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Executive Summary
The purpose of this annual report is to highlight the general results of DTE Energy’s (DTE) 2019 Energy Waste Reduction (EWR) Program, communicate program changes and provide policy overview.

DTE’s EWR Program launched in June 2009 as a result of the Clean, Renewable and Efficient Energy Act, also known as Public Act 295 (PA 295), as amended by Public Act 342 of 2016 (PA 342). DTE continued to build on its momentum from the 2009 launch by enhancing the scope of existing programs and adding new program options to the portfolio. Since its inception in 2009, more than 4.6 million electric customers and 3.2 million gas customers have directly participated in DTE’s energy efficiency programs.

Customers have upgraded equipment in their homes and their businesses, helping them to become more energy efficient, and they have been provided with education, tips, strategies and tools to help them save money on their energy bills. As a result, DTE has saved approximately 5,813 gigawatt hours (GWh) and more than 13,089 million cubic feet (MMcf) since the program started. The savings the EWR Program has achieved so far will have a positive impact for customers for years to come.

During 2019, DTE implemented its EWR Program as outlined in the approved 2018–2019 EWR Plan. The company uses implementation contractors and has built strong networks to deliver energy efficiency programs throughout the state of Michigan. The company has continued to provide energy efficiency education and raise awareness of EWR offerings by enhancing the communications and messaging, while leveraging new trends in digital and social media communication channels. In 2019, while the company continued to use targeted marketing to meet segment-specific needs for energy efficiency information, the company used traditional mass media to communicate the non-energy benefits of energy efficiency improvements. The pilot program process worked well in 2019, increasing the company’s pilot program productivity. The company’s ability to run the programs effectively has continued to improve through further maturity of systems and back-office processes.

Goals and Targets

The main operational goal of the 2019 EWR Program was to maintain the momentum that the program achieved since the launch in 2009 by continuing to grow customer acceptance and adoption of EWR measures. The 2019 goals were to:

1. Achieve legislated electric energy savings of 1% of 2018 planned retail sales or 468 gigawatt hours (GWh) and achieve legislated gas energy savings of 0.75% of 2018 planned retail sales or 1,274 million cubic feet (MMcf).

2. Ensure that EWR Programs are cost-effective. Cost-Effectiveness Tests (CETs) are performed to ensure that the overall goal of reducing energy use in a cost-effective manner for the utility and its customers is being achieved. DTE uses the Utility System Resource Cost Test (USRCT) and the Total Resource Cost (TRC) test to measure the effectiveness of the various EWR Programs. Specifically, the goal of the EWR portfolio (not including low income) is to meet the minimum required USRCT score of 1.0. The Low Income Programs were excluded from the calculations because Section 714(g) of PA 295, as amended, specifically excludes low-income in the requirement for cost-effectiveness.

Spending and Savings

Verified net energy savings are DTE’s reported savings after they have been adjusted based on the results of a review by our independent evaluation contractor, Navigant Consulting Inc. (Navigant), and the application of Installation Rate Adjustment Factors (IRAF) and Net-to-Gross Ratios (NTGR).

In 2019, DTE applied a 0.92 NTGR to most programs. The company applied a NTGR of 1.00 for low-income, pilots and education, and a 0.61 for standard and 0.75 for reflector light emitting diodes (“LED”) bulbs within the Residential ENERGY STAR® Products Program, as approved by the Commission on April 12, 2018, for the company’s EWR Plan Case No. U-18262. A NTGR is not applied to: (1) Tier 1 Thermostats delivered by Commercial and Industrial Programs; (2) Tier 2 and Tier 3 Thermostats delivered by Residential Programs; (3) the Residential Home Energy Report Program; (4) Smartphone Behavior Application Program (DTE Insight); and (5) Real Time Data Add-on to Smartphone Behavior Application Program, as savings represent verified net savings.

Spend, as used in this annual report, refers to the cash expenditures or commitments made by DTE in implementing the EWR Program. Spend does not contemplate the eventual treatment of such costs as operations and maintenance or capitalization.

DTE has adopted verified net savings for reporting of energy savings in 2019 as agreed to in the EWR Collaborative. DTE’s EWR Program resulted in total verified net electric savings of 717 GWh, or 1.53% of 2018 planned retail sales, as compared with the minimum legislative requirement of 468 GWh. For DTE Gas, the total verified net gas energy savings was 1,841 MMcf, or 1.08% of 2018 planned retail sales, as compared with the minimum legislative requirement of 1,274 MMcf.

In 2019, DTE Electric spent $108.5 million, compared with the planned $105.2 million, whereas DTE Gas spent $29.5 million, compared with the planned $26.5 million.
Chart 1 summarizes the overall EWR Program 2019 spending and verified net savings for DTE Electric and DTE Gas.

Chart 2 displays program spending and verified net savings for the various EWR Programs in 2019.

Each EWR Program has its own spending and verified net saving requirements. For DTE Electric, collectively, the Residential and Low Income Programs provided 287 GWh of verified net energy savings, and C&I Programs, including self-direct, provided 375 GWh. DTE Electric achieved 21 GWh savings from the Education and Pilot Programs. For DTE Gas, collectively, the Residential and Low Income Programs provided 1,034 MMcf of verified net energy savings, and C&I Programs provided 679 MMcf. DTE Gas achieved 128 MMcf savings from the education and pilot programs.

Long-term EWR Impacts

Even though Michigan's EWR Programs are only 11 years old, they have matured quickly and regulators and other participants are looking beyond the first-year energy savings goals set out in PA 295 toward longer-term goals, such as overall life cycle savings, both in dollars and energy; the average life of measures being installed; and reduction in future peak. This section provides definitions and the 2019 EWR Program results for a number of these measures of long-term interest.
I. **Life Cycle Dollar Savings:** This represents the dollar savings resulting from the current and future energy costs avoided as a result of an energy efficiency action over the effective life of that action. Life cycle dollar savings may be presented for a collection of measures, a program or a portfolio of programs. As presented for DTE Energy’s programs, the life cycle dollar savings are based on verified net savings, which have been adjusted for free riders. Life cycle dollar savings are presented as the present value of those savings. This is not net of the program expenses and includes line losses.

Table 1 displays that DTE’s 2019 EWR Programs produced very significant dollar savings for its customers for future years.

<table>
<thead>
<tr>
<th>Program</th>
<th>DTE Electric Present Value</th>
<th>DTE Gas Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential and Small Business ENERGY STAR® Products</td>
<td>$149,363,506.12</td>
<td>$969,087.10</td>
</tr>
<tr>
<td>Residential Appliance Recycling</td>
<td>15,950,477.60</td>
<td>-</td>
</tr>
<tr>
<td>Residential HVAC</td>
<td>10,295,825.21</td>
<td>10,428,634.12</td>
</tr>
<tr>
<td>Multifamily – Standard (MFR)</td>
<td>883,272.55</td>
<td>228,378.85</td>
</tr>
<tr>
<td>Residential Audit and Weatherization</td>
<td>1,459,865.93</td>
<td>1,352,901.54</td>
</tr>
<tr>
<td>Residential Home Energy Consultation (HEC)</td>
<td>9,966,575.85</td>
<td>4,000,234.05</td>
</tr>
<tr>
<td>Residential Schools</td>
<td>2,893,182.60</td>
<td>2,304,059.93</td>
</tr>
<tr>
<td>Residential On-Line Energy Audit (OEA/HES)</td>
<td>3,576,644.90</td>
<td>985,658.97</td>
</tr>
<tr>
<td>Residential Behavior Programs (HER/INS)</td>
<td>4,641,278.17</td>
<td>967,943.49</td>
</tr>
<tr>
<td>Residential Emerging Programs (NHC/RLF)</td>
<td>526,375.34</td>
<td>681,514.78</td>
</tr>
<tr>
<td>Residential Subtotal</td>
<td><strong>$199,557,004.27</strong></td>
<td><strong>$21,918,412.85</strong></td>
</tr>
<tr>
<td><strong>C&amp;I</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C&amp;I Prescriptive (CIP)</td>
<td>$171,976,041.72</td>
<td>$13,452,612.12</td>
</tr>
<tr>
<td>C&amp;I Non-Prescriptive (C&amp;I Custom/RFP)</td>
<td>45,077,894.07</td>
<td>1,409,206.36</td>
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<tr>
<td>Business Energy Consultation (BEC)</td>
<td>5,160,623.82</td>
<td>1,034,036.73</td>
</tr>
<tr>
<td>Midstream Commercial Lighting (MSL)</td>
<td>36,896,128.57</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Retro-Commissioning (RCx)</td>
<td>189,461.61</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Emerging (MSFS/MSHVAC)</td>
<td>3,199,980.02</td>
<td>415,140.28</td>
</tr>
<tr>
<td>C&amp;I ENERGY STAR® Retail Lighting (ESL)</td>
<td>6,877,088.57</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Multifamily Common Areas (MFC)</td>
<td>781,346.45</td>
<td>288,348.32</td>
</tr>
<tr>
<td>C&amp;I Self-Direct</td>
<td>323,700.46</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Subtotal</td>
<td><strong>$270,482,265.30</strong></td>
<td><strong>$16,593,343.81</strong></td>
</tr>
<tr>
<td><strong>Pilot</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Income – All (includes EEAP, LI Multifamily, LI HEC, LI HER)</td>
<td>16,413,862.15</td>
<td>5,011,565.71</td>
</tr>
<tr>
<td><strong>Portfolio</strong></td>
<td><strong>$538,287,467.15</strong></td>
<td><strong>$48,532,476.41</strong></td>
</tr>
</tbody>
</table>

Table 1 - Life Cycle Dollar Savings
II. Life Cycle Energy Savings: This represents the total cumulative program energy savings (GWh or MMcf) produced by the energy saving actions taken for all of the years in the particular actions’ effective lives. Again, as presented here, these represent net energy savings with free riders removed.

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

<table>
<thead>
<tr>
<th>Program</th>
<th>DTE Electric MWh – Impact and Savings Cumulative (Losses Included)</th>
<th>DTE Gas Mcf – Impact and Savings Cumulative (Losses Included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential and Small Business ENERGY STAR® Products</td>
<td>$2,312,797.51</td>
<td>$310,725.87</td>
</tr>
<tr>
<td>Residential Appliance Recycling</td>
<td>260,600.71</td>
<td></td>
</tr>
<tr>
<td>Residential HVAC</td>
<td>168,193.40</td>
<td>3,855,251.53</td>
</tr>
<tr>
<td>Multifamily – Standard (MFR)</td>
<td>13,395.97</td>
<td>72,593.70</td>
</tr>
<tr>
<td>Residential Audit and Weatherization</td>
<td>18,161.70</td>
<td>605,002.37</td>
</tr>
<tr>
<td>Residential Home Energy Consultation (HEC)</td>
<td>152,031.40</td>
<td>1,337,616.07</td>
</tr>
<tr>
<td>Residential Schools</td>
<td>50,212.67</td>
<td>784,160.00</td>
</tr>
<tr>
<td>Residential On-Line Energy Audit (OEA/HES)</td>
<td>60,661.48</td>
<td>341,626.39</td>
</tr>
<tr>
<td>Residential Behavior Programs (HER/INS)</td>
<td>51,303.75</td>
<td>242,560.94</td>
</tr>
<tr>
<td>Residential Emerging Programs (NHC/RLF)</td>
<td>6,340.21</td>
<td>225,755.33</td>
</tr>
<tr>
<td>Residential Subtotal</td>
<td><strong>$3,093,698.81</strong></td>
<td><strong>$7,774,837.19</strong></td>
</tr>
<tr>
<td>C&amp;I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C&amp;I Prescriptive (CIP)</td>
<td>$3,256,271.95</td>
<td>$4,937,246.60</td>
</tr>
<tr>
<td>C&amp;I Non-Prescriptive (C&amp;I Custom/RFP)</td>
<td>900,028.20</td>
<td>531,947.38</td>
</tr>
<tr>
<td>Business Energy Consultation (BEC)</td>
<td>89,610.50</td>
<td>347,965.09</td>
</tr>
<tr>
<td>Midstream Commercial Lighting (MSL)</td>
<td>658,295.95</td>
<td></td>
</tr>
<tr>
<td>C&amp;I Retro-Commissioning (RCx)</td>
<td>3,489.14</td>
<td></td>
</tr>
<tr>
<td>C&amp;I Emerging (MSFS/MSHVAC)</td>
<td>51,165.28</td>
<td>160,238.41</td>
</tr>
<tr>
<td>C&amp;I ENERGY STAR® Retail Lighting (ESL)</td>
<td>103,918.50</td>
<td></td>
</tr>
<tr>
<td>C&amp;I Multifamily Common Areas (MFC)</td>
<td>17,955.95</td>
<td>116,623.93</td>
</tr>
<tr>
<td>Self-Direct</td>
<td>4,808.46</td>
<td></td>
</tr>
<tr>
<td>C&amp;I Subtotal</td>
<td><strong>$5,085,543.92</strong></td>
<td><strong>$6,094,021.41</strong></td>
</tr>
<tr>
<td>Pilot</td>
<td>$553,398.83</td>
<td>$1,153,745.69</td>
</tr>
<tr>
<td>Education</td>
<td>332,006.39</td>
<td>670,273.74</td>
</tr>
<tr>
<td>Low-Income – All (includes EEAP, LI Multifamily, LI HEC, LI HER)</td>
<td>269,365.96</td>
<td>1,742,437.74</td>
</tr>
<tr>
<td>Portfolio</td>
<td><strong>$9,334,013.91</strong></td>
<td><strong>$17,435,315.78</strong></td>
</tr>
</tbody>
</table>

Table 2 – Life Cycle Energy Savings
III. Peak Demand Reduction (kW): One particular concern for electric EWR Programs is to deliver peak demand reductions to minimize the need for future power plants. This represents the aggregate reduction in DTE Electric’s service area load at the time of the Michigan zone of the Midwest Independent System Operator (MISO) market’s expected peak demand that is estimated to result from the measures installed and actions taken by customers participating in the EWR Program.

Table 3 shows that the DTE Electric 2019 EWR Programs achieved significant demand reductions, as well as energy savings. All values shown as measured at the customers’ meters. Line losses are not included.
IV. Cost of Conserved Energy: The Cost of Conserved Energy expresses the measure, program or portfolio costs in per unit terms based on the total energy savings over the effective life cycles of the specific measures or actions taken. In this calculation, the future years energy savings volumes are discounted by the appropriate discount rate to reflect time value of money. The starting point is, once again, net energy savings with free riders removed.

Table 4 demonstrates how cost-effective the 2019 EWR Programs were in terms of the costs per unit of the energy savings achieved.

<table>
<thead>
<tr>
<th>Program</th>
<th>DTE Electric</th>
<th>DTE Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential and Small Business ENERGY STAR® Products</td>
<td>$0.01</td>
<td>$0.14</td>
</tr>
<tr>
<td>Residential Appliance Recycling</td>
<td>$0.03</td>
<td>$0.00</td>
</tr>
<tr>
<td>Residential HVAC</td>
<td>$0.03</td>
<td>$0.12</td>
</tr>
<tr>
<td>Multifamily – Standard (MFR)</td>
<td>$0.02</td>
<td>$0.34</td>
</tr>
<tr>
<td>Residential Audit and Weatherization</td>
<td>$0.05</td>
<td>$0.24</td>
</tr>
<tr>
<td>Residential Home Energy Consultation (HEC)</td>
<td>$0.04</td>
<td>$0.17</td>
</tr>
<tr>
<td>Residential Schools</td>
<td>$0.02</td>
<td>$0.08</td>
</tr>
<tr>
<td>Residential On-Line Energy Audit (OEA/HES)</td>
<td>$0.02</td>
<td>$0.19</td>
</tr>
<tr>
<td>Residential Behavior Programs (HER/INS)</td>
<td>$0.07</td>
<td>$0.30</td>
</tr>
<tr>
<td>Residential Emerging Programs (NHC/RLF)</td>
<td>$0.08</td>
<td>$0.21</td>
</tr>
<tr>
<td>Residential ALL</td>
<td>$0.02</td>
<td>$0.20</td>
</tr>
<tr>
<td>C&amp;I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C&amp;I Prescriptive</td>
<td>$0.01</td>
<td>$0.05</td>
</tr>
<tr>
<td>C&amp;I Non-Prescriptive (C&amp;I Custom/RFP)</td>
<td>$0.01</td>
<td>$0.36</td>
</tr>
<tr>
<td>Business Energy Consultation (BEC)</td>
<td>$0.02</td>
<td>$0.22</td>
</tr>
<tr>
<td>Midstream Commercial Lighting (MSL)</td>
<td>$0.01</td>
<td>$0.00</td>
</tr>
<tr>
<td>C&amp;I Retro-Commissioning (RCx)</td>
<td>$0.14</td>
<td>$0.00</td>
</tr>
<tr>
<td>C&amp;I Emerging (MSFS/MSHVAC)</td>
<td>$0.03</td>
<td>$0.28</td>
</tr>
<tr>
<td>C&amp;I ENERGY STAR® Retail Lighting (ESL)</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>C&amp;I Multifamily Common Areas (MFC)</td>
<td>$0.03</td>
<td>$0.15</td>
</tr>
<tr>
<td>Self-Direct</td>
<td>$0.01</td>
<td>$0.00</td>
</tr>
<tr>
<td>C&amp;I ALL</td>
<td>$0.01</td>
<td>$0.13</td>
</tr>
<tr>
<td>Pilot</td>
<td>$0.01</td>
<td>$0.12</td>
</tr>
<tr>
<td>Education</td>
<td>$0.01</td>
<td>$0.12</td>
</tr>
<tr>
<td>Low-Income – All (includes EEAP, LI Multifamily, LI HEC, LI HER)</td>
<td>$0.05</td>
<td>$0.48</td>
</tr>
<tr>
<td>Portfolio (No LI Include Incentive)</td>
<td>$0.01</td>
<td>$0.17</td>
</tr>
</tbody>
</table>
V. Weighted Average Measure Life: The average life, in years, of all the various measures installed or actions taken in a program or the entire portfolio when each measure’s life is weighted by the energy savings it produces relative to all the energy savings in the program or portfolio.

Table 5 summarizes the average measure life for the various 2019 EWR Programs at the individual program level and for the program as a whole.

<table>
<thead>
<tr>
<th>Program</th>
<th>DTE Electric (KWh) Program Weighted Life</th>
<th>DTE Gas (CCF) Program Weighted Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential and Small Business ENERGY STAR® Products</td>
<td>14.88</td>
<td>9.10</td>
</tr>
<tr>
<td>Residential Appliance Recycling</td>
<td>8.00</td>
<td>-</td>
</tr>
<tr>
<td>Residential HVAC</td>
<td>11.13</td>
<td>15.28</td>
</tr>
<tr>
<td>Multifamily – Standard (MFR)</td>
<td>14.90</td>
<td>8.88</td>
</tr>
<tr>
<td>Residential Audit and Weatherization</td>
<td>24.50</td>
<td>24.05</td>
</tr>
<tr>
<td>Residential Home Energy Consultation (HEC)</td>
<td>14.78</td>
<td>10.65</td>
</tr>
<tr>
<td>Residential Schools</td>
<td>12.87</td>
<td>11.29</td>
</tr>
<tr>
<td>Residential On-Line Energy Audit (OEA/HES)</td>
<td>14.05</td>
<td>12.08</td>
</tr>
<tr>
<td>Residential Behavior Programs (HER/INS)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Residential Emerging Programs (NHC/RLF)</td>
<td>10.09</td>
<td>10.09</td>
</tr>
<tr>
<td>Residential Subtotal</td>
<td><strong>13.86</strong></td>
<td><strong>13.72</strong></td>
</tr>
<tr>
<td>C&amp;I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C&amp;I Prescriptive</td>
<td>15.67</td>
<td>15.18</td>
</tr>
<tr>
<td>C&amp;I Non-Prescriptive (C&amp;I Custom/RFP)</td>
<td>15.98</td>
<td>14.93</td>
</tr>
<tr>
<td>Business Energy Consultation (BEC)</td>
<td>12.11</td>
<td>10.48</td>
</tr>
<tr>
<td>Midstream Commercial Lighting (MSL)</td>
<td>12.87</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Retro-Commissioning (RCx)</td>
<td>3.00</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Emerging (MSFS/MSHVAC)</td>
<td>15.07</td>
<td>16.68</td>
</tr>
<tr>
<td>C&amp;I ENERGY STAR® Retail Lighting (ESL)</td>
<td>6.75</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Multifamily Common Areas (MFC)</td>
<td>15.68</td>
<td>18.77</td>
</tr>
<tr>
<td>Self-Direct</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I Subtotal</td>
<td><strong>15.09</strong></td>
<td><strong>15.00</strong></td>
</tr>
<tr>
<td>Pilot</td>
<td>15.00</td>
<td>14.00</td>
</tr>
<tr>
<td>Education</td>
<td>15.00</td>
<td>14.00</td>
</tr>
<tr>
<td>Low-Income – All (includes EEAP, LI Multifamily, LI HEC, LI HER)</td>
<td>14.55</td>
<td>12.90</td>
</tr>
<tr>
<td>Portfolio</td>
<td><strong>14.62</strong></td>
<td><strong>14.13</strong></td>
</tr>
</tbody>
</table>

Table 5 - Weighted Average Measure Life
Cost-Effectiveness

Cost-Effectiveness Tests (CETs) are performed to ensure that the overall goal of reducing costs in a cost-effective manner for the utility and its customers is being achieved. DTE uses the Utility System Resource Cost Test (USRCT) and the Total Resource Cost (TRC) test to measure the effectiveness of the EWR Program. The DSMore cost analysis tool was used to calculate and report cost-effectiveness for the 2019 programs using the USRCT. Additionally, a TRC test was calculated for the DTE EWR Programs. The TRC test is defined as the total avoided costs divided by the sum of program costs plus the participant’s costs.

There are two major groups of inputs that are used in DSMore. These include the utility input assumptions and the program inputs. Utility input assumptions contain information that is specific to the utility and include items such as load shape, the commodity and non-commodity cost of energy, customer energy rates, line losses, weather and discount rates. The utility input assumptions used in this reconciliation analysis are the same as those that were used in developing DTE Electric’s and DTE Gas’s approved 2019 EWR Plan.

Program inputs include measure level electric and gas energy savings, measure level coincident peak demand reductions, the number of measures that have been adopted by participants, incremental participant costs, customer incentive costs, program costs, performance incentive costs, education costs and pilot costs. As indicated above, the CETs were calculated at program levels and for groups of programs, including the Low Income Programs, 10 residential program groups and six C&I Program groups.

The 10 residential program groups include 1) Appliance Recycling, 2) ENERGY STAR® products, 3) HVAC, 4) Multifamily, 5) Home Energy Consultation, 6) School Program, 7) Online Energy Audit, 8) Behavior, 9) Audit and Weatherization, and 10) Emerging Measures and Approaches. The nine C&I groups include 1) Prescriptive, 2) Non-prescriptive, 3) Emerging Measures and Approaches, 4) ENERGY STAR® Retail Lighting, 5) Multifamily Common Areas, 6) Retro-Commissioning, 7) Business Energy Consultation, 8) Midstream Lighting and 9) Self-Direct.

DTE’s Current EWR Plan resulted in meeting legislated energy savings minimums at a specific cost. As mentioned earlier, DTE Electric met its projected EWR Plan spend and exceeded the legislated energy savings minimums by 249 GWh or 53% (717 GWh versus the legislated minimum of 468 GWh) in response to achieving the performance objectives stated in the legislation (PA 342). While DTE Gas overspent its EWR Plan spend by $3 million, legislated energy savings minimums were exceeded by 567 MMcf or 45% (1,841 MMcf versus the legislated minimum of 1,274 MMcf) in response to achieving the performance objectives stated in the legislation (PA 342). Even before performing any cost tests, these two facts in combination show that the program was cost-effective. Based on the analysis performed using DSMore, DTE’s EWR portfolio of programs passed the CETs. For DTE Electric, a USRCT score of 4.48 was achieved based on the 717 GWh verified net energy savings. For DTE Gas, a USRCT score of 1.61 was achieved based on the 1,841 MMcf verified net energy savings. In 2019, DTE Electric and DTE Gas collected $103.8 million and $27.4 million, respectively, in base EWR surcharge revenue. "Base" surcharge revenue reflects EWR actual revenue realized, excluding the revenue recovery for authorized performance incentives. Revenues identified in the chart below are the actual amounts that were billed to DTE customers (excluding Performance Incentive) in 2019 through the EWR surcharges approved by MPSC. These surcharges appear as a line item on the customer’s monthly bill statement.

Chart 3 below displays the 2019 revenues collected. Most of the variance in Chart 3 is due to changes in the weather forecast throughout the year.
Surcharges

The base surcharges billed from January 2019 through December 2019 were approved by the Commission on April 12, 2018, in Case No. U-18262 to bill through the end of 2019. In addition, the Commission’s Dec. 20, 2018, Order in Case No. U-20029, the 2017 DTE Electric EWR Reconciliation, authorized an incremental surcharge to recover the 2017 EWR Plan performance incentive. From Jan. 1, 2019, through Dec. 31, 2019, this surcharge was added to the base surcharge and billed to customers as one combined EWR surcharge.

Electric and Gas Surcharge

As discussed above, the EWR base electric and gas surcharges approved in Case No. U-18262 and U-18268, respectively, were implemented for billing from May 1, 2018, through Dec. 31, 2019. During the preceding months of Jan. through April 2018, the rates from the prior EWR Plan remained constant for Residential and Commercial and Industrial (C&I) customers, as approved by the Commission in the company’s Amended EWR Plan.

Charts 5 and 6 outline the 2019 EWR base surcharges compared with the previous years. These charts exclude the performance incentive.
Program Participation
The number of customers participating in EWR Programs has increased steadily each year since 2009 resulting in more than 4.6 million electric and 3.2 million gas customers in Residential and Commercial and Industrial Programs. In 2019, 794,829 electric and 533,199 gas customers participated in the EWR Program.

Charts 7 and 8 summarize the number of customers participating in the EWR Program by year.
Legislative Requirements
Michigan’s Energy Waste Reduction (EWR) standard, created under Public Act 295 of 2008 (PA 295 or the Act) as amended by PA 342 of 2016 (PA 342), requires all gas and electric utilities in the state to implement programs to reduce overall energy usage by specified targets, in order to reduce the future costs of gas and electric service to customers. This report complies with Section 97(1) of the Act; summaries of the report’s major findings are below. Key elements of this legislation include the following:

**Energy Savings Targets**
- Electric utilities were required to achieve 0.3% savings in 2009; 0.5% in 2010; 0.75% in 2011; and 1.0% in 2012 and each year thereafter until the end of 2021. Beyond 2021, the level of electric energy efficiency savings will be determined by the utility’s Integrated Resource Plan.
- Natural gas utilities must achieve 0.1% savings in 2009; 0.25% in 2010; 0.5% in 2011; and 0.75% in 2012 and each year thereafter.

**Compliance**
- Electric and gas utility providers must offer a cost-effective EWR portfolio to customers, excluding Low Income Programs, per PA 342.
- Providers can operate their own EWR compliance programs or fund a state program.
- EWR Plans must be filed, reviewed, and approved or rejected by the MPSC.

**Funding**
- Providers must demonstrate that the EWR Programs, excluding offerings to low income customers, meet the Utility Systems Resource Cost Test (USRCT) and are reasonable and prudent.
- Funds received from a customer class – Residential, Commercial and Industrial (C&I) Secondary, and C&I Primary – must be spent on EWR Programs that benefit that rate class. All classes will contribute toward Low Income Residential Programs.

**Utility (Performance) Incentives**
- A financial incentive for utility providers can be earned for exceeding the EWR performance standards.
- PA 342 states that the earned performance incentive financial award be calculated as a function of the net present value of life-cycle cost reductions generated during the annual period or based on total program spending, tiered based on annual incremental savings.
- The basis for the performance incentive was 20% of the provider’s actual EWR Program expenditures.

**EWR Surcharges**
The EWR Programs are paid for by all customers via a surcharge placed on their electric and natural gas bills.
- The amount of the surcharge depends on the Rate Class: Residential, Commercial and Industrial (C&I) Secondary, and C&I Primary. Residential customers pay a volumetric rate, so a customer’s individual surcharge depends on how much energy they use. For C&I electric customers, the total amount paid is also based on the number of meters, as they pay a monthly per-meter charge determined by their monthly consumption.
EWR Program Portfolio
DTE’s EWR Programs are designed to help reduce customers’ energy use by increasing customer awareness and use of energy saving technologies, and providing products and services such as rebates, tips, tools, strategies and energy efficiency education to help customers make informed energy saving decisions.

EWR Program Portfolio

Many of the programs in 2019 were continuations of programs launched in prior years, with a number of new programs subsequently implemented. DTE continually works to offer EWR Programs that assure all customer segments are encouraged to participate. Programs are designed to capture both electric and natural gas savings. For those DTE customers with only electric or only natural gas service, efforts were made to coordinate and align with other utilities so that these customers could easily take advantage of energy efficiency program offerings across both fuel types.

Program Offerings

EWR Programs include offerings available to residential customers, commercial and industrial customers, Pilot Programs and general education and awareness programs. In addition, the Evaluation, Measurement & Verification (EM&V) function verifies net energy savings reported by the EWR Programs. The programs are managed by DTE Energy program managers and operated by expert implementation contractors, primarily using local labor and products.

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

• Residential Programs offer homeowners products, services and rebates encompassing appliance recycling; lighting; heating, ventilating and air conditioning (HVAC); weatherization; home energy assessments; low income; energy education; and behavioral programs.

• Commercial and Industrial Programs offer businesses products; services; prescriptive rebates for specific equipment replacement, such as lighting, boilers, pumps, compressors, etc.; custom programs providing rebates per kilowatt hour (kWh) of electricity savings or per thousand cubic feet (Mcf) of natural gas savings for a comprehensive system or industrial process improvement; and energy education and Pilot Programs.

• Pilot Programs focus on new and emerging experimental programs to fit longer-term program portfolio needs, test the cost-effectiveness of emerging technologies, and assess customer adoption of new technologies and market acceptance of existing technologies using new approaches.

• Education and Awareness Programs are designed to raise customer energy efficiency awareness in an effort to help save energy and to reduce energy costs. A secondary objective is to raise awareness of the DTE website and other social media platforms, which provide channels for customers to engage in specific EWR Programs offered.

• EWR Programs require independent verification of the utilities’ claimed energy savings. This work is performed by an independent Evaluation, Measurement & Verification (EM&V) contractor and must be performed to industry standards and guidelines developed by the Evaluation Workgroup of the MPSC EWR Collaborative. Currently, Guidehouse fills this role for DTE.

Each year, new program options continue to be added to the EWR portfolio. Refer to Figure 1 to the right for a list of programs offered in 2019.

The following pages include a summary of each EWR Program, including a description, highlights, achievements, challenges and overall 2019 program results.
Residential Programs

The objective of the Residential EWR Programs is to increase customer awareness and demand for energy efficient products and services.

In 2019, the Residential EWR Programs used various marketing tactics and community outreach events to promote and inform customers of program offerings. These marketing tactics included specific program information conveyed through DTE's website, email, social media (Facebook and Twitter), direct mail, bill inserts, newsletters, radio and television ads, billboards, advertisements in local newspapers, in-store events and home shows. Furnace testing/replacement program options were continued in the low income space. Rebate amounts were adjusted to meet market demand and budget constraints. Details of each offering are provided later in this report. In 2019, DTE's Residential EWR Programs performed well. In total, the Residential EWR Programs achieved 287 GWh of verified net electric savings, which is 99% of plan, and 1033 MMcf of verified net gas savings, which is 113% of plan. In a recent internal benchmarking, DTE's Residential EWR Programs were ranked well with respect to cost-effectiveness and savings compared with other utility companies. Customer satisfaction was at 90% or higher for all but two programs in 2019.

Charts 9 and 10 summarize the electric and gas spending and verified net energy savings for all the 201 EWR Residential and Low Income Programs.

Chart 11 summarizes the number of customers participating in the EWR Program in 2019.
Appliance Recycling Program (DTE Electric Only)

The objective of the Appliance Recycling Program is to produce cost-effective, long-term annual energy savings by promoting the early retirement and recycling of operable, inefficient appliances from DTE Electric households in an environmentally safe manner.

Program Description

The program removes older, inefficient working refrigerators and freezers from the electric grid and recycles 95% of the appliance. Customers can also recycle a dehumidifier and/or room air conditioner when having a refrigerator and/or freezer picked up. At the same time, DTE educates its customers on the additional energy cost incurred by operating a second, inefficient appliance.

Highlights

- Customers received a $50 rebate for a refrigerator, $50 for a freezer, $20 for a dehumidifier and $20 for a room air conditioner.
- Customers receive their rebates at the time of pickup.

Challenges

- Finding a new retailer who sells and delivers new refrigerators and freezers, while picking up the old units continues to be a challenge. Many of the national retailers prefer a nationwide recycling program instead of a local recycling program.
- The time between scheduling an appointment and the actual pickup extending to four to five weeks during peak period resulted in decreased satisfaction for some customers.
- Customers not responding to robocall reminders and field crew phone calls on the same day tends to increase No Call-No Show percentages.

Accomplishments

- Overall customer satisfaction increased to 97%.
- ARP participated in the Week of Warmth by marketing and picking up appliances in Detroit’s Hispanic neighborhoods.

Collaboration Efforts

- DTE collaborated with ABC Warehouse to pick up old refrigerators and freezers when delivering new ones.
- Retail pickups continued pace at 4.4% of total units in 2019.

Lessons Learned

- In 2019, 41% of customers identified friends/family as the number one way they heard about the Appliance Recycling Program. Television advertisement came in second with 22%, and online came in third with 14%.
- Customers scheduling their appliance pickup via phone decreased to 52%, down from 57% in 2018. Online scheduling increased to 44%, up 5% from 2018. The remaining 4% scheduled an appliance recycling pickup through a retailer, while purchasing their new refrigerator or freezer.

Spend and Verified Net Savings Results

- DTE Electric spent $6.1 million on the Appliance Recycling Program in 2019. This amount was $30,000 more than the planned amount.
- DTE Electric saved 30.5 GWh of verified net energy savings. This was 1.2 GWh more than the planned amount.
- This program is offered to residential electric customers and not to gas customers, so there is no gas savings or spend.
Chart 12 summarizes the 2019 DTE Electric spend and verified net savings results for the program.

<table>
<thead>
<tr>
<th>2019 DTE ELECTRIC APPLIANCE RECYCLING PROGRAM SPENDING ($M)</th>
<th>2019 DTE ELECTRIC APPLIANCE RECYCLING PROGRAM SAVINGS (GWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned 6.07</td>
<td>Planned 29.3</td>
</tr>
<tr>
<td>Actual 6.10</td>
<td>Actual 30.5</td>
</tr>
</tbody>
</table>

**Program Participation**

- Participation remained balanced for 2019 and the program continues to be a recognizable energy saving program.

Chart 13 summarizes the number of customers who have participated in the program since 2009.

**Program Outlook**

- The program will look to add small refrigerators and small freezers under 9.9 cubic feet to the program under Small Appliances. As the proportion of customers who have already participated increases, it will be harder to achieve the goal because of saturation. The program will need additional marketing efforts to achieve targets.
- The program's marketing mix in 2020 will continue with an enhanced social media presence along with television commercials. Cross-promotional material from other EWR residential programs will also continue to be used as a marketing strategy for this program.
- The company is also looking to include small apartment complexes as a potential participation resource.
ENERGY STAR® Lighting and Appliances Program (DTE Electric and DTE Gas)

The objective of the residential ENERGY STAR® Products Program is to increase the awareness and sales of high efficiency ENERGY STAR® products among residential customers.

Program Description
The program was designed to spur customer interest by providing educational information and incentives to customers who purchase qualified ENERGY STAR® equipment. The primary means used to accomplish this objective were in-store site visits, point-of-purchase material, digital and email campaigns, and promotional events that were held throughout the year.

The program helps customers reduce the cost of being energy efficient by providing rebates and/or discounts on ENERGY STAR® certified products. The program also provides Upstream discounted light emitting diode (LED) light bulbs at more than 400 retailer outlets. Midstream incentives on certified consumer electronics are provided for personal computers and monitors. The program also offers Downstream rebates on certified appliances, such as clothes washers, clothes dryers, room air conditioners, dehumidifiers and pool pumps. Wi-Fi—enabled and smart thermostats rebates were also provided.

• DTE Electric offered $25 rebates for ENERGY STAR® qualified clothes washers and dryers. Wi-Fi—enabled and smart thermostats had $50 rebates. These rebates were available to customers by mail or online application.
• The appliance downstream program provided rebates for more than 15,500 electric and 5,400 gas appliances.
• The Consumers Electronics Program Midstream Program provided incentives on more than 5,700 electronics.

Highlights
• DTE Gas offered $25 rebates for ENERGY STAR® qualified clothes washers and dryers. Wi-Fi—enabled and smart thermostats had $50 rebates. These rebates were available to customers by mail or online application.
• The appliance downstream program provided rebates for more than 15,500 electric and 5,400 gas appliances.
• The Consumers Electronics Program Midstream Program provided incentives on more than 5,700 electronics.

Challenges
• There were challenges improving the DTE Marketplace website to reach a growing segment and deliver a customer-focused experience.
• Due to ENERGY STAR® testing guidelines, there were no television incentives or savings in 2019.
• There have also been challenges in shifting from paper and online applications to instant rebates at point of sale for appliance purchases.

Accomplishments
• DTE sold more than 6 million LED bulbs through manufacturer buy-downs at the retailer level.
• DTE Energy Marketplace continues to provide residential customers with energy and cost savings opportunities.
• The program participated in more than 275 in-store and community events to interact with and educate customers.
• Customers continued their positive outlook about the program as demonstrated by an overall 96% satisfaction rating in 2019.

Collaboration Efforts
• The program continues to collaborate with local and national retailers such as Costco, The Home Depot, Meijer, Family Dollar, Lowe’s, Ace Hardware, Dollar Tree, Sam’s Club, ACO Hardware, Wal-Mart, Best Buy and Menards to help our customers become more energy efficient.

Lessons Learned
• LEDs continue to flourish with discounted pricing and consumers who are embracing Wi-Fi—enabled and smart thermostats at a precipitous pace.
• Consumers become more educated and increasingly recognize ENERGY STAR® products, which means the ENERGY STAR® labeling seems to continue to have greater influence and create awareness.

Spend and Verified Net Savings Results
• DTE Electric spent $14.7 million on the ENERGY STAR® Program. This amount was $300,000 less than the plan.
• DTE Electric saved 152.4 GWh of verified net energy savings. This was 1.6 GWh more than the plan.
• DTE Gas spent $394,000 on the ENERGY STAR® Program. This amount was about $7,000 below the plan.
• DTE Gas saved 33.5 MMcf of verified net energy savings. This was 2.4 MMcf lower than the plan.
Chart 14 summarizes spend and verified net savings results.

**Chart 14 - 2019 ENERGY STAR® Spending and Verified Net Savings**

<table>
<thead>
<tr>
<th>2019 DTE ELECTRIC ENERGY STAR® SPENDING ($M)</th>
<th>2019 DTE GAS SPENDING ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned: 14.6</td>
<td>Planned: 0.40</td>
</tr>
<tr>
<td>Actual: 14.3</td>
<td>Actual: 0.39</td>
</tr>
</tbody>
</table>

**Chart 15** summarizes the number of customers who have participated in the ENERGY STAR® Appliance Program.

**Chart 16** summarizes the number of ENERGY STAR® Lighting products that have been purchased. Participation in ENERGY STAR® lighting has varied year to year as a result of changes in the product mix.

Program Participation

- Customer participation in the ENERGY STAR® Appliance Program had an increase from 2018 to 2019.

Program Outlook

- Marketplace added a variety of products, while continuing to improve the customer journey and increase customer satisfaction.
- Moving to shift pool pumps and room air conditioners to Midstream Programs.
- Partnering with manufacturers to have special product promotions in retail stores.
Heating, Ventilation and Air Conditioning (HVAC) (DTE Electric and DTE Gas)

The objective of the HVAC Program is to increase the demand for energy efficient heating and cooling equipment and high-efficiency water heating equipment.

Program Description

The electric measures offered in the residential HVAC Program include high-efficiency central AC units, Wi-Fi-enabled thermostats and electronically commutated motors (ECM). Gas measures include high-efficiency natural gas heating equipment, Wi-Fi-enabled thermostats and water heaters. DTE has developed and uses a network of well-informed and educated HVAC industry professionals who understand the benefits of and how to sell energy efficient products.

The program serves residential customers in single and multifamily dwellings of less than three units who purchase new high-efficiency central air conditioning units, high-efficiency natural gas furnaces or boilers, and/or water heating equipment.

Highlights

• In 2019, the DTE HVAC measure offering was received well by both the homeowner and the participating contractors. Electric measures included SEER 15 and above central air conditioners, electronically commutated motors (ECM), Wi-Fi-enabled thermostats, Heat Pumps, and central air conditioning diagnostic test and tune-ups.

• The incentive amounts were $50 per thermostat unit, $50 per ECM, $200–400 for SEER 15+ central AC units, $50 on air conditioning tune-ups, $200–$400 for high-efficiency furnaces and up to $900 for boilers, $75–$100 on water heaters, and a $50–$75 rebate on high-efficiency furnaces and boiler diagnostic test and tune-ups with combustion analysis.

• Expanded collaboration with Consumers Energy Residential HVAC Program in the form of a combined rebate bonus promotion

Challenges

• The continued growth of Midstream applications was challenged by prevailing factors including having rebates available in Midstream and downstream concurrently for all equipment involved.

• The MEMD continues to exhibit a gap in how the use-case and baseline requirements align with emerging best practices in the HVAC industry related to requiring replacement of an existing Air Source Heat Pump to be eligible for savings.

Accomplishments

• DTE continued to leverage its very active Trade Ally network to maintain the momentum as the program transitioned into 2019.

• More than 26,000 HVAC customer applications were processed.

• The electric measures continue to be a very positive factor for the program.

• ECMs have increased by 13%, and water heaters have increased by 86%, from 2018.

• Introduction of the Furnace/AC/Thermostat combined rebate was successful in bolstering application volume during what is typically a slower time of year due to seasonal industry trends.

• The program continues to use the reporting mechanism for contractors to have greater visibility into their participation in the programs.

Collaboration Efforts

• Collaboration with Consumers Energy increased through initiatives such as the whole system bonus promotion and continued efforts on residential HVAC Midstream Program offerings.

• Meetings were held throughout the state to inform and train the Trade Ally network. These included rollout training, combustion analysis furnace tune-up training, new contractor training and one-on-one site training with trade allies.

Table 6 below provides a summary of the collaboration efforts.

<table>
<thead>
<tr>
<th>Event</th>
<th>Number of Events</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outreach and Conferences</td>
<td>57</td>
<td>4,221</td>
</tr>
<tr>
<td>Tune-Up Training</td>
<td>5</td>
<td>198</td>
</tr>
<tr>
<td>Online Intake Tool Training</td>
<td>6</td>
<td>68</td>
</tr>
<tr>
<td>On-Site Training</td>
<td>8</td>
<td>46</td>
</tr>
</tbody>
</table>

Table 6 – Outreach and Training

Lessons Learned

• Contractors and customers continue to respond well to “whole system” incentives.

• Alignment between DTE Energy and Consumers Energy helped to reduce customer barriers to participating in the program.

• Having a single participation channel available to contractors is an important key to Midstream success.
Spend and Verified Net Savings Results

- DTE Electric spent $4.1 million on the HVAC Program. This amount was $100,000 less than the $4.2 million plan.

- DTE Electric saved 14.6 GWh of verified net energy savings. This was 1.9 GWh more than the 12.7 GWh plan.

- DTE Gas spent $4.2 million on the HVAC Program. This amount was $100,000 less than the $4.3 million plan.

- DTE Gas saved 260 MMcf of verified net energy savings. This was 3.4 MMcf more than the 256.6 MMcf plan.

Chart 17 summarizes the spending and verified net savings results.

Program Participation

- Customer participation in the program has increased steadily since 2009.

Chart 18 summarizes the number of customers who have participated in the program.

Program Outlook

- Because the cost per MMcf saved is higher than other gas energy efficiency programs, DTE is looking at different models that provide other value propositions besides incentives to the customer to encourage participation in the HVAC Program.

- AC measures of 15 SEER or higher, ECM motors and heat pumps will continue to be offered, with new measures also being considered in the electric service territories of DTE Energy.

- The gas portion of the HVAC program will continue to provide rebates for high-efficiency furnaces, boilers, water heaters and Wi-Fi-enabled thermostats in addition to ongoing promotion of heating equipment tune-ups.
Audit and Weatherization Program (DTE Electric and DTE Gas)

The objective of the residential Audit and Weatherization (A&W) Program is to motivate customers by offering rebates for the installation of qualified weatherization measures in their homes.

Program Description
The A&W Program was expanded to offer many diverse products and services to DTE customers. The following is a summary of the program offerings:

Home Performance (HP) offers customers incentives for insulation, windows, and HVAC and air sealing measures.

HP customers are required to have a comprehensive energy assessment (CEA) performed by a participating contractor listed on DTE’s website.

Insulation and Windows (INWIN) offers customers who do not wish to perform a CEA to still receive rebates for insulation and window improvements.

Challenges
Many customers are still not searching for Home Performance directly but searching for the specific improvements they think are needed.

The comprehensive energy assessment (CEA) is still a complex offering, and the improvements suggested oftentimes require significant financial investment.

Customers’ low interest in home air sealing continues to be a challenge to obtaining energy savings.

The program found challenges in system limitations in working with Windows contractors to implement an instant rebate solution.

Highlights
DTE continued to work on refining the rebate process for INWIN and HP Programs to decrease cycle time of customer rebate checks.

Customers have demonstrated an increased interest in energy efficient replacement windows and home insulation upgrades.

Customer surveys indicate a positive impression of the program and the rebate application process.

Accomplishments
There was a reduction of rebate application processing cycle time, resulting in a 15% improvement compared with 2018.

DTE launched a Midstream Windows Program that provided energy efficient window rebates to customers in a much shorter timeframe than our traditional downstream program.

Collaboration Efforts
Customer outreach was performed through attending events with organizations, such as Michigan Saves.

The HP Program online application tool used by participating contractors is shared with Consumers Energy, ensuring consistency for contractors.

Lessons Learned
Testing of new channels, such as Retail and Midstream, have been received with positive results. Continuing strong relationships with trade allies and DTE customers has been vital to collecting feedback and making program adjustments where necessary.
Spend and Verified Net Savings Results

- DTE Electric spent $850,000 on the Audit and Weatherization Program. This amount was about $100,000 more than the planned amount.
- DTE Electric saved 0.7 GWh of verified net energy savings. This amount was 1 GWh lower than the 1.7 GWh plan.
- DTE Gas spent $1.31 million on the Audit and Weatherization Program. This amount was $10,000 more than the $1.3 million plan.
- DTE Gas saved 25.2 MMcf of verified net energy savings. This was 1.8 MMcf less than the 27 MMcf plan.

Chart 19 summarizes the spending and verified net savings results.

Program Participation

Chart 20 summarizes the number of customers who have participated in the A&W Program.

Program Outlook

- The Audit and Weatherization Program will continue to explore opportunities to expand the program and test new approaches to meet customer demand.
- The program is expected to see a slight increase in DTE Electric and DTE Gas savings.
School Program (DTE Electric and DTE Gas)

The School Program’s objective is to develop a powerful culture of energy efficiency with elementary school students, teachers, schools and families throughout the DTE Energy service territory, in both public and private sectors, to deliver real, measurable energy savings.

Program Description

The School Program provides non-traditional opportunities to raise awareness and the adoption of energy efficiency measures and behaviors and to help the environment. Each participating teacher and student received a kit filled with energy efficient technologies and a guide with information on energy resources and energy saving tips. Students are instructed to install all products with adult supervision in their residence. Instructional materials have been designed to correlate with the state of Michigan math and science curriculum for fourth- through sixth-grade students.

Challenges

• Balancing the needs of the program with the unique needs of teachers and students in extremely low-performing schools is one challenge. The program serves fourth- through sixth-grade students, but often, the students in the combination territory are performing far below grade level, and so the program must be very closely tied to the curriculum for those grades while also reinforcing standards in reading and math at lower grades to maintain participation in struggling schools.

• Balancing the needs of collaborative partners to ensure that the program materials are acceptable to all and that each partner meets their savings goals is another challenge.

Highlights

• In 2019, the program was able to serve 16,058 households in the combination service territory, plus an additional 9,979 electric-only households and 6,700 gas-only households through collaborations with Consumers Energy, SEMCO ENERGY Gas Company and Efficiency United.

• A new subprogram for sixth-grade students was introduced to cater to the more advanced cognitive processes of older students. Eight hundred eighty-seven students received a more advanced presentation, and a smart power strip was added to their kit to differentiate the new subprogram and test the viability of the strip as a measure.

• The use of pipe insulation was expanded to all programs after it tested as a viable kit measure in the fall of 2018.

• A second showerhead was added to fall kits in the combo and gas territories, which tested as a viable measure with no decrease in IRAF.

• Teacher workshops were expanded, serving 41 teachers in the combination territory and 14 in collaboration with SEMCO.

• The kit poster game was expanded to all programs in 2019.

• Eleven special events provided presentations/activities to approximately 2,900 additional students.

Accomplishments

• Savings goals were met for both electric and gas savings as well as additional savings to the portfolio.

• Energy efficiency education and kits were delivered to more than 37,700 students across the state. Messaging on energy efficiency was delivered to approximately 40,600 students, including special events.

Collaboration Efforts

• The School Program maintained or extended all its pre-existing collaborations in 2019. The collaboration with Efficiency United allowed DTE to increase its visibility in the Upper Peninsula, while the collaboration with Consumers Energy put the DTE brand in front of more than 6,000 households on the west side of the state, where DTE provides natural gas service.

Lessons Learned

• The program has appealed to older students; the sixth-grade program will be expanded into more secondary grades in 2020.

• Teacher workshops were very well-received; COVID-19 concerns prevented in-person workshops in the summer of 2020. A virtual offering could be provided.

• There is significant untapped potential in the gas-only area. The Consumers Energy collaboration will be expanded in the gas territory for 2020.
Spend and Verified Net Savings Results

- DTE Electric spent near $800,000 on the School Program. This amount was $400,000 less than the $1.2 million plan.

- DTE Electric saved 3.8 GWh of verified net energy savings. This was 0.9 GWh more than the 2.9 GWh plan.

- DTE Gas spent about $500,000 on the School Program. This amount was $100,000 less than the $600,000 plan.

- DTE Gas saved 70.6 MMcf of verified net energy savings. This was 39.6 MMcf more than the 31.2 MMcf plan.

Chart 21 summarizes the spending and verified net savings results.

Program Participation

Chart 22 summarizes the number of customers who have participated in the School Program.

Program Outlook

- The School Program will continue to explore opportunities to expand the program and test new approaches to meet customer demand.

- DTE Electric and DTE Gas savings are expected to grow with improved IRAF and expanded reach.

- DTE Electric spending is expected to stay flat beyond 2019. DTE Gas spend is expected to increase slightly to expand both the measures per kit and the number of participants in the gas territory.
Online Energy Audit Program (DTE Electric and DTE Gas)

The objective of the Online Energy Audit Program is to provide a no-cost energy program to help residential customers save money, while producing electric and gas energy savings through a kit containing easy-to-install energy saving measures mailed to the home.

Program Description
Energy efficiency information and recommendations are also delivered with the kit and are available online. The measures mailed in the kit include LEDs, LED night lights, energy efficient showerheads, energy efficient kitchen and bath aerators, and pipe wrap insulation.

Challenges
• Motivating customers to install all of the provided measures remains a challenge. This causes a low IRAF, which reduces the amount of energy that can be claimed for this program.
• Long delays from the time a kit is requested to the time the kit is received (average of 45 days) are another challenge.

Highlights
• In 2019 about 800 combo kits included a new power strip measure.
• Satisfaction with the program remained high and consistent throughout the year.

Accomplishments
• The Online Energy Audit Program continues to provide an easy way for customers to get started with their energy efficiency journey.
• In 2019, more than 28,000 kits were mailed to DTE Energy customers.

Collaboration Efforts
• There are currently no utility collaboration efforts with this program.

Lessons Learned
• Understanding the length and complexity of the online survey helps to understand survey completion rates.
• Customers are interested in measures not presently included in the kits, such as window film and programmable thermostats.
• Doing Online Energy Audit Program cross-promotion via other programs’ collateral and web pages proves to be a good lead generation tool.

Spend and Verified Net Savings Results
• DTE Electric spent $400,000 on the Online Energy Audit Program. This amount was $600,000 less than the plan of $1 million.
• DTE Electric saved 4.13 GWh of verified net energy savings. This was 1.06 GWh above the 3.07 GWh plan.
• DTE Gas spent $200,000 on the Online Energy Audit Program. This amount was $400,000 less than the plan of $0.6 million.
• DTE Gas saved 29 MMcf of verified net energy savings. This was 4 MMcf less than the 33.1 MMcf plan.
Chart 23 summarizes the spending and verified net savings.

**Program Participation**
Chart 24 summarizes the number of customers who have participated in the Online Energy Audit Program.

**Program Outlook**
- DTE Electric and DTE Gas spending and savings are expected to continue at an increased rate in 2020.
Behavior Program (DTE Electric and DTE Gas)

The objective of the Behavior Program is to encourage select customers to be more energy efficient by means of social competition and social norming.

Program Description
Encouragement is provided by way of printed and electronic Home Energy Reports (HER) that display the customer’s energy usage in comparison with average energy usage of approximately 100 nearby similar homes and a second comparison with the customer’s most efficient nearby similar homes (the top 20%). The Home Energy Report also contains the customer’s individual ranking within the group of 100 homes, energy savings tips and promotions for other energy efficiency programs. The customer is sent a Home Energy Report via the USPS, and an abbreviated email version of the Home Energy Report is sent to customers with an available email address. Additionally, encouragement can also be provided through active engagement via the DTE Insight mobile app where the customer is presented with electric usage data of their home. Customers who choose to receive the mobile application treatment download the mobile application to their smart device to receive a standard treatment. This treatment includes displaying hourly household electric consumption data. Other treatments include the ability to set an energy saving target and monitor progress toward it and various interactive feedback tools. Additionally, customers may request an additional piece of hardware that is connected to the home internet. This hardware, the Energy Bridge, enables an enhanced treatment by displaying one-minute household energy consumption history and displaying the real-time household electric energy consumption. In addition, it enables customers to connect and manage smart devices.

Challenges
• Comparisons shown on the Home Energy Report have not always been well-received by customers. The opt-out process is tightly managed to prevent customer dissatisfaction.
• Overall satisfaction decreased to 68% in PY2019 compared with PY2018. Customers who have been in the program longer are less likely to encounter energy efficiency tips and information they haven’t already seen.
• Technical and connectivity issues with the Energy Bridge is a driver of customer dissatisfaction. Improving field technician procedures with proactive site visits have improved Energy Bridge connectivity.

Highlights
• In 2019, the Behavior Program had more than 600,000 participants.

Accomplishments
• The Behavior Program is a very cost-effective plan to generate energy savings, while expanding the reach of DTE’s portfolio of energy efficiency programs.
• In 2019, the DTE Insight Program extended smart home features to all customers with an EB in order to specifically enhance the DTE Insight capabilities and further increase customer engagement.
• In 2019, the DTE Insight Program decreased cycle time to ship the Energy Bridge to customers from 14 days to two business days.

Collaboration Efforts
• There are currently no collaboration efforts with this program.

Lessons Learned
• HER savings are likely not attributable to Upstream Lighting participation since treatment and controls purchased LEDs at the same rate.
• The DTE Insight mobile app content should continue to be increased and customized to drive customer engagement.
• The Energy Bridge should continue to be promoted as a tool to increase energy savings.
Spend and Verified Net Savings Results

- DTE Electric spent $3.07 million on the Behavior Program. This amount was $40,000 more than the $3.03 million plan.
- DTE Electric saved 48 GWh of verified net energy savings. This was 17 GWh less than the 65 GWh plan.
- DTE Gas spent $600,000 on the Behavior Program. This amount was $200,000 less than the $800,000 plan.
- DTE Gas saved 238.7 MMcf of verified net energy savings. This was 8.5 MMcf less than the 247.2 MMcf plan.

Chart 25 summarizes the spending and verified net savings results.

Program Participation

Chart 26 summarizes the number of customers who have participated in the Behavior Program, excluding low-income Behavior participants. Low-income segment customers are counted in the 2019 numbers in Chart 31.

Program Outlook

- DTE Electric and DTE Gas spending and savings are expected to continue in 2020 for the Behavior Program, with expected declines in 2021 and beyond.
Home Energy Consultation Program (HEC) (DTE Electric and DTE Gas)

The objective of the HEC Program is to provide a no-cost energy education program that is available to all residential customers with a single-family home, duplex or condominium, while producing immediate energy savings through the direct installation of energy saving measures in the home.

Program Description
An Energy Specialist does a basic walkthrough of the home and creates a personalized home energy profile that shows where the home uses the most energy. During the walkthrough, the Energy Specialist also identifies free products that can be installed in the home. Typical in-unit measures include LEDs, LED night lights, energy efficient showerheads, energy efficient kitchen and bath aerators, smart and programmable thermostats, and pipe wrap insulation.

Challenges
• HECs have been offered in the EWR Program portfolio since 2010. The opportunities to perform HECs have diminished as the program matures.

Highlights
• In 2019, there were more than 23,000 non-low-income HECs completed throughout the DTE service territory.
• The HEC Program continues to have high customer satisfaction scores (96% in 2019), often exceeding the customers’ expectations.
• The HEC outreach team participated in more than 350 community events throughout 2019, including Customer Assistance Days, faith-based events, food pantries, green fairs, sporting events, community art fairs, libraries, Neighborhood Energy Efficiency Days, etc.

Accomplishments
• In conjunction with the Week of Warmth, the HEC program concentrated on Hispanic neighborhoods in Detroit and Grand Rapids to immerse the energy efficiency message and recruit customers to participate in the HEC Program. DTE partnered with Brilliant Detroit to upgrade the building’s lighting. DTE also worked with Brilliant Detroit to do bilingual energy efficiency presentations at several of its locations. The NEED events produced 60 HECs in Grand Rapids and 95 in Detroit. NEED volunteers walked the neighborhoods and left door hangers at customer residences to recruit for future HECs. More than 100 volunteers participated between the two cities.
• The HEC Program continues to collect information helpful in conducting targeted marketing so that customers can continue their energy efficiency journey.
• The HEC Program continues to improve messaging through use of metrics and testing to guide communication placement.

Lessons Learned
• Customer questions about programming thermostats crop up when the seasons change.
• Customers misplace or discard program leave-behind materials that have instructions to change the thermostat season.
• To help customers change from season to season, a letter that included thermostat programming instructions was sent proactively to everyone that received a programmable thermostat. This helped make it easier for the customer to change their thermostats from heat to cool or cool to heat.
• The leave-behind materials have been turned into a booklet that customers can keep with their important papers so it won’t get lost.

Spend and Verified Net Savings Results
• DTE Electric spent $6 million on the HEC Program. This amount was $3.2 million more than the $2.8 million planned.
• DTE Electric saved 9.7 GWh of verified net energy savings. This was 5.1 GWh more than the 4.6 GWh planned.
• DTE Gas spent $2.1 million on the HEC Program. This amount was $300,000 less than the $2.4 million planned.
• DTE Gas saved 127.6 MMcf of verified net energy savings. This was 32.6 MMcf more than the 95 MMcf plan.
Chart 27 summarizes the spending and verified net savings results. (This does not include low-income homes.)

**Program Participation**

Chart 28 summarizes the number of customers who have participated in the HEC Program, excluding low-income HEC participants. Low-income segment customers are counted in the 2018 numbers on Chart 31.

**Program Outlook**

- The HEC Program is looking to leverage its high-quality customer touch to create continuing customer engagement and high customer satisfaction in 2020.
Multifamily Program (DTE Electric and DTE Gas)

The objective of the Multifamily Program is to produce energy savings in multifamily buildings with three or more units under one contiguous roof through the direct installation of energy saving measures.

Program Description

Typical in-unit measures include LEDs, LED night lights, energy efficient showerheads, energy efficient kitchen and bath aerators, programmable thermostats, and pipe wrap insulation where the units have electric water heating. There is no cost for the in-unit installations. Energy efficiency education is also delivered at all phases of the project to property owners, managers and individual tenants. Since the Multifamily Program is a direct-install program, tenants do not receive incentive payments.

The Multifamily Program has common area rebates as well as direct installations. Typically, building owners receive rebates and are responsible for paying a portion of the cost of the installed common area measures. Energy savings and costs for measures installed in the common areas are included in the C&I Prescriptive Program for reporting purposes. Direct-install measures include LEDs, incandescent exit sign bulb replacements, faucet aerators and pipe wrap for qualified properties at no cost to customers.

Highlights

• More than 5,000 multifamily units received direct-install energy efficient measures.
• Thirty-eight electric “common area” jobs were completed.
• Seventy-two gas “common area” jobs were completed.

Challenges

• The Multifamily Program faces diminishing direct-install opportunities as the program matures. Finding new properties willing to participate that have previously not participated is becoming difficult.
• Untouched properties are smaller in size, so less savings per property are achieved.
• Revisiting properties where DTE has already completed direct install and installing new measures has less opportunity for savings than doing so at properties that have never participated in the program before.

Accomplishments

• All responsibilities outlined in the settlement agreement were achieved by the program.

Collaboration Efforts

• The Multifamily Program collaborates with Consumers Energy to perform direct-install measures. Working together to jointly serve utility customers maximizes customer participation and satisfaction as follows: There are fewer visits and less disruption to owners and tenants. It helps make both programs more attractive to potential customers. It increases market reach for both teams.
• There are shared learnings among the parties (DTE, Consumers, Walker-Miller Energy Services and Franklin Energy Services).

Lessons Learned

• As the program matures, direct-install measure opportunities decrease, as do the remaining untouched property sizes, making it more difficult to meet energy savings goals.
Spend and Verified Net Savings Results

- DTE Electric spent $200,000 on the Multifamily Program. This was $1.5 million less than the planned $1.7 million.

- DTE Electric saved 1 GWh of verified net energy savings with the Multifamily Program. This was 1.1 GWh less than the planned 2.1 GWh.

- DTE Gas spent $200,000 on the Multifamily Program. This amount was $700,000 less than the planned $900,000.

- DTE Gas saved 11.1 MMcf of verified net energy savings. This was 14.1 MMcf less than the planned 25.2 MMcf.

Chart 29 summarizes the 2019 DTE Electric and DTE Gas spend and verified net savings results for the program. (This does not include low-income multifamily units.)

Chart 29 – 2019 Multifamily Program Spending and Verified Net Savings

![Chart 29](image)

Program Participation

Chart 30 summarizes the number of customers who have participated in the Multifamily Program, excluding low-income multifamily units. Low-income segment customers are counted in the 2018 numbers on Chart 31.

Chart 30 – Multifamily Program Participation

![Chart 30](image)

Program Outlook

- In 2019, we are implementing a Low-Income Multifamily Program with much higher rebates than non-low-income to stimulate deeper savings.
Low Income Program (DTE Electric and DTE Gas)

The objective of the Low-Income Program is to provide recommendations, direct installation of qualified EWR measures and education to income-qualified DTE customers in order to assist them in reducing their energy use and managing their utility costs.

Program Description

The program leverages the services provided by member agencies of the Michigan Community Action Agency Association (MCAAA), municipalities, counties, public housing commissions, faith-based institutions, community development corporations and nonprofit organizations with existing housing and energy programs. It also works with a select number of independent contractors when needed. This vast network of participating organizations not only offers comprehensive assistance, but also assists DTE in identifying qualified customers. The residential Low Income Program also includes customers residing in designated low-income multifamily units.

DTE does not pay incentives directly to its income-qualified residential customers. The Low Income Program delivers “incentive” funding to these customers through a variety of in-kind services. The services include deep savings measures such as weatherization, furnace tune-up and replacement, insulation, water heater replacement, replacement of inefficient refrigerators with ENERGY STAR® model refrigerators in single-family homes and low-income multifamily dwellings, and in-home consultation and installation of energy efficient measures through the Home Energy Consultation (HEC) Program. Low-cost measures such as LEDs, pipe wrap, energy efficient showerheads and faucet aerators are installed at no cost to low-income multifamily tenants. The low-income multifamily program also expanded its measure offerings to multifamily tenants to include more expensive items, such as refrigerators, also at no cost to the customer. Also, low-income property owners can receive substantial rebates for a variety of measures. Rebates can be up to 10 times the amount of non-low-income rebates. In addition to the installations, some customers who are identified as low income have been selected to receive the Home Energy Report.

Highlights

- The program offers a wide range of whole home, home performance-oriented energy efficient measures to low-income households.
- The energy efficiency improvements made to homes with support from this program included installation of ENERGY STAR® certified LED light bulbs and refrigerators; hot water pipe wrap insulation; energy efficient showerheads and kitchen and bathroom faucet aerators; insulation (of attic, wall, band joist and mobile home belly, among other areas); and programmable thermostats. Improvements made also included sealing cracks to reduce air leakage, water heater replacement, and heating system tune-ups or replacements.
- In 2019, the program continued to expand its network of community action agencies, nonprofit organizations and local units of government to increase program participation across the state.
- There were more than 132,000 participants to receive the Home Energy Report behavioral treatment.
- The program provided LEDs to the food bank distribution program.
- The program worked with a network of community action agencies, nonprofit organizations and local government agencies to provide EWR services to 4,082 single-family customers.

Challenges

- Initiating and incentivizing the Building Performance Institute (BPI) training for single-family partner organizations and trade allies to encourage a whole home approach that includes both air sealing and insulation measures.
- Creating a consistent customer experience across the 30+ organizations and trade allies who provide EWR services to single-family customers.
- Streamlining customer contact information data collection at LED kit events to support third-party evaluation efforts.
- Improving the installation rate of LED light bulbs as a result of the LED kit events.
- Successful outbound communications to customers with high arrears to participate in the Settlement Pilot.
Accomplishments

• The program achieved 94% overall satisfaction for single-family customers.
• The program distributed more than 175,000 LED bulbs to approximately 12,000 low-income customers in partnership with local food banks.

Collaboration Efforts

• The single-family program continued to work with DTE’s Low Income Self-Sufficiency Plan (LSP) to provide utility bill assistance program customers with whole home energy upgrades. This effort is continuing to help low-income families lower their bills and move toward self-sufficiency.
• The multifamily and single-family programs continued to collaborate with Consumers Energy on direct-install measures where each company has one fuel.
• The single-family program launched the Revolving Loan Fund (RLF) in partnership with Michigan Saves to provide customers with incomes ranging from 200–300% of the Federal Poverty Level the ability to secure grants and low-interest loans to complete energy efficiency projects.
• The single-family program participated in an ongoing workgroup, spearheaded by the city of Detroit, to create a Pilot Program to provide greater wraparound services for customers in need.

Lessons Learned

• Customers who were provided a kit with 20 LED light bulbs had a lower installation rate, so the number of bulbs was reduced midway through the year to 10 LED light bulbs.
• Customers are less likely to replace a working light bulb with a new LED light bulb. We have updated messaging to encourage replacement to lower energy bills and capture savings.
• As we continue to increase collaboration with bill assistance programs, like LSP, we must provide customers with additional education so they can better understand the positive impacts of the collaboration.

Spend and Verified Net Savings Results

• DTE Electric spent $13.8 million on the Low Income Program. This amount was $2 million more than the $11.8 million planned.
• DTE Electric saved 27.7 GWh of verified net energy savings. This was 4.5 GWh more than the 23.2 GWh planned.
• DTE Gas spent $8.4 million on the Low Income Program. This amount was $3.8 million less than the $4.6 million plan.
• DTE Gas saved 216 MMcf of verified net savings. This was 55 MMcf more than the 161 MMcf plan.
Program Participation

Customer participation in the program continued to increase significantly in 2018 due to the continuation of Behavior as a Low Income Program offering.

Participation by Section: Nonprofit, 7,806; Multifamily, 10,033; HEC, 8,896; Behavior (HER), 182,674.

Chart 32 summarizes the number of customers who participated in the program each year. The numbers include the low-income portion of the Behavior, Multifamily, Nonprofit, and Home-Energy Consultation Programs.

Program Outlook

• DTE Electric and DTE Gas spending and savings are expected to stay flat beyond 2019.
Residential Emerging Measures and Approaches

The Residential Emerging Measure and Approaches (EM&A) promotes the installation of energy efficient technologies that have recently been commercialized in DTE’s Residential Program offerings.

Program Description
The EM&A Program commercialized the New Homes Construction (NHC) Program and began foundational design for a Revolving Loan Fund Program.

The Revolving Loan Fund Program is designed to serve customers who are not eligible to participate in the Low Income Program but still are facing financial challenges in participating in the normal programs. This program targets customers who are above 200% Federal Poverty Levels (FPL) but are below 300% FPL.

Customers with incomes more than 200% FPL but less than 250% FPL will have customized grant/loan split developed that allows customer to make major energy efficiency upgrades and be annually cash-flow neutral between the energy savings and loan payment.

Customers with incomes more than 250% FPL but less than 300% FPL will be provided a grant/loan split of 50% each.

The objective of the NHC program was to engage certified Michigan home builders and promote energy efficient upgrades to new construction single-family home buildings in DTE’s service territories. Builders were offered financial incentives to install high-efficiency upgrades and building techniques above baseline building code in the state of Michigan.

The NHC Program was commercialized in September 2019: The electric measures offered in the NHC Program included air sealing, water heaters, ducted and ductless air source and ground source heat pumps, and CFL/LED lighting. The gas measures offered in the NHC Program included furnaces, air sealing and water heaters.

Highlights
• Customers who have been traditionally underserved will have an option to participate.
• The Revolving Loan Fund Program will offer customer financing options paired with grant amounts that provide an opportunity for these customers to participate.
• DTE has committed to operate this program for four years.
Challenges
• Until cost-effectiveness is better understood in the portfolio, the program is limited in size to 25–30 participants per year.

Accomplishments
• DTE is unaware of this program design elsewhere.

Collaboration Efforts
• The Revolving Loan Fund Program is being operated with Michigan Saves.

Lessons Learned
• Program success will be dependent on customer engagement, engagement from trade allies willing to be paid through external financing, as well as the verification requirements that are associated with the program.

Spend and Verified Net Savings Results
• DTE Electric spent around $500,000 on the Emerging Measures Program. This amount was $300,000 under the planned $800,000.
• DTE Electric saved 0.6 GWh of verified net energy savings. This was 0.7 GWh less than the 1.3 GWh.
• DTE Gas spent around $400,000 on the Emerging Measures Program. This amount was $200,000 more than the $200,000 plan.
• DTE Gas saved 22.1 MMcf of verified net savings. This is 18.3 MMcf more than the 3.8 MMcf plan.

Chart 33 summarizes the spend and verified net savings results.

Program Outlook
• DTE Electric and DTE Gas spending and savings for the Emerging and Measures Program are dependent on the pilots that are found to be ready for commercialization.
Commercial and Industrial (C&I) Programs (DTE Electric and DTE Gas)

The goal of C&I Programs is to provide incentives to encourage customers to install more energy efficient equipment to reduce their overall energy consumption and save on their energy bills.

DTE customers can take advantage of incentives for energy efficient upgrades tailored to reduce energy use in their business, improving their bottom line. The C&I EWR Programs offer customers incentives to replace existing equipment and fixtures with new energy efficient equipment and incentives for designing and building new and/or remodeling projects that are energy efficient.

There are two main C&I incentive programs: C&I Prescriptive and C&I Non-Prescriptive. Both aim to influence customers to purchase and install equipment of higher efficiency than they would likely do otherwise. DTE commercial and industrial customers can apply for energy efficiency incentives under these programs. As part of DTE C&I Emerging Measures and Approaches, DTE has commercialized the Midstream Lighting Program and the Business Energy Consultation (BEC) to our small and midsize business customers. Retro-Commissioning was a commercialized program but has now been brought back to pilots to be re-engineered.

Key C&I marketing channels included DTE account managers who are responsible for assigned C&I business customer relationships, Energy Partnership & Services’ energy managers, Product Knowledge workshops, DTE Energy’s annual energy efficiency conference, and Trade Allies who market energy efficiency technology directly to customers. Other materials and mechanisms used to educate and drive awareness were the DTE Energy website, training seminars, technical support, press and periodicals. Throughout the year, program presentations were made to customers; associations/organizations; city, state and federal government agencies; and vendors, contractors, engineering and architecture firms.

For the Prescriptive and Non-Prescriptive Programs, DTE used the same implementation contractor (IC) in 2019 that was used to implement the C&I EWR Programs in 2009–2018, DNV-GL. As the C&I IC, DNV-GL currently provides operational support including application review and processing, rebate fulfillment, call center operations and tracking of results, and customer satisfaction surveys for the program.

To encourage an equitable distribution of funds among as many DTE customers as possible, incentives are subject to annual limits and caps. Customers could receive payments up to the cap, but not more than $1 million per customer for electric customers and $300,000 for natural gas customers within a single program year. To further ensure incentive funds are used by many customers, special offers are established and will also have funding participation limits and a time duration.

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

<table>
<thead>
<tr>
<th></th>
<th>Electric</th>
<th>Gas</th>
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<tbody>
<tr>
<td>Customer</td>
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<td>$300,000</td>
</tr>
</tbody>
</table>

Table 7 – 2019 C&I Incentive Caps

The Prescriptive Program application outlines incentive payments for applicable measures. Prescriptive incentives can include both the cost of the measure and labor required to install the measure. For custom projects, project incentives cannot exceed 50% of the total custom project cost to purchase and/or install the eligible energy efficiency measure(s). Several proactive specials were launched in 2019 to create broader customer participation. These included the promotion of Gas Express Program, boiler tune-ups and stream traps, a LED Streetlight Program; and DLC LED Advanced Lighting Controls Special.

In 2019, EWR C&I Programs performed well. In total, the EWR C&I Programs achieved 374.6 GWh of verified net electric savings, which was approximately 4% above the 2019 plan of 355.6 GWh, and 678.6 MMcf of verified net gas savings, which is approximately 4% more than the 647.2 MMcf plan.
Chart 34 is a summary of the spending and verified net energy savings achieved by each EWR C&I Program in 2019 with the following assumptions:

- DTE Electric includes spend and verified savings for the C&I Prescriptive, Multifamily Commercial, ENERGY STAR®, C&I Non-prescriptive, Emerging Measures & Approaches (includes Midstream Lighting, Midstream Food Service and Business Energy Consultation), along with planned savings and spend for the Self-Direct Program.

- DTE Gas includes spend and verified savings for C&I Non-prescriptive, Prescriptive, Multifamily, and Emerging Measures & Approaches (includes Midstream Food Service and Business Energy Consultation). No customers participated in the gas Self-Direct option.
Chart 35 summarizes the electric and gas spending and verified net energy savings for the entire 2019 EWR C&I Program.

Chart 35 – 2019 C&I Program Spending and Verified Net Savings

<table>
<thead>
<tr>
<th>2019 DTE ELECTRIC C&amp;I PROGRAM SPENDING ($M)</th>
<th>2019 DTE GAS C&amp;I PROGRAM SPENDING ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planned</strong></td>
<td><strong>Actual</strong></td>
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<td>40.1</td>
<td>39.9</td>
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</table>

The C&I Programs received 91% or greater customer satisfaction scores across all programs. In 2019, 273,954 customer applications were part of the C&I Electric and Gas Programs.

Chart 36 summarizes the number of customers participating in each of the C&I Program categories.

Chart 36 – C&I Program Participation

2019 DTE ELECTRIC C&I PARTICIPATION PROGRAM (271,746)
- RETRO-COMMISSIONING: 2
- SELF DIRECT: 4
- MULTIFAMILY: 37
- EMERGING MEASURES: 459
- C&I NON-PRESCRIPTIVE: 923
- BEC: 1,319
- C&I PRESCRIPTIVE: 2,095
- MID-STREAM LIGHTING: 10,066
- ENERGY STAR: 256,851

2019 DTE GAS C&I PARTICIPATION PROGRAM (2,208)
- RETRO-COMMISSIONING: 0
- MULTIFAMILY: 30
- EMERGING MEASURES: 82
- C&I NON-PRESCRIPTIVE: 278
- C&I PRESCRIPTIVE: 469
- BEC: 1,549
Commercial and Industrial (C&I) Prescriptive Program (DTE Electric and DTE Gas)

The objective of the C&I Prescriptive Program is to provide predetermined measures and incentives to C&I customers for the installation of energy efficient equipment.

Program Description
These incentives were designed to encourage commercial and industrial business customers to install energy efficient measures in existing facilities in an effort to reduce overall energy consumption and save money on their energy bills.

C&I Prescriptive categories of energy efficient equipment for numerous applications include, but are not limited to, LED lighting and fixtures, control systems, HVAC, refrigeration and food service equipment. Incentives apply to qualified equipment commonly installed in a retrofit or equipment-replacement project and are paid based on the quantity, size and efficiency of the technology installed. Prescriptive incentives take the form of rebates paid after the installation of eligible measures.

The C&I Electric and Gas Prescriptive Programs include more than 400 prescriptive measures. The primary measures implemented include lighting fixtures, lamps, LED lighting systems and controls, motors and variable-speed drives, food service and refrigeration equipment, air conditioning and ventilation equipment, boiler tune-ups, and other common energy efficient equipment. Additionally, the savings and spend for commercial common areas of the Multifamily Program and the ENERGY STAR® retail lighting program are included as C&I Prescriptive components. Property owners are encouraged and provided with incentives to install energy efficient equipment in the common areas (e.g., hallways, stairwells and parking lots) of their building(s). Examples of common area measures implemented during 2018 include interior lighting replacement, parking lot lighting, LED exit signs and controls.

Highlights
DTE Electric
• The Prescriptive Program offers more than 400 electric prescriptive measures in addition to its custom measures.
• Prescriptive measures generated 61% of electric savings in 2019.
• As a measure category, lighting continues to be a leading prescriptive measure.
• Michigan Saves financing option was used on more than 112 projects.

DTE Gas
• The prescriptive Program offers more than 50 gas prescriptive measures in addition to its custom measures.
• HVAC system measures such as process controls, energy management systems, boiler/furnace tune-ups and steam traps accounted for the largest percent of gas savings.
• The Regenerative Thermal Oxidizer, a newer complex measure, is now contributing a large percentage of the Custom gas savings.
• The greatest prescriptive savings came from process, HVAC controls and boiler/furnace tune-ups.
• The Agricultural Program offering continues to target the agricultural industry.

• An Agricultural Program offering is available to serve the agricultural industry.
• The greatest electric savings (more than 50%) came from combined industrial businesses.
Challenges

• Penetrating the Multifamily market with EWR Programs has been challenging.

• Decision-makers for these properties are often hesitant to invest in energy efficiency measures when the benefits are shared among the tenants and property owners but the investment is wholly borne by the owner.

• Installing energy efficient measures as an investment helps multifamily property owners and managers enhance the value and marketability of their properties, while reducing their energy-related operating expenses.

• Smaller business customers require different strategies and tactics than larger commercial and industrial customers.

• Creating awareness and assisting the agricultural industry regarding the Agricultural Program offering has been another challenge.

Accomplishments

• The program continued the Electric and Gas Agricultural Program offering for the agricultural industry.

• Customers were provided with an energy assessment to give them a solid foundation to begin their energy efficiency journey.

• Municipalities and the Michigan Department of Transportation (MDOT) continued their street lighting replacement momentum with more efficient, longer-life LED lamps.

• Eighty-nine C&I customer energy assessments were completed, which included 18 Strategic Energy Plans.

Collaboration Efforts

• The program worked to promote energy efficiency with Michigan Saves and Property Assessed Clean Energy (PACE) by co-presenting at events and sharing materials with customers.

• The program collaborated with Michigan Saves to offer low-cost financing to Michigan customers.

• The program sponsored and participated in the Michigan C&I Energy Conference with Efficiency United.

Lessons Learned

• Small business customers are receptive to learning about the benefits of EWR measures.

• Direct Install Programs can be effective in increasing participation with small-business customers, but they cost more.

• Providing small and midsize businesses with an energy assessment provides them a prioritized foundation to begin their energy efficiency journey.

• Touching the largest number of small businesses will require multiple marketing strategies and, potentially, additional resources.

Spend and Verified Net Savings Results

• DTE Electric spent $177 million on the C&I Prescriptive Program. This amount was $4.4 million more than the approved 2019 EWR plan.

• DTE Electric Prescriptive saved 231.5 GWh of verified net energy savings. This was 88.3 GWh more than the approved 2019 plan.

• $500,000 was spent on the C&I component of the Multifamily Program for common area measures; $400,000 was spent on the C&I component of the ENERGY STAR® Retail Lighting Program.

• Energy saved was approximately 1.1 GWh for the Multifamily Program and 14.9 GWh for the Retail Lighting Program.

• DTE Gas spent approximately $2.4 million on the C&I Prescriptive Program, which was around $300,000 less than the approved 2019 plan.

• DTE Gas generated a verified net energy savings of 590 MMcf of. This was 304.2 MMcf more than the approved plan of 285.8 MMcf.

• $200,000 was spent on the C&I component of the Multifamily Program for common area measures.

• Energy saved was approximately 8.9 MMcf for the Multifamily Program.
Chart 37 summarizes the spending and verified net savings results for the DTE Energy C&I Prescriptive Program and includes the C&I portion of the Multifamily and ENERGY STAR® Retail Lighting Programs.

2019 DTE ELECTRIC C&I PRESCRIPTIVE SPENDING ($M)

<table>
<thead>
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<th>Planned-Pre</th>
<th>Actual-MFCA</th>
<th>Planned-MFCA</th>
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2019 DTE GAS C&I PRESCRIPTIVE SPENDING ($M)

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<th>Planned-Pre</th>
<th>Actual-MFCA</th>
<th>Planned-MFCA</th>
<th>Actual-ESTAR</th>
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<td>0.2</td>
<td>0.2</td>
<td>0.7</td>
<td>0.4</td>
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Chart 38 summarizes the C&I Prescriptive Program Participation.

C&I PRESCRIPTIVE PROGRAM ELECTRIC & GAS PARTICIPATION

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<td>3,376</td>
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Program Outlook

- Electric C&I Prescriptive Program will continue to be driven by lighting system measures.
- Gas Prescriptive Program will continue to be driven by HVAC system measures.
- Continue launching campaigns with specific measures to targeted vertical markets.
- Increase small and midsize business energy assessments to provide customers a prioritized energy efficiency foundation.

Program Participation

There were 2,095 customer applications in 2019 for the Electric C&I Prescriptive Program and an additional 37 multifamily applications.

The gas C&I Prescriptive Program had 469 customer applications and an additional 30 multifamily applications.

ENERGY STAR® had 256,851 participants.
Commercial and Industrial (C&I) Non-Prescriptive Program (DTE Electric and DTE Gas)

The C&I Non-Prescriptive Program promotes the installation of energy efficient technologies among DTE’s commercial and industrial customers.

Program Description
The program’s components include custom measures and Request for Proposal (RFP). The program provides incentives to customers for measures installed in qualified projects that are less common or more complex than the Prescriptive measures. As with Prescriptive incentives, custom incentive payment occurs after the equipment is installed and operational at the customer’s location.

The objective of the C&I Non-Prescriptive Program is to provide customized incentives to C&I customers for the installation of innovative and unique energy efficiency equipment and controls that decrease the consumption of electricity or gas. Examples of C&I Non-Prescriptive Program measures implemented during 2019 include energy management system controls on condenser and chilled water pumps, cooling tower replacement with energy efficient motors and variable frequency drives, demand control ventilation (DCV) mechanical systems and custom lighting projects with extended hours of use. Measures that were not eligible for an incentive include fuel switching (i.e., electric to gas or gas to electric), changes in operational and/or maintenance practices or simple control modifications not involving capital costs, on-site electricity generation, projects that involve peak-shifting and not kWh savings, projects involving renewable energy and projects in which the payback did not meet the C&I Non-Prescriptive requirements.

Measure incentives were based on the first 12-month estimated energy savings. The electric Non-Prescriptive Program incentive was $0.05 per kWh. The gas Non-Prescriptive Program incentive was $3.50 per Mcf. To qualify for the incentive, projects required a one-year to eight-year simple payback for electric and minimum of one-year simple payback for both gas and electric projects, while a maximum of eight-year payback for electric projects only. Additionally, incentives are capped at 50% of the total project cost.

Highlights
DTE Electric
• Non-Prescriptive measures generated 15% of electric savings in 2019.
• Lighting systems continue to be the largest Non-Prescriptive measure installed.

DTE Gas
• Approximately 5% of the DTE Gas Program savings were attributable to the Non-Prescriptive Program.
• HVAC gas measures remain an integral part of the total Non-Prescriptive Program.
• The greatest gas savings came from large industrial, light industrial and the office markets.

Challenges
• Large gas customer projects require larger incentive amounts to achieve a reasonable rate of return before the customer will even consider making the improvements.
• Larger gas projects require longer lead times.
• Effectively increasing small business participation is a challenge.
• Small-business customers require different strategies and tactics than larger commercial and industrial customers.
• Creating awareness and assisting the agricultural industry regarding the Agricultural Program offering have been other challenges.

Accomplishments
• Michigan’s favorable economic climate continued; therefore, customers continued to take advantage of the Energy Efficiency Program.
• The program provided small-business customers with an energy assessment to assist them in building a solid prioritized energy efficiency foundation.
• The program continued to maintain a relevant Trade Ally Directory.
**Collaboration Efforts**
- The program collaborated with Efficiency United and participated in the Michigan Commercial and Industrial Energy Conference. Two sessions were held: one in Harris, Michigan, and the other in Battle Creek, Michigan.
- Worked to promote energy efficiency with Michigan Saves and PACE by co-presenting at events and sharing materials with customers.
- Collaborated with Michigan Saves to offer low-cost financing to Michigan customers.
- The program sponsored and participated in advancing Michigan’s lighting control efforts through Lighting Technology Energy Solutions (LiTES) with a funding grant from the Department of Energy and being implemented by DTE Energy, Next Energy and Consumers Energy.

**Lessons Learned**
- Customers will always be looking for “a deal”; therefore, special programs and limited-time offers will continue to generate interest and participation.
- Small-business customers are receptive to learning about the benefits of EWR measures.
- Direct Install Programs are not necessarily a cost-effective measure for small-business customers.
- Providing small-business customers with an energy assessment provides them a prioritized foundation to begin their energy efficiency journey.
- Touching the largest number of small businesses will require multiple marketing strategies and, potentially, additional resources.

**Spend and Verified Net Savings Results**
- DTE Electric spent $10.4 million on the C&I Non-Prescriptive Program. This amount was $7.3 million less than the $17.7 million in the approved plan.
- DTE Electric generated a verified net energy savings of 56.1 GWh. This was 104.5 GWh less than planned.
- DTE Gas spent $1.7 million on the C&I Non-Prescriptive Program. This amount was approximately $200,000 less than the approved plan of $1.9 million.
- DTE Gas saved 35.4 MMcf of verified net energy, which was 261.9 MMcf less than planned.

Chart 39 summarizes the spending and verified net savings results.

**Program Participation**
- DTE Electric processed 923 customer applications.
- DTE Gas processed 278 customer applications.
Chart 40 summarizes the C&I Non-Prescriptive Program Participation.

**Program Outlook**

- Efficiency programs for business customers will keep pace with forecast budgets for energy savings.
- Strong, and now long-standing, relationships with the contractor and business community at a variety of levels will keep the program going with continued interest, deeper savings and behavioral transformation.
- The Electric Non-Prescriptive Program will continue to be driven by lighting system measures.
- The Gas Non-Prescriptive Program will continue to be driven by HVAC system measures.
- We will continue launching campaigns with specific measures to target vertical markets.
- We will increase small-business customer energy assessments to provide them a prioritized energy efficiency foundation.
Commercial and Industrial (C&I) Emerging Measures & Approaches (DTE Electric & DTE Gas)

The C&I Emerging Measures & Approaches (EM&A) promotes the installation of energy efficient technologies or delivery channel strategies that have recently been commercialized in DTE’s C&I Program offerings.

Program Description
The EM&A Program only consists of the Midstream HVAC Program, Midstream Food Services Program and the Strategic Energy Management Program.

The HVAC Program was designed to increase the market share of efficient HVAC systems, accelerating the adoption of rooftop air conditioning by providing streamlined incentives to distributors, which in turn leverage their sales and outreach capabilities. The program is designed to test and expedite a simple solution for C&I customers, providing an instant discount at the point of sale with the distributor. Paperwork is virtually eliminated for both the customer and the utility. The Midstream HVAC Program was commercialized Aug. 1, 2019.

The Midstream Food Service Program is a simplified marketing approach that targets food service cooking equipment distributors that provide a point-of-purchase incentive to the customer for purchasing and installing energy efficient certified food service equipment.

The Strategic Energy Management Program provides technical support and financial incentives for customers interested in moving beyond project-by-project energy savings to managing energy continuously in a holistic approach through Strategic Energy Management (SEM). This program offers up to 24 months of technical support, plus unique incentives. The incentives are paid on verified operational changes primarily involving HVAC systems that result in energy use reductions.

Highlights
DTE Electric & DTE Gas
- Midstream HVAC was well-received by C&I customers, distributors and Trade Allies.

Program Achievements
- The greatest vertical market opportunities for the Midstream Programs are small and midsize commercial DTE Energy customers.
- Midstream HVAC exceeded company expectations for distributor participation.
- Midstream Food Service was well-received by C&I customers, distributors and Trade Allies.
- SEM focuses on changing business practices and establishing organizational cultures to reduce energy waste, improve energy efficiency and to verify the results.
- SEM recruited 18 new participants.

Challenges
- Effectively increase small business participation in the HVAC program.
- Small-business customers require different strategies and tactics than larger commercial and industrial customers.
- Identifying new product offerings for Midstream HVAC.
- Creating awareness for new product offerings in Midstream HVAC.
- Creating awareness for new product offerings in Midstream Food Service.
- Identifying and on-boarding new distributors for Midstream HVAC to continue program growth.
- SEM participant staff members busy with day-to-day have limited time to implement measures.
- SEM participant control systems and building automation systems are outdated or partially functional.

Accomplishments
- Midstream HVAC and food services allowed the C&I portfolio to meet its increased EWR goals that were implemented, while not negatively impacting the Prescriptive and Non-Prescriptive Programs.
- The program was successful in increasing participation in EWR HVAC measures.

Collaboration Efforts
- The program will collaborate with ComEd and ESource on best practices for Midstream HVAC design.
- For SEM, where applicable, the program will engage in cohort-based learning and sharing of participant experience to further develop energy conservation measures and lessons learned.
- The program will collaborate with ENERGY STAR® on energy efficient food service equipment qualification requirements.

Lessons Learned
- Small-business customers are receptive to learning about the benefits of EWR measures.
- Touching the largest number of small businesses will require multiple marketing strategies, and additional resources will likely be needed.
- All Midstream Programs are not the same. Program structure must vary to increase participation in different technologies and markets.
- Using staffing grant incentives designed to promote the SEM Program approach and activities promotes and sustains participant engagement.
Spend and Verified Net Savings Results

- DTE Electric spent $1.3 million on the Emerging Measures & Approaches Programs. This amount was $100,000 less than the $1.2 million in the current plan.
- DTE Electric saved 3.3 GWh of verified net energy savings. This was 3.1 GWh less than the 2019 EWR plan.
- DTE Gas spent $400,000 on the C&I Emerging Measures & Approaches Programs, which was $200,000 more than planned.
- DTE Gas saved 10.1 MMcf of verified net energy, which was 4.7 MMcf more than planned.

Chart 41 summarizes the Emerging Measure & Approach Program spend and savings.

Program Participation

Chart 42 summarizes the DTE Electric Emerging Measures & Approaches Program participation.

Chart 42 – C&I Emerging Measures & Approaches Program Participation
(No EM&A prior to 2014, only Midstream food services in 2018)

Program Outlook

- Emerging Measures Programs are planned to keep pace with 2019 performance moving forward.
Commercial and Industrial (C&I) Self-Direct Program (DTE Electric & DTE Gas)

DTE Electric C&I customers are able to choose to self-direct and implement their own EWR Plan. In 2019, four customers applied to the Self-Direct Program.

Program Description
The main features of either Self-Direct Program are similar. Customers who choose to self-direct are exempt from the mandatory EWR electric surcharge(s), with the exception of a portion of the surcharge that funds the Low Income Program as well as the associated cost to administer the program.

For the 2019 DTE Electric Self-Direct Program, DTE Electric placed a bill message on all commercial customer bills notifying them about the program and how to subscribe to the program. All existing self-directed customers were sent personalized letters to inform them it was time to reapply. Account managers followed up with a phone call after the letters were mailed to address customer questions. The program information was also placed on the DTE website along with the required energy plan templates for customers to apply to the program.

DTE Gas established a Self-Direct Program for C&I End Use Transportation (EUT) customers in 2013. A bill message was placed on all EUT customer bills notifying them about the program and how to subscribe to the program. Account managers followed up with a phone call after the letters were sent out to address customer questions. The program information was also placed on the DTE website along with the required energy plan templates for customers to apply to the program. Zero EUT customers have participated in this offering.

Highlights
• Four electric customers participated in the 2019 Electric Self-Direct Program.
• No gas EUT customers participated in the 2019 Gas Self-Direct offering.
• Annual peak demand of 1 megawatt (MW) or greater per single site or annual peak demand of 5 MW or greater per aggregated sites of customers.
• Cannot include sites or accounts in a Self-Direct plan that have received an EWR rebate or incentive from an electric provider and are within the calculated waiting period.
• The waiting period in months is equal to the total rebate amount divided by the current month’s EWR surcharge.
• If the waiting period lapse after the Self-Direct plan filing deadline, but before the Self-Direct plan year begins on Jan. 1, a customer may include those sites or accounts during the upcoming plan period.

Lessons Learned
• Customers adhere to the program requirements, submitting plans and annual reports.
• Account managers assist in communication to those customers.

DTE Gas
• DTE Gas spending and savings are not applicable because no EUT customers chose to participate in the gas Self-Direct offering.

Challenges
• Communicating the program requirements to the applicable customers was a challenge.
• Obtaining the customer’s annual reports was another challenge.

Accomplishments
• All four customers’ reports were received on time.
• Four customers reported meeting or exceeding their energy saving goal.

Collaboration Efforts
• The program collaboratively worked with Consumers Energy on the reporting requirements to ensure program consistency.

Spend and Verified Net Savings Results
• DTE Electric spent $50,000 on the C&I Self-Direct Program.
• DTE Electric saved 4.5 GWh verified energy savings, which was 2.5 GWh less than planned.
Chart 43 summarizes the C&I Self direct spend and verified net savings.

Chart 43 – 2019 C&I Self Direct Spending and Verified Net Savings

2019 DTE ELECTRIC C&I SELF-DIRECT SPENDING ($M)

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</table>

2019 DTE ELECTRIC C&I SELF-DIRECT SAVINGS (GWh)

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<td>2019</td>
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</table>

Program Participation

Chart 44 summarizes the DTE Electric C&I Self-Direct Program participation.

Chart 44 – C&I Self Direct Program Participation

DTE ELECTRIC C&I SELF-DIRECT PROGRAM PARTICIPATION

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<td>5</td>
<td>4</td>
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Program Outlook

- Efficiency programs for business customers will keep pace with forecast budgets for energy savings.
- Strong, and now long-standing, relationships with the contractor and business community at a variety of levels will keep the program going with continued interest, deeper savings and behavioral transformation.
- The Electric Non-Prescriptive Program will continue to be driven by lighting system measures.
- The Gas Non-Prescriptive Program will continue to be driven by HVAC system measures.
- We will continue launching campaigns with specific measures to target vertical markets.
- We will increase small-business customer energy assessments to provide them a prioritized energy efficiency foundation.
Commercial and Industrial (C&I) Business Energy Consultation (BEC) Program (DTE Electric & DTE Gas)

The BEC program targets small-business customers by providing a walkthrough energy assessment evaluation and three to six prescriptive direct-install measures, such as a programmable thermostat, LED screw in lamps and a report outlining the findings of the walkthrough evaluation.

Program Description
The BEC program targets small-business customers by providing a walkthrough energy assessment evaluation and three to six prescriptive direct-install measures, such as a programmable thermostat, LED screw in lamps and a report outlining the findings of the walkthrough evaluation. The BEC energy assessment report will provide customers with best practice energy efficient recommendations, which the small-business customer could implement and receive an incentive through either the Prescriptive or Non-Prescriptive offering.

Highlights
• Starting in Q2, DTE introduced a new component to the BEC program, the Trade Ally (TA) component. This component allows electric customers to complete retrofit projects beyond the suite of direct install measures provided.
• In PY2019, BEC program reached overall satisfaction of 91%, an increase by four points compared with PY2018. Top box satisfaction was 74%, an increase of 19 points compared with PY2018.

Challenges
• Since its inception in 2014, more than 12,000 small and midsize business DTE customers have participated in the program. As the program is in its mature stages, getting customers to participate can be difficult and costly.
• Many small and midsize business customers do not have time or the resources available. They are very busy running day-to-day operations, wearing many hats – Human Resources, Accounting, and Shipping and Receiving.
• After the initial energy consultation, customers weren’t sure how to get engaged with energy efficiency.

Accomplishments
• In 2019, there were more than 2,000 participating customers throughout the DTE service territory, resulting in more than 8.6 GWh and 34.23 MMcf.
• With the Trade Ally component being introduced midyear, the program elevated its network of contractors and developed the tools necessary to implement the new approach. This included a complete overhaul of the program’s existing operations, starting with a redesign of collateral, applications, engineering tools and employee training.
• The BEC program’s midyear enhancement resulted in an additional 100 (Trade Ally) projects.
• In conjunction with the Week of Warmth and Neighborhood Energy Efficiency Day (NEED), the BEC program concentrated on Hispanic neighborhoods in Detroit and Grand Rapids to increase awareness and participation in the program. The program installed energy efficient LED lighting across three campuses, paying more than $33,000 in rebates. The community centers and its members all will benefit from the lighting project; each campus will save at least $3,000 annually on electricity costs.

Collaboration Efforts
• Created a Neighborhood Energy Efficiency Day (NEED) write-up for BEC in EnergySmarts for Michigan Business magazine.
• The BEC program provides a concierge to assist customers with a wide range of energy needs. This ensures customers are maximizing value and energy savings across DTE programs.

Lessons Learned
• DTE implemented a 100% quality control (QC) procedure for all projects. Since many of these measures are new to the program, DTE wanted to ensure savings accuracy in reporting. This resulted in a program-level IRAF (Direct Install) of 0.94, an increase of 37 points from PY2018.
• Customers’ time is limited. The program needed to ensure smooth handoffs and set appropriate expectations. The leads received through the TA component of the program needed to be more qualified, freeing up more time to work with the customer.
• Introducing the Trade Ally component consistently was difficult. Each customer’s energy needs differ, as does their building footprint and existing equipment. There is no one-size-fits-all approach. To assist with the transition, the program invested heavily in its training to better develop a consistent approach across the program. This helped standardize the procedures and timeline to avoid confusion on next steps in the process.
• On top of training staff, it was imperative to establish open communication with Trade Allies. Proactively communicating reduced the amount of confusion for the customers and contractors. It also ensured the program information was consistent, providing one channel to share partner offers or program specials.
Spend and Verified Net Savings Results

- DTE Electric spent $1.5 million, which was $900,000 more than planned.
- DTE Electric saved 8.6 GWh, which was 3.4 GWh more than planned.
- DTE Gas spent $700,000, which was $400,000 more than planned.
- DTE Gas saved 34.2 MMcf, which was 16.3 MMcf more than planned.

Chart 45 summarizes the C&I BEC Program spend and savings.

Program Participation

Chart 46 summarizes the C&I BEC Program participation.

Program Outlook

- The Trade Ally component of the program is currently available to electric customers and focused on lighting. As the program continues to grow, we will start to explore gas measures, in addition to lighting and other electric measures.
- In mid-2020, the BEC Trade Ally Gas Program pilot will kick off. The program is expected to be completed by Q3 of 2021, at which time DTE will evaluate adding additional measures to the program.
- As the program continues to grow, so must the contractor network. The program will be focusing heavily on recruitment and training of Trade Allies to meet the growing needs of our customers.
- The tools used throughout the program will be re-evaluated annually. We are exploring the automation of program applications and other tools to create an easy and seamless experience for all involved.
Commercial and Industrial (C&I) Retro-Commissioning Program (DTE Electric & DTE Gas)

Retro-Commissioning (RCx) targets commercial buildings by providing a detailed energy audit and evaluation that identifies operational low-cost/no-cost recommendations.

Program Description
Retro-Commissioning (RCx) targets commercial buildings by providing a detailed energy audit and evaluation that identifies operational low-cost/no-cost recommendations. Property managers and building owners could then implement these recommendations and reduce their operational energy consumption. 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 report provides customers with recommendations for energy efficient capital investments that the customer could implement and receive an incentive through the Prescriptive or Non-Prescriptive offerings.

Highlights
- Re-designed program to improve cycle time, cost-effectiveness and customer satisfaction.
- Developed standard calculators for common RCx measures.
- Developed Express track for smaller projects.

Challenges
- Re-establishing interest in participating in re-designed program.
- Long lead time to complete projects.

Accomplishments
- Built a pipeline of projects to position the program for success in 2020 and 2021.
- Developed new program tools that help to reduce cycle time by eliminating unnecessary paperwork.

Collaboration Efforts
- Worked with third-party evaluator on a periodic basis to align program approach and avoid potential evaluation-related surprises.
- Collaborated with BOMA, Detroit 2030 and applicable chambers of commerce to increase program awareness.

Lessons Learned
- Sales cycle for RCx projects can take up to a year or more to convert into an application.
- Customers provided constructive feedback on the time required to participate in the program.

Spend and Verified Net Savings Results
- DTE Electric spent $400,000, which was $700,000 less than planned.
- DTE Electric saved 1.1 GWh, which was 5.9 GWh less than planned.
- DTE Gas spent around $30,000, which was $170,000 less than planned.
- DTE Gas did not have any savings; planned savings were 14.1 MMcf.
Chart 47 summarizes the C&I Retro-Commissioning spending and verified net savings.

Chart 48 summarizes the DTE Electric C&I Retro-Commissioning Program participation.

Program Participation

Chart 48 summarizes the DTE Electric C&I Retro-Commissioning Program participation.

Program Outlook

• Based on current program offerings, DTE does not anticipate any significant changes.
Education & Awareness (E&A) Program
(DTE Electric and DTE Gas)

The objective of the EWR Education Program was to provide DTE Electric residential and business customers with information and resources to help them learn how to use energy more efficiently and to better manage their energy costs.

Program Description

The DTE Energy website, mass media, social media and outreach campaigns, such as outbound mail, digital communications, community events, sponsorships and experiential activations, are key channels to engage customers with energy efficiency information. In 2019, the company continued to rely on our website, mass media and outreach campaigns targeting specific customer segments in an effort to increase their awareness of energy efficiency.

Highlights

In 2019, a 12-month mass media campaign and several direct outreach campaigns were implemented to continue to raise DTE customer awareness of energy efficiency and opportunities to participate in the EWR programs. Key campaigns conducted in 2019 are as follows:

• Residential campaigns including radio, print, direct mail and digital advertising focused on low-cost or no-cost tips, ENERGY STAR® appliance tips, heating and cooling season messaging, and estimated energy and money saving opportunities and calls to action. Beyond energy efficiency, message themes to making these home improvements included improved comfort and a more efficiently running household.

• Small-business campaigns included radio, television, print, direct mail and digital advertising focusing on low-cost or no-cost tips, and case studies with suggestions that similar businesses could complete for energy efficiency improvements. In addition, we continued to highlight the non-energy benefits of making energy efficiency improvements to increase the comfort, environment and safety of their business and to improve satisfaction of their customers and employees.

• Various contests and promotions were held at events and online to educate and engage customers about energy efficiency.

• Events were held for residential and business customers such as the DTE Energy and Engineering Society of Detroit (ESD) Energy Efficiency Conference, trade associations events, community festivals and Earth Day events.

• Sports sponsorships, including partnerships with the Detroit Red Wings, Detroit Lions, Detroit Tigers, West Michigan Whitecaps and Grand Rapids Griffins, where direct event marketing opportunities were executed along with various additional messaging allowed for opportunities to share energy saving information in fun and engaging ways.
Every year since 2015, DTE sponsorships have included the USGBC’s Michigan Battle of the Buildings Competition to reach businesses.

Employee outreach was conducted through the company intranet, videos and messaging on internal screens, employee events and electronic newsletters.

As in previous years, new collateral was updated with fresh messaging and was created in an effort to educate customers on energy efficiency. This included brochures, case studies, trinkets, shade banners, ambassador cards and handouts with energy saving tips. In addition, a print magazine with in-depth information on how energy efficiency can be applied in businesses was developed in four editions. We also continued to use bill inserts, direct mail, email newsletters, and digital tools and communications (online calculators, targeted and bilingual videos, social media posts and website information) to engage customers in learning.

Challenges

In 2019, overall customer satisfaction with DTE Energy among residential and business customers remained a top priority. To help maintain and improve customer satisfaction, it is key to increase awareness of DTE’s energy efficiency information and tools to help customers achieve higher value from the energy they consume. As energy efficiency communications continue with our audience, we are always striving to find new ways to engage and break through the awareness barriers. Continuing messaging related to improving comfort and other non-energy benefits such as safety, environment and productivity was leveraged in an effort to keep messages engaging. This was accomplished by keeping a steady stream of outreach communications and using best practices in messaging and offerings that engaged our customers on energy efficiency education.

Accomplishments

In 2019, the DTE electric residential familiarity with energy efficiency programs was 51%, ranking among the “top performers large utility” category, and energy efficiency efforts were considered highly impactful drivers of residential customer satisfaction.

Residential

The Energy HUB was developed and used at key events as an on-site educational tool for energy efficiency. Its activation at the 2019 Rocket Mortgage Classic in Detroit had positive engagement and record-breaking registrations (1,979) and opt-ins (1,389 and 70% opt-in rate, surpassing the industry average of 10–15%). The post-event survey also showed that 93% of attendees who completed the survey said they learned a lot/something about how to be more energy efficient at home.

Numerous cross-channel direct outreach tactics were executed through direct mail, energy efficiency articles in our e-newsletter and DTE Energy blog, and bill inserts.

Energy efficiency tips were posted and contests were promoted on social media (Twitter and Facebook).

Business

The company continued the Business Pride contest among customers, allowing them to tell their story of energy efficiency improvements and why they were proud of their business. We selected winners and provided them an energy efficiency makeover and developed their story into media and communications to educate other business customers about energy efficiency.

The company executed 82 direct outreach tactics through direct mail and energy efficiency articles in our e-newsletter, DTE Energy blog and our EnergySmarts for Michigan Business magazine.

The company also posted energy efficiency tips and promoted contests through LinkedIn, Twitter and Facebook.

Collaboration Efforts

The company co-sponsored the Michigan Battle of the Buildings competition offered by the U.S. Green Building Council. The competition is an awards and recognition program for energy use reduction open to all Michigan-area commercial and industrial buildings. The program is a way to encourage energy efficient practices in buildings across the state and to instill a spirit of friendly competition among the area’s building owners and operators.

The company continued the relationships with the Detroit 2030 District, Ann Arbor 2030 District and Grand Rapids 2030 District community programs. These efforts will encourage the member businesses in these areas to become more energy efficient and serve as a communication channel to reach these audiences. This is a collaborative business community effort where they sign up to be more sustainable and energy efficient.
Lessons Learned

• Partnering with business organizations such as chambers of commerce and associations creates advocates for the programs and information.

• Mass media is key to raising overall awareness of the program.

• Proactive communications are desired by our customers to help them manage their energy consumption.

• Personalized or tailored messages and offerings are meaningful to customers and have a higher positive impact on customer awareness and satisfaction.

• On-site activation and use of our Energy HUB and other resources is a great way to drive positive engagement and serve as an educational tool.

Spend and Verified Net Savings Results

Chart 49 summarizes the spend and associated verified net savings results for E&A.

Program Outlook

As the Education & Awareness team continues to seek new and innovative approaches to educate customers and employees about energy efficiency, the focus will remain on the following key areas:

• Communicating the value of energy efficiency.

• Developing engaging messaging and content that are applicable for the residential and business audiences.

• Providing real-life examples that support the learnings and opportunities for other similar customers.

• Leveraging existing digital technologies like mobile applications and mobile-friendly web platforms.

• Providing educational tips and information that resonate with the target audience.
Pilot Programs (DTE Electric and DTE Gas)

The purpose of the Pilot Program was to explore technologies and approaches not included in the commercialized programs described in the approved 2019 EWR Plan.

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

Highlights
- The pilots team targeted a variety of projects across the portfolio in 2019. The following are examples of Residential and C&I Pilot Projects implemented:

Residential Focus
- Manufactured Homes: The pilot objective was to develop a cost-effective solution to achieve energy savings for residential customers who reside in a manufactured home. The pilot field-tested a broad range of measures, including the installation of duct sealing; roof insulation; belly insulation; pipe wrap; furnace tune-ups; bathroom, kitchen and showerhead aerators; and a variety of LED lighting options. The pilot was concluded in 2019.
- Multifamily Low Income: This pilot was developed to encourage low-income property owners to upgrade their building envelope, mechanical equipment and appliances to save tenants energy and money. The pilot employed a "Concierge Model" that includes an Energy Advisor performing a Level 1 audit assessment, which includes gathering billing history, visually inspecting the property for energy efficiency opportunities, energy modeling and presenting opportunities for the customer to save on their energy bill. The pilot encompasses the gathering of bids from contractors for the project(s) and supervising installation of the measure(s). The pilot was concluded in 2019.
- Non-Wire Alternative: The non-wire alternatives pilot will continue in 2020 with ongoing collaboration with MPSC staff and stakeholders to explore the potential for geographically targeted energy efficiency measures to cost-effectively defer distribution system upgrades. The focus included residential and C&I customer segments. Field testing was launched in 2018 and continued through 2019. Measures included geo-targeted offers for residential HVAC, appliance recycling and C&I direct-install lighting.
- Enervee Comparison Tool: Built on a set of highly engaging, best-in-class product comparison and shopping experiences, Enervee's website will provide DTE customers an easy-to-use comparison tool for their energy saving product and service decisions. The Appliances Choice Engine is designed to acquire, engage and activate DTE customers to make more energy efficient purchases. The Enervee platform is intended to nudge consumers to purchase more efficient home appliances, such as, but not limited to, refrigerators, washers, dryers and televisions. Enervee's proprietary data platform aggregates data from hundreds of sources into clear, concise and actionable customer insights. This capability helps each customer quickly and easily find the most efficient appliances to meet their unique needs and preferences. The platform will be integrated into the DTE Marketplace website. The pilot is ongoing.
- Midstream Heat Pump Water Heaters and ECM Circulator Pumps: The pilot added measures for residential heat pump water heaters and electronically commutated motor (ECM) circulator pumps to the Midstream Heating, Ventilation, Air Conditioning and Refrigeration (HVAC) Pilot. The pilot was intended to engage existing distributors selling heat pump water heaters and circulator pumps; test viability of a point-of-sale rebate with existing distributors; and gather information to better inform program requirements, incentive levels and program design for commercialized program offering. This pilot concluded in 2019.
- New Homes Construction: This Pilot Program launched in the fourth quarter of 2018 with the objective of increasing builders’ adoption of high-efficiency building practices and methods. Partnering with Home Energy Rating System (HERS) raters and builders, the pilot evaluated training, field support, marketing and incentives to deliver cost-effective packages designed to maximize the energy efficiency of new homes. These measures include appliances, HVAC equipment and insulation. This pilot was concluded in 2019.
- Home Energy Management (HEM) with DTE Insight: This is a multiyear pilot designed to understand customers’ willingness to adopt smart home products and smart home functionalities that save energy. DTE Insight's platform was enhanced with new features that leveraged smart home connected devices, including voice integration via Amazon Alexa, smart light bulbs and smart thermostats, and many other connected devices. In the pilot, market research, benchmarking, competitive analysis and various pricing scenarios were explored. This pilot was concluded in 2019.
- DTE Insight AMR Gas: This pilot is a research project to understand the viability of extending the DTE Insight app to approximately 500,000 residential customers in the DTE gas-only territory who have an Automatic Meter Reader (AMR) meter. The pilot identified interconnection issues across both software and hardware. The root cause of these has now been identified and is being resolved. This pilot is ongoing.
Commercial and Industrial Focus

- **Strategic Energy Management:** This pilot provided technical support and financial incentives for customers interested in moving beyond project-by-project energy savings to managing energy continuously in a holistic approach through Strategic Energy Management (SEM). This program offers up to 24 months of technical support, plus unique incentives. The incentives are paid on verified operational changes primarily involving HVAC systems that result in energy use reductions. The objective is to advance energy management capabilities and establish a continuous energy management process for enrolled customers. The pilot served hospitals and concluded in 2019.

- **E-Challenge 4:** DTE has partnered with the Engineering Society of Detroit (ESD) for a collegiate challenge focused on assisting universities with the development of an energy management program and a five-year plan to reduce energy use and improve efficiency on campus. The pilot will also test the effectiveness of engaging institutions with two DTE energy management focused programs in succession. The E-Challenge Pilot was supported by the DTE Strategic Energy Plan Program. Six universities participated in the E-Challenge Pilot, and four were identified to move on to the University Strategic Energy Management SEM Pilot. This pilot is ongoing.

- **Midstream HVAC:** The pilot was designed to increase the market share of efficient HVAC systems, accelerating the adoption of rooftop air conditioning by providing streamlined incentives to distributors, which in turn leverage their sales and outreach capabilities. The program is designed to test and expedite a simple solution for C&I customers, providing an instant discount at the point of sale with the distributor. Paperwork is virtually eliminated for both the end use customer and the utility. This pilot was commercialized in 2019.

- **Retro-Commissioning:** This pilot offers an on-site energy analysis for customers to determine operational energy efficient measures, with simple payback periods of less than 1.5 years. The focus of the analysis is on controls and HVAC systems. This pilot concluded in 2019.

Accomplishments

- **Market Transformation:** DTE is recognized as a thought leader and partner, collaborating with other utilities, industry leaders and distributors in pioneering new approaches that accelerate the adoption of energy efficiency solutions through market transformation.

- **New Homes Construction:** New Homes Construction was commercialized in 2019, successfully increasing builders’ adoption of high-efficiency building practices and methods. This program is important to DTE’s EWR Residential portfolio to deliver cost-effective packages and maximize the energy efficiency of new homes.

- **Non-Wire Alternatives:** Taking a strategic approach, the pilot has received positive recognition for both the innovative design approach and the evaluation methodology, developing potential utility cost deferment solutions using energy efficiency enhancements. These are being applied concurrently to both residential and business customers.

- **For C&I Customers:** The Strategic Energy Management Pilot provides a unique approach encompassing both technical support and financial incentives, enrolling hospitals in a continuous energy management process to enhance efficiencies. The adoption for energy efficient rooftop air conditioners will be accelerated, following validation of a proven rooftop pilot.
Spend and Verified Net Savings Results
Chart 50 summarizes the spend and associated verified net savings results.

**DTE Electric**
- DTE Energy spent $5.29 million in 2019 on the Electric EWR Pilot Program. This was $30,000 more than the planned spend. Pilot Program funds were primarily spent on contracted services and incentives for the projects outlined above, as well as on the cost of internal administration to manage the portfolio of projects.
- Energy savings were determined to be 34.5 GWh; this amount was 0.6 under the planned amount.

**DTE Gas**
- DTE Gas spent $1.4 million on the gas EWR Pilot Program, which was $300,000 more than planned. Pilot Program funds were primarily spent on contracted services and incentives for the projects outlined above, as well as on the cost of internal administration to manage the portfolio of projects.
- The Pilot Program had 81.1 MMcf in gas savings, which was 3.9 MMcf under the planned 85 MMcf.

**Program Outlook**
The pilots team will continue to serve the future portfolio needs of the EWR team by investigating, exploring and testing new innovations in collaboration with industry leaders and partner utilities. These include the following:

- Serving underserved communities and working with trade resources to develop partnerships and process enhancements that increase the cost-effectiveness and energy efficiency and laying the groundwork for a commercialized program.
- Applying open-ended innovation techniques to evolve and study new ideas to fulfill future portfolio needs.
- Providing insightful energy use profiling to assist customers in engaging and adopting waste reduction measures.
- Exploring new marketing approaches to broaden the reach into the small-business community, including refrigeration applications in grocery and convenience stores.
EWR Program Achievements
Energy Savings

- Since its inception in 2009, more than 4.6 million electric customers and 3.2 million gas customers have directly participated in DTE's energy efficiency programs.
- As a result, DTE customers have saved approximately 5,800 gigawatt hours (GWh) and more than 13,000 million cubic feet (MMcf) since the program started. The savings achieved so far will continue for years into the future.
- The electric savings are equivalent to the energy required to power all the homes in cities similar in size to Lansing or Ann Arbor, Michigan, for around 15 years.
- The gas savings are equivalent to the energy required to heat the same number of homes in cities similar in size to Lansing or Ann Arbor, Michigan, for around two and one-half years.

Monetary Savings

- Our customers have benefited as a result of our energy efficiency offerings. Residential customers pay an average of $51 annually or less than 3% of their total bill for combined energy efficiency gas and electric surcharges. (Electric customers pay on average $34 and gas customers pay on average $17.)
- For every $1 spent on energy efficiency programs, DTE Energy customers will save more than $3.94 in avoided energy costs.

Economic Development Benefits

- DTE’s EWR Program resulted in implementation contractors (ICs) establishing local offices (in Detroit, Livonia, Lansing and Grand Rapids) and the hiring of local talent to operate and manage their respective programs.
- Through 2019, 311 Michigan-based jobs have been created by the ICs under contract and with DTE Energy as summarized in Table 8. These jobs include field operations staff, appliance pickup drivers, call center representatives and program managers.
- Customers and communities benefit from the new jobs and investment in the community.

<table>
<thead>
<tr>
<th>IC Name</th>
<th>Michigan-Based Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTE Energy</td>
<td>55</td>
</tr>
<tr>
<td>ICF International</td>
<td>39</td>
</tr>
<tr>
<td>Solutions for Energy Efficient Logistics (SEEL)</td>
<td>89</td>
</tr>
<tr>
<td>DNV-GL</td>
<td>45</td>
</tr>
<tr>
<td>Guidehouse (fka Navigant Consulting)</td>
<td>7</td>
</tr>
<tr>
<td>Walker-Miller Energy Solutions</td>
<td>69</td>
</tr>
<tr>
<td>Ignite</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>311</strong></td>
</tr>
</tbody>
</table>

Table 8 – Implementation Contractor Jobs

Program Participation

Since its inception in 2009, more than 4.5 million electric customers and 3.2 million gas customers have directly participated in DTE’s energy efficiency programs. Customers have upgraded equipment, enabling them to be more energy efficient year after year. They have also been educated on simple actions they can take to save on their energy use on a continuing basis.

- In 2019 alone, almost 800,000 DTE Electric customers and more than 500,000 DTE Gas customers took control of their energy use through the EWR Program and saved millions of dollars as a result.

To give some perspective on the magnitude of this effort, here are some of DTE Energy’s 2019 accomplishments:

- 22,000 Home Energy Consultations were performed at customer’s homes, helping them save energy.
- More than 1,300 electric and gas small and midsize business customers received Business Energy Consultations at their place of business.
- DTE spent more than $20 million on Low Income Programs.
- DTE incentivized approximately 6 million LED light bulb sales through manufacturer buy-downs at retailers and via in-store coupons at small independent hardware stores.
- DTE successfully commercialized programs like the New Homes Construction program.
- More than 30,000 appliances were recycled.
- More than 30,000 customers benefited from HVAC upgrades.
- DTE customers received 22,000 energy saving kits in their homes.
• The Schools Program was able to serve more than 26,000 electric-only households and more than 22,000 gas-only households through collaboration efforts.

• Business applications served included lighting, lighting controls, HVAC and heating controls, food services, process electric and food services.

• Most C&I markets were served including light and heavy industry, retail, grocery, hospital, hotel and educational institutions.

Environmental Benefits
Since 2009, the following cumulative lifetime environmental benefits from the electric and gas savings are equivalent to:

• Greenhouse gas emissions avoided by recycling more than 21 million tons of waste instead of sending it to the landfill, equivalent to 3 million garbage trucks.

• The annual carbon emissions reduction from more than 7 million homes’ energy use for one year.

• A reduction in the greenhouse gas emissions equivalent to more than 13 million cars driven in one year.

• The carbon sequestered by more than 80 million acres of forest in one year.

Source: Projected lifetime greenhouse gas savings converted using EPA Equivalency Calculator

Program Administration
Evaluation, Measurement and Verification (EM&V)
Michigan’s EWR construct requires independent verification of the utilities’ claimed energy savings. This work is performed by an independent Evaluation, Measurement and Verification (EM&V) contractor and must be performed to industry standards and guidelines developed by the Evaluation Workgroup of the MPSC Energy Waste Reduction Collaborative. Currently, Guidehouse Inc. fulfills this role for DTE Energy.

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

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

Challenges
Opportunities and challenges lie ahead, and the company is well-positioned to continue to provide value to its customers and other stakeholders through a robust and well-run energy efficiency program. Beyond 2019, achieving current savings levels will continue to become more challenging as codes and standards continue to change and technology evolves. DTE will need to reach more customer markets and segments to increase participation. In addition, the company may face other challenges such as:

• The company’s EWR portfolio is now in its 11th year and is experiencing some saturation of existing programs.

• There are many unknowns associated with the implementation of the Energy Independence and Security Act (EISA) lighting standards, as well as the upgrades to building codes, and the rollout of increasingly strict appliance efficiency standards. Old planning assumptions about what portfolios can achieve, based on high levels of LED residential lighting savings, are no longer applicable.

• Customer baseline installed efficiency keeps rising as energy efficiency programs and other factors make customers more energy-conscious. This will continue to decrease NTG ratios as free ridership increases.

• Non-incentive costs will likely increase when attempting to capture hard-to-reach segments, further increasing cost to the company’s customers, necessitating higher rates.

• There is uncertainty around design and delivery of emerging and future Pilot Programs.
Conclusion

2019 was another successful year for DTE Energy's EWR Program. The year was successful in all key areas: energy savings, spending and participation.

Customers were made aware of energy efficiency benefits and the programs offered by DTE Energy via innovative approaches and targeted marketing campaigns.

Customer experience was enhanced by improving the content of the website, creating new educational tools and resources, and expanding social media presence, and through contests. Programs were upgraded and delivered with high quality, meeting the ever-rising level of customer expectations. Promising Pilot Programs were transitioned to full program offerings, and additional pilots were undertaken to stay ahead of the technology curve and to test innovative market approaches. Continuous improvement activity rose again in 2019 as several efforts were undertaken to eliminate defects and improve efficiency in our processes. Collaboration with other utilities, and the energy efficiency community at large, provided additional benefit to DTE Energy's customers.

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

2020 will be another pivotal year for DTE Energy's EWR program as the company is focused on continuing to work with key stakeholders on securing Michigan's energy future in light of unprecedented industry and energy policy changes. As our EWR Program continues to mature, we will continue our journey to become the best operated energy efficiency program in North America.