

## Response from Consumers Energy

Energy Efficiency Question 3: What are the total dollar amounts of investment and savings achieved to date, and what levels are expected to be achieved when the 2012 energy savings goals are reached for natural gas and electricity? Will the 2012 energy optimization standard continue to be achieved through 2015 and beyond?

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### Executive Summary

1. In aggregate, Michigan's electric and natural gas utilities invested \$408.3 million in EO programs between the years 2009 and 2011, resulting in 2,164,160 MWh and 6,593,717 MCF of first year energy savings alone to customers. These electric savings are enough to power 616,394 homes for one year, while the natural gas savings are enough heat 199,810 homes for one year. These savings are a small fraction of total lifetime/lifecycle savings customers receive.
2. There are several major challenges to meeting the EO standards through 2015 and beyond. As discussed in the utilities' response to Energy Efficiency Question #7, it is becoming somewhat more expensive to achieve the same level of energy savings in Michigan and nationally, though many energy efficiency investments remain cost effective. Specific issues that present challenges include: (1) increased market penetration of energy efficiency in Michigan given the success of the first four years of the programs, (2) changing federal codes and standards for critical energy efficiency measures, and (3) issues related to how savings are credited.
3. There is critical need for a comprehensive and industry peer reviewed potential study which accounts for the current baseline conditions, efficiency gains to date, changing codes and standards, as well as up-to-date deemed savings values in order to properly forecast remaining efficiency potential in Michigan.

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**1. In aggregate, Michigan's electric and natural gas utilities invested \$408.3 million in EO programs between the years 2009 and 2011, resulting in 2,164,160 MWh and 6,593,717 MCF of first year energy savings alone to customers. These electric savings are enough to power 616,394 homes for one year, while the natural gas savings are enough heat 199,810 homes for one year. These savings are a small fraction of total lifetime/lifecycle savings customers receive.**

As noted in Table 1, since the start of Michigan's EO programs in 2009 through the end of 2011, a total of \$408.3 million has been invested in energy efficiency, saving a total of 2,164,160 MWh and 6,593,717 MCF in first year savings to customers alone. After 2012, these totals are expected to increase to an investment of \$663.5 million and savings of 3,163,691 MWh and 10,030,588 MCF.<sup>1</sup>

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<sup>1</sup> Michigan Public Service Commission Department Of Licensing And Regulatory Affairs. "2012 Report On The Implementation Of P.A. 295 Utility Energy Optimization Programs." November 30, 2012. [http://www.michigan.gov/documents/mpsc/2012\\_EO\\_Report\\_404891\\_7.pdf](http://www.michigan.gov/documents/mpsc/2012_EO_Report_404891_7.pdf)

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**Table 1: Summary Statewide Savings and Investment in EO Programs (2009-2011)**

	2009 - 2011 Total	2012 Expected Target	2009 - 2012 Expected Total
Electric			
First Year MWh Savings	2,164,160	999,531	3,163,691
First Year MWh Investment	\$256,964,741	\$169,188,453	\$426,153,194
Natural Gas			
First Year MCF Savings	6,593,717	3,436,871	10,030,588
First Year MFC Investment	\$151,302,076	\$86,023,267	\$237,325,343

Source: Michigan Public Service Commission Department Of Licensing And Regulatory Affairs. "2012 Report On The Implementation Of P.A. 295 Utility Energy Optimization Programs." November 30, 2012.

The above savings represent first-year energy savings from Michigan’s EO programs. When looking at lifetime/lifecycle savings, however, the benefits to customers increase. Customers save energy through efficient equipment throughout the useful life of that equipment, meaning that total energy savings are much higher than those realized in the first year a measure is installed. In 2011, for example, statewide utility EO program expenditures of \$205 million resulted in lifecycle savings to customers of at least \$709 million in energy bill savings.<sup>2</sup>

**2. There are several major challenges to meeting the EO standards through 2015 and beyond. These include: (1) increased market penetration of energy efficiency in Michigan given the success of the first four years of the programs, (2) changing federal codes and standards for critical energy efficiency measures which reduce the number of energy measures that utilities’ programs can address, (3) the updating of deemed savings values in the Michigan Energy Measures Database for key measures, and (4) the upcoming application of a research-based net-to-gross ratio for standard CFLs.**

Within the residential and business sectors, Michigan utilities have run a variety of program targeting a wide-range of customers. Whether or not the 2012 energy optimization standard savings target can continue to be achieved through 2015 and beyond is uncertain at this time. One important factor is recent changes to codes and standards at the federal level for important energy efficiency measures, most notably for lighting products. For many measures, the savings that EO programs can claim are

<sup>2</sup> This estimate from the MPSC 2012 Report likely underestimates state-wide lifecycle benefits, as the \$709 million only includes savings from DTE Energy, Consumers Energy Gas and Electric and Efficiency United, which together represent over 90% of utility customers in Michigan.

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based on the incremental differences between high-efficiency equipment and efficiency levels required by federal codes. As the efficiency levels required by these codes and standards rise, the incremental difference between standard and high-efficiency equipment is decreasing, thus making it harder to meet energy targets.

Another development that may make it more difficult to achieve energy future targets relates to the ongoing process to improve and update the amount of approved or “deemed” savings value for each energy efficiency measure (e.g. equipment, program, etc...) in the Michigan Energy Measures Database. “Deemed” savings values are the engineering-based or research-based energy savings value or credit that Michigan utilities are allowed to claim for efficiency measures. These values are maintained for reference in the Michigan Energy Measures Database (MEMD) that is overseen by the MPSC. As part of on-going evaluation, measurement and verification efforts to keep this database as accurate as possible, the MPSC overseen Evaluation Workgroup undertakes Michigan-based studies to verify the accuracy of savings generated where existing research from other states is older, less conclusive or of uncertain relevance to Michigan-specific programs/customers and where the energy savings are significant. Studies completed or underway include appliance recycling, programmable thermostats, lighting controls, C&I lighting measures, and low-flow water measures. For several of these measures, the MEMD savings values have been significantly reduced based on these study results.

Finally, recent regulatory guidance from the Michigan Public Service Commission (MPSC) regarding net-to-gross (NTG) ratios for standard compact fluorescent bulbs is likely to introduce additional uncertainty over the achievability of the current EO savings target. While Michigan utilities have been able to count on a 0.9 NTG ratio for all measures, utilities will be required to apply NTG ratios based on evaluation results to savings generated from CFLs starting in 2014.

**3. There is critical need for a comprehensive and industry peer reviewed potential study which accounts for the current baseline conditions, efficiency gains to date, changing codes and standards, as well as up-to-date deemed savings values in order to properly forecast remaining efficiency potential in the state of Michigan.**

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