as the number of meters for that sub-class in 2024 in column (b), on line 7, multiplied by the levelized surcharge specific to these programs, which is on line 15.

Q13. How was the EWR surcharge calculated for the residential class?

A13. The EWR surcharge for the residential class is a volumetric charge. The surcharge as shown on Exhibit A-35, line 1, column (c), is a sum of the surcharges for both Income-Qualified and other than Income-Qualified rates shown on Exhibit A-37, as discussed above. The EWR surcharge is collected from both full-service and Electric Choice customers.

Q14. How was the EWR surcharge calculated for all other customer classes?

A14. For commercial and industrial classes, the surcharges (summarized on Exhibit A-35, lines 3 through 19, column (c), are implemented on a per meter per month basis. Therefore, rather than the surcharge being directly reliant on the sales forecast, it is determined by the forecasted number of meters.

Q15. Can you describe how you derived the customer meter counts displayed on Exhibits A-38 and A-39?

Line No.

A15. Yes. The starting point for determining the number of meters was a current forecast of the number of full-service and Electric Choice customers for each year, provided by Witness Sirwaitis. To translate the customer counts to meter counts, the customer counts were multiplied by the average number of meters per customer for both full-service and Electric Choice customers based on historical data. This relationship is consistent with previous Plan cases.

After determining this base level of meter counts, adjustments were made for the number of meters belonging to customers who have elected to self-direct their EWR program as provided to me by Witness Tocco. Customers who are self-directing their plans are only billed a surcharge to cover the revenue requirements for the Income-Qualified program offerings, so their meter counts are included in lines 11 through 13 on Exhibit A-38, but excluded from lines 7 through 9. Similarly, they are included in lines 10 and 11 on Exhibit A-39, but excluded from lines 7 and 8.

Q16. How will the EWR surcharge be applied to commercial and industrial customers?

A16. The amount of the per meter charge is determined by a customer's total monthly consumption by rate, across all meters. Therefore, a customer's charge may fluctuate from month to month as their consumption varies. There is a distinct EWR rate for each of three defined monthly consumption ranges for secondary customers, and for two defined monthly consumption ranges for primary customers. The consumption ranges were proposed by the Company and approved by the Commission in the original EO plan and have remained constant. Each month, a customer is billed based on the consumption range in which their total

Line No.

monthly usage across all meters for an individual rate schedule falls, and the respective charge will be applied to each meter taking service. Establishing and maintaining this usage-sensitive rate structure mitigates the fact that if all customers received a uniform monthly per meter surcharge regardless of usage, the rate impact would be much more significant to customers with lower consumption levels.

Q17. How is the EWR surcharge administered to residential and commercial unmetered customers?

A17. Prior to the issuance of the MPSC's final Order on January 31, 2017 in MPSC Case No. U-18014 (DTE Electric's general rate case), the EWR surcharge was applied to unmetered customers as a percentage of their base revenue. The U-18014 Order approved unmetered surcharges going forward to be based on the kilowatt hours used. For the residential unmetered outdoor protective lighting service, the EWR surcharge is a volumetric charge applied to all kilowatt hours, as shown on Exhibit A-35. For commercial and municipal unmetered services (including outdoor protective lighting, streetlights, and traffic lights), the charge is determined in the same manner as for metered customers, with the specific charge being determined by which consumption level range the total usage for each tariffed rate schedule service falls in. However, the charges shown on Exhibit A-35, will be applied on a per customer basis, as opposed to being applied per meter.

Q18. Can you explain the information presented on Exhibit A-40?

A18. Exhibit A-40 is an illustrative update of the tariff sheet that would be effective upon Commission approval of the proposed EWR base surcharge. This exhibit is currently populated with the base surcharges proposed on Exhibits A-35, A-36, A-

Line No.

1 37, A-38, and A-39. When the actual tariff sheet is filed for approval following a
2 Commission Order, the EWR rate reflected on the sheet will be the total of the base
3 surcharge and the performance incentive component in effect at the time. I am
4 proposing the base surcharges be implemented on a bills rendered basis effective
5 with the January 2024 billing cycle for all classes.
6
7 **Q19. Does this complete your direct testimony?**
8 A19. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

MATTHEW F. POLLACK

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Summary of Energy Waste Reduction Surcharges - EI

Case No.: U-21322
Exhibit: A-35
Witness: M.F. Pollack
Page: 1 of 1

Line No.	(a) Customer Class	(b) Consumption Level	(c) Proposed Base 2024-2025 Surcharge
1	**Residential**	All kwh	$0.001750/kWh
2			
3	**Commercial Secondary:**		
4		0-850 kWh/month	$4.85/meter/month
5		851-1,650 kWh/month	$29.39/meter/month
6		Above 1,650 kWh/month	$123.64/meter/month
7			
8	Customers with Self-Directing Plans		
9		0-850 kWh/month	$1.04/meter/month
10		851-1,650 kWh/month	$6.70/meter/month
11		Above 1,650 kWh/month	$28.20/meter/month
12			
13	**Commercial & Industrial Primary:**		
14		0-11,500 kWh/month	$106.12/meter/month
15		Above 11,500 kWh/month	$1,129.40/meter/month
16			
17	Customers with Self-Directing Plans		
18		0-11,500 kWh/month	$14.38/meter/month
19		Above 11,500 kWh/month	$174.87/meter/month

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Summary of Energy Waste Reduction Surcharges - Electric

Case No.: U-21322
Exhibit: A-36
Witness: M.F. Pollack
Page: 1 of 1

Line No.	(a) Description	(b) 2024	(c) 2025	(d) Total
	Total Annual Revenue for all Program Offerings			
1	Residential	$ 27,445,894	$ 26,927,437	$ 54,373,331
2	Commercial & Industrial Secondary			
3	0-850 kWh/month	6,223,722	6,248,614	12,472,336
4	851-1650 kWh/month	10,393,307	10,434,214	20,827,521
5	> 1651 kWh/month	112,536,925	112,926,087	225,463,012
6	Commercial & Industrial Primary			
7	0-11,500 kWh/month	35,758	35,758	71,516
8	> 11,500 kWh/month	47,789,543	47,789,543	95,579,086
9	Total	$ 204,425,148	$ 204,361,653	$ 408,786,802
10				
11				
12	**Program Offerings other than Income-Qualified**			
13		2024	2025	Total
14				
15	Residential	$ 15,632,843	$ 15,337,536	$ 30,970,379
16	Commercial & Industrial Secondary			
17	0-850 kWh/month	4,889,150	4,908,705	9,797,856
18	851-1650 kWh/month	8,023,958	8,055,540	16,079,498
19	> 1651 kWh/month	86,853,226	87,153,630	174,006,856
20	Commercial & Industrial Primary			-
21	0-11,500 kWh/month	30,913	30,913	61,825
22	> 11,500 kWh/month	40,214,611	40,214,611	80,429,223
23	Total	$ 155,644,702	$ 155,700,935	$ 311,345,636
24				
25				
26	**Income-Qualified Program Offerings**			
27		2024	2025	Total
28				
29	Residential	$ 11,813,051	$ 11,589,901	$ 23,402,952
30	Commercial & Industrial Secondary			
31	0-850 kWh/month	1,334,571	1,339,909	2,674,480
32	851-1650 kWh/month	2,369,349	2,378,674	4,748,023
33	> 1651 kWh/month	25,683,699	25,772,457	51,456,156
34	Commercial & Industrial Primary			
35	0-11,500 kWh/month	4,845	4,845	9,691
36	> 11,500 kWh/month	7,574,932	7,574,932	15,149,863
37	Total	$ 48,780,447	$ 48,660,718	$ 97,441,165

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Summary of Energy Waste Reduction Surcharges - Electric

Case No.: U-21322
Exhibit: A-37
Witness: M.F. Pollack
Page: 1 of 1

	(a)	(b)	(c)	(d)
Line No.	**Description**	**2024**	**2025**	**NPV 2024-2025 (4)**
	Revenue Requirement:			
1	Program Offerings other than Income-Qualified	$ (7,076,141)	$ 39,011,651	$ 28,969,076
2	Income-Qualified Program Offerings (1)	10,526,838	12,930,778	21,890,656
3	Total Revenue Requirement (2)	$ 3,450,697	$ 51,942,430	$ 50,859,732
4				
5	Billing determinants (GWh): (3)			
6	Program Offerings other than Income-Qualified	15,684	15,388	29,064
7	Income-Qualified Program Offerings	15,684	15,388	29,064
8				
9	Applicable Surcharge ($/kWh)			
10	Program Offerings Other than Income-Qualified	0.000997	0.000997	0.000997
11	Income-Qualified Program Offerings	0.000753	0.000753	0.000753
12				
13	Annual Revenue:			
14	Program Offerings Other than Income-Qualified	$ 15,632,843	$ 15,337,536	$ 28,969,076
15	Income-Qualified Program Offerings	11,813,051	11,589,901	21,890,656
16	Total Annual Revenue	$ 27,445,894	$ 26,927,437	$ 50,859,732

Source:
(1) Income-Qualified Revenue Requirement from Exhibit A-5, line 5
(2) Total Revenue Requirement from Exhibit A-26, page 1, line 12
(3) Annual billing determinants (GWh)
(4) Utilized a discount rate of 4.75% for 2024 and 4.25% for 2025 as provided by DTE Treasury Department.

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Summary of Energy Waste Reduction Surcharges - Electric

Case No.: U-21322
Exhibit: A-38
Witness: M.F. Pollack
Page: 1 of 1

Line No.	(a) Description	(b) 2024	(c) 2025	(d) NPV 2024-2025 (4)
	Revenue Requirement:			
1	Program Offerings other than Income-Qualified	$ 103,246,851	$ 96,489,437	$ 186,923,786
2	Income-Qualified Program Offerings (1)	26,477,877	32,524,446	55,060,989
3	Total Revenue Requirement (2)	$ 129,724,728	$ 129,013,883	$ 241,984,775
4				
5	Billing determinants (Meter counts) : (3)			
6	Program Offerings other than Income-Qualified			
7	0-850 kWh/month	1,283,242	1,288,374	
8	851-1650 kWh/month	353,634	355,026	
9	> 1651 kWh/month	910,040	913,188	
10	Income-Qualified Program Offerings			
11	0-850 kWh/month	1,283,242	1,288,374	
12	851-1650 kWh/month	353,634	355,026	
13	> 1651 kWh/month	910,808	913,956	
14				
15	Applicable surcharge:			
16	Program Offerings other than Income-Qualified			
17	0-850 kWh/month	3.81	3.81	3.81
18	851-1650 kWh/month	22.69	22.69	22.69
19	> 1651 kWh/month	95.44	95.44	95.44
20	Income-Qualified Program Offerings			
21	0-850 kWh/month	1.04	1.04	1.04
22	851-1650 kWh/month	6.70	6.70	6.70
23	> 1651 kWh/month	28.20	28.20	28.20
24				
25	Annual Revenue:			
26	Program Offerings Other than Income-Qualified			
27	0-850 kWh/month	$ 4,889,150	$ 4,908,705	$ 9,162,521
28	851-1650 kWh/month	8,023,958	8,055,540	15,036,845
29	> 1651 kWh/month	86,853,226	87,153,630	162,724,420
30	Total	$ 99,766,335	$ 100,117,875	$ 186,923,786
31				
32	Income-Qualified Program Offerings			
33	0-850 kWh/month	$ 1,334,571	$ 1,339,909	$ 2,501,056
34	851-1650 kWh/month	2,369,349	2,378,674	4,440,144
35	> 1651 kWh/month	25,683,699	25,772,457	48,119,790
36	Total	$ 29,387,618	$ 29,491,040	$ 55,060,989
37				
38	Total Annual Revenue	$ 129,153,953	$ 129,608,915	$ 241,984,775

Source:
(1) Income-Qualified Revenue Requirement from Exhibit A-5, Page 1, line 23.
(2) Total Revenue Requirement from Exhibit A-26, Page 2 line 12.
(3) Annual meter counts
(4) Utilized a discount rate of 4.75% for 2024 and 4.25% for 2025 as provided by DTE Treasury Department.

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Summary of Energy Waste Reduction Surcharges - Electric

Case No.: U-21322
Exhibit: A-39
Witness: M.F. Pollack
Page: 1 of 1

Line No.	(a) Description	(b) 2024	(c) 2025	(d) NPV 20224-2025 (4)
	Revenue Requirement:			
1	Program Offerings other than Income-Qualified	$ 50,981,084	$ 30,045,699	$ 78,859,096
2	Income-Qualified Program Offerings (1)	6,785,206	8,334,697	14,852,195
3	Total Revenue Requirement (2)	$ 57,766,291	$ 38,380,396	$ 93,711,291
4				
5	Billing determinants (Meter counts) : (3)			
6	Program Offerings other than Income-Qualified			
7	0-11,500 kWh/month	337	337	
8	> 11,500 kWh/month	42,130	42,130	
9	Income-Qualified Program Offerings			
10	0-11,500 kWh/month	337	337	
11	> 11,500 kWh/month	43,318	43,318	
12				
13	Applicable surcharge:			
14	Program Offerings other than Income-Qualified			
15	0-11,500 kWh/month	91.74	91.74	91.74
16	> 11,500 kWh/month	954.53	954.53	954.53
17	Income-Qualified Program Offerings			
18	0-11,500 kWh/month	14.38	14.38	14.38
19	> 11,500 kWh/month	174.87	174.87	174.87
20				
21	Annual Revenue:			
22	Program Offerings Other than Income-Qualified			
23	0-11,500 kWh/month	$ 30,913	$ 30,913	$ 60,572
24	> 11,500 kWh/month	40,214,611	40,214,611	78,798,524
25	Total	$ 40,245,524	$ 40,245,524	$ 78,859,096
26	Income-Qualified Program Offerings			
27	0-11,500 kWh/month	4,845	4,845	$ 9,494
28	> 11,500 kWh/month	7,574,932	7,574,932	14,842,701
29	Total	$ 7,579,777	$ 7,579,777	$ 14,852,195
30	Total Annual Revenue	$ 47,825,301	$ 47,825,301	$ 93,711,291

Source:
(1) Income-Qualified Revenue Requirement from Exhibit A-5, Page 1, line 14.
(2) Total Revenue Requirement from Exhibit A-26, Page 3 line 12.
(3) Annual meter counts
(4) Utilized a discount rate of 4.75% for 2024 and 4.25% for 2025 as provided by DTE Treasury Department.

C9 SURCHARGES AND CREDITS APPLICABLE TO DELIVERY SERVICE (Contd.)

C9.6 Energy Waste Reduction Surcharge (EWRS)

On June 2, 2009, in Case No. U-15806, the MPSC authorized the implementation of an Energy Optimization Surcharge (EOS) for electric customers in accordance with the Clean, Renewable, and Energy Efficiency Act, PA295 of 2008. In compliance with PA 342 of 2016, the surcharge has been renamed as the Energy Waste Reduction (EWR) Surcharge. The EWR will be used to fund energy efficiency programs for DTE Electric customers. The EWR rates approved by the MPSC on _____***, 2023 in Case No. U-21322*** will be effective beginning with bills rendered in ***January 2024.*** The total EWRS for all residential customers is $***0.001750*** per kWh. The EWRS for all metered Commercial, Industrial, and Governmental customers is a per meter, per month charge which is based on the total monthly energy consumption by rate as shown in the table below.

Voltage	Monthly Consumption	Customers Without Self Directed Plans Energy Waste Reduction Surcharge	Customers With Self Directed Plans Energy Waste Reduction Surcharge
Secondary	0 – 850 kWh	***$4.85***/meter/month	***$1.04***/meter/month
Secondary	851 – 1,650 kWh	***$29.39***/meter/month	***$6.70***/meter/month
Secondary	Above 1,650 kWh	***$123.64***/meter/month	***$28.20***/meter/month
Primary	0 – 11,500 kWh	***$106.12***/meter/month	***$14.38***/meter/month
Primary	Above 11,500 kWh	***$1129.40***/meter/month	***$174.87***/meter/month

C9.7.6 HOLD FOR FUTURE USE

This exhibit reflects the proposed base EWR surcharge, it does not include the incentive. Upon a final Commission Order in the instant case, the tariff filed with the Commission will reflect the Ordered base surcharge plus the applicable incentive

(Continued on Sheet No. C-69.00)

(Continued from Sheet No. C-69.00)

C9 SURCHARGES AND CREDITS APPLICABLE TO DELIVERY SERVICE: (Contd.)

SURCHARGES AND CREDITS APPLICABLE TO DELIVERY SERVICE: (Contd.)

C9.8 Summary of Surcharges and Credits: Summary of surcharges and credits, pursuant to sub-rules C9.1, C9.2, C9.6, C9.7.9, and C.9.7.14. Cents per kilowatt hour or percent of base bill, unless otherwise noted.

.

	NS ¢/kWh	EWRS ¢/kWh	Base Securitization ¢/kWh	Total Delivery Surcharges ¢/kWh	LIEAF Factor $/Billing Meter
Residential					
D1 Non Transmitting Meter	0.0852	***0.1750***	0.1630	***0.4232***	$0.90
D1.1 Int. Space Conditioning	0.0852	***0.1750***	0.1514	***0.4116***	N/A
D1.2 Enhanced TOU	0.0852	***0.1750***	0.1493	***0.4095***	$0.90
D1.6 Special Low Income Pilot	0.0852	***0.1750***	0.1630	***0.4232***	$0.90
D1.7 Geothermal Time-of-Day	0.0852	***0.1750***	0.1411	***0.4013***	N/A
D1.8 Dynamic Peak Pricing	0.0852	***0.1750***	0.1628	***0.4230***	$0.90
D1.9 Electric Vehicle	0.0852	***0.1750***	0.1595	***0.4197***	N/A
D1.11 Standard TOU	0.0852	***0.1750***	0.1630	***0.4232***	$0.90
D2 Space Heating	0.0852	***0.1750***	0.1583	***0.4185***	$0.90
D5 Wtr Htg	0.0852	***0.1750***	0.1561	***0.4163***	N/A
D9 Outdoor Lighting	0.0852	***0.1750***	0.1371	***0.3973***	N/A
Commercial					
D1.1 Int. Space Conditioning	0.0852	See C9.6	0.1086		$0.90
D1.7 Geothermal Time –of- day	0.0852	See C9.6	0.0734		$0.90
D1.8 Dynamic Peak Pricing	0.0852	See C9.6	0.0908		$0.90
D1.9 Electric Vehicle	0.0852	See C9.6	0.1920		$0.90
D3 General Service	0.0852	See C9.6	0.0999		$0.90
D3.1 Unmetered	0.0852	See C9.6	0.0939		N/A
D3.2 Educ. Inst.	0.0852	See C9.6	0.0877		$0.90
D3.3 Interruptible	0.0852	See C9.6	0.0899		$0.90
D3.5 Charging	0.0852	See C9.6	0.0999		$0.90
D4 Large General Service	0.0852	See C9.6	0.1044		$0.90
D5 Wtr Htg	0.0852	See C9.6	0.0988		$0.90
D9 Outdoor Lighting	0.0852	See C9.6	0.1371		N/A
R3 Standby Secondary	0.0852	See C9.6	0.0140		$0.90
R7 Greenhouse Lighting	0.0852	See C9.6	0.0896		$0.90
R8 Space Conditioning	0.0852	See C9.6	0.0977		$0.90
Industrial					
D6.2 Educ. Inst.	0.0852	See C9.6	0.0167		$0.90
D8 Interruptible Primary	0.0852	See C9.6	0.0096		$0.90
D10 Schools	0.0852	See C9.6	0.0230		$0.90
D11 Primary Supply	0.0852	See C9.6	0.0082		$0.90
D12 Large Low Peak	0.0852	See C9.6	0.0082		$0.90
D13 XL	N/A	See C9.6	0.0033		$0.90
R1.1 Metal Melting	0.0852	See C9.6	0.0099		$0.90
R1.2 Electric Process Heating	0.0852	See C9.6	0.0157		$0.90
R3 Standby Primary	0.0852	See C9.6	0.0140		$0.90
R10 Interruptible Supply	0.0852	See C9.6	0.0033		$0.90

(Continued on Sheet No. C-71.00)

(Continued from Sheet No. C-70.00)

C9 SURCHARGES AND CREDITS APPLICABLE TO DELIVERY SERVICE: (Contd.)

C9.8 Summary of Surcharges and Credits (Contd.):

	NS ¢/kWh	EWRS ¢/kWh	Base Securitization ¢/kWh	LIEAF Factor $/Billing Meter
Governmental				
E1 Streetlighting Option I	0.0852	See C9.6	0.1882	N/A
E1 Streetlighting Option II & III	0.0852	See C9.6	0.1882	N/A
E1.1 Energy Only	0.0852	See C9.6	0.0922	$0.90
E2 Traffic Lights	0.0852	See C9.6	0.0407	N/A
Electric Choice				
EC2 Residential	0.0852	See C9.6	Note 1	$0.90
EC2 Commercial	0.0852	See C9.6	Note 1	$0.90
EC2 Primary	0.0852	See C9.6	Note 1	$0.90

NOTE 1: Electric choice tariffs will be billed the Base Securitization for corresponding full service tariff.

(Continued on Sheet No. C-72.00)

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

FRANK SIRWAITIS

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF FRANK SIRWAITIS

Line No.

Q1. What is your name, business address and by whom are you employed?

A1. My name is Frank J. Sirwaitis (he/him/his). My business address is: One Energy Plaza, Detroit, Michigan 48226. I am testifying on behalf of DTE Electric Company (DTE Electric).

Q2. What is your present position with the Company?

A2. I am a Senior Strategist in the Corporate Energy Forecasting department.

Q3. What is your educational background?

A3. I graduated from the University of Michigan – Dearborn in 2016 with a Bachelor of Arts in Economics, with a focus in Econometrics.

Q4. What work experience do you have?

A4. After graduating from the University of Michigan, I began my professional career with DTE Electric in January 2017 in the Corporate Energy Forecasting department with increasing levels of responsibility. In this role, I assist in the development of electric sales forecasting activities for DTE Electric. These activities include data collection, statistical analysis of data, forecast model building and interaction with other departments on forecast-related topics.

Q5. What are your duties as Senior Strategist, Corporate Energy Forecasting?

A5. I am responsible for the development of long-term sales forecast (one year or greater), short-term sales forecast (monthly), and weather-normalization of sales. Additionally, I have led the development of several initiatives to integrate Advanced Metering Infrastructure (AMI) data into various processes.

Line No.

Q6. Have you received any additional training?

A6. Yes. I have completed several workshops hosted by Itron including Energy Forecasting 101, Forecasting and Statistically Adjusted End-Use (SAE) Modeling, and Advanced Forecasting Topics. I have also earned various certifications from SAS related to Electric Load Forecasting and programming.

Q7. Have you been involved in prior case filings before the Michigan Public Service Commission?

A7. Yes. I sponsored testimony in the following cases:

U-20876	2022/2023 EWR Plan
U-21050	2022 PSCR Plan
U-21259	2023 PSCR Plan

Line No.

1 **Purpose of Testimony**

2 **Q8. What is the purpose of your testimony?**

3 A8. The purpose of my testimony is to provide DTE Electric's electric sales forecast
4 for the period 2023-2025, and to explain the basis for the forecast.

5

6 **Q9. Are you sponsoring any exhibits?**

7 A9. Yes. I am sponsoring the following exhibits:

8 | Exhibit | Description |
|---|---|
9 | A-17 | Annual Sales – Historical and Forecast |
10 | A-18 | Annual Customer Counts – Historical and Forecast |

11

12 **Q10. Were these exhibits prepared by you or under your direction?**

13 A10. Yes, they were.

14

15 **Q11. How is your testimony organized?**

16 A11. My testimony consists of the following parts:

17 Part I: Economic Outlook
18 Part II: Forecast Development and Assumptions
19 Part III: Electric Load Forecast

20

21 **Part I: Economic Outlook**

22 **Q12. What was the condition of the national economy just prior to the forecast period**
23 **in 2022?**

24 A12. Real gross domestic product decreased at an annualized rate of 1.6% in the first
25 quarter, decrease of 0.6% in the second, and increased at an annualized rate of 3.2%

Line No.

in the third. Real personal consumption expenditures increased at an annualized rate of 1.3% in the first quarter, 2.0% in the second, and 2.3% in the third. Real disposable personal income declined at an annualized rate of 10.6% in the first quarter, decreased of 2.3% in the second, and increased at an annualized rate of 3.2% in the third. The Consumer Price Index for All Urban Consumers grew at an annualized rate of 9.2% in the first quarter, 9.7% in the second, and 5.5% in the third. Seasonally adjusted housing starts increased at an annualized rate of 10.1% in the first quarter and declined by 15.9% annualized in the second and 39.9% in the third. Light vehicle production was 2.38 million in the first quarter, 2.42 million in the second, and 2.51 million in the third.

Q13. What is the outlook for the national economy in 2024 and 2025?

A13. Gross domestic product is expected to increase by 1.3% in 2024 and by 2.0% in 2025. Disposable personal income is expected to increase by 4.6% in 2024 and by 2.8% in 2025. Personal consumption expenditures are expected to increase by 1.4% in 2024 and by 2.3% in 2025. These measures from the national income and product accounts are in real terms, meaning that inflation has been removed from them. The CPI-U is forecast to increase by 2.5% in 2024 and by 2.2% in 2025. Total light vehicle production in the United States is forecast to reach 10.89 million units in 2024 and 10.77 million in 2025.

Q14. What is the outlook for Southeast Michigan's economy in 2024 and 2025?

A14. Total non-farm employment is forecast to decrease by 0.03% in 2024 and 0.01% in 2025; natural resources, mining, and construction employment to decline by 2.2% in 2024 and by 1.5% in 2025; manufacturing employment to decline by 0.7% in

Line No.

2024 and 2.2% in 2025; total private non-manufacturing employment to decline by 0.3% in 2024 and 0.2% in 2025; and government employment to rise by 1.6% in 2024 and 1.2% in 2025. Southeast Michigan auto production is expected to attain levels of 1.78 million vehicles in 2024 and 1.81 million in 2025. Population is forecast to decline by 0.03% in 2024 and rise by 0.02% in 2023.

Part II: Forecast Development and Assumptions

Q15. What is the general approach used in developing the forecast for DTE Electric's service area electric sales and system output?

A15. The general approach reflects widely accepted industry standards for electricity forecasting, including regression and end-use modeling. This approach has provided forecasts for DTE Electric service area electric sales with high accuracy from actual historical annual sales.

Most customer class sales and customer forecasts are built from linear regression models that relate monthly sales to economic activity, weather, changes in end-use saturation, and energy efficiency. The forecast is developed separately for each major rate classification: Residential, Commercial and Industrial (C&I), and other. The residential sales forecast is derived by combining a use-per-customer forecast, using a statistically adjusted end-use (SAE) specification, with a customer forecast. Separate models are estimated for small and large C&I customers. Small C&I, comprised of over 200,000 small business customers, is modeled similarly to residential, while large C&I, comprised of over 3,000 high consumption large business customers, is forecast using econometric models unique to seven supersectors. The Other forecast consists of street lighting and is primarily driven

Line No.

by the adoption of more efficient lighting. The net system output is forecasted as the sum of the electric sales values and the projected system losses.

There are many factors that impact the sales and customer forecasts for each customer class. Examples of forecast drivers include:

- National, state, and local economic projections provided by sources including, but not limited to: S&P Global (formerly IHS Markit), Moody's Analytics, and Polk Automotive.
- The Energy Information Administration (EIA) Annual Energy Outlook (AEO) 2022 end-use intensity and end-use saturation estimates for the East North Central Census Division (modified to reflect DTE Electric's end-use information)
- A workplace occupancy index sourced from Kastle to model the ongoing effects of work from home marketplace dynamics
- Historical weather data from the Detroit Metropolitan Airport, with normal weather assumptions in the forecast horizon
- DTE Electric's Energy Waste Reduction (EWR) targets
- Behind-the-meter distributed generation (DG) projections for DTE Electric's service territory provided by ICF Resources LLC
- DTE Electric's electric vehicle (EV) forecast for light-duty and fleet vehicles
- Large customer load adjustments that would not be reflected in the historical data or economic projections

Q16. Can you please describe the data used to construct the forecast models?

Line No.

A16. Yes. The forecast was completed in December 2022. Each model to forecast sales was estimated with monthly historical consumption data beginning in January 2006, with actuals ending in October 2022. Customer count forecast models were estimated with monthly historical customer count data beginning in January 2010, with actuals also ending in October 2022.

The forecast for both sales and customers were extended through 2025 and was used to develop the long-term system energy forecast. The forecast for sales and customers can be seen in Exhibit A-17 and Exhibit A-18 respectively.

Q17. How is weather applied in the load forecast?

A17. Weather is one of the primary variables used in each customer class forecast model. In each model, actual weather, measured in the form of heating degree days (HDDs) and cooling degree days (CDDs) is used to understand the unique relationship that a customer class's energy consumption has with weather. HDDs are calculated by subtracting average daily temperature from a defined base such as 65 degrees Fahrenheit. Conversely, CDDs are calculated by subtracting the base, from average daily temperature.

In regression modeling, a coefficient is calculated to quantify this impact. Once the coefficient is calculated, it is applied to the weather assumed in the forecast horizon. In the forecast horizon, normal weather is assumed as the most prudent form of weather expectations for the future.

Q18. Can you please describe the HDD and CDD bases used in the forecast?

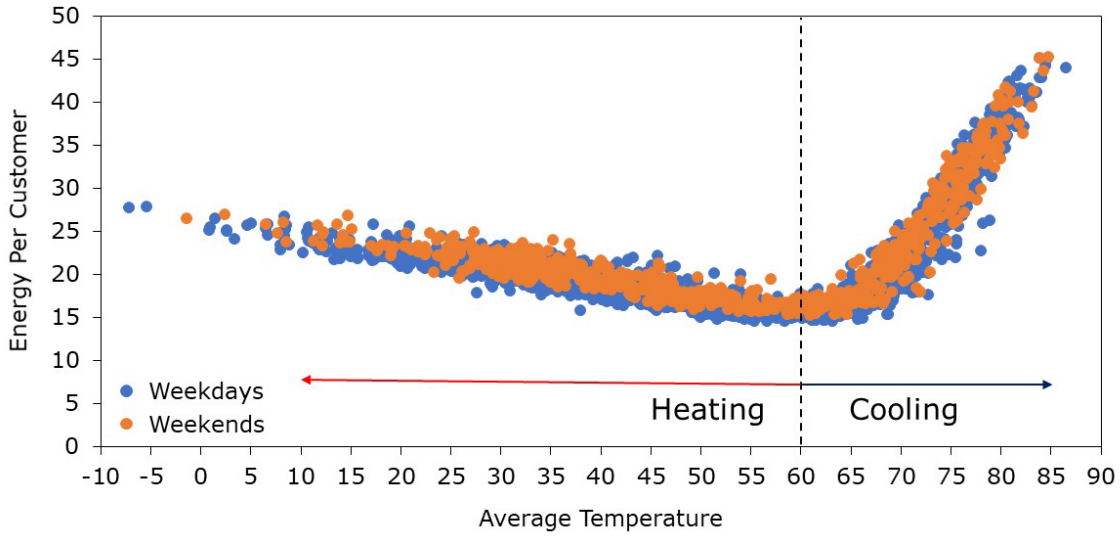
Line No.

A18. Yes. As seen in Figures 1 and 2 below, weather impact is different depending on the customer class. Residential sales are more impacted by weather and typically begin cooling their buildings at an average temperature of 60 degrees. Small C&I sales are not as influenced by weather, but typically begin cooling their buildings at an average of 50 degrees. The relationships to weather are also non-linear, creating a need to utilize multiple HDD and CDD bases to accurately capture the weather response. HDD and CDD bases, represented by the name and temperature of the base, for each customer class include:

- Residential: HDD25, HDD60, CDD60, CDD65, CDD70 and CDD75
- Small C&I: HDD50, CDD50, CDD60, and CDD70
- Large C&I (varies by supersector):
  - Education and Health: CDD50
  - Transportation, Trade and Utilities (TTU): HDD50 and CDD50
  - Offices: HDD45 and CDD55
  - Other Markets: HDD45 and CDD55
  - Automotive: HDD50 and CDD60
  - Other Manufacturing: CDD55

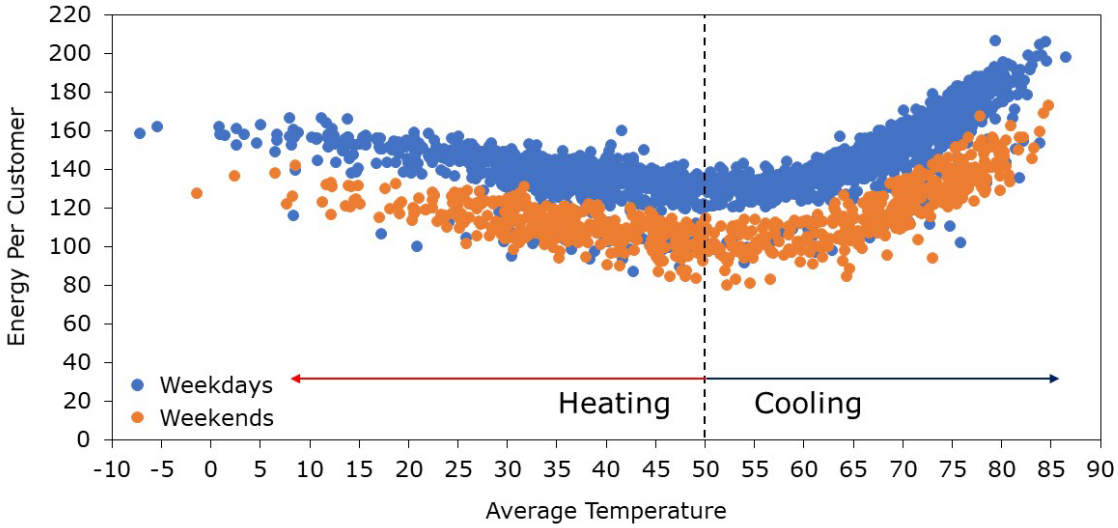
Line No.

1 **Figure 1 : Residential Daily Use-Per-Customer vs Temperature**



2 **Figure 2 : Small C&I Daily Use-Per-Customer vs Temperature**

3



4

5 **Q19. How does DTE Electric define normal weather?**

6 A19. Normal weather is defined as a 15-year average of historical values, updated on an
7 annual cadence. In Case No. U-20471, it was recommended in the Commission's
8 order, on page 49, to use a shorter historical period for weather-normalization than

Line No.

1 the 30-year period the Company was using at the time. Consistent with that order,
2 2007-2021 is the timeframe for normal weather in this instant case. Additionally,
3 historical actual sales in Exhibits A-17 and A-18 were weather normalized with the
4 same normal weather assumed in the forecast for comparison purposes. Daily
5 average temperature is converted to HDDs and CDDs for various bases and
6 averaged across years. As a result, this process calculates and defines normal HDDs
7 and CDDs for various bases in a given day, month, and year.
8
9 **Q20. How was the Residential Class forecast developed?**
10 A20. Electricity sales in the residential class were forecast using the SAE model which
11 specifies energy use as a function of 22 end-uses, including DG and EV demand,
12 along with factors that affect the end-use requirements, such as economic activity
13 and weather. The residential class forecast begins with a standard end-use model,
14 with appliance saturation projections and average electricity usage per end-use
15 provided by a Company-conducted residential appliance saturation survey and the
16 EIA's AEO 2022 for the East North Central region in which DTE Electric operates.
17 Residential EWR programs are applied directly to the corresponding end-uses in
18 the SAE model. The combination of appliance saturations and average electricity
19 per end-use is indexed and calibrated to the Company's usage per customer for a
20 base year to create an electricity forecast for each end use.
21
22 Utilization variables, which explain how much an end-use is utilized, are combined
23 with end-use intensities. For residential, the primary variables used to explain
24 utilization are weather, real personal income, population, and households.
25 Additionally, workplace occupancy index data was integrated into the model due

Line No.

to the shift in electricity consumption patterns caused by work from home practices. The utilization variables are then combined with the end-use intensities to compute three explanatory variables that are:

- XHeat - An aggregated heating variable that captures changes in heating end-use saturation and efficiency, and combined with HDDs, economic, and other factors that impact the utilization of heating equipment
- XCool - An aggregated cooling variable that captures changes in cooling end-use saturation and efficiency, and combined with CDDs, economic, and other factors that impact the utilization of cooling equipment
- XOther - An aggregated base-load variable that captures changes in base-load end-use saturation and efficiency, and combined with number of days in a month, economic, and other factors that impact the utilization of base-load equipment

Along with seasonal factors, the resulting explanatory variables are then regressed against the Company's residential monthly use per customer sales. The model effectively acts as the statistical adjustment and calibrates the end-use forecast to the Company's historical sales.

The number of residential customers was forecasted using historical and projected households for southeast Michigan provided by S&P Global (formerly IHS Markit). Customer counts are modeled using a regression, with households as the primary explanatory variable. The customer forecast is then multiplied by the use per customer from the SAE model to produce the total residential class sales forecast.

Line No.

1 **Q21. How was the small C&I forecast developed?**

2 A21. Similar to the residential class forecast, small C&I class sales are also forecast using
3 an SAE model, utilizing 11 end-uses including DG and EV demand. Additionally,
4 C&I EWR programs are incorporated directly into the SAE model. The small C&I
5 sales forecast begins with a standard end-use model with saturation projections and
6 average electricity usage per end-use derived from the EIA's AEO 2022 for the East
7 North Central region in which DTE Electric operates. Since small C&I buildings
8 within the DTE Electric service territory consume electricity differently, the
9 projections are weighted by intensity and prevalence of 11 different building types
10 as defined by the EIA. To better calibrate these projections to the Company's
11 service area, employment values are used to weight end-use intensities with the
12 Company's service area employment data. The combination of saturations and
13 average electricity per end-use is indexed and calibrated to the Company's usage
14 per customer for a base year to create an electricity forecast for each end-use.
15
16 Utilization variables, which explain how much an end-use is utilized, are combined
17 with end-use intensities. For small C&I, the primary variables used to explain
18 utilization are weather, gross state product, non-manufacturing employment and
19 households. The utilization variables are then combined with the end-use intensities
20 to compute three explanatory variables that are:
21 • XHeat - An aggregated heating variable that captures changes in heating
22 end-use saturation and efficiency, and combined with HDDs, economic, and
23 other factors that impact the utilization of heating equipment

Line No.

- XCool - An aggregated cooling variable that captures changes in cooling end-use saturation and efficiency, and combined with CDDs, economic, and other factors that impact the utilization of cooling equipment
- XOther - An aggregated base-load variable that captures changes in base-load end-use saturation and efficiency, and combined with number of days in a month, economic, and other factors that impact the utilization of base-load equipment

Along with seasonal factors, the resulting explanatory variable is then regressed against the Company's small C&I monthly use per customer sales. The model effectively acts as the statistical adjustment and calibrates the end-use forecast to the Company's historical sales.

Small C&I customers are modeled using a regression with households used as the primary variable. The customer forecast is then multiplied by the use per customer from the SAE model to produce the total small C&I class sales forecast.

Q22. How was the large C&I forecast developed?

A22. The large C&I forecast begins by disaggregating all primary service sales into seven distinct supersector markets. Granular market segments defined by the customer's North American Industry Classification System (NAICS) code are aggregated into supersectors defined by the Bureau of Labor Statistics. The seven supersectors are

Line No.

Econometric models, a commonly used technique among utility forecasters, are used to forecast sales for the Company's service territory at the supersector level. Individual regression equations are applied to all supersectors, using various explanatory variables such as corresponding supersector employment and gross state product, automotive production, weather, and cumulative EWR savings, to drive the forecast. The regression results are evaluated for reasonableness and validated through various model statistics.

Regression modeling alone does not account for incremental growth of technologies such as solar photovoltaics and electric vehicles. Unlike residential and small C&I, large C&I is not modeled by end-use. Therefore, it is necessary to make post-regression adjustments to the forecast to incorporate future technology and customer specific closings or expansions. The three main post regression adjustments include DG growth, fleet EV growth, and large customer projects that are informed by customer account managers.

Q23. What type of DG resources were included in the forecast?

A23. The Company, for purposes of the forecast, is defining DG as customer-sited resources that are: 1) interconnected to the distribution system on the customer's side of the utility's service meter and 2) installed to offset site load with incidental export. For forecasting purposes, the projected additional DG resources were assumed to be solar photovoltaics (PV).

Q24. How was the DG outlook applied to the forecast?

Line No.

A24. The Company engaged with ICF Resources LLC (ICF), a global consulting service company, to conduct a market study. ICF produced forecasts of photovoltaic (PV) economics for both residential and C&I customers and estimated the customer PV capacity and electricity output that will be added in DTE Electric's service territory.

In the residential and small C&I models, the historical and forecast DG is input directly as an end-use into the model. In the large C&I models, the incremental DG is subtracted as a post-regression adjustment.

Q25. How was the EV outlook applied to the forecast?

A25. For the EV forecast, the cumulative vehicle stock forecast presented by Witness Peterson was used as a starting point to estimate the historical and forecasted load in the Company's service territory.

The EV stock is multiplied by a kWh/vehicle value and the assumed vehicle miles traveled unique to each vehicle segment to arrive at the load associated with the forecasted vehicle volumes.

For light-duty vehicles, the company's 2021 appliance saturation survey suggests approximately 75% of EV charging is done at personal residences while the other 25% is done at non-residential locations, such as workplace or public charging stations. Over time, as EV adoption becomes more mainstream and public charging becomes more available, the forecast assumes these dynamics will shift in favor of more non-residential charging.

Line No.

For fleet (medium-duty and heavy-duty) vehicles, 100% of the fleet EV sales forecast was applied to the large C&I model as an incremental adjustment to the forecast.

Q26. How was the Electric Choice sales forecast developed?

A26. The Electric Choice sales forecast was based on 10% of retail sales. Historical class ratios are applied to the Electric Choice cap and new customer load is added separately.

Part III: Electric Load Forecast

Q27. What is the Company's electric load forecast for 2023-2025?

A27. The forecast of annual sales for DTE Electric's service area for the years 2023 through 2025 is reflected on Exhibit A-17, Lines 1 through 12. The forecast of full-service sales, also described as "bundled", and the forecast of Electric Choice sales are also shown, on Lines 30 through 41 and Lines 17 through 28, respectively.

Q28. What is the compound annual growth rate of DTE Electric's service area and bundled electric sales over the forecast period?

A28. DTE Electric's service area sales are forecasted to decrease from weather-normalized sales of 45,114 GWh in 2022 to 44,232 GWh in 2025. This represents a -0.7% average annual decrease in sales. Bundled sales are forecast to decrease from weather-normalized sales of 40,628 GWh in 2022 to 39,800 GWh in 2025. This also represents a -0.7% average annual decrease in sales.

Line No.

Q29. What has been the compound annual growth rate of DTE Electric's service area sales in the recent past?

A29. On a weather-normalized basis, service area sales decreased from 52,801 GWh in 2008 to 45,114 GWh in 2022. This represents a -1.1% average annual decrease in sales. Bundled sales decreased from 51,343 GWh in 2008 to 40,628 GWh in 2022, representing a -1.7% average annual decrease in sales.

Q30. What is the outlook for residential class sales?

A30. Service area residential class sales will decline -0.5% annually, on average, through 2025. This growth rate utilizes 2022 weather-normalized sales as the base year in its computation. This approach is used on all class growth rate calculations in my testimony. The -0.5% average annual decrease is largely due to the continued trend of increasing levels of in-person work that resulted since the COVID-19 pandemic.

As consumer behavior returns to pre-COVID normalcy, combined with energy efficiency efforts, use per customer is expected to decline -0.8% from 2022 to 2025. This is offset by customer counts increasing by 0.3% annually, on average, from 2022 to 2025 a result of projected increases in household counts.

Q31. What is the outlook for small C&I class sales?

A31. DTE Electric's service area small C&I class sales will decrease -0.5% from 10,791 GWh in 2022 to 10,619 GWh in 2025. Bundled Commercial Class sales will decrease from 9,957 GWh in 2022 to 9,795 GWh in 2025, a -0.5% increase.

Line No.

Use per customer is expected to increase by -0.8% which will be supplemented by 0.3% increase in customer counts.

Q32. What is the outlook for the large C&I class sales?

A32. DTE Electric's service area primary class sales will decrease -0.9% from 18,429 GWh in 2022 to 17,959 GWh in 2025. Bundled Primary Class sales will decrease from 14,778 GWh in 2022 to 14,352 GWh in 2025, a -1.0% decrease.

In the non-manufacturing sector, Education and Healthcare is expected to decrease -0.6%, on average, through 2025 due to a natural gas co-generation facility. Transportation, Trade and Utilities (TTU) and Office Buildings are expected to decrease by -1.6% and -1.1% respectively, on average through 2025. The decrease in sales in these markets are due negative or flat employment projections combined with increased energy efficiency initiatives targeting Commercial and Industrial customers. Other Markets is expected to increase 1.1% annually, on average, through 2025 due to a large new customer addition.

In the manufacturing sector, Automotive and Other Manufacturing are expected to decrease -0.6% and -1.4% respectively, on average through 2025. These decreases are attributable to relatively flat automotive production combined with energy efficiency. Steel is expected to increase 0.4% annually, on average, through 2025.

Q33. What is the outlook for Electric Choice sales?

Line No.

A33. The Electric Choice sales will decrease -0.4%, from 4,486 GWh in 2022 to 4,431 GWh in 2025. The forecast for Electric Choice sales by customer classification is shown on Exhibit A-17, lines 17 through 28.

Q34. Does this conclude your direct testimony?

A34. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public 342 of 2016.	)	Case No. U-21322 (Paperless e-file)

EXHIBIT

OF

FRANK SIRWAITIS

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Annual Sales - Historical and Forecast-Electric
(Million kWh)

Case No.: U-21322
Exhibit: A-17
Witness: F. Sirwaitis
Page: 1 of 1

	(a)	(b)	(c)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
Line No.	**Description**	**2008 WN (1)**	**2009 WN (1)**	**2010 WN (1)**	**2011 WN (1)**	**2012 WN (1)**	**2013 WN (1)**	**2014 WN (1)**	**2015 WN (1)**	**2016 WN (1)**	**2017 WN (1)**	**2018 WN (1)**	**2019 WN (1)**	**2020 WN (1)**	**2021 WN (1)**	**2022 WN (1)**	**Forecast 2023**	**2024**	**2025**
1	**SERVICE AREA**																		
2	RESIDENTIAL	15,928	15,552	15,438	15,604	15,279	15,412	15,384	15,264	15,430	15,217	15,132	15,106	16,248	16,227	15,684	15,388	15,426	15,456
3	SMALL COMMERCIAL & INDUSTRIAL	10,572	10,506	10,365	10,500	10,629	10,606	10,848	11,151	11,212	11,162	11,055	10,961	10,181	10,716	10,791	10,670	10,649	10,619
4	TOTAL SECONDARY	26,500	26,058	25,803	26,104	25,908	26,019	26,232	26,415	26,641	26,378	26,188	26,067	26,429	26,944	26,475	26,058	26,075	26,075
5																			
6	LARGE COMMERCIAL & INDUSTRIAL	23,084	19,518	21,278	21,399	21,232	21,621	21,373	21,026	21,031	20,945	20,947	20,412	17,812	18,393	18,429	18,127	18,038	17,959
7																			
8	STREET LIGHTING	303	302	296	287	282	277	271	291	264	258	224	226	220	216	210	204	200	198
9	PUMPING	90	77	44	48	4	0	0	0	0	0	0	0	0	0	0	0	0	0
10	WHOLESALE	2,825	2,850	2,870	2,800	673	664	246	0	0	0	0	0	0	0	0	0	0	0
11																			
12	TOTAL	52,801	48,805	50,291	50,640	48,098	48,581	48,121	47,732	47,937	47,582	47,359	46,705	44,461	45,552	45,114	44,389	44,313	44,232
13																			
14	RETAIL SALES	49,976	45,955	47,421	47,839	47,425	47,917	47,875	47,732	47,937	47,582	47,359	46,705	44,461	45,552	45,114	44,389	44,313	44,232
15	(SERVICE AREA LESS WHOLESALE)																		
16																			
17	**ELECTRIC CHOICE**																		
18	RESIDENTIAL	0	0	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	0
19	SMALL COMMERCIAL & INDUSTRIAL	641	829	1,181	1,188	1,106	1,053	1,031	1,000	975	909	928	866	757	830	834	841	826	825
20	TOTAL SECONDARY	642	829	1,182	1,189	1,107	1,054	1,032	1,001	975	910	929	866	757	831	834	841	826	825
21																			
22	LARGE COMMERCIAL & INDUSTRIAL	816	648	3,823	4,256	4,090	4,146	4,001	3,898	3,961	3,910	3,809	3,684	2,994	3,526	3,651	3,675	3,613	3,607
23																			
24	STREET LIGHTING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	PUMPING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	WHOLESALE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27																			
28	TOTAL	1,458	1,477	5,005	5,445	5,197	5,200	5,033	4,899	4,936	4,820	4,737	4,550	3,751	4,357	4,486	4,516	4,439	4,431
29																			
30	**BUNDLED**																		
31	RESIDENTIAL	15,928	15,552	15,437	15,603	15,278	15,412	15,383	15,264	15,429	15,216	15,132	15,105	16,247	16,227	15,684	15,388	15,426	15,456
32	SMALL COMMERCIAL & INDUSTRIAL	9,930	9,677	9,184	9,312	9,523	9,553	9,817	10,151	10,237	10,252	10,127	10,095	9,424	9,886	9,957	9,830	9,823	9,795
33	TOTAL SECONDARY	25,858	25,229	24,621	24,915	24,801	24,965	25,200	25,414	25,666	25,469	25,259	25,200	25,671	26,113	25,641	25,218	25,249	25,250
34																			
35	LARGE COMMERCIAL & INDUSTRIAL	22,268	18,870	17,454	17,143	17,142	17,475	17,372	17,128	17,070	17,035	17,139	16,728	14,818	14,867	14,778	14,451	14,425	14,352
36																			
37	STREET LIGHTING	303	302	296	287	282	277	271	291	264	258	224	226	220	216	210	204	200	198
38	PUMPING	90	77	44	48	4	0	0	0	0	0	0	0	0	0	0	0	0	0
39	WHOLESALE	2,825	2,850	2,870	2,800	673	664	246	0	0	0	0	0	0	0	0	0	0	0
40																			
41	TOTAL	51,343	47,328	45,285	45,194	42,901	43,381	43,088	42,833	43,001	42,762	42,621	42,154	40,710	41,195	40,628	39,873	39,874	39,800

Notes:
(1) Weather-Normalized (2007-2021 Normal Weather)

Michigan Public Service Commission
DTE Electric Company
2024 - 2025 Energy Waste Reduction Plan
Annual Customer Counts - Historical and Forecast-Electric
(Average Number of Customers)

Case No.: U-21322
Exhibit: A-18
Witness: F. Sirwaitis

	(a)	(b)	(c)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
																		Forecast	
Line No.	Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	**SERVICE AREA**																		
2	RESIDENTIAL	1,950,836	1,932,360	1,922,824	1,922,827	1,925,966	1,935,140	1,943,927	1,953,780	1,966,675	1,980,151	1,991,879	2,003,542	2,019,744	2,036,329	2,047,607	2,053,948	2,060,016	2,067,741
3	SMALL COMMERCIAL & INDUSTRIAL	197,156	198,031	197,811	198,257	199,583	200,245	201,018	202,093	203,487	204,556	204,955	205,744	206,954	208,957	210,158	210,617	211,262	212,068
4	TOTAL SECONDARY	2,147,992	2,130,391	2,120,635	2,121,084	2,125,549	2,135,385	2,144,945	2,155,872	2,170,162	2,184,707	2,196,834	2,209,285	2,226,698	2,245,287	2,257,764	2,264,565	2,271,278	2,279,809
5																			
8	LAGE COMMERCIAL & INDUSTRIAL	3,511	3,637	3,522	3,477	3,424	3,357	3,306	3,203	3,198	3,164	3,162	3,152	3,134	3,117	3,089	3,081	3,081	3,081
9																			
10	STREET LIGHTING	871	875	892	886	874	895	898	895	890	1,027	1,068	1,057	1,058	1,056	1,049	1,045	1,045	1,045
11	PUMPING	1,105	1,052	979	945	72	1	0	0	0	0	0	0	0	0	0	0	0	0
12	WHOLESALE	5	5	5	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0
13																			
14	TOTAL	2,153,484	2,135,960	2,126,032	2,126,395	2,129,921	2,139,639	2,149,150	2,159,970	2,174,250	2,188,898	2,201,064	2,213,495	2,230,890	2,249,460	2,261,903	2,268,691	2,275,404	2,283,935
15																			
16	RETAIL SALES	2,153,479	2,135,955	2,126,028	2,126,392	2,129,919	2,139,637	2,149,149	2,159,970	2,174,250	2,188,898	2,201,064	2,213,495	2,230,890	2,249,460	2,261,903	2,268,691	2,275,404	2,283,935
17	(SERVICE AREA LESS WHOLESALE)																		
18																			
19	**ELECTRIC CHOICE**																		
20	RESIDENTIAL	31	22	71	67	58	53	47	44	40	40	38	32	32	24	16	0	0	0
21	SMALL COMMERCIAL & INDUSTRIAL	2,784	2,205	5,478	5,299	4,863	4,678	4,516	4,323	4,070	3,972	3,840	3,730	3,658	3,755	3,729	3,667	3,621	3,576
22	TOTAL SECONDARY	2,815	2,227	5,549	5,367	4,921	4,731	4,563	4,367	4,110	4,012	3,879	3,763	3,690	3,778	3,745	3,667	3,621	3,576
23																			
26	LAGE COMMERCIAL & INDUSTRIAL	168	240	731	769	755	745	734	730	723	717	712	711	700	736	743	741	741	741
27																			
28	STREET LIGHTING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	PUMPING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	WHOLESALE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31																			
32	TOTAL	2,983	2,467	6,280	6,136	5,676	5,476	5,296	5,097	4,833	4,729	4,591	4,474	4,390	4,514	4,487	4,408	4,362	4,317
33																			
34	**BUNDLED**																		
35	RESIDENTIAL	1,950,805	1,932,338	1,922,753	1,922,760	1,925,908	1,935,087	1,943,880	1,953,736	1,966,635	1,980,111	1,991,840	2,003,509	2,019,712	2,036,306	2,047,591	2,053,948	2,060,016	2,067,741
36	SMALL COMMERCIAL & INDUSTRIAL	194,372	195,826	192,333	192,958	194,720	195,566	196,502	197,770	199,417	200,584	201,115	202,014	203,297	205,203	206,429	206,950	207,641	208,492
37	TOTAL SECONDARY	2,145,177	2,128,164	2,115,086	2,115,717	2,120,628	2,130,653	2,140,382	2,151,506	2,166,052	2,180,695	2,192,956	2,205,523	2,223,008	2,241,508	2,254,020	2,260,898	2,267,657	2,276,233
38																			
41	LAGE COMMERCIAL & INDUSTRIAL	3,342	3,397	2,792	2,708	2,669	2,612	2,572	2,473	2,475	2,448	2,450	2,441	2,434	2,381	2,346	2,340	2,340	2,340
42																			
43	STREET LIGHTING	871	875	892	886	874	895	898	895	890	1,027	1,068	1,057	1,058	1,056	1,049	1,045	1,045	1,045
44	PUMPING	1,105	1,052	979	945	72	1	0	0	0	0	0	0	0	0	0	0	0	0
45	WHOLESALE	5	5	5	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0
46																			
47	TOTAL	2,150,501	2,133,493	2,119,753	2,120,260	2,124,245	2,134,163	2,143,853	2,154,873	2,169,417	2,184,169	2,196,473	2,209,021	2,226,500	2,244,946	2,257,415	2,264,283	2,271,042	2,279,618

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016	)	Case No. U-21322 (Paperless e-file)

QUALIFICATIONS

AND

DIRECT TESTIMONY

OF

SARAH A. TOCCO

DTE ELECTRIC COMPANY AND DTE GAS COMPANY
QUALIFICATIONS AND DIRECT TESTIMONY OF SARAH A. TOCCO

Line No.

1 **Q1. What is your name, business address and by whom are you employed?**

2 A1. My name is Sarah A. Tocco. My business address is: One Energy Plaza, Detroit,
3 MI 48226. I am employed by DTE Electric Company (DTE Electric or Company).
4
5 **Q2. On whose behalf are you testifying?**

6 A2. I am testifying on behalf of DTE Electric Company (DTE Electric) and DTE Gas
7 Company (DTE Gas) (collectively, DTE).
8
9 **Q3. What is your education background?**

10 A3. I received a Bachelor of Science Degree in Mechanical Engineering with an
11 Undergraduate Certificate in Entrepreneurial in May of 2002 from Lawrence
12 Technological University in Southfield, MI. From Lawrence Technological
13 University, I also received a Graduate Certificate in Energy and Engineering
14 Management in December of 2008 and a Master of Engineering Management in
15 December of 2013.
16
17 **Q4. What is your work experience?**

18 A4. I was hired by DTE Electric Company in May 2008 as an engineer in the
19 Engineering Support Organization. In this role, I was responsible for providing all
20 DTE gas and coal power plants in Michigan with boiler tube failure assessments
21 and failure prevention.
22
23 In December 2012, I moved to DTE's Energy Waste Reduction (EWR)
24 organization as an Energy Manager. There, I performed energy assessments and

Line No.

analysis for our business customers. In addition, I educated business customers on DTE's Energy Waste Reduction program offerings.

In May 2017, I moved within in DTE's Energy Waste Reduction organization to Principal Marketing Specialist. In this role, I was responsible for the reporting, development, and strategic growth of all three of DTE's Commercial and Industrial (C&I) midstream programs: lighting, food service, and Heating, Ventilation and Air Conditioning (HVAC).

In December 2021, I became Supervisor of the C&I Small Business Team. While still running the midstream platform, I became responsible for leading all small business and midstream programs in working together to develop strategies to achieve C&I goals.

In October of 2022, I transitioned to Manager – Customer Marketing over all small business and midstream programs for C&I business customers.

Q5. What are your current job responsibilities?

A5. As a Manager in the EWR C&I Portfolio, I am responsible for developing electric and gas strategies and product offerings for small to medium DTE C&I customers supporting DTE's overall EWR strategies.

Q6. Are you affiliated with any professional organizations?

A6. Yes. I am affiliated with the Association of Energy Services Professionals. In specific, I am Vice-President on the leadership board for the AESP Great Lakes

Line No.

1 chapter, with the goal of driving participation of energy efficiency professionals
2 within the Great Lakes region.
3
4 I am also affiliated with the Association of Energy Engineers. In May of 2013, I
5 acquired the certification of Energy Manager through their organization. To this
6 date, I still maintain active certification.
7
8 Through these organizations I have served as an expert speaker on utility energy
9 efficiency programs at both the national and regional level.
10
11 **Q7. Have you previously been a witness providing testimony for any regulatory**
12 **case for the Michigan Public Service Commission?**
13 A7. No.

Line No.

1 **Purpose of Testimony**

2 **Q8. What is the purpose of your testimony?**

3 A8. The purpose of my testimony in this 2024-2025 EWR Plan filing is to provide an
4 overview of DTE's C&I portfolio and the programs contained in each of the C&I
5 Platforms. I will define each Platform and the programs included in each later in
6 my testimony. My testimony will demonstrate DTE's proposed C&I programs have
7 been designed so all C&I customers have an opportunity to participate and will:

8 1) Provide an overview of the objectives in developing programs for C&I
9 customers;
10 2) Describe the proposed C&I Platforms: Small and Medium Business,
11 Downstream, and Operational, and the programs in each that are designed to
12 increase the number of customers participating in the C&I portfolio;
13 3) Provide an updated program description for each C&I Platform. Each
14 program description highlights the target markets, eligible measures,
15 implementation and marketing strategies, estimated participation, and shows
16 an estimated program budget and respective energy savings for the 2024-
17 2025 period;
18 4) Describe the C&I Emerging Measures and Approaches;
19 5) Describe the Self-Direct program;
20 6) Describe the methodology used to establish a balanced C&I portfolio with
21 an estimated budget and projected energy savings. Also, I will show each
22 program's cost-effectiveness using the Utility System Resource Cost Test
23 (USRCT) score and Cost of Conserved Energy (CCE).

24

25 **Q9. Are you sponsoring any exhibits in this proceeding?**

Line No.

A9. Yes. I am supporting the following exhibit:

Exhibit	Description
A-15	C&I Platform Program's Descriptions, Measures, and Incentives

Q10. Was this exhibit prepared by you or under your supervision?

A10. Yes, it was.

Q11. What is DTE's overall objective in developing programs for its C&I customers?

A11. The objective of the C&I programs is to continue to build customer awareness regarding the benefits of energy efficiency, drive customers to participate in the various energy waste reduction offerings and make long-term commitments to reduce their energy usage. This objective is accomplished by creating a diverse portfolio of programs that provides value for customers through a range of participation options. DTE is striving to have wide and varied program participation and to ensure all commercial and industrial customers have an opportunity to participate in its energy efficiency business programs.

Q12. Will DTE continue to offer the same C&I programs and energy waste reduction measures that were approved in the 2022-2023 EWR Plan?

A12. In general, yes. DTE continues to analyze and evaluate potential programs to include in the C&I Portfolio to improve it and to follow through on its commitment of having wide and varied business customer participation. All C&I Platforms and programs will be discussed later in my testimony.

Line No.

1 **Q13. Is DTE making any significant changes or enhancements to their C&I**
2 **programs?**
3 A13. Yes. DTE has implemented two areas of enhancements in the 2024-2025 filing.
4 First, in the Small and Medium Business Platform, DTE aims to make the results
5 of the Small Business Assessments more actionable to customers and encourage
6 more immediate participation in DTE's programs. This begins by having the
7 customer complete a Small Business Assessment (Assessment). Upon completion
8 of the Assessment, the customer will receive a report detailing the results and
9 recommendations for saving energy that are specific to their business. In addition,
10 that customer will now also receive information on how to purchase energy-
11 efficient products on the DTE Business Marketplace website, and education on
12 midstream programs applicable to their business. Second, in the Downstream
13 Platform's Prescriptive Program, DTE will continue to provide incentives for
14 predetermined measures that are in the Michigan Energy Measures Database
15 (MEMD) to business customers for installing energy-efficient equipment that
16 meets the program requirements. In addition to those predetermined measures, the
17 program will have an increased focus on the agricultural vertical market, and
18 TeleCom. TeleCom will focus on telecommunication business customers as well
19 as customers with data centers incentives on energy-efficiency upgrades and
20 retrofits to mission-critical IT equipment and HVAC systems.
21
22 **Q14. What C&I Platforms and programs does DTE plan to offer its business**
23 **customers in the 2024-2025 EWR Plan?**
24 A14. DTE will provide its C&I customers with a variety of program options through its
25 five (5) Platforms: Small and Medium Business Platform will have four programs:

Line No.

1 Small Business Program, Midstream Lighting Program (DTE Electric Only),
2 Midstream Food Service Program, and Midstream HVAC Program; Downstream
3 Platform will have two programs: Prescriptive and Non-Prescriptive; Operational
4 Platform will have four programs: Retro-Commissioning, Strategic Energy
5 Management, Find and Fix Compressed Air (DTE Electric Only) and Find and Fix
6 Steam Trap (DTE Gas Only); and the Emerging Measures and Approach Platform
7 will consist of programs that were developed through the C&I Pilot process. DTE
8 Electric will also have a self-directed program for customers wanting to manage
9 and implement their own energy efficiency program and meet the program
10 requirements. The objective of each Platform and the programs that are included
11 in them will be discussed later in this testimony.
12
13 **Q15. How will DTE implement its C&I Portfolio in the 2024-2025 EWR Plan?**
14 A15. DTE will continue to use implementation contractors (ICs) to implement the
15 programs in each of the C&I Platforms. DTE will continue to initiate a Scope of
16 Work for all C&I programs soliciting a Request for Proposal from potential ICs.
17 The EWR C&I team, along with Supply Chain Management, will then interview
18 and evaluate each IC plan submitted prior to selecting an IC. ICs currently provide
19 operational support including, but not limited to training, application review and
20 processing, rebate fulfillment, operations call center, track results, and provide
21 marketing for each of their programs.
22
23 **Q16. How will DTE inform customers about each program in the C&I Platforms?**
24 A16. DTE will continue to use several marketing channels to inform its business
25 customers about the C&I energy efficiency programs. Key marketing channels

Line No.

include DTE account managers who are directly responsible for business relationships with assigned C&I customers, the Energy Partnership energy managers, and participating trade allies who market energy efficiency technologies directly to business customers. DTE will also use the annual Michigan Energy Efficiency Conference presented by DTE Energy and the Engineering Society of Detroit to promote its EWR programs. Product Knowledge workshops will be conducted that focus on specific technologies for specific vertical markets. Other marketing materials and mediums that could potentially be used to promote the C&I programs include but are not limited to television and radio advertisement, social media, DTE website, training seminars, and engineering technical support. Throughout the program year, DTE will present its C&I Portfolio at conferences, to professional associations/organizations; city, state, and federal government agencies; vendors, contractors, engineering and architectural firms, and direct to its business customers.

Q17. Will DTE continue to coordinate and collaborate its C&I programs with other energy efficiency service providers?

A17. Yes. DTE will continue to collaborate and coordinate C&I business programs with other energy efficiency providers such as Consumers Energy and Efficiency United.

<u>2024-2025 C&I Small and Medium Business Platform</u>

Q18. What is the objective of the Small and Medium Business Platform?

A18. The objective of the Small and Medium Business (SMB) Platform is to provide small to medium business customers with an opportunity to begin their

Line No.

1 participation in DTE's energy efficiency programs. The SMB Platform is
2 segmented to strategically develop and implement programs for these business
3 customers. These customers typically do not have dedicated energy support staff
4 and/or are not sure how to start implementing energy efficiency. As such, the SMB
5 Platform is strategically designed to provide a simplified, bundled approach to
6 servicing these customers eliminating dead ends and removing barriers to
7 participation.
8
9 **Q19. What programs are included in the C&I Small and Medium Business**
10 **Platform?**
11 A19. The SMB Platform consists of four programs: Small Business Assessment,
12 Midstream Lighting Program, Midstream Food Service Program, and Midstream
13 HVAC Program. For additional program details, please refer to Exhibit A-15.
14
15 **Q20. What is the objective of the Small Business Assessment?**
16 A20. The objective of the Small Business Assessment (Assessment) is to reach out,
17 educate, and assist small business customers on what is energy efficiency and how
18 to incorporate it into their facilities. This journey is completed through two
19 segments. First, the outreach team provides a walk-through energy assessment
20 along with best practice recommendations. This component of the Assessment
21 provides engagement through the opportunity to educate customers on best
22 practices for energy efficiency. It helps small business customers understand that
23 they can control their energy use and operating costs. While on-site, the Assessment
24 will directly install complimentary energy-saving products that do not require a
25 licensed contractor such as screw-in LED light bulbs, pipe wrap, showerheads,

Line No.

1 faucet aerators, programmable thermostats, and occupancy sensors. At the end of
2 the Assessment, the customer will receive a report detailing the results,
3 recommendations for saving energy, specific to their business, information on how
4 to purchase energy-efficient products on the DTE Business Marketplace website,
5 and education on midstream programs applicable to their business. Second, as a
6 follow-up to the appointment, the outreach team will collaborate with the customer
7 to explain the energy efficiency opportunities, rebates, financing, and more – all to
8 inform the customer on the benefits of implementing the recommendations. If the
9 customer agrees to move forward, the outreach team provides the customer with a
10 list of participating trade allies that can provide cost estimate for the project and
11 complete the installation. Once the customer completes the project installation and
12 submits its final application, the incentive process will provide the customer with
13 an incentive for their completed project. For the Assessment cost estimates and
14 target energy savings, please refer to Witness Bilyeu's Exhibit A-1, line 19 for
15 electric and Exhibit A-2, line 18 for gas.
16
17 **Q21. What is the objective of the C&I Midstream Lighting program?**
18 A21. The Midstream Lighting program partners with lighting distributors. This delivery
19 channel provides flexibility and market insight into the ever-changing lighting
20 technologies. Customers and trade allies or contractors rely on lighting
21 distributor's expertise to better understand the various technical applications of
22 lighting products. By targeting the lighting distributor delivery channel, DTE
23 Electric can focus on fewer players that can impact many more customer decisions
24 in choosing energy-efficient LED lighting. The Midstream Lighting program has
25 a product mix including, but not limited to, linear tubes, wall-mounted, exterior

Line No.

wall packs, occupancy sensors, etc. All lighting products offered in this program are LED and must be either Design Lighting Consortium (DLC) or ENERGY STAR® rated and listed. By successfully leveraging the distributor expertise and delivery channel, the Midstream Lighting program can effectively increase LED adoption and market share. For the Midstream Lighting electric program cost estimates and target energy savings, please refer to Witness Bilyeu's Exhibit A-1, line 20.

Q22. What is the objective of the Midstream Food Service program?

A22. The objective of the Midstream Food Service program is to target and enroll food service equipment distributors and dealers. Partnering with the food service distributor and dealer delivery channel allows customers to gain market insight into food service equipment technologies. Customers and trade allies or contractors use the distributor and dealer network for their expertise to understand the technical applications of food service equipment. Enrolling food service dealers and distributors into this delivery channel allows DTE to focus on fewer players that can impact many more customer decisions about choosing the higher energy-efficient food service equipment. The Midstream Food Service program has a product mix of ENERGY STAR® rated equipment and California Energy Wise® rated equipment such as: refrigerators, freezers, dishwashers, fryers, steam cookers, griddles, etc. By successfully leveraging the distributor and dealer delivery channel, the Midstream Food Service program can effectively increase the sale and installation of higher energy-efficient food service equipment. For the Midstream Food Service program electric and gas cost estimates and target energy savings,

Line No.

please refer to Witness Bilyeu's Exhibit A-1, line 21 and Exhibit A-2, line 19, respectively.

Q23. What is the objective of the C&I Midstream HVAC program?

A23. The objective of the C&I Midstream HVAC program is to target HVAC equipment distributors and manufacture representatives. Partnering with the distributor and manufacture representative delivery channel, allows DTE to provide access to their expertise and higher energy-efficient equipment and technologies. Customers and trade allies rely on the distributor and manufacturer representative delivery channel for their expertise and to understand the technical applications of HVAC equipment. Enrolling the HVAC distributor and manufacturer representative delivery channel into the program, DTE can focus on fewer players that can influence and impact higher energy-efficient HVAC equipment customer purchases. The Midstream HVAC program includes equipment that is certified by the Air-Conditioning, Heating and Refrigeration Institute (AHRI). HVAC equipment that may be in the Midstream program includes, but is not limited to, rooftop units, chillers, water source heat pumps, boilers, hot water heating, etc. By successfully leveraging this delivery channel, the Midstream HVAC program can effectively increase adoption of higher energy-efficient HVAC equipment. For the Midstream HVAC program electric and gas cost estimates and target energy savings, please refer to Witness Bilyeu's Exhibit A-1, line 22 and Exhibit A-2, line 20, respectively.

<u>2024-2025 C&I Downstream Platform</u>

Q24. What is the objective of the Downstream Platform?

Line No.

1 A24. The objective of a downstream program is to provide C&I business customers with
2 incentives for installing standard or custom energy-efficient options for numerous
3 measures including, but not limited to, LED lighting, motors, HVAC, hot water
4 heating, demand-controlled ventilation, refrigeration, etc. Downstream programs
5 enroll trade allies to participate in the energy efficiency programs because of their
6 design and installation expertise for the products or measures that they sell. By
7 targeting the trade ally or contractor network, DTE can focus on contractors that
8 could impact a greater number of C&I business customers. DTE C&I business
9 customers can also participate directly in downstream programs using their
10 employees to design and install the measures. The participating trade allies or the
11 customer will submit a program application, DTE will review the application and
12 approve it for installation. When the project is completed, DTE will approve the
13 final application and the customer receives its incentive for the project.
14
15 **Q25. What programs are included in the C&I Downstream Platform?**
16 A25. The Downstream Platform consists of two programs: Prescriptive and Non-
17 Prescriptive. For more program details please refer to Exhibit A-15.
18
19 **Q26. What is the objective of the Prescriptive program?**
20 A26. The objective of the Prescriptive program is to encourage C&I business customers
21 to install energy-efficient measures in their existing or new facilities. It provides
22 incentives for predetermined measures that are in the Michigan Energy Measures
23 Database (MEMD) to business customers for installing energy-efficient equipment
24 that meets the program requirements. Customer incentives are designed to reduce
25 the customer's installation cost thereby removing a potential barrier to

Line No.

1 participation. In the Prescriptive program, DTE will continue to have energy-
2 efficient technology measures that are focused on the agricultural vertical market,
3 TeleCom, and new construction/major renovation markets. TeleCom will focus on
4 telecommunication business customers as well as customers with data centers
5 incentives on energy-efficiency upgrades and retrofits to mission-critical IT
6 equipment and HVAC systems. Measures in the program include but are not
7 limited to network and switch equipment upgrades, rectifier upgrades,
8 uninterruptable power supply, etc. C&I Energy Star Lighting and Multi-Family
9 Commercial are subsets of the Prescriptive program. For the Prescriptive electric
10 program cost estimates and target energy savings, please refer to Witness Bilyeu's
11 Exhibit A-1, line 15 and for C&I Energy Star Lighting and Multi-Family
12 Commercial please refer to lines 25 and 23 respectively. For the Prescriptive
13 program cost estimates and target energy savings for gas, please refer to Witness
14 Bilyeu's Exhibit A-2, line 14 and for Multi-Family Commercial please refer to line
15 21.
16
17 **Q27. What is the objective of the Non-Prescriptive program?**
18 A27. The objective of the Non-Prescriptive program is to provide custom incentives to
19 C&I business customers for installing measures that are generally not considered a
20 prescriptive installation or are innovative and unique energy efficiency equipment
21 and controls that decrease electric or natural gas energy use. Having a non-
22 prescriptive offering allows efficiency measures and systems that are not contained
23 in the MEMD to be installed for situations specific to that customer's application
24 or process. Incentives are offered on a per kWh or per Mcf basis based on pre-
25 approved, twelve-month engineering estimates of energy reduced. These custom

Line No.

1 measures may include energy saving equipment or processes, applications with so
2 much variability in operating characteristics that standardized savings cannot be
3 assumed across the customer base. This offering also includes technologies that are
4 new to the market and have not yet established baseline savings. For the Non-
5 Prescriptive program electric and gas cost estimates and target energy savings,
6 please refer to Witness Bilyeu's Exhibit A-1, line 16 and Exhibit A-2, line 15,
7 respectively
8
9 **2024-2025 C&I Operational Platform**
10 **Q28. What is the objective of the C&I Operational Platform?**
11 A28. The objective of the C&I Operational Platform is to provide a comprehensive
12 approach whereby businesses systematically target controlling and managing their
13 entire facility's energy use to continuously improve energy performance. The
14 purpose of the programs in this Platform are to identify low/no cost operating
15 improvement measures that customers can implement to optimize their systems and
16 processes. By C&I business customers optimizing their systems and processes, it
17 will reduce energy use and improve the facility's operating performance. A strict
18 emphasis is placed on collaborating closely with the customer to change their
19 business practices and operating schedules while establishing an organizational
20 culture that is focused on reducing energy consumption, improving energy
21 efficiency and verifying the results. Because these customer initiatives typically
22 span multiple EWR program years, the energy savings will be claimed in the
23 program year that the operating change measure is validated by the Implementation
24 Contractor.

Line No.

Q29. What programs are included in the C&I Operational Platform?

A29. DTE C&I Operational Platform consists of four programs: Retro-Commissioning, Strategic Energy Management, Find and Fix Compressed Air, and Find and Fix Steam Trap. For more program details please refer to Exhibit A-15.

Q30. What is the objective of the Retro-Commissioning program?

A30. The objective of the Retro-Commissioning program is to target commercial and industrial buildings by providing a comprehensive whole building evaluation with goal of optimizing the buildings performance by identifying low/no cost operating improvement recommendations. A Retro-Commissioning project generally consist of four phases: planning and identification of opportunities, prioritization, implementation, and verification. Completing these systematic phases generally takes 12-18 months. Property managers and building owners can then implement these recommendations, thereby reducing the facilities operating energy consumption and optimizing systems and processes. Customers are expected to have a building management system, to provide a nominal commitment and to implement recommendations that have an 18-month simple payback or less. In addition to the operational energy saving recommendations, the Retro-Commissioning evaluation provides customers with recommendations for energy efficient capital investments which the customer can implement thereby receiving an incentive through the Downstream Platform. For the Retro-Commissioning electric and gas program cost estimates and target energy savings, please refer to Witness Bilyeu's Exhibit A-1, line 17 and Exhibit A-2, line 16, respectively.

Q31. What is the objective of the Strategic Energy Management program?

Line No.

A31. While Retro-Commissioning primarily focuses on optimizing the HVAC system, Strategic Energy Management (SEM) is a more comprehensive approach to all building and facilities systems and processes. SEM is a strategic systematic approach to improving an existing commercial or industrial facility's performance. An SEM project will identify the systems and processes in a facility, identify their deficiencies or operation gaps, and provide recommendations that the customer can implement to optimize the facility's energy consumption. Using a whole building approach, SEM looks to identify continuous operational improvements that will reduce energy use, optimize facility performance and ultimately reduce the customers operating cost. SEM projects consist of several phases and generally take 18-24 months to complete. In the planning phase, all the facility systems and processes are identified and analyzed to determine a baseline of energy use. The next phase determines how the systems and processes were designed to operate, an analysis is completed to understand the gaps and potential opportunities, and finally a list of recommendations is developed. Next, the recommendations are prioritized based on the customer's criteria and implementing threshold, and finally the operating recommendations are presented to the customer. The customer then chooses which recommendations will be implemented. During the implementation phase, generally the highest energy reducing recommendations are implemented. In the verification phase, the hand-off process, improvements are reported, and facilities executives are shown how to sustain proper operation. For the Strategic Energy Management program electric and gas cost estimates and target energy savings, please refer to Witness Bilyeu's Exhibit A-1, line 18 and Exhibit A-2, line 17, respectively.

Line No.

Q32. What is the objective of the two Find and Fix programs?

A32. The objective of the two Find and Fix programs, Compressed Air and Steam Traps, is to assist business customers that may not recognize the energy used when operating a given system. These programs educate customers on how the system uses energy, and potential areas for improvement that would reduce the energy use of a given system. A system assessment is completed for the customer to "Find" energy waste reduction opportunities and, then "Fix" them. The Find and Fix programs are mainly focused on identifying leaks within a compressed air system and failed or faulty steam traps in boiler systems. DTE understands that compressed air systems and steam traps can be energy intensive, and a source of excessive energy use thereby often having energy efficiency improvement opportunities. With C&I businesses that rely on compressed air for operating power tools, automation, controls, etc. and steam for dry cleaning, commercial laundry, etc. these programs can be successful in harvesting additional operational energy savings. By this program finding and fixing compressed air leaks and repairing steam traps, it will eliminate customer barriers, increase program participation and allow DTE to capture previously unrealized energy savings. For the Find and Fix Compressed Air and Steam Traps program cost estimates and target energy savings, please refer to Witness Bilyeu's Exhibit A-1, line 24 and Exhibit A-2, line 22, respectively.

<u>2024-2025 C&I Emerging Measures and Approaches Platform</u>

Q33. How would you describe the C&I Emerging Measures and Approaches Platform?

Line No.

A33. In the C&I Portfolio, Emerging Measures and Approaches include measures or program approaches that have been successfully completed, or are expected to be completed, during the pilot phase of program development. This transition will allow DTE an opportunity to create an entry point for C&I pilots as they become commercialized and incorporated into the C&I Portfolio. Several recent C&I program additions that went through this process include, but are not limited to, Find and Fix Compressed Air, Find and Fix Steam Traps, and TeleCom. Through the Emerging Measures and Approaches process, DTE will continue to assess the viability of adding programs to the C&I Portfolio as they evolve toward potential commercialization. For more details, please refer to Exhibit A-15. For the Emerging Measures and Approaches program electric and gas cost estimates and target energy savings, please refer to Witness Bilyeu's Exhibit A-1, line 26 and Exhibit A-2, line 23, respectively.

2024-2025 C&I Self-Directed Energy Savings Program

Q34. What is the objective of the Self-Directed Energy Savings programs?

A34. The objective of the Self-Direct energy savings programs is to provide an opportunity for any eligible DTE Electric customer to provide and implement a self-directed energy waste reduction plan. The self-direct strategy encourages customers to take ownership of their energy use so that they can self-implement energy saving measures that can improve their systems and processes. By customers participating in these programs, they are making a long-term commitment to reduce their energy use. For more program details please refer to Exhibit A-15. The Self-Directed Energy Savings are detailed in Witness Bilyeu's Exhibit A-1, line 28.

Line No.

1 **Q35. Will DTE continue to support and assist C&I business customers in developing**
2 **their Strategic Energy Plan?**
3 A35. Yes. DTE will continue to encourage and assist C&I business customers to develop
4 and implement a Strategic Energy Plan. Elements of a Strategic Energy Plan
5 include: customer commitment; assess building performance through Energy Star
6 Portfolio Manager; establish energy efficiency goals; create implementation action
7 plan; implement the action plan; evaluate the progress; and recognize and celebrate
8 successes. Tools that will be provided to the customer include main program guide,
9 energy management handbook template, energy assessments and an energy
10 management toolbox. By customers creating a Strategic Energy Plan it will help
11 them commit and prioritize reducing energy use and improving their operating
12 costs.
13
14 **Q36. Does DTE's C&I Portfolio provide programs for all C&I customers?**
15 A36. Yes. The C&I Portfolio is designed to provide all DTE Electric and DTE Gas
16 business customers with an opportunity to participate in the C&I energy efficiency
17 programs. The mix of programs provides comprehensive coverage for all DTE
18 business customers. All programs will continue to work in concert with each other.
19 The programs have several measures and flexibility so that the very small to the
20 largest business customers have an opportunity to participate and can take
21 advantage of the variety of C&I Platform programs.
22
23 **Q37. Will DTE change its C&I program implementation approach?**
24 A37. While DTE continues to look for ways to create positive customer experiences, it
25 will follow the process used in previous EWR Plans. In general, DTE will continue

Line No.

to use third party Implementation Contractors (ICs) to provide marketing, customer intake, assist customers in understanding the features and benefits of selecting higher energy efficiency equipment, eligibility verification, assist in the completion of program applications, rebate processing, and tracking. However, in certain cases where DTE has gained experience in some functions originally sourced to outside contractors, DTE may utilize internal staff to implement programs. DTE's C&I staff will continue to provide overall strategic direction and program management. The programs contained within C&I Platforms were competitively bid, and DTE anticipates this process will continue. DTE will review how work has been assigned, potentially electing to redistribute it by requesting proposals for newly developed emerging measures and approaches where work focus has significantly changed.

Q38. What methodology has DTE used to establish a balanced C&I portfolio and budget for the proposed C&I Platform's programs?

A38. Given DTE's extensive energy efficiency experience, we are using a similar approach from previous filing years to develop a balanced 2024-2025 C&I portfolio. At a high level, the planning approach includes four steps: develop an initial program by program measure mix based on DTE extensive EWR experience, market feedback, future potential and savings goal; estimate program size parameters (i.e., a minimum and maximum range of units per year by program); optimize the program portfolio mix to reflect a portfolio that best meets DTE's many objectives; the output from the previous three steps is analyzed through Demand Side Management Option/Risk Evaluator (DSMore) to verify cost-effectiveness.

Line No.

1 **Q39. Will DTE's C&I programs collectively be cost-effective?**

2 A39. Yes, The C&I electric and gas portfolios are projected to be delivered at an overall
3 Utility System Resource Cost Test (USRCT) score of 2.80 and 2.33, respectively.
4 The expected electric and gas benefit-cost test results for each C&I program are
5 detailed in Witness Malfroid's Exhibit A-12 and A-13, respectively.

6

7 **Q40. What is presented in your Exhibit A-15, titled "C&I Program Description,**
8 **Measures and Incentives?"**

9 A40. Exhibit A-15 presents DTE's Commercial & Industrial Portfolio Summary. It
10 explains the overall C&I objectives and strategies, provides details about each C&I
11 Platform and the programs included in each Platform as well as the respective
12 program objectives. Exhibit A-15 also includes implementation and marketing
13 strategies, each programs' electric and gas cost estimates, energy savings targets,
14 anticipated customer participation, and a list of potential measures and incentives
15 that may be included in the C&I portfolio.

16

17 **Q41. What process will DTE use to amend its C&I portfolio?**

18 A41. DTE will continue using existing processes to make changes in its C&I Platforms.
19 The process provides DTE the flexibility to reallocate program budgets and savings
20 targets, adjust eligible measures and incentive levels, and to respond to changing
21 market conditions or approaches. DTE may find it necessary to move funds from
22 one program to another, within Commission ordered reallocation limits, to avoid
23 having to suspend a program that is successful in the market because of budget
24 constraints. This flexibility has been successfully used in the past allowing DTE to

Line No.

1 maintain market momentum, introduce new programs to meet customer demand
2 and maintain satisfaction and expectations with the C&I portfolio.
3
4 **Q42. Does this complete your direct testimony?**
5 A42. Yes, it does.
6

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY** and **DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016	)	Case No. U-21322 (Paperless e-file)

EXHIBITS

OF

SARAH A. TOCCO

DTE ELECTRIC COMPANY AND DTE GAS COMPANY

2024 – 2025 Energy Waste Reduction Commercial & Industrial Platforms' Programs Descriptions, Measures & Incentives

Table of Contents

DTE Commercial & Industrial Portfolio Summary Plan

Small and Medium Business Platform

Objective	DTE's Small and Medium Business Platform is designed to eliminate barriers for small business customers to implement energy efficiency. To accomplish this, DTE provides a hands-on approach by guiding customers through an on-site assessment, while focusing on education so they can fully understand the benefits of participating. Due to their busy schedules, small business owners tend to need more guidance to participate. Using a concierge-based approach, the program takes the stress out of the process for our small business owners by personalizing their journey and working directly with them to find ways to save energy and money through energy efficiency improvement projects. In addition, the Platform offers the Commercial & Industrial (C&I) Midstream programs encouraging C&I business customers to install energy-efficient measures in new and existing facilities via instant discounts applied at the point of purchase.
Target Market	DTE defines Small and Medium Business (SMB) customers as those who are not on a primary rate and don't have an account manager. As for the Midstream programs, all commercial & industrial customers taking service from either DTE Electric or DTE Gas are eligible to participate in the C&I Midstream Program Offerings.
Program Duration	Since 2009, SMB customers have been participating in DTE's energy efficiency programs. Starting in 2014, the Company launched the Business Energy Consultation pilot program within the emerging programs platform to focus on small business customers. From 2014 to 2019, this program's focus was on site energy assessments, direct installation of complimentary energy efficiency measures and referrals to the appropriate programs. The first C&I midstream program, Midstream Lighting, commercialized in 2016 and has since grown to include Food Service and HVAC. Starting in 2019, DTE redesigned the Small Business programs to incorporate Trade Contractor partners to assist customers with implementing energy efficiency projects. Since then, the program has continued to excel as the contractor network has grown, assisting DTE with achieving wide and varied participation across its portfolio.
Program Description	**Small and Medium Business Platform** • Small Business Assessment • Midstream Lighting • Midstream Food Service • Midstream HVAC (Heating, Ventilation and Air-Conditioning)

The objective of the Small Business Platform is to provide SMB customers with an opportunity to begin their energy efficiency journey. These customers do not have dedicated energy support staff and or are not sure how to start implementing energy efficiency. As such, the Small Business Platform is strategically designed to provide a concierge-based approach to servicing these customers.

Small Business Assessment

Their journey begins with an on-site energy assessment. This component provides engagement through the opportunity to educate customers on best practices for energy efficiency. It helps small business customers understand that they can control their energy use and operating costs. While on-site, the assessment will direct install complimentary energy-saving products that do not require a licensed contractor such as screw-in LED light bulbs, pipe wrap, showerheads, faucet aerators, programmable thermostats and occupancy sensors. At the end of the assessment, the customer will receive a report detailing the results, recommendations for saving energy, specific to their business, information on how to purchase energy-efficient products on the DTE Business Marketplace, and education on midstream programs applicable to their business.

As a follow-up to the appointment, the outreach team and concierge will work with the customer to explain the energy efficiency opportunities, rebates, financing, to encourage the customer to implement the recommendations. If the customer agrees to move forward and implement the recommendations, the outreach team can provide the customer with participating trade contractors that can provide the cost estimates for the project, order the material, and complete the installation. Additionally, this process will work with customers who choose to install the measures outside of DTE's participating contractor network such as self-install/do-it-yourself. When the project is completed, DTE will approve the application and the customer will receive their incentive for the project.

This assessment process is designed to be agile and meets the customer where they are to provide a relationship-based service delivery model. With the addition of skilled trades, DTE can increase its reach to impact a greater number of small-medium business customers. The goal is to create no dead ends and remove barriers to participating by providing a variety of opportunities to participate and engage with energy efficiency.

Midstream Programs

- Midstream Lighting
- Midstream Food Service
- Midstream HVAC (Heating Ventilating & Air Conditioning)

The objective of a midstream delivery channel is to provide program benefits to customers in a streamlined and frictionless method. Midstream programs enroll distributors, dealers, and manufacturer representatives to leverage their market and supply chain influence with regard to the availability and affordability of energy-efficient products. By moving upstream in the supply chain, DTE can provide greater support to a more targeted segment of market actors that wield a significant amount of influence in product availability. Working with distributors and manufacturers allows for greater flexibility, market insight, and stronger relationships of understanding and trust, both within their respective industries and with our customers. These programs establish a simplified benefit delivery method that does not require the customer to submit a program application to receive that benefit after the fact. Instead, the Midstream programs, working with product distributors and manufacturers, provides the means necessary to reduce the up-front cost of energy-efficient solutions to our customers, thereby reducing initial investment, any potential financing costs, and the differential cost between an energy-efficient product and a standard product. Successful Midstream programs motivate participating distributors, equipment dealers and manufacturer representatives to stock greater numbers of energy-efficient equipment so that it is readily available to sell to customers. Midstream programs can also realize savings that may not otherwise have been captured due to the level of effort necessary to participate in a more traditional downstream program.

Midstream Lighting

The Midstream Lighting works with distributors to provide point of sale benefits directly to customers. The program has developed a firm product mix including, but not limited to, linear tubes, wall mounted lighting, exterior wall packs, and occupancy sensors. All lighting products promoted in the program are LED and must be Design Lighting Consortium (DLC) or ENERGY STAR® rated and listed.

Midstream Food Service

The Midstream Food Service program has a product mix of ENERGY STAR® or CA Energy Wise-rated equipment including refrigerators, freezers, holding cabinets, fryers, conveyor ovens, steam cookers, and griddles. The program also works with food service and life science equipment distributors to ensure they have the tools and knowledge necessary to directly and accurately educate their customers about the benefits associated with energy-efficient equipment.

Midstream HVAC

	DTE's Midstream HVAC program will focus on HVAC equipment that is certified by the Air-Conditioning, Heating and Refrigeration Institute (AHRI). HVAC equipment that may be in the Midstream program includes, but is not limited to, unitary split air conditioning systems, chillers, cooling towers, heat pumps, condensing boilers, and domestic hot water boilers.
Barriers to Adoption	SMB customers have unique needs and barriers to participation with energy efficiency. Most customers are often too busy to worry about energy consumption and or cost. Business owners perform numerous roles – Accounting, Human Resources, Supply Chain, etc. The day-to-day operation and success of their business are their main focus. Many small business customers are not aware of the programs or where/how to start their energy efficiency journey. This can seem like a daunting task as they do not have the time or expertise to research information that doesn't require immediate attention. Customers don't have the technical understanding of equipment applications and how installing energy-efficient equipment can help their bottom line. Lastly, cost and return on investment are major barriers. There are often competing investments within businesses. Hiring a contractor and undertaking a project is costly and time-consuming. It is imperative for SMBs to see a quick return on investment for installing energy efficiency upgrades. As such, we have designed the Small Business Assessment around the concierge-based approach. This provides one point of contact for the customer and allows for two-way dialogue to help break down barriers to participation. Through customer engagement and education, DTE can help small business customers overcome uncertainty and encourage greater adoption of energy efficiency. Leveraging the participating trade contractor network along with distributor/dealer/manufacture rep delivery channels in the midstream programs creates higher energy efficiency measure installation rates and customers will realize greater energy savings and lower operating costs.
Eligible Measures	Examples of energy efficient measures available through the Small Business Platform include, but are not limited, are as follows: o Pipe wrap o Faucet Aerators o Energy Efficient Showerhead o Pre-Rinse Spray Valve o Smart Power Strip o Interior & Exterior LED Lighting lamps, fixtures, and controls o Agriculture-specific LEDs o Lighting controls o HVAC tune ups, systems & controls

	○ ECM Motors ○ Refrigeration ○ Food Service Equipment
Implementation Strategy	DTE will provide overall program management, tracking and reporting oversight, and regulatory review. Through DTE's Scope of Work and Request for Proposal process, the Company will select Implementation Contractors that will have day-to-day program responsibility. The Small Business Assessment program consists of the following components: • On-site energy assessment • Leave behind customer report • Energy efficiency customer education • Direct installs when applicable • Participating contractor referrals • Rebates In regards to the midstream programs, DTE will engage customer participants by using their existing market channels. These market delivery channels primary include participating distributors, but may also include manufacturers, architects, design and build contractors, etc. Each program in midstream will have resources specifically dedicated to educating the sales force to sell this higher efficiency equipment. In addition, the programs will provide distributors with marketing material to be used in store, and online to assist in customer education of the programs and their measures. Incentives for each technology will be offered to reduce the cost of the energy-efficient equipment and will vary based on cost-effectiveness and market response. The C&I Portfolio strives to balance the incentive levels to help offset a portion of the incremental equipment cost of the measure to stimulate the market and obtain energy savings in a cost-effective manner. Market acceptance of a measure, its incremental cost, and its energy savings potential are used to establish incentive levels. For the SMB Platform, DTE will use internal staff resources, account managers, and energy managers, that have relationships with customers and can help identify opportunities to participate in the programs. These resources in combination with marketing and strategic objects will build customer awareness, and education and facilitate a connection for interested customers.

Marketing Strategy

As aforementioned, this segment has unique barriers to participating. Understanding their motivations is another component to the overall marketing strategy – two of the largest ones being profit and ROI. Additionally, these customers are motivated by many non-energy factors such as business appearance, customer experience, employee safety and retention and product production.

It is imperative that the program uses a layered tactical plan with multiple channels to reach customers at the point in which they are ready to participate. This includes directly marketing to customers as well as using our trade contractor network to increase participation. The Small Business program marketing and communication plan will generally include the following tactics and collateral pieces:

- Direct Outreach
  - Cold knocking in-field
  - Phone/Call Center Campaigns
  - Customer referrals
- Direct Mail
  - General Awareness
  - Vertical Market specific
  - Move-in transactions
- E-Mail
  - Acquisition (new customers to participate)
  - Reach back campaign focused on the benefits of implementing trade contractor project
  - Move-in
  - Custom segment
- Digital Marketing
  - Paid Social Media
  - Search Engine Optimization (SEO)
  - Program Website
- DTE Marketing channel
  - Energy Smarts Magazine
  - Energy Connections
  - Organic Social Media through DTE channels
- Event Based Marketing
  - Tradeshows
  - Sponsorships
  - Memberships
  - Community engagement
- Collateral/Leave Behinds
  - Business Cards
  - Apparel and Vehicle Branding

- Case Studies
- Assessment leave behind report
- Program fact sheet
- Door hanger

- Participating Trade Contractor Network
  - Recruitment of new contractors who bring non-participating customers to the program
  - In-person/virtual training and events
  - Participating in contractor newsletter
  - Opportunities for co-branding with the program
- Midstream Distributor training conducted to provide
  - C&I program details
  - Participation process
  - Tailored to the needs of specific vertical market business owners

The marketing and communications strategy will inform customers of the availability and benefits of each program and how they can participate. As much as possible, these efforts will be targeted to specific vertical markets or equipment technologies. The program will tailor its marketing messaging with previously identified motivations to remove barriers to participation through consistency across delivery channels and partners.

Estimated Participation

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Small Business Program	18,899	18,556	4,942	4,942
MS Lighting	14,352	14,352	N/A	N/A
MS Food Service	1,021	1,021	204	204
MS HVAC	1,950	1,950	141	141

Estimated Budget; ($*1,000)

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Small Business Program	$15,991	$16,111	$911	$910
MS Lighting	$7,613	$7,744	N/A	N/A
MS Food Service	$2,158	$2,163	$527	$527
MS HVAC	$5,589	$5,619	$1,139	$1,139

Estimated Savings Targets, Net MWh & Mcf

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Small Business Program	50,362	49,448	37,592	37,592
MS Lighting	80,189	80,189	N/A	N/A
MS Food Service	2,645	2,645	14,449	14,449
MS HAVC	18,123	18,123	40,429	40,429

Downstream Platform

Objective	The objective of a Downstream Platform is to provide business customers with incentives for installing standard or new custom energy-efficient measures for numerous applications including but not limited to LED lighting, motors, HVAC, hot water heating, demand-controlled ventilation, and refrigeration.
Target Market	All commercial & industrial customers taking service from either DTE Electric or DTE Gas are eligible to participate in any of the C&I programs contained within each Platform, regardless of their choice of supplier. Customers that elect to self-direct an electric energy waste reduction plan are only eligible to participate in the gas C&I programs.
Program Duration	In 2009, the C&I program was established and launched. The program has continued to evolve, offering incentives on all MEMD prescriptive measures as well as custom-engineered solutions for complex projects

Program Description	Downstream programs enroll trade allies to participate because of their design and installation expertise for the products or measures that they sell. By targeting the trade ally network, DTE can focus on contractors that could impact a greater number of business customers. DTE business customers will also participate directly in downstream programs using their employees to design and install the measures. The participating trade allies or the customer will submit a program application, DTE will review the application and approve it for installation. When the project is complete, DTE will approve the final application and the customer receives their incentive for the project. The downstream program consists of the following elements:
	
	Downstream Platform
	• Prescriptive
	  • C&I Energy Star Lighting
	  • Multi-Family Commercial
	• Non-Prescriptive
	
	The objective of a Downstream Platform is to provide business customers with incentives for installing standard or new custom energy-efficient measures for numerous applications including but not limited to LED lighting, motors, HVAC, hot water heating, demand-controlled ventilation and refrigeration, etc. Downstream programs enroll trade allies to participate because of their design and installation expertise for the products or measures that they sell. By targeting the trade ally network, DTE can focus on contractors that could impact a greater number of business customers. DTE business customers will also participate directly in downstream programs using their employees to design and install the measures. The participating trade allies or the customer will submit a program application, DTE will review the application and approve it

for installation. When the project is complete, DTE will approve the final application and the customer receives their incentive for the project.

Prescriptive program objective is to encourage C&I business customers to install energy efficient measures in their existing facilities. It provides predetermined measures and incentives that are in the State of Michigan's approved Michigan Energy Measures Database (MEMD) to business customers for installing energy efficient equipment. The MEMD incentives were designed to reduce the customers installations cost thereby removing barriers to participation. Subsets of the Prescriptive Program are C&I Energy Star Lighting and Multi-Family Commercial.

C&I Energy Star Lighting, The objective of C&I Energy Star® Retail Lighting program is to provide business customers with the opportunity to purchase Energy Star® rated energy efficient lighting products at discounted prices from retail stores to install in their businesses. The premise is that through market support of retailers, these products will have more customer exposure and better placement in the store. The sales force will also be more aware of the product and promote it more often.

Multi-Family Commercial energy savings and costs for measures installed in multifamily common areas are included in the C&I prescriptive program because they are commercial facilities. Multi-Family buildings with three or more units, including apartment buildings and condominiums, are eligible for this program. Property managers and building owners are encouraged to install energy efficient equipment in their facility common areas such as hallways, stairwells, lobbies and parking lots by providing them specific incentives for those measures.

Non-Prescriptive program provides custom incentives to C&I customers for installing measures that are generally not considered a prescriptive installation or are innovative and unique energy efficiency equipment and controls that decrease electric use. Having a non-prescriptive offering allows energy efficiency measures and systems that are not contained in the MEMD to be installed for situations specific to that customer's application or process. Incentives are offered on a per kWh or per Mcf basis based on pre-approved engineering estimates. These custom measures may include energy saving equipment or processes, applications with so much variability in operating characteristics that standardized savings cannot be assumed across the customer base. This offering also includes technologies that are new to the market and have not yet established baseline savings. However, measures that are not eligible for a non-prescriptive incentive include but are not limited to; fuel switching

	(e.g., electric to gas or gas to electric), Combined Heat and Power systems, on-site standby generator and renewable energy projects.
Barriers to Adoption	Certain customer barriers exist that limit the adoption of energy efficiency measures. These may include, but are not limited to, lack of investment capital or competing capital fund requirements, lack of awareness/knowledge about the benefits and costs of energy efficiency measures, technical understanding of various equipment applications, etc. The C&I Platforms' programs are designed to help all DTE business customers overcome implementation barriers and encourage greater adoption of energy efficiency measures in the C&I vertical markets. The premise of these programs is that through customer engagement and education with the potential participants and leveraging the participating trade ally community along with distributor/dealer/manufacture rep delivery channels, the risks to broader higher energy efficiency measure installation will be reduced and customers will realize greater energy savings and lower operating costs.
Eligible Measures	The energy efficient measures that customers could install by using the Company's C&I Platform programs include, but are not limited to, the following measure categories: • LED Lighting, lamps, and fixtures • Lighting controls • HVAC systems & controls • Demand control ventilation • Building Management Systems • Motors, fans and pumps • Variable frequency drives • Compressed air systems • Process electric and natural gas equipment • Refrigeration • New construction/major renovation
Implementation Strategy	DTE will provide overall Platform management, tracking and reporting oversight, and regulatory review. Through DTE's Scope of Work and Request for Proposal process, the Company will select Implementation Contractors that will have day to day program responsibility. These responsibilities include, but are not limited to, application and savings processing, incentive payments, tracking, verification, technical support, customer support, and marketing. DTE will assist in marketing and promotion of the C&I Platform programs. The key to program success is two-fold:

	➢ DTE will engage customer participants by using their existing market channels. These market delivery channels may include participating trade allies, manufacturers, distributors, consultants, architects, engineers, design and build contractors, etc. Each Platform program will have resources specifically dedicated to educating, partnering and engaging the important market players within a given program. Because these delivery channels already have relationships with C&I customers, new high efficiency equipment and technology can be offered to customers as a viable option. To support the market participants, the program also includes customer educational and promotional pieces designed to assist facility owners, operators, and decision makers with the information necessary to improve the energy efficiency of the systems in their facilities. ➢ DTE will use internal staff resources, account managers and energy managers, that have relationships with customers and can help identify opportunities to participate in the program. These resources will build customer awareness, educate the customer on opportunities and connect interested customers with the implementation contractor. Incentives for each technology will be offered to reduce the cost of the energy efficient equipment and will vary based on cost-effectiveness and market response. The C&I Downstream Platform programs strives to balance the incentive levels to help offset a portion of the incremental equipment cost of the measure to stimulate the market and obtain the energy savings in a cost-effective manner. Market acceptance of a measure, its incremental cost, and its energy savings potential are used to establish incentive levels. Additional guidelines are established such as total incentives available per customer per year to assure that funds are allocated across all customer segments and opportunities. The implementation of these programs will be coordinated with other energy providers where the service territories overlap.
Marketing Strategy	Marketing and promotional materials will be developed for business customers on the benefits of energy efficiency improvements, including marketing brochures, customer seminars, program promotional material, and website content. As much as possible, marketing, training and promotional efforts will be targeted to specific vertical market or equipment technologies. The marketing and communications strategy will be designed to inform customers of the availability and benefits of each program and how they can participate in each program. The strategy will include outreach to all business customers, relevant professional and trade associations and other interested

parties. An important part of a marketing campaign will be content and functionality on the DTE website.

Marketing and communications plans for each C&I Platform will generally include:

- Workshops conducted to provide
  - C&I program details
  - Participation process
  - Tailored to the needs of specific vertical market business owners
- A combination of strategies including potential media advertising, outreach and presentations at professional and community forums and events
- Direct outreach to key customers and customer representatives such as:
  - Brochures describing the benefits and features of the program including program application forms and worksheets
  - Targeted direct mailings used to educate customers on the benefits of the program and explaining how they can apply
  - Customer and trade partner outreach and presentations informing interested parties about the benefits of the program and how to participate
  - Print advertisements to promote the program placed in selected local media including newspapers and trade publications
  - Website content providing program information resources, contact information, downloadable application forms and worksheets, and links to other relevant service and information resources
  - Presence at conferences and public events used to increase general awareness of the program and distribute program promotional materials
  - Presentations to key customers and customer groups to actively solicit their participation in the program
- The marketing strategy will identify key customer segments and vertical markets for target marketing and specific outreach activities to those customers

Estimated Participation

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Prescriptive	3,961	3,885	290	280
C&I Energy Star Lighting	428,013	420,234	N/A	N/A
Multi-Family	6	6	23	23
Non-Prescriptive	3,005	2,885	594	682

Estimated Budget; ($*1,000)

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Prescriptive	$29,541	$29,388	$4,087	$3,931
C&I Energy Star Lighting	$4,294	$4,042	N/A	N/A
Multi-Family	$219	$220	$103	$104
Non-Prescriptive	$14,469	$14,094	$2,007	$301

Estimated Savings Targets, Net MWh & Mcf

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Prescriptive	258,355	253,378	462,709	446,216
C&I Energy Star Lighting	20,026	19,662	N/A	N/A
Multi-Family	595	595	5,324	5,324
Non-Prescriptive	126,645	121,622	221,935	254,851

Operational Platform

Objective	The objective of DTE's Commercial & Industrial (C&I) Operational platform is to offer solutions that address both a systematic approach that focuses on continuously improving the energy performance of a total facility (Strategic Energy Management); and offerings that are targeted at market specific solutions, such as Retro-Commissioning and Find and Fix. These solutions are designed to assist Commercial and Industrial customers in achieving long-term annual energy savings. The Operational platform will also work across platforms with customers to coordinate energy efficiency programs within the C&I portfolio to support customer's energy efficiency needs.
Target Market	The Strategic Energy Management program primarily focuses on very large industrial and commercial facilities that annually consume 15,000 MWh or greater. The Retro-commissioning program typically focuses on customers that have control system (BMS/BAS) with trending capabilities and annually consumes up to 25,000 MWh. The Find and Fix Compressed Air Program focuses on customers that have compressed air systems with a minimum of 75 horsepower and consume less than 25,000 MWh annually. The Find and Fix Gas Program programs focus on customers that utilize process steam in their operation and typically consume below 30,000 Mcf annually. These programs are a fully integrated solutions to meet the needs of our C&I customers. All Commercial & Industrial customers taking service from either DTE Electric or DTE Gas are eligible to participate in the various programs offered in the Operational platform.
Program Duration	From 2017 through 2019, the Strategic Energy Management program was offered as a pilot and then commercialized in 2020. From 2018 into 2019, the Retro-Commissioning program was piloted and then commercialized in late 2019. In 2020 the platform expanded the existing offerings to include specific niche market offerings. We piloted both the Find and Fix compressed air and steam trap programs and then commercialized them in 2021. All of these programs are now managed in the Operational platform as part of the overall DTE C&I portfolio of offerings.

Program Description

Operational Platform

- Retro-Commissioning (RCx)
- Strategic Energy Management (SEM)
- Find & Fix Compressed Air
- Find & Fix Steam Trap

The Operational Platform will consist of programs that are designed to target controlling energy consumption by optimizing the customer's processes. Operational programs systematically manage energy use to continuously improve energy performance. The focus for DTE's Operational programs will be on the entire facility and the processes used. These programs will focus on identifying operational improvements that customers can implement to optimize the process. Customers optimizing their systems and processes, it will reduce energy use and improve the facility's operating schedule and performance. In DTE's operational programs, a strict emphasis is placed on working closely with the customer to change their business practices while establishing an organizational culture that wants to reduce energy consumption and improve energy efficiency and performance. Operational programs such as RCx and SEM generally span multiple EWR program years, and because of that, the energy savings will be claimed in the EWR program year that the operating improvement is validated by the Implementation Contractor.

Retro-Commissioning program is a comprehensive testing of building systems with the goal of improving quality, allows building deficiencies to be identified and corrected for optimum energy use. RCx is a systematic process to improve an existing commercial and institutional facility's building performance by optimizing the HVAC system. Using a whole building systems approach, retro commissioning seeks to identify operational improvements that will save energy and increase occupant comfort. A RCx project will consist of generally several phases and take 12-18 months to complete. In the planning phase, the building systems to be analyzed are identified. The next phase determines how those systems are supposed to operate and a prioritized list of operating deficiencies is prepared. During the implementation phase, the highest priority deficiencies are corrected, and proper operation is verified. In the verification phase, the hand-off process, improvements are reported, and facilities executives are shown how to sustain proper operation. Retro Commissioning can be one of the most cost-effective means to improving the operating efficiency in commercial buildings.

Strategic Energy Management (SEM) program is a comprehensive approach to evaluate all building & facilities systems and processes through a systematic approach. SEM is a strategic systematic approach to improving existing a commercial or industrial facility's performance.

An SEM project will identify the systems and processes in a facility, identify their deficiencies or operation gaps, and provide recommendations that the customer can implement that will optimize facility's energy use. Using a whole building or facility approach, SEM looks to identify continuous operating improvements that will reduce energy, increase facility performance, and ultimately reduce the customers operating cost. A SEM project consists of several phases and likely takes typically 24 months to complete. In the planning phase, all the facility systems and processes are identified and analyzed to determine a baseline of energy use. The next phase determines how those systems were designed to operate, analyses are completed to understand the gaps and potential opportunity, and finally a list of recommendations is developed. Next the recommendations are prioritized based on the customer's criteria and implementing threshold and finally the operating recommendations are presented to the customer. The customer then chooses which recommendations will be implemented. During the implementation phase, generally the highest energy reducing recommendations are implemented. In the verification phase, the hand-off process, improvements are reported, and facilities executives are shown how to sustain proper operation. SEM can be a cost-effective means of improving the customer's processes and capturing operational energy efficiency improvements.

Find & Fix - Compressed Air program targets the compressed air production system in facilities that are major user of compressed air. Compressed air systems are very energy intensive and often have significant energy efficiency opportunities. The objective of this program is to offer a service to eliminate known customer barriers by detecting the air leaks and assist the customer in reducing energy use and operating costs. Service Providers will perform a compressed air system audit to detect any air leaks, share the findings with the customer encouraging them to fix the leaks. If the customer agrees to make the necessary repairs, the Service Provider will then complete the repair work. By having the Service Provider complete the find and the fix, barriers to customer participation can be removed.

Find & Fix – Steam Trap program focuses on locating non-functional steam traps and educating customer's on how to reduce energy waste by repairing/replacing them. The program will educate customers on how the system uses energy and potential areas for improvement that would reduce the energy use of the entire system. A system assessment is completed for the customer to "Find" energy reduction opportunities and then "Fix" them. By this program finding and repairing non-functioning steam traps, it will eliminate customer barriers, increase program

	participation and allow DTE to capture previously unrealized energy savings.
Barriers to Adoption	The barriers for the SEM program are lack of organizational commitment, insufficient resources or staff, focus is production/operations (energy is not a priority), lack of control systems to fine tune energy efficiency/implement change, perceived risk to operations by implementing energy efficiency measures, and funding (this can be funding for implementing measures that require capital or to fund staff to support energy efficiency). The common barriers to participation in the Find and Fix programs are general awareness that the equipment is failing or leaking, customers typically don't have the proper equipment, training nor resources to detect the faulty equipment, a lack of capital and time constraints based on production schedules to address. The barriers to participation in the RCx program are labor shortage and/or lack of resources to support the program throughout the project, budget constraints outside of normal business operations, increased cost of repairs and maintenance, inability or difficulty to do a shutdown to investigate potential measures or make repairs and supply chain issues of getting equipment to make repairs.
Eligible Measures	Both the RCx and SEM programs are strictly driving operational performance activities to achieve energy savings. The incentives provided are to motivate customers to achieve energy savings and not to directly install energy savings measures. The Find and Fix gas program offers a fully funded steam trap survey and an incentive to cover the cost of replacing failed steam traps. The Find and Fix compressed air program offer a fully funded compressed air leak survey and earn incentives for fixing leaks, providing a minimum of 50% of leak volume are repaired. The compressed air leak program offers the following measures. Find and Fix (compressed air): • No-loss condensate drains • Engineered nozzles
Implementation Strategy	DTE will provide overall Platform management, tracking and reporting oversight, and regulatory review. Through DTE's Scope of Work and Request for Proposal process, the Company will select Implementation Contractors that will have day to day program responsibility. These responsibilities

include, but are not limited to, application and savings processing, incentive payments, tracking, verification, technical support, customer support, and marketing. DTE will assist in marketing and promotion of the C&I Platform programs.

The key to program success is two-fold:

- DTE will engage customer participants by using their existing market channels. The delivery channels include account managers, professional associations, and/or other channel partners to successfully market the programs. Each Platform program will have resources specifically dedicated to educating, partnering, and engaging the important market players within a given program. Because these delivery channels already have relationships with C&I customers, new high-efficiency equipment and technology can be offered to customers as a viable option. To support the market participants, the program also includes customer educational and promotional pieces designed to assist facility owners, operators, and decision-makers with the information necessary to improve the energy efficiency of the systems in their facilities.

- DTE will use internal staff resources, account managers and energy managers, that have relationships with customers and can help identify opportunities to participate in the program. These resources will build customer awareness, educate the customer on opportunities, and connect interested customers with the implementation contractor.

When applicable, implementation of these programs will be coordinated with other energy providers where the service territories overlap.

Marketing Strategy

Multiple marketing approaches are utilized in the Operational platform and specifically designed to inform customers of the availability and benefits of each program and how they can participate in them.

Marketing and promotional materials will be developed for business customers on the benefits of energy efficiency improvements, including marketing brochures, program promotional material, and website content. As much as possible, marketing, training and promotional efforts will be targeted to specific vertical market or equipment technologies.
The strategy will include outreach to targeted business customers, relevant professional and trade associations, and other interested parties. An important part of a marketing campaign will be content and functionality on the DTE website.

Marketing and communications plans for each C&I Platform will generally include:

- Workshops conducted to provide
  - C&I program details
  - Participation process
  - Tailored to the needs of specific vertical market business owners
- A combination of strategies including outreach and presentations at professional and community forums and events
- Direct outreach to key customers and customer representatives such as:
  - Brochures describing the benefits and features of the program including program application forms and worksheets
  - Targeted direct mailings used to educate customers on the benefits of the program and explaining how they can apply
  - Customer and trade partner outreach and presentations informing interested parties about the benefits of the program and how to participate
  - Website content providing program information resources, contact information, worksheets, and links to other relevant service and information resources
  - Presence at conferences and public events used to increase general awareness of the program and distribute program promotional materials
  - Presentations to key customers and customer groups to actively solicit their participation in the program
- The marketing strategy will identify key customer segments and vertical markets for target marketing and specific outreach activities to those customers.

Estimated Participation

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Retro-Commissioning	154	161	2	2
Strategic Energy Management	73	91	4	4
Find & Fix – Compressed Air	98	103	N/A	N/A
Find & Fix – Steam Trap	N/A	N/A	40	40

Estimated Budget; ($*1,000)

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Retro-Commissioning	$5,350	$5,663	$331	$331
Strategic Energy Management	$4,487	$5,649	$538	$537
Find & Fix – Compressed Air	$2,362	$2,491	N/A	N/A
Find & Fix – Steam Trap	N/A	N/A	$540	$539

Estimated Savings Targets, Net MWh & Mcf

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Retro-Commissioning	25,570	26,853	16,892	16,892
Strategic Energy Management	24,854	31,009	75,954	75,954
Find & Fix – Compressed Air	10,961	11,471	N/A	N/A
Find & Fix – Steam Trap	N/A	N/A	14,546	14,546

Emerging Measures and Approaches Platform

Objective	The program will further advance pilots before fully scaling and commercializing new program or program components. The objective is to test and develop new program designs, test new marketing strategies and approaches to most effectively serve the energy needs of customers, and to further assess the energy savings impact and market potential of emerging technologies.
Target Market	All customer segments served by DTE will be served by the Emerging Measures and Approaches Program.
Program Duration	Individual programs added to the emerging category will have their own duration and will depend on the success of pilot programs being considered for future emerging program spend.
Program Description	The description of these programs varies each year depending on what is in development. The scope greatly varies from one program to the next.
Barriers to Adoption	The program encompasses measures and approaches that are mature or nearly mature from the pilot phase of program development. Some important components include customer research to get the "voice of the customer" and benchmark against "best in class" companies or organizations related to current and future programs and technologies. The program provides incentives to introduce new products to demonstrate proof of product, technology application, technology acceptance, market participation, maximum customer return on investment and positive political impact. The program also will determine product performance, customer satisfaction and energy saving of emerging technologies.
Eligible Measures	Individual programs added to the emerging category will have their own measures and will depend on the success of pilot programs being considered for future emerging program spend.
Implementation Strategy	Like other commercialized programs, DTE will provide program management and oversight, performance tracking/review and reporting oversight, and regulatory review. DTE will utilize an Implementation Contractor(s) (IC) to provide implementation services which may vary depending on the emerging program.
Marketing Strategy	Marketing strategy of Emerging Measures and Approaches Program will be dictated by the technology, the program or marketing approach being tested.

Estimated Participation

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Emerging Measures & Approaches	9	9	367	367

Estimated Budget; ($*1,000)

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Emerging Measures & Approaches	$108,568	$108,568	$250	$250

Estimated Savings Targets, Net MWh & Mcf

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Emerging Measures & Approaches	750	750	26,782	26,782

Self-Directed Program

Objective	Self-direct is targeted to large customers to exempt from the mandatory energy optimization surcharge(s) and implement their own energy optimization plan.
Target Market	Customers that elect to self-direct an electric energy waste reduction plan are only eligible to participate in the gas C&I programs.
Program Duration	Starting in calendar year 2009, the C&I Self-Direct program was established and available to customers who meet the defined requirements to enroll into for the program for the following calendar year.
Program Description	**Self-Direct Program** The objective of this program is to provide an opportunity for any eligible electric customer to provide and implement a self-directed energy waste reduction plan. For electric customers beginning in 2014, PA295 continued to ratchet down the customer demand restriction, allowing customers with 1 MW in aggregated annual demand in the preceding year, at all sites to participate in the self-directed plan within an electric provider's territory. All but the largest customers, 2 MW annual peak demand in the preceding year or 10 MW in aggregate, must use an Energy Optimization Service Company (EOSC) to develop and implement their self-directed plan.
Barriers to Adoption	Certain customer barriers exist that limit the adoption of energy efficiency measures. These may include, but are not limited to, lack of investment capital or competing capital fund requirements, lack of awareness/knowledge about the benefits and costs of energy efficiency measures, technical understanding of various equipment applications, etc.
Eligible Measures	Customers enrolled in the Self-Directed Program, are not eligible to participate in DTE C&I Electric Programs.
Implementation Strategy	DTE will provide overall Platform management, tracking and reporting oversight, and regulatory review. Through DTE's Scope of Work and Request for Proposal process, the Company will select Implementation Contractors that will have day to day program responsibility. These responsibilities include but are not limited to, application and savings processing, incentive payments, tracking, verification, technical support, customer support, and marketing. DTE will assist in the marketing and promotion of the C&I Platform programs.
Marketing Strategy	The marketing and communications for the Self-Directed Program will be designed to inform customers of the availability and requirements of the program and how they can participate. An important part of a marketing campaign will be content and functionality on the DTE website.

Estimated Participation

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Self-direct	3	3	N/A	N/A

Estimated Budget; ($*1,000)

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Self-direct	$50	$50	N/A	N/A

Estimated Savings Targets, Net MWh & Mcf

Company	DTE Electric		DTE Gas	
Program	2024	2025	2024	2025
Self-direct	1,425	1,425	N/A	N/A

Example of DTE Electric C&I Platform Program Measures and Incentives

Potential C&I Program Measures	Proposed Incentive	Unit
LED Recessed Down Light	$7.00	fixture
Interior Linear LED	$0.07	kWh Reduced
LED – 2ft	$1.00	lamp
LED – 4ft	$2.00	lamp
LED Wall Mounted Flood – 175 Watt Equivalent	$10.00	lamp
LED Wall Mounted Flood – 250 Watt Equivalent	$25.00	lamp
LED Wall Mounted Flood – 400 Watt Equivalent	$40.00	lamp
LED Exterior Wall Pack– 175 Watt Equivalent	$10.00	lamp
LED Exterior Wall Pack– 250 Watt Equivalent	$25.00	lamp
LED Exterior Wall Pack– 400 Watt Equivalent	$40.00	lamp
LED Interior High Bay ($0.25/watt)	$250.00	kW saved
Ext/Garage HID <8760hrs, LED replacing <175W HID	$10.00	fixture
Ext/Garage HID <8760hrs, LED replacing 176W to 250W HID	$25.00	fixture
Ext/Garage HID <8760hrs, LED replacing 251W to 400W HID	$40.00	fixture
LED High Bay 175W Equivalent (0-49 watts) 24/7	$30.00	fixture
LED High Bay 250W Equivalent (50-103W) 24/7	$40.00	fixture
LED High Bay 400W Equivalent (110-159W) 24/7	$60.00	fixture
LED Exit Sign	$10.00	fixture
LED Auto Traffic Signals	$20.00	fixture
LED Pedestrian Signals	$15.00	fixture
Occupancy Sensors < 500 W	$15.00	sensor
Occupancy Sensors > 500 W	$35.00	sensor
Ceiling Mounted Occupancy Sensor	$35.00	sensor
Wall Mounted Occupancy Sensor	$15.00	sensor
Central Lighting Control	$600.00	per 10,000 ft sq
Switching Controls for Multilevel Lighting	$500.00	per 10,000 ft sq
Daylight Sensor controls ($0.09 per Sq ft)	$900.00	per 10,000 ft sq
Exterior Lighting Bi-Level Control with Override, 150 to 1000 HID	$50.00	fixture
Light Tube	$35.00	per fixture
LED Refrigerated Case Door Lighting	$15.00	door
Occupancy Sensors for LED Refrigerated Case Lighting	$15.00	door
AC <=65,000 Btuh (5.4 tons) 1 Ph	$10.00	ton

Potential C&I Program Measures	Proposed Incentive	Unit
AC <=65,000 Btuh (5.4 tons) 3 Ph	$10.00	ton
AC 65,001 Btuh (5.4 tons) - 135,000 Btuh (11.3 tons)	$15.00	ton
AC 135,001 Btuh (11.3 tons) - 240,000 Btuh (20 tons)	$15.00	ton
AC 240,001 Btuh (20 tons) - 760,000 Btuh (63.3 tons)	$10.00	ton
AC >760,000 Btuh (63.3 tons)	$10.00	ton
Air Source HP <=65,000 Btuh (5.4 tons) 1 Ph	$20.00	ton
Air Source HP <=65,000 Btuh (5.4 tons) 3 Ph	$10.00	ton
Air Source HP 65,001 Btuh (5.4 tons) - 135,000 Btuh (11.3 tons)	$20.00	ton
Air Source HP 135,001 Btuh (11.3 tons) - 240,000 Btuh (20 tons)	$25.00	ton
Air Source HP >240,000 Btuh (20 tons)	$30.00	ton
Close Loop Water Source HP <=17,000 Btuh (1.4 tons)	$10.00	ton
Close Loop Water Source HP 17,001 Btuh (1.4 tons) -65,000 Btuh (5.4 tons)	$8.00	ton
Close Loop Water Source HP 65,001 Btuh (5.4 tons) - 135,000 Btuh (11.3 tons)	$8.00	ton
Room AC <= 14,000 Btuh (1.167 tons)	$10.00	unit
Room AC > 14,000 Btuh (1.167 tons)	$25.00	unit
PTAC	$5.00	ton
PTAC-HP	$10.00	ton
Ground Source HP <135,000 Btuh (11.3 tons) EER 17	$22.50	ton
Ground Source HP <135,000 Btuh (11.3 tons) EER 19	$30.00	ton
Ground Source HP <135,000 Btuh (11.3 tons) EER 17 ASHP base	$150.00	ton
Ground Source HP <135,000 Btuh (11.3 tons) EER 19 ASHP base	$175.00	ton
Programmable Tstat (Elec) - *AC w/gas heat	$20.00	unit
Programmable Tstat (Elec) - CV Reheat Economizer	$20.00	unit
Programmable Tstat (Elec) - CV Reheat no Economizer	$20.00	unit
EMS (Pump on/off Control) - CV Reheat Economizer	$5.00	1000 sq ft cond floor area
EMS (Pump on/off Control) - CV Reheat no Economizer	$5.00	1000 sq ft cond floor area
Setback-Setup Controls – Air Conditioning	$18.00	1000 sq ft cond floor area
Guest Room Energy Management - AC with electric heat	$30.00	unit
Guest Room Energy Management – AC with gas heat	$15.00	unit

Potential C&I Program Measures	Proposed Incentive	Unit
HVAC Occ Sensor, Lg Office CV reheat economizer	$30.00	1000 sq ft floor area
HVAC Occ Sensor, Lg Office CV reheat no economizer	$30.00	1000 sq ft floor area
HVAC Occ Sensor, Lg Office *VAV reheat economizer	$5.00	1000 sq ft floor area
Chilled Water Reset Air Cooled - (1-500 tons)	$1.00	ton
Chilled Water Reset - Water Cooled - (≤ 1,000 tons)	$1.00	ton
Chilled Water Reset – Water Cooled - (1,001-3,000 tons)	$0.50	ton
VFD Fan - VAV supply or return air fan	$50.00	Fan hp
VFD Pump - Secondary chilled water pump	$75.00	Pump hp
Economizer	$8.00	ton
Cool roof	$20.00	1000 sq ft roof area
High Performance Glazing	$30.00	100 sq. ft. glazing
Window Film	$30.00	100 sq. ft. glazing
EC Motors on Small Commercial Furnaces replacing non EC motors	$75.00	hp
Efficient Chilled Water Pump	$35.00	hp
Efficient Hot Water Pump	$35.00	hp
Air Cooled Chillers - Reciprocating Chiller	$25.00	ton
Air Cooled Chillers - Screw Chiller	$25.00	ton
Air Cooled Chillers - Scroll Chiller	$25.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.56 kW/ton with 0.34 kW/ton IPLV	$45.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.56 kW/ton with 0.4 kW/ton IPLV	$40.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.56 kW/ton with 0.43 kW/ton IPLV	$35.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.56 kW/ton with 0.46 kW/ton IPLV	$30.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.56 kW/ton with 0.53 kW/ton IPLV	$25.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.63 kW/ton with 0.38 kW/ton IPLV	$30.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.63 kW/ton with 0.45 kW/ton IPLV	$25.00	ton

Potential C&I Program Measures	Proposed Incentive	Unit
Water Cooled Centrifugal Chiller < 150 ton 0.63 kW/ton with 0.48 kW/ton IPLV	$20.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.63 kW/ton with 0.51 kW/ton IPLV	$15.00	ton
Water Cooled Centrifugal Chiller < 150 ton 0.63 kW/ton with 0.6 kW/ton IPLV	$10.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.51 kW/ton with 0.3 kW/ton IPLV	$45.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.51 kW/ton with 0.36 kW/ton IPLV	$40.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.51 kW/ton with 0.39 kW/ton IPLV	$35.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.51 kW/ton with 0.41 kW/ton IPLV	$30.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.51 kW/ton with 0.48 kW/ton IPLV	$25.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.57 kW/ton with 0.34 kW/ton IPLV	$30.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.57 kW/ton with 0.4 kW/ton IPLV	$25.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.57 kW/ton with 0.43 kW/ton IPLV	$20.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.57 kW/ton with 0.43 kW/ton IPLV	$20.00	ton
Water Cooled Centrifugal Chiller 150-300 ton 0.57 kW/ton with 0.46 kW/ton IPLV	$15.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.57 kW/ton with 0.54 kW/ton IPLV	$10.00	ton
Water Cooled Centrifugal Chiller 150-300 ton 0.63 kW/ton with 0.38 kW/ton IPLV	$20.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.63 kW/ton with 0.45 kW/ton IPLV	$15.00	ton
Water Cooled Centrifugal Chiller 150-300 ton 0.63 kW/ton with 0.48 kW/ton IPLV	$10.00	ton
Water Cooled Centrifugal Chiller 150 - 300 ton 0.63 kW/ton with 0.51 kW/ton IPLV	$5.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.46 kW/ton with 0.28 kW/ton IPLV	$45.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.46 kW/ton with 0.33 kW/ton IPLV	$40.00	ton

Potential C&I Program Measures	Proposed Incentive	Unit
Water Cooled Centrifugal Chiller > 300 ton 0.46 kW/ton with 0.35 kW/ton IPLV	$35.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.46 kW/ton with 0.37 kW/ton IPLV	$30.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.46 kW/ton with 0.44 kW/ton IPLV	$25.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.52 kW/ton with 0.31 kW/ton IPLV	$30.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.52 kW/ton with 0.37 kW/ton IPLV	$25.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.52 kW/ton with 0.39 kW/ton IPLV	$20.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.52 kW/ton with 0.42 kW/ton IPLV	$15.00	ton
Water Cooled Centrifugal Chiller > 300 ton 0.52 kW/ton with 0.49 kW/ton IPLV	$10.00	ton
Water Cooled Screw/Scroll Chiller < 150 ton 0.63 kW/ton with 0.38 kW/ton IPLV	$50.00	ton
Water Cooled Screw/Scroll Chiller < 150 ton 0.63 kW/ton with 0.41 kW/ton IPLV	$45.00	ton
Water Cooled Screw/Scroll Chiller < 150 ton 0.63 kW/ton with 0.44 kW/ton IPLV	$40.00	ton
Water Cooled Screw/Scroll Chiller < 150 ton 0.63 kW/ton with 0.47 kW/ton IPLV	$35.00	ton
Water Cooled Screw/Scroll Chiller < 150 ton 0.63 kW/ton with 0.5 kW/ton IPLV	$30.00	ton
Water Cooled Screw/Scroll Chiller < 150 ton 0.63 kW/ton with 0.56 kW/ton IPLV	$25.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.57 kW/ton with 0.34 kW/ton IPLV	$50.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.57 kW/ton with 0.37 kW/ton IPLV	$45.00	ton
Water Cooled Screw/Scroll Chiller 150-300 ton 0.57 kW/ton with 0.4 kW/ton IPLV	$40.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.57 kW/ton with 0.43 kW/ton IPLV	$35.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.57 kW/ton with 0.45 kW/ton IPLV	$30.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.57 kW/ton with 0.51 kW/ton IPLV	$25.00	ton

Potential C&I Program Measures	Proposed Incentive	Unit
Water Cooled Screw/Scroll Chiller150-300 ton 0.65 kW/ton with 0.39 kW/ton IPLV	$40.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.65 kW/ton with 0.42 kW/ton IPLV	$35.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.65 kW/ton with 0.45 kW/ton IPLV	$30.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.65 kW/ton with 0.48 kW/ton IPLV	$25.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.65 kW/ton with 0.51 kW/ton IPLV	$20.00	ton
Water Cooled Screw/Scroll Chiller150-300 ton 0.65 kW/ton with 0.57 kW/ton IPLV	$15.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.51 kW/ton with 0.31 kW/ton IPLV	$50.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.51 kW/ton with 0.33 kW/ton IPLV	$45.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.51 kW/ton with 0.36 kW/ton IPLV	$40.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.51 kW/ton with 0.38 kW/ton IPLV	$35.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.51 kW/ton with 0.4 kW/ton IPLV	$30.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.51 kW/ton with 0.46 kW/ton IPLV	$25.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.58 kW/ton with 0.35 kW/ton IPLV	$40.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.58 kW/ton with 0.37 kW/ton IPLV	$35.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.58 kW/ton with 0.4 kW/ton IPLV	$30.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.58 kW/ton with 0.43 kW/ton IPLV	$25.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.58 kW/ton with 0.45 kW/ton IPLV	$20.00	ton
Water Cooled Screw/Scroll Chiller > 300 ton 0.58 kW/ton with 0.51 kW/ton IPLV	$15.00	ton
Intelligent Surge Protector	$5.00	Protector
PC Network Energy Management Controls	$5.00	PC
High Efficiency Clothes Washer (Electric Dryer, Electric Water Heater)	$50.00	washer

Potential C&I Program Measures	Proposed Incentive	Unit
High Efficiency Clothes Washer (Gas Dryer, Electric Water Heater)	$50.00	washer
High Efficiency Pumps - 1.5 HP – 20 HP	$20.00	hp
VFD on Pumps - 1.5 HP – 50 HP	$50.00	hp
VFD for Process Fans <50 HP	$30.00	hp
VFD on Computer Room AC Supply Fan	$150.00	hp
Compressed Air Engineered Nozzle	$50.00	unit
Compressed Air Pressure Flow Controller	$4.00	per HP
Compressed Air Audit with Leak Repair	$35.00	per SCFM
VSD Air Compressor	$80.00	per HP
Cycling Dryer Refrigerated Thermal Mass	$0.30	per SCFM
Cycling Dryer Variable Speed Compressor	$1.00	per SCFM
Cycling Dryer Digital Scroll	$1.00	per SCFM
3 Phase HP Battery Charger - 1 Shift	$85.00	per charger
3 Phase HP Battery Charger - 2 Shifts	$160.00	per charger
3 Phase HP Battery Charger - 3 Shifts	$220.00	per charger
Elect Commutated Plug Fans In-Cabinet	$65.00	per fan
Elect Commutated Plug Fans Under-Cabinet	$110.00	per fan
Barrel Wraps for Injection Molders & Extruders	$25.00	Sq Ft
Insulated Pellet Dryer Ducts - 3" diameter	$10.00	lf
Insulated Pellet Dryer Ducts - 4" diameter	$15.00	lf
Insulated Pellet Dryer Ducts - 5" diameter	$20.00	lf
Insulated Pellet Dryer Ducts - 6" diameter	$25.00	lf
Insulated Pellet Dryer Ducts - 8" diameter	$30.00	lf
Tank Insulation - 1" Low Temp	$1.00	Sq Ft
Tank Insulation - 1" High Temp	$1.50	Sq Ft
Tank Insulation - 2" Low Temp	$1.00	Sq Ft
Tank Insulation - 2" High Temp	$2.00	Sq Ft
ENERGY STAR® Commercial Solid Door Refrigerators (< 15 cu ft)	$75.00	unit
ENERGY STAR® Commercial Solid Door Refrigerators (15 - 30 cu ft)	$100.00	unit
ENERGY STAR® Commercial Solid Door Refrigerators (30 - 50 cu ft)	$150.00	unit
ENERGY STAR® Commercial Solid Door Refrigerators (> 50 cu ft)	$200.00	unit
ENERGY STAR® Commercial Solid Door Freezers (< 15 cu ft)	$75.00	unit
ENERGY STAR® Commercial Solid Door Freezers (15 - 30 cu ft)	$100.00	unit

Potential C&I Program Measures	Proposed Incentive	Unit
ENERGY STAR® Commercial Solid Door Freezers (30 - 50 cu ft)	$150.00	unit
ENERGY STAR® Commercial Solid Door Freezers (> 50 cu ft)	$200.00	unit
ENERGY STAR® Steam Cookers (3 Pan, Electric)	$900.00	unit
ENERGY STAR® Steam Cookers (4 Pan, Electric)	$1,200.00	unit
ENERGY STAR® Steam Cookers (5 Pan, Electric)	$1,500.00	unit
ENERGY STAR® Steam Cookers (6 Pan, Electric)	$1,800.00	unit
ENERGY STAR® Hot Holding Cabinets (Half Size)	$300.00	unit
ENERGY STAR® Hot Holding Cabinets (Three Quarter Size)	$400.00	unit
ENERGY STAR® Hot Holding Cabinets (Full Size)	$600.00	unit
Beverage Vending Machine Controllers	$50.00	unit
Anti-Sweat Heater Controls	$50.00	door
Floating Head Pressure Controls	$20.00	ton
Energy Efficient Ice Machines (< 500 lbs)	$150.00	unit
Energy Efficient Ice Machines (500 to 1000 lbs)	$250.00	unit
Energy Efficient Ice Machines (1001 to 1500 lbs)	$500.00	unit
Efficient Refrigeration Condenser	$100.00	ton
ECM Motor for Reach-in Refrigerated Display Case	$60.00	unit
ECM Motor for Walk-in Cooler and Freezer	$80.00	unit
Evap Fan Motor Control on ECM Motors for Walk-in Coolers and	$30.00	unit
Evap Fan Motor Control on PSC Motors for Walk-in Coolers and	$30.00	unit
Night Covers (Vertical)	$1.25	per linear foot - hr
Strip Curtains on Walk-in Cooler Doors	$3.00	unit
Strip Curtains on Walk-in Freezer Doors	$15.00	per square
Door Gaskets on Walk-in Coolers and Freezers	$2.50	unit
Refrigerated Savings due to Lighting Savings: -20degF to 0degF	$0.15	lighting watt reduced
Refrigerated Savings due to Lighting Savings: 0degF to 20degF	$0.10	lighting watt reduced
Refrigerated Savings due to Lighting Savings: 20degF to 40degF	$0.07	lighting watt reduced
Variable Frequency Drives on Irrigation Systems	$20.00	hp
Sprinkler to Drip Irrigation Systems	$35.00	Arce
Low Pressure Sprinkler Nozzles	$0.50	Nozzle
Low-Energy Livestock Waterer	$125.00	unit
Scroll Compressor for Dairy Refrigeration	$0.04	lb milk/day
Variable Frequency Controller for Vacuum Pump	$75.00	hp
VFD on Milk Pump w/existing pre-coolor	$0.05	lb milk/day
VFD on Milk Pump w/new pre-coolor	$0.07	lb milk/day

Potential C&I Program Measures	Proposed Incentive	Unit
Milk Pre-cooler (heat exchanger, chiller savings)	$0.10	lb milk/day
Water Pre-heat Heat Exchanger elec. water heater reduction	$0.16	lb milk/day
Dairy Refrigeration Tune-Up	$0.02	lb milk/day
Circulation/Exhaust/Ventilation Fans 24”-35” fan blade diameter	$30.00	Fan
Circulation/Exhaust/Ventilation Fans 36”-47” fan blade diameter	$50.00	Fan
Circulation/Exhaust/Ventilation Fans 48”-71” fan blade diameter	$100.00	Fan
High-Volume, Low-Speed Fans 16-foot fan blade diameter	$250.00	Fan
High-Volume, Low-Speed Fans 18-foot fan blade diameter	$400.00	Fan
High-Volume, Low-Speed Fans 20-foot fan blade diameter	$600.00	Fan
High-Volume, Low-Speed Fans 22-foot fan blade diameter	$700.00	Fan
High-Volume, Low-Speed Fans 24-foot fan blade diameter	$800.00	Fan
Fan Thermostat Controller	$50.00	hp
VFD on Fans 750-2,000 hours/year	$30.00	hp
VFD on Fans more than 2,000 hours/year	$40.00	hp
VFD on Pumps 750-2,000 hours/year	$30.00	hp
VFD on Pumps more than 2,000 hours/year	$60.00	unit
Farm Energy Audit	$500.00	Farm

Example of DTE Gas C&I Platform Program Measures and Incentives

Potential C&I Program Measures	Proposed Incentive	Unit
Modulating Burner Control Retrofit - *CV reheat no econ air cooled	$1,250.00	unit
Modulating Burner Control Retrofit - CV reheat econ air cooled chiller	$1,250.00	unit
Modulating Burner Control Retrofit - VAV reheat econ air cooled chiller	$1,250.00	unit
Boiler Reset Controls - *CV reheat no econ air cooled chiller	$0.50	Input MBH
Boiler Reset Controls - CV reheat econ air cooled chiller	$0.50	Input MBH
Boiler Reset Controls - VAV reheat econ air cooled chiller	$0.50	Input MBH
High Efficiency Furnace 95% Efficient	$350.00	unit
High Efficiency Furnace 92% Efficient	$250.00	unit
High Efficiency Boiler - *VAV reheat econ air cooled chiller	$1.00	Input MBH
High Efficiency Boiler - CV reheat econ air cooled chiller	$1.00	Input MBH
High Efficiency Boiler - CV reheat no econ air cooled chiller	$1.00	Input MBH
Steam Trap	$100.00	unit
Infrared Heaters	$4.00	Input MBH
CHW reset 5 deg (Gas) - *CV reheat econ air cooled chiller	$1.00	ton
CHW reset 5 deg (Gas) - CV reheat econ water cooled chiller	$1.00	ton
CHW reset 5 deg (Gas) - CV reheat no econ air cooled chiller	$1.00	ton
CHW reset 5 deg (Gas) - CV reheat no econ water cooled chiller	$1.00	ton
CHW reset 5 deg (Gas) - VAV reheat econ air cooled chiller	$1.00	ton

Potential C&I Program Measures	Proposed Incentive	Unit
CHW reset 5 deg (Gas) - VAV reheat econ water cooled chiller	$1.00	ton
VFD Pump (Gas) - *CV reheat no econ air cooled chiller	$2.00	pump hp
VFD Pump (Gas) - CV reheat econ air cooled chiller	$2.00	Pump hp
VFD Pump (Gas) - VAV reheat econ air cooled chiller	$2.00	Pump hp
Destratification Fans	$35.00	1000 sq ft floor area
Programmable Tstat (Gas) - *AC with gas heat	$50.00	unit
Programmable Tstat (Gas) - CV reheat econ air cooled chiller	$50.00	unit
Programmable Tstat (Gas) - CV reheat econ water cooled chiller	$50.00	unit
Programmable Tstat (Gas) - CV reheat no econ air cooled chiller	$50.00	unit
Programmable Tstat (Gas) - CV reheat no econ water cooled chiller	$50.00	unit
Programmable Tstat (Gas) - VAV reheat econ air cooled chiller	$50.00	unit
Programmable Tstat (Gas) - VAV reheat econ water cooled chiller	$50.00	unit
EMS (Pump on/off Control) - *CV reheat no econ air cooled chiller	$5.00	1000 sq ft cond floor area
EMS (Pump on/off Control) - CV reheat econ air cooled chiller	$5.00	1000 sq ft cond floor area
EMS (Pump on/off Control) - CV reheat econ water cooled chiller	$5.00	1000 sq ft cond floor area
EMS (Pump on/off Control) - CV reheat no econ water cooled chiller	$5.00	1000 sq ft cond floor area
EMS (Pump on/off Control) - VAV reheat econ air cooled chiller	$5.00	1000 sq ft cond floor area
EMS (Pump on/off Control) - VAV reheat econ water cooled chiller	$5.00	1000 sq ft cond floor area

Potential C&I Program Measures	Proposed Incentive	Unit
Setback/Setup (Gas) - *AC with gas heat	$45.00	1000 sq ft cond floor area
Setback/Setup (Gas) - CV reheat econ air cooled chiller	$45.00	1000 sq ft cond floor area
Setback/Setup (Gas) - CV reheat econ water cooled chiller	$45.00	1000 sq ft cond floor area
Setback/Setup (Gas) - CV reheat no econ air cooled chiller	$45.00	1000 sq ft cond floor area
Setback/Setup (Gas) - CV reheat no econ water cooled chiller	$45.00	1000 sq ft cond floor area
Setback/Setup (Gas) - VAV reheat econ air cooled chiller	$45.00	1000 sq ft cond floor area
Setback/Setup (Gas) - VAV reheat econ water cooled chiller	$45.00	1000 sq ft cond floor area
DCV - *VAV reheat econ air cooled chiller	$12.00	1000 sq ft cond floor area
DCV - AC with gas heat	$12.00	1000 sq ft cond floor area
DCV - CV reheat econ air cooled chiller	$12.00	1000 sq ft cond floor area
DCV - CV reheat econ water cooled chiller	$12.00	1000 sq ft cond floor area
DCV - CV reheat no econ air cooled chiller	$12.00	1000 sq ft cond floor area
DCV - CV reheat no econ water cooled chiller	$12.00	1000 sq ft cond floor area
DCV - VAV reheat econ water cooled chiller	$12.00	1000 sq ft cond floor area
HVAC Occupancy Sensor, CV reheat no econ water cooled chiller	$20.00	1000 sq ft floor area
HVAC Occupancy Sensor, CV reheat econ air cooled chiller	$20.00	1000 sq ft floor area
HVAC Occupancy Sensor, CV reheat econ water cooled chiller	$20.00	1000 sq ft floor area
HVAC Occupancy Sensor, CV reheat no econ air cooled chiller	$20.00	1000 sq ft floor area
HVAC Occupancy Sensor, VAV reheat econ water cooled chiller	$10.00	1000 sq ft floor area
HVAC Occupancy Sensor, VAV reheat econ air cooled chiller	$10.00	1000 sq ft floor area
Hotel Guestroom Energy Management (Gas)	$35.00	Room
Web enabled EMS (Gas)	$100.00	1000 sq ft
High Efficiency Indirect Domestic Hot Water Heating System 90%	$1.25	Input MBH
Mid Efficiency Indirect Domestic Hot Water Heating System 84%	$0.75	Input MBH
Gas Tankless Water Heater	$150.00	unit
High Efficiency Pool Heater (Gas Heat)	$2.00	Input MBH
Gas Storage WH < 75,000 Btuh (.67EF)	$35.00	unit
Gas Storage WH < 75,000 Btuh (.80EF)	$85.00	unit
Gas Storage WH > 75,000 Btuh (.88Th Eff)	$150.00	unit
High Efficiency Clothes Washer (Electric Dryer, Gas Water Heat)	$25.00	unit
High Efficiency Clothes Washer (Gas Dryer, Gas Water Heat)	$50.00	unit
Ozone Laundry	$40.00	per lb of laundry capacity
Dry Cleaning Boiler Descale (Kettle)	$150.00	boiler
Dry Cleaning Boiler Descale (Tube)	$250.00	boiler

Potential C&I Program Measures	Proposed Incentive	Unit
Pipe Wrap, Steam Boiler	$5.00	lf
Pipe Wrap - Hot Water Boiler	$3.00	lf
Domestic Hot Water Pipe Wrap 120F	$1.00	lf
Greenhouse Heat Curtain	$0.20	sq ft
Greenhouse Infrared Film	$0.10	sq ft
Truck Loading Dock Seals (New Installation)	$200.00	door
Truck Loading Dock Seals (Replacement)	$100.00	door
Truck Loading Dock Leveler Ramp Air Pit Seals (New Installation)	$100.00	ramp
Flat Roof Insulation	$50.00	1000 sq ft roof
Attic Roof Insulation	$60.00	1000 sq ft roof
Wall Insulation	$450.00	1000 sq ft roof
Pool Covers	$0.50	sq ft
Furnace Tube Inserts	$30.00	unit
High Efficiency Process Boiler (water)	$1.00	Input MBH
High Efficiency Process Boiler (Steam)	$1.00	Input MBH
Tank Insulation - 1" Low Temp	$5.00	sq ft
Tank Insulation - 1" High Temp	$9.00	sq ft
Tank Insulation - 2" Low Temp	$6.00	sq ft
Tank Insulation - 2" High Temp	$10.00	sq ft
Air Compressor Exhaust Heat Recovery	$20.00	hp
Boiler Tune-up (110-500 MBH) - VAV reheat econ air cooled chiller	$100.00	Unit
Boiler Tune-up (110-500 MBH) - CV reheat econ air cooled chiller	$100.00	Unit
Boiler Tune-up (110-500 MBH) - CV reheat no econ air cooled chiller	$100.00	Unit
Boiler Tune-up (501-1200 MBH) - VAV reheat econ air cooled chiller	$200.00	Unit
Boiler Tune-up (501-1200 MBH) - CV reheat econ air cooled chiller	$200.00	Unit
Boiler Tune-up (501-1200 MBH) - CV reheat no econ air cooled chiller	$200.00	Unit
Boiler Tune-up (>1200 MBH) - VAV reheat econ air cooled chiller	$350.00	Unit
Boiler Tune-up (>1200 MBH) - CV reheat econ air cooled chiller	$350.00	Unit
Boiler Tune-up (>1200 MBH) - CV reheat no econ air cooled chiller	$350.00	Unit
Process Boiler Tune-up (< 3,000 MBH)	$350.00	boiler
Process Boiler Tune-up (3,000 – 6,000 MBH)	$1,000.00	boiler
Process Boiler Tune-up (6,000 – 10,000 MBH)	$1,500.00	boiler
Process Boiler Tune-up (> 10,000 MBH)	$2,000.00	boiler
Domestic Hot Water Tune-up > 199 MBH	$75.00	unit
Furnace/RTU Tune-up (40 - 300 MBH)	$50.00	unit
Furnace/RTU Tune-up (301 - 500 MBH)	$100.00	unit
Furnace/RTU Tune-up (>500 MBH)	$150.00	unit

Potential C&I Program Measures	Proposed Incentive	Unit
ENERGY STAR® Steam Cookers (5 Pan, Gas)	1,500.00	unit
ENERGY STAR® Steam Cookers (6 Pan, Gas)	$1,800.00	unit
ENERGY STAR® Convection Ovens	$500.00	unit
Combination Ovens	$1,800.00	unit
Rack Oven Single	$800.00	unit
Rack Oven Double	$1,600.00	unit
ENERGY STAR® Fryer	$500.00	unit
Large Vat Fryer	$600.00	unit
ENERGY STAR® Griddles	$400.00	unit
Pre-Rinse Sprayers (gas water heat)	$30.00	unit
Night Covers (Vertical)	$0.75	per linear foot - hr
Kitchen Ventilation Hood w/ DC	$0.50	unit
High Efficiency Grain Dryers	$0.04	Bushels dried/yr
Grain Storage Temp/Moisture Controller	$50.00	hp
Greenhouse Heat Curtains	$0.20	per sq ft
Greenhouse Infrared Film Replacing a single layer with double layer	$0.10	per sq ft
Farm Energy Audit	$500.00	Farm
Greenhouse Environmental Controls	$0.15	sq ft
Water Pre-heat Heat Exchanger gas water heater reduction	$0.06	lb milk/day

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, regarding the regulatory reviews, revisions, determinations, and/or approvals necessary for **DTE ELECTRIC COMPANY and DTE GAS COMPANY** to fully comply with Public Act 295 of 2008, as amended by Public Act 342 of 2016	)	Case No. U-21322

PROOF OF SERVICE

STATE OF MICHIGAN)
) ss.
COUNTY OF WAYNE)

CAITLIN D. MYERS states that on June 29, 2023, she served a copy of DTE Electric Company's and DTE Gas Company's Application for Approval of its Energy Waste Reduction Plan, and Direct Testimony and Exhibits of Witnesses Kevin L. Bilyeu, Reema A. Biel, George H. Chapel, Jose N. Goncalves, Rebecca M. Malfroid, Habeeb J. Maroun, Joshua Martens, Thac K. Nguyen, Matthew F. Pollack, Frank Sirwaitis, and Sarah A. Tocco in the above captioned matter, via electronic mail, upon the persons listed on the attached service list.

Caitlin D. Myers Digitally signed by Caitlin D. Myers Date: 2023.06.29 11:10:42 -04'00'

CAITLIN D. MYERS

SERVICE LIST
MPSC Case No. U-21322

MICHIGAN PUBLIC SERVICE COMMISSION STAFF
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