2015 Report on Energy Optimization Programs and Cost-effectiveness of PA 295 Standards

In Compliance with Public Act 295 of 2008

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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

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Executive Summary

Michigan's Energy Optimization (EO) standard, created under Public Act 295 of 2008 (PA 295 or the Act), requires all natural gas and electric utility providers in the state to implement programs to reduce overall energy usage by specified targets, in order to reduce the future cost of service to utility customers. This report complies with Sections 95 and 97 of the Act addressing the implementation of EO programs and the cost-effectiveness of EO and Renewable Energy (RE) standards. Summaries of the report's major findings are as follows:

Energy Savings

For 2014, Michigan utility providers successfully complied with the energy savings targets laid out in PA 295. Collectively, the providers met a combined average of 141 percent of their electric energy savings targets and 130 percent of their natural gas energy savings targets – one percent of retail sales for electric providers, and 0.75 percent of retail sales for gas providers. EO programs across the state accounted for electric savings totaling over 1.4 million MWh (megawatt hours) and natural gas savings totaling over 4.86 million Mcf (thousand cubic feet) for program year 2014. Those numbers equate to approximately 172,500 households' annual electric usage, and around 57,000 households' annual natural gas usage.

Cost Effectiveness of Programs

Since the inception of PA 295, the utility providers' energy optimization programs have been cost effective as defined by the Act. The Act requires cost effectiveness to be measured using the Utility System Resource Cost Test (USRCT). The USRCT score expresses the program administrator expenses as compared to the supply-side resource costs. A score of 1.0 or higher indicates a program is cost effective. The combined USRCT for all programs is 4.4, indicating that the programs in place are providing cost-effective energy savings for Michigan customers.

In 2014, aggregate EO program expenditures of $257 million by all natural gas and electric utilities in the state are estimated to result in lifecycle savings to customers of $1.12 billion. For every dollar spent on EO programs in 2014, customers should expect to realize benefits of $4.38. Overall program expenditures of $1.1 billion from 2010 to 2014 are estimated to achieve lifetime savings to all customers of $4.2 billion.

Section 97 of the Act requires an annual assessment of the cost effectiveness of the Renewable Energy and Energy Optimization Programs. This has been done in the yearly February report on the implementation of PA 295 renewable energy standard but was also required to be included in this September 2015 report. The downward pricing trend for renewable energy resources and the continued low cost of energy optimization has resulted in a combined weighted cost of $37.00/MWh. Renewable Energy and Energy Optimization continue to be cost-effective resources in the state of Michigan.

Introduction

In October 2008, Public Act 295 of 2008 was signed into law. Section 95(3)(e) of the Act requires that by November 30, 2009, and each year thereafter, the Michigan Public Service Commission (MPSC or Commission) is to submit to the standing committees of the Senate and House of Representatives with primary responsibility for energy and environmental issues, a report on the effort to implement energy conservation and energy efficiency programs or measures. The report may include any recommendations of the MPSC for energy conservation legislation. Sections 97(6) and (7) require that by September 30, 2015 the MPSC issue a report on the cost effectiveness of the EO and RE programs and other information. The November 30, 2015 and September 30, 2015 reports are combined in this report.

Subpart B of PA 295 requires providers of electric or natural gas service to establish energy optimization (EO) programs for their customers. Annual energy savings targets for providers are specified in the Act. These targets ramped up to one percent of annual retail sales for electric providers and 0.75 percent of annual retail sales for natural gas providers in 2012. Targets shall be sustained for subsequent years. Providers are required to file plans with the Commission detailing the programs they will utilize to meet their annual energy savings goals. Regulated providers are allowed to fund their programs through Commission approved EO surcharges, but must demonstrate that the program costs are reasonable and prudent, as well as cost-effective according to a standardized cost-benefit analysis specified in the Act.

In 2014, there were 14 investor-owned natural gas, electric, or natural gas and electric combined utility providers (IOUs), 10 electric cooperatives, and 41 municipal electric utilities with EO plans, for a total of 65 natural gas and electric Energy Optimization Plans. A listing of case numbers, company names, and current plan status can be found in *Appendix A-1.* For the 2014 plan year, 53 of the 65 utilities in Michigan are formally coordinating the design and implementation of their EO programs in order to reduce administrative costs, create consistency among programs, and improve customer and contractor understanding of program offerings and administrative procedures. The remaining 12 utilities independently administer their own programs. To the extent feasible, the utility providers that independently administer their programs try to align with the program design offered by the coordinated utility providers' programs to improve customer and contractor participation. A chart of the utility providers and how they are aligned can be found in *Appendix A-2.*

Program Offerings

All natural gas and electric utility customers in Michigan are able to participate in energy efficiency programs offered by their local utility. New programs are continuously being introduced as pilot programs and that enables utilities to phase in the implementation of new programs, expand existing programs and offer new features. In general, individual programs are divided into two broad categories: residential and commercial/industrial. Residential programs consist of five major categories: lighting; heating, ventilating and air conditioning (HVAC); weatherization; energy education; and pilot programs. Commercial/Industrial offerings include prescriptive and custom programs. Prescriptive

programs provide rebates for specific equipment replacement such as lighting, boilers, pumps, and compressors. Custom programs generally provide a rebate per kWh of electricity savings or per Mcf of natural gas savings for a comprehensive system or industrial process improvement. Programs are also tailored to specific customer groups, such as the agribusiness sector, (which includes agricultural fans, pumps, grain dryers, and grain storage energy and moisture management controls) as well as the food services industry (food service controls and refrigeration).

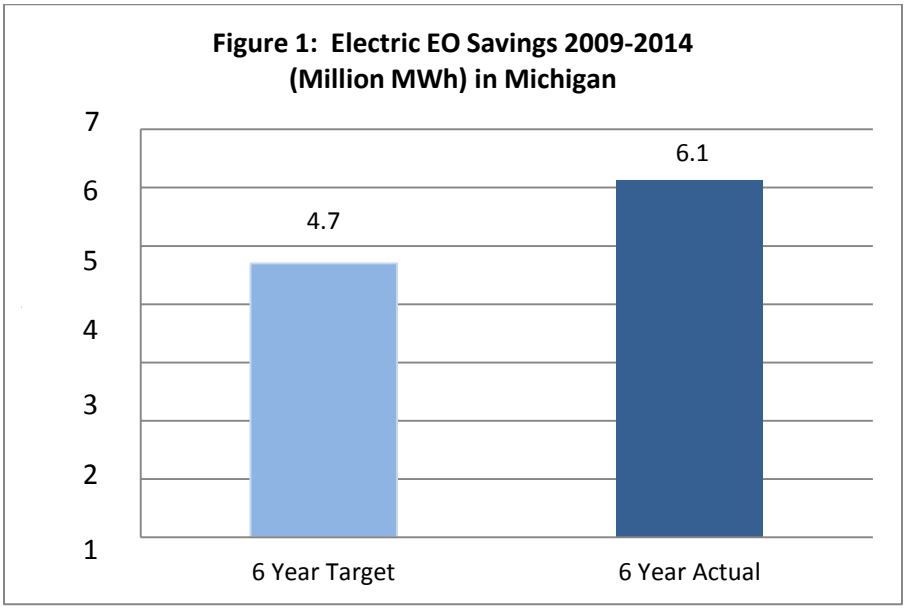
Energy Savings Targets

Section 77 of PA 295 provides annual energy savings targets for electric and natural gas utilities. The minimum savings targets are based upon a percentage of calendar-year retail sales for each utility. These energy savings targets increased progressively over the four year period from 2009 to 2012 at which time they were fixed at one percent for electric utilities and 0.75 percent for natural gas utilities annually.

For 2014, Michigan utility providers successfully complied with the energy savings targets laid out in PA 295. Providers met a combined average of 141 percent of their electric energy savings targets and 130 percent of their natural gas energy savings targets – one percent of retail sales for electric providers, and 0.75 percent of retail sales for gas providers. EO programs across the state accounted for one year electric savings totaling over 1.4 million MWh (megawatt hours) and natural gas savings totaling over 4.8 million Mcf (thousand cubic feet) for program year 2014.

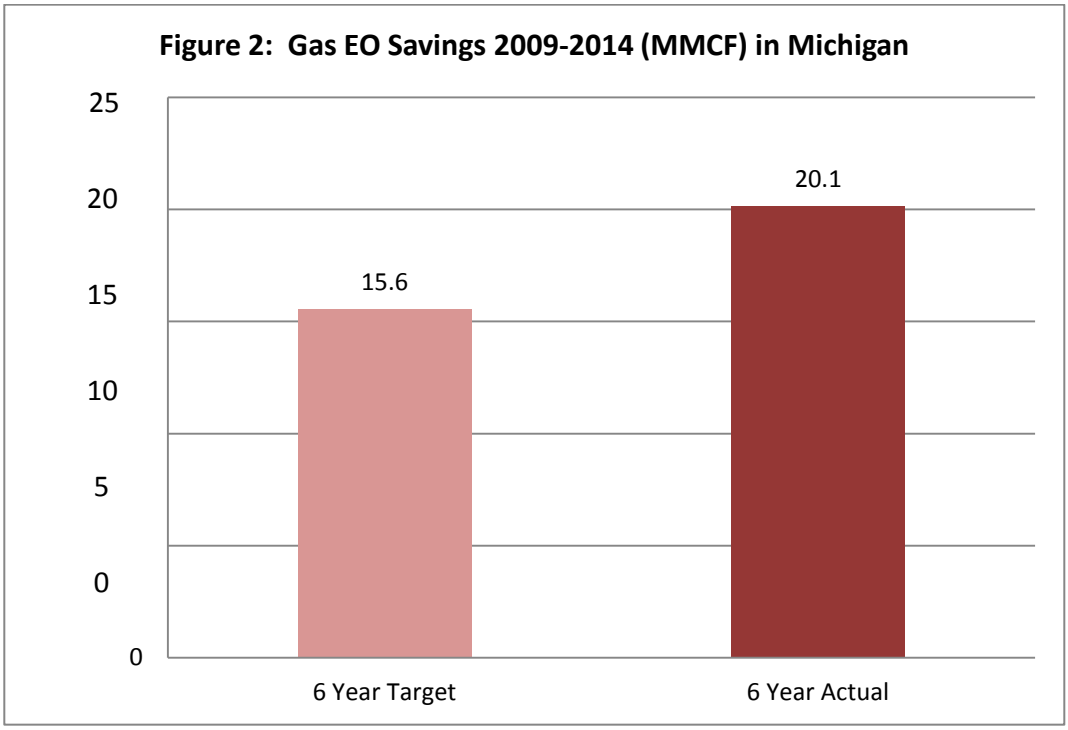
For 2009 through 2014, EO program savings achieved for electric utility providers were 131 percent of the target. For the 6 year period, the electric utility providers who are independently operated achieved 133 percent of their savings target, municipal electric utility providers reached 115 percent of their savings target, and the electric cooperatives met 102 percent of their target. The target and actual electric savings for 2009 through 2014 were 4,698,669 and 6,135,587 MWh respectively, as shown below in *Figure 1*.

Figure 1: Electric EO Savings 2009-2014 (Million MWh) in Michigan



For 2009 through 2014, EO program savings achieved for natural gas utility providers were 130 percent of the required target. Consumer Energy's Gas Division achieved 134 percent of its savings target and DTE Gas Company achieved 127 percent of its savings target. The smaller gas utilities cumulatively achieved 122 percent of their savings target. The total statewide target and actual gas savings for 2009 through 2014 were 15,558,778 and 20,155,707 MMcf respectively, as shown in *Figure 2*.

Figure 2: Gas EO Savings 2009-2014 (MMCF) in Michigan



For a detailed spreadsheet of energy savings targets and achieved energy savings by utility provider, see *Appendix B*.

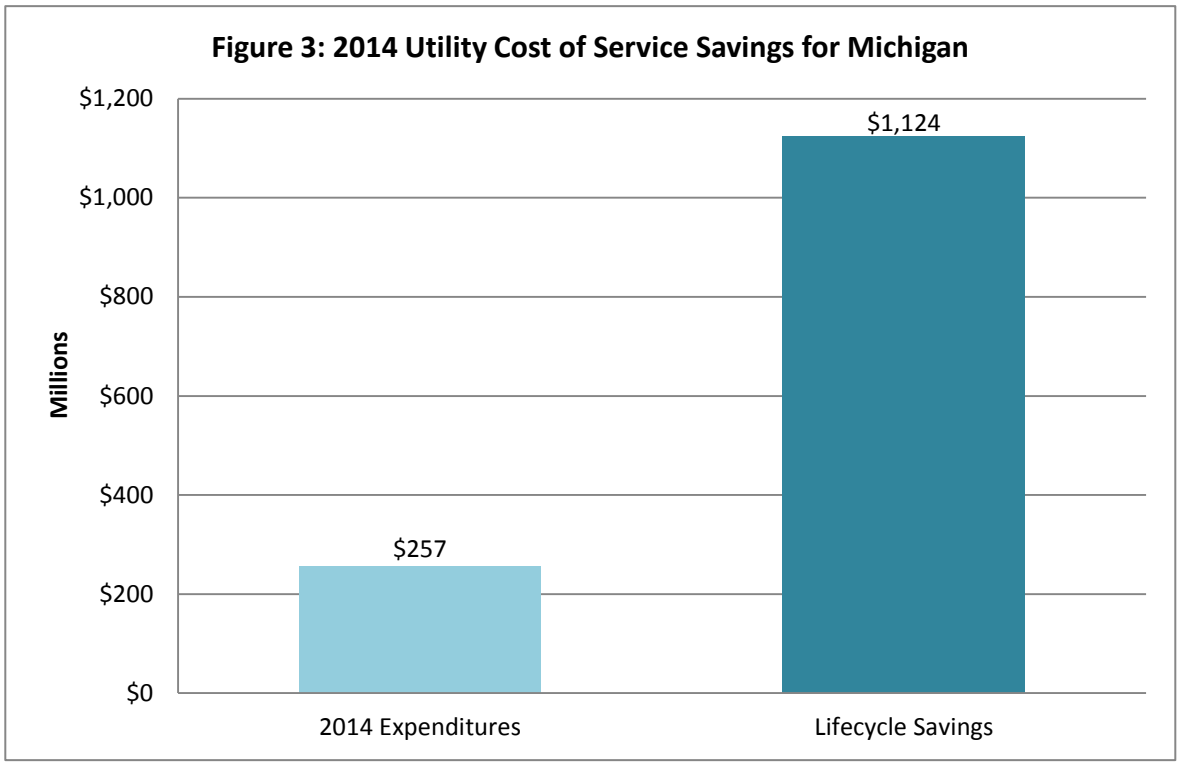
EO Surcharges and Program Funding

Section 71 of PA 295 requires utilities to specify necessary funding levels for the activities being proposed. Commission-regulated utility providers are able to recover their EO program expenditures through a customer surcharge approved by the Commission. Under Section 89 of PA 295, surcharges approved by the Commission are assessed on either an energy usage basis or on a per meter basis. Residential customers pay based on their energy usage. The average residential customer pays approximately $1-2 per month. Generally, the larger, primary electric or natural gas transportation customer's EO surcharge is based on a per meter charge. Detailed funding information by utility is included in *Appendix C*.

Program Benefits

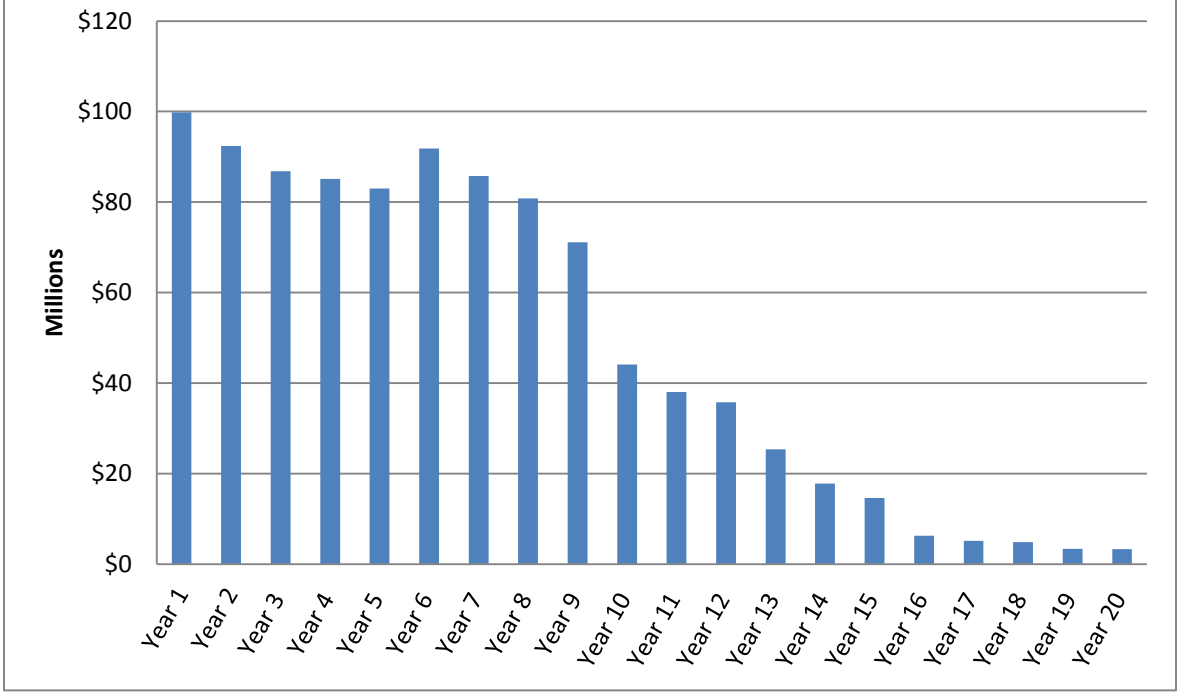
In 2014, aggregate EO program expenditures of $257 million by all natural gas and electric utilities in the state are estimated to result in lifecycle savings to customers of $1.12 billion. For every dollar spent on EO programs in 2014, customers should expect to realize benefits of $4.38. Data provided to the Commission in EO provider annual reports indicate that EO resources were obtained at a statewide levelized cost of $20/MWh, significantly cheaper than supply side options such as new natural gas combined cycle generation at $60/MWh (Source: U.S. Energy Information Administration Annual Energy Outlook 2014).

The benefits of the EO program will flow through to customers over the mean lifecycle of all efficiency projects implemented by customers during the year. The benefits are in the form of reduced utility cost of service for production or purchase of electricity, or purchases of natural gas, which would otherwise be recovered in utility rates. These savings represent the avoided cost to utilities due to lower energy usage, and are calculated based on the energy savings identified for individual energy efficiency measures as reflected in the Michigan Energy Measures Database. Over the long run, the cumulative reduction in customer demand for electricity is expected to result in the deferral or reduction in the need to build new electric generation plants. The avoided cost of the production or purchase of electricity, purchase of natural gas, and building new generation benefits all customers, whether or not they have directly participated in the EO program. The net present value (NPV) of utility cost of service savings for EO expenditures statewide is shown in *Figure 3*.



The aggregate NPV of benefits for each year over the course of the expected useful life of all measures implemented during 2014 is shown in *Figure 4*. Overall program expenditures of $1.1 billion from 2010 to 2014 are estimated to achieve lifetime savings to all customers of $4.2 billion.

Figure 4: 2014 EO Net Present Value Benefits by Year



Electric EO programs not only delay the need for building new generation, they also reduce emissions of environmental pollutants from existing generation. Fossil fuel generation plants in particular emit sulfur dioxide, nitrous oxides, mercury, other air toxics and particulate matter. Both the electric and natural gas EO programs also result in hundreds of millions of dollars savings in fuel costs that would have otherwise been incurred in order to import energy into Michigan. Other economic impacts realized by EO programs include: additional spending by participating households and businesses for efficient equipment and services, increased demand for equipment and installations from local businesses, increased spending within the economy due to utility bill savings from reduced energy consumption, and increased production from participating businesses. In addition, the benefits flowing to Michigan utility customers via the EO program should help reduce utility uncollectible expenses and strengthen the competitive position of Michigan businesses.

Cost Effectiveness of PA 295 Standards

There are many ways to calculate the cost effectiveness of utility energy efficiency programs. Simply stated the overall benefits should outweigh the overall costs. PA 295 requires providers to meet the Utility System Resource Cost Test (USRCT). As defined in section 13 of PA 295, the USRCT standard is

met for an investment in energy optimization if, on a life cycle basis, the total avoided supply-side costs to the provider, including representative values for electricity or natural gas supply, transmission, distribution, and other associated costs, are greater than the total costs to the provider of administering and delivering the energy optimization program.

All of the utilities met the cost effectiveness test, with a USRCT score of 1.00 or greater. Providers who chose to use the state administrator did not have to meet this requirement but the state administrator was contractually required to do so. The average USRCT for all utilities is 4.4. The independently operated utilities, which tend to have larger programs and budgets, have an average USRCT of 6.1 for electric programs and 3.4 for gas programs. *Appendix D* contains the USRCT scores for all utilities.

Section 97 of PA 295 requires the Commission to evaluate and determine whether the energy optimization and renewable energy standards have been cost-effective. *Table 1* demonstrates the cost-effectiveness of the renewable energy and energy optimization standards on a combined basis using the state's two largest electric providers. The levelized cost of conserved energy of the energy optimization programs was weighted by the life cycle energy savings, extrapolated through 2029, expected from the companies' Energy Optimization Programs. For renewable energy, the levelized costs of all DTE Electric and Consumers Energy contracts approved by the Commission were weighted by the generation anticipated over the term of the contract.[1] To determine the anticipated generation for the company-owned projects, the depreciable composite life of the project was used.[2] Incentive renewable energy credits (IREC) were not factored into the weighting of any of the renewable energy projects.

The combined cost of $37.00 per MWh for both Subpart A (Renewable Energy Standard) and Subpart B (Energy Optimization Standard) of 2008 PA 295 is approximately 28 percent of the cost of a new conventional coal plant, using $133 per MWh as the coal plant cost. On a stand-alone basis, the $76.55 per MWh cost of the renewable energy standard is substantially lower than the cost of a new coal-fired plant, but the combined cost of $37.00 per MWh, is less than any new generation, including new natural gas combined cycle plants, when compared to the Energy Information Administration levelized plant costs for 2014.[3]

[1] Solar pilot programs were excluded because levelized cost data is not available and the solar pilot programs would contribute minimally to the weighted average because they are very small compared to the total.

[2] For Consumers Energy's company-owned projects, the present value of the generation based on a 31.2-year life was used. For DTE Electric Company-owned projects, the present value of the generation based on a 22-year life was used.

[3] *See:* http://www.eia.gov/forecasts/aeo/electricity_generation.cfm

Table 1: Cost Effectiveness of Energy Optimization and Renewable Energy Standards

Energy Optimization Cost of Conserved Energy Weighted Average ($/MWh)	**$20.00**
Renewable Energy Weighted Average Cost ($/MWh)	**$76.55**
Combined Weighted Average Cost of Energy Optimization and Renewable Energy ($/MWh)	**$37.00**
Source: EO cost data assumes EO plans renew similar measures on a yearly basis through 2029 (corresponding to the 20 year period of the initial 2009 renewable energy plans). Renewable energy cost data is based on levelized costs provided as part of the renewable energy contract approval process.	

Residential Bill Information on Estimated Monthly Savings

Section 45 of PA 295 describes information that a provider shall report to the residential customer on the monthly customer bill. Subsection (5)(c) requires 'An estimated monthly savings, expressed in dollars and cents, for that customer to reflect the reduction in the monthly energy bill produced by the energy optimization program under this act'. The Commission has calculated the following statewide average monthly electric and natural gas savings estimates for use by small providers in lieu of company specific estimates:

The average electric residential customer is expected to save $4.04 each month of the Energy Optimization program life.

The average natural gas residential customer is expected to save $5.90 each month of the Energy Optimization program life.

State Administrator: Efficiency United

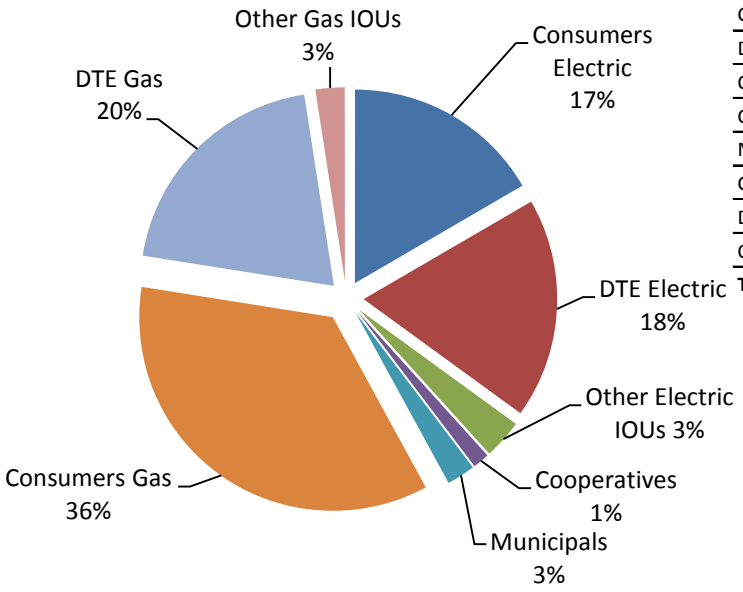
Section 91 of PA 295 created an option for electric and natural gas providers to offer energy optimization services through a program administrator selected by the Commission. Section 91(6) requires the administrator to be a 'qualified nonprofit organization' selected by the MPSC through a competitive bid process. To fund the program the administrator is paid directly by the participating providers using funds collected from customers.

Michigan Community Action (MCA) is under contract as the State Administrator and operates under the name of Efficiency United (EU). Services and offerings are similar to, and coordinated with, those of other providers. Although EU program services are specifically exempt from meeting the PA 295 energy savings targets, equivalent contractual targets were imposed and reached each year since 2009.

Programs for Low Income Customers

Sections 71, 89, and 93 of PA 295 require utilities to offer EO programs for each customer class, including low income residential. All customer classes must contribute proportionally to low income program costs based on their allocation of the utility's total EO budget. Low income EO programs are excluded from the requirement to meet the cost-benefit test. Approximately 11% of the total 2014 EO program expenditures were allocated to income qualified customers. Most Michigan customers at or below 200% of the federal poverty level qualify for these programs. The contribution to low income program costs by Michigan utilities in 2014 is shown in *Figure 5*.

Figure 5: Michigan Low Income EO Funds



Consumers Electric	$3,700,000
DTE Electric	$4,098,053
Other Electric IOUs	$732,244
Cooperatives	$305,834
Municipals	$527,328
Consumers Gas	$7,900,000
DTE Gas	$4,467,051
Other Gas IOUs	$544,806
TOTAL	**$22,275,316**

Self-Directed EO Program

Under Section 93 of PA 295, large electric customers that meet certain eligibility requirements may create and implement a customized EO plan, and thus be exempt from paying an EO surcharge except for a portion of income qualified program costs. Electric customer eligibility to participate in the self-directed EO plans is determined by the customer's annual peak demand. The Act allows customers with at least 1 MW aggregated annual peak demand in the preceding year at all of the customer's sites within a service provider's territory to participate. The number of customers enrolled to self-direct their own EO program has continued to drop, with 24 customers self-directing in 2014, as shown in *Table 2*. Reported energy savings for these self-directed large commercial and industrial customers are summarized in *Table 3*.

Table 2: Number of Michigan Self-Directed Large Commercial and Industrial Customers

Provider	2009 Customers	2010 Customers	2011 Customers	2012 Customers	2013 Customers	2014 Customers
DTE Electric	26	26	13	7	6	6
Consumers Energy	30	30	16	13	11	9
Efficiency United	9	11	10	6	6	6
Cooperatives	3	3	4	3	3	2
Municipals	9	9	4	3	3	1
TOTAL	**77**	**79**	**47**	**32**	**29**	**24**

Table 3: Reported Energy Savings for Michigan Self-Directed Large Commercial and Industrial Customers

Provider	2009 Reported Energy Reduction (MWh)	2010 Reported Energy Reduction (MWh)	2011 Reported Energy Reduction (MWh)	2012 Reported Energy Reduction (MWh)	2013 Reported Energy Reduction (MWh)	2014 Reported Energy Reduction (MWh)
DTE Electric	12,486	18,488	7,835	9,535	6,115	6,084
Consumers Energy	8,515	12,343	7,404	7,118	5,936	5,062
Efficiency United	5,196	14,568	20,808	30,654	24,515	23,903
Cooperatives	899	1,498	1,442	1,262	813	533
Municipals	2,006	3,343	606	500	450	Not Available
TOTAL	**29,102**	**50,240**	**38,095**	**49,069**	**37,829**	**35,582**

Financial Incentive Mechanism

Section 75 of PA 295 allows Commission-regulated utilities to request a financial incentive for exceeding the energy savings targets in a given year. There are currently 4 utilities that have obtained a financial incentive mechanism based on savings achieved and other criteria established by the MPSC. The actual and anticipated incentives awarded for program years 2009-2014 are listed in *Table 4*.

Table 4: Utility Performance Incentives Awarded or Anticipated through 2014

Program Year	Consumers Energy Electric & Gas	DTE Energy - Electric	DTE Energy - Gas	Indiana Michigan Power Co.	Semco Energy Inc.	Annual Total
2009	$5,685,305	$3,008,829	$913,374	n/a	n/a	$9,607,508
2010	$8,483,795	$6,200,000	$2,400,000	n/a	n/a	$17,083,795
2011	$14,593,977	$8,400,000	$3,400,000	n/a	n/a	$26,393,977
2012	$17,327,620	$10,400,000	$4,300,000	n/a	n/a	$32,027,620
2013	$17,530,000	$10,562,411	$3,848,020	n/a	n/a	$31,940,431
2014*	$17,322,230	$12,716,895	$3,617,094	$618,074	$780,795	$35,055,088
Total	**$80,942,927**	**$51,288,135**	**$18,478,488**	**$618,074**	**$780,795**	**$150,709,550**

***Anticipated**

MPSC Energy Optimization Collaborative

In Case Numbers U-15805 and U-15806, the Commission directed the MPSC Staff to establish a statewide energy optimization collaborative which requires the participation of all natural gas and electric providers and offers the opportunity for a variety of additional stakeholders to participate. A key goal reached by the collaborative was the reduction of the extent and cost of the formal contested hearing process through stakeholder consensus and industry peer review of standards and procedures. The collaborative identifies recommendations for improving energy optimization plans for all providers, offers program evaluation and support, and develops any necessary redesign improvements to energy efficiency programs. Program Design and Implementation, and Program Evaluation workgroups continued to meet throughout 2014, as well as the Michigan Energy Measures Database Technical Subcommittee.

Michigan Energy Measures Database

Measurement and verification are essential tools in improving Energy Optimization programming. In 2009, Michigan began with a foundation database of projected energy savings that was derived from other states' experience. By incorporating data derived from Michigan weather stations, program implementation, and specialized evaluation studies, the database evolved into the Michigan Energy Measures Database (MEMD).

The objective of the MEMD is to provide users with accurate information on energy savings associated with technologies or measures that could be used in energy efficiency programs. The MEMD is also used to prioritize the allocation of funding toward these possible measures. For this critical function, the Commission acknowledges the importance of including Michigan-specific data in the MEMD. Thus, under the direction of Commission Staff, stakeholders are participating in monthly collaborative meetings to continue to refine this database. The collaborative has developed an annual process for selecting the highest priority measures to update with Michigan specific data. For the selected measures, field studies are undertaken in customer homes and businesses using data collection equipment, such as light loggers and sub-metering, and engineering analysis to obtain reliable measurement of the actual energy consumption. The process for updating the MEMD is outlined in *Appendix E*.

Revenue Decoupling

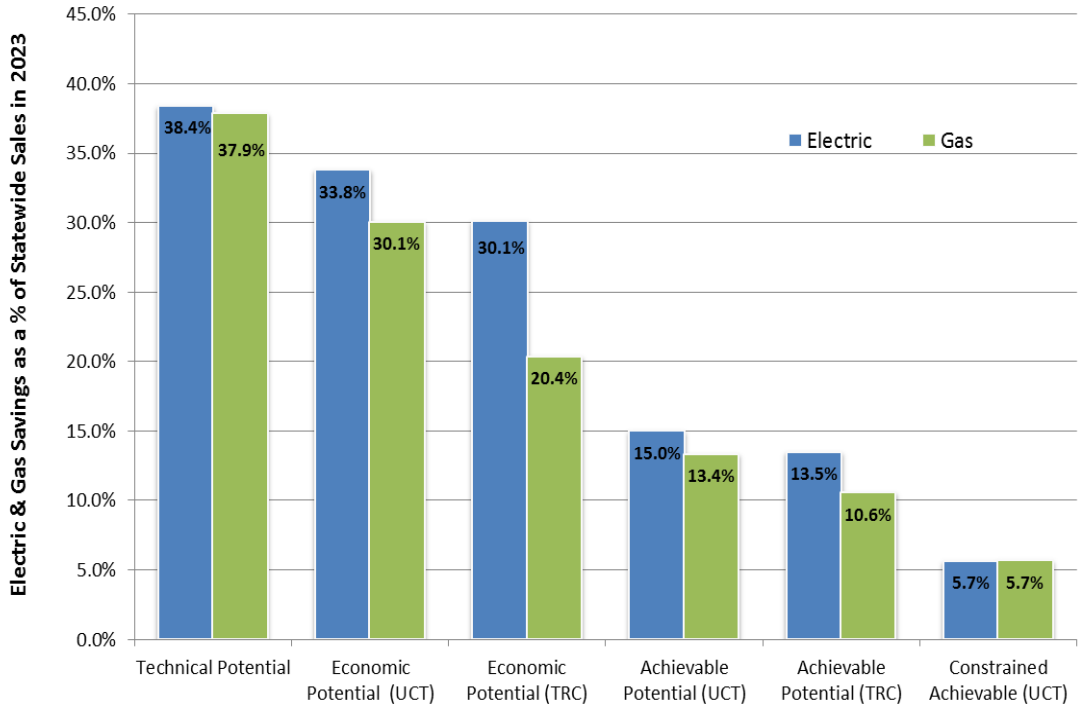
PA 295 requires the Commission to establish revenue decoupling mechanisms (RDMs) upon request by those natural gas utilities that have implemented an Energy Optimization program. A gas utility must file a request for an RDM, although the Commission may authorize an alternative mechanism that it deems to be in the public interest. There are currently four natural gas utilities that have a decoupling mechanism: DTE Gas, Consumers Energy, Upper Peninsula Power Company, and Michigan Gas Utilities.

Opportunities for Additional EO Programs

The Michigan Public Service Commission, DTE Energy and Consumers Energy worked together to complete a 2013 study of energy efficiency potential in the state of Michigan. The energy efficiency potential study provided a roadmap for policy makers and identified the energy efficiency measures having the greatest potential savings and the measures that are the most cost effective. For the study, GDS Associates, the consulting firm retained to conduct the study, produced estimates of energy efficiency technical potential, economic potential, and achievable potential.

The study examined 1,417 electric energy efficiency measures and 922 natural gas measures in the residential, commercial and industrial sectors combined. *Figure 6* shows that cost effective electric and gas energy efficiency resources can play a significantly expanded role in Michigan's energy resource mix over the next five and ten years. For the state of Michigan overall, the achievable potential for electricity savings in 2023 is 15.0% of forecasted kWh sales for 2023. The achievable potential for natural gas savings in 2023 is 13.4% of forecasted MMBtu sales for 2023. The energy efficiency potential study concluded that there remains significant achievable cost effective potential for electric and natural gas energy efficiency measures and programs in Michigan.

Figure 6: Electric & Gas Energy Efficiency Potential Savings Summary[4]



Source: Michigan Electric and Natural Gas Energy Efficiency Potential Study 2013

[4] In the Constrained Achievable UCT scenario, the analysis assumes a spending cap roughly equal to 2% of Michigan utility revenue. (*See:* Michigan Electric and Natural Gas Energy Efficiency Potential Study 2013, p. 75.)

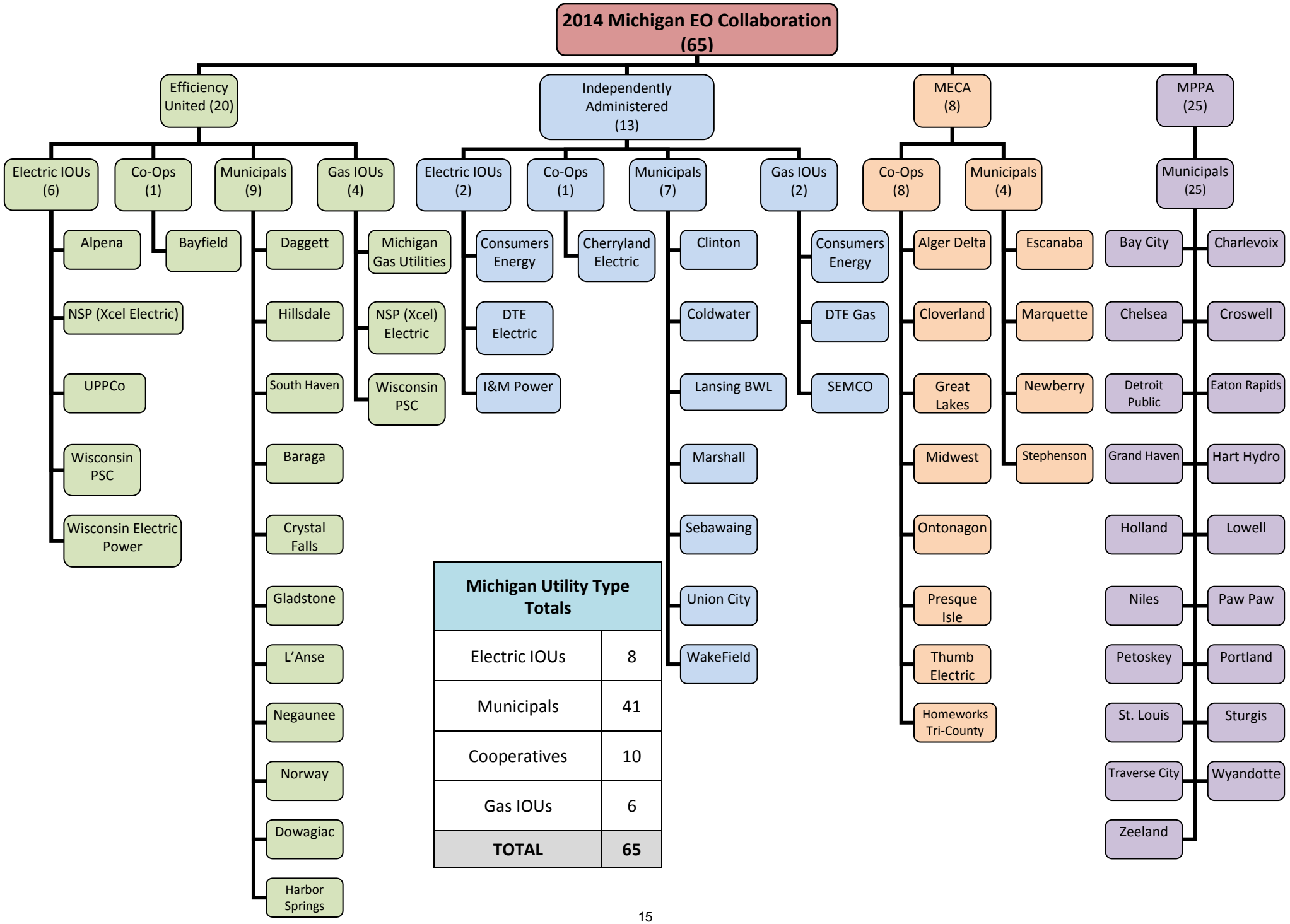
Conclusion

Energy Optimization programs have seen many successes due to continued efforts by utilities and their EO contractors and implementation partners. The 2014 program year is no exception, with most utilities meeting or exceeding energy savings targets.

The Commission attributes much of the continuing success of Energy Optimization programs to the extensive evaluation work that is undertaken each year. An annual evaluation satisfies the statutory requirement for an independent certification of energy savings, providing customers with confidence that programs will lower the cost of service. Importantly, annual evaluation includes a detailed analysis of the actual implementation of each program, to elicit improvements in program design, marketing methods, rebate/incentive processing, interaction with trade allies and customers, and customer satisfaction. This step is called "process evaluation" and is also a critical component of EO program success.

In addition, the Commission continually explores ways to improve the implementation of EO programs in order to reduce the cost of compliance, enhance the performance of small utilities, and balance the desire for low-cost efficiency measures that provide immediate bill savings with the need for energy efficiency resources that will provide savings for many years. The downward pricing trend for renewable energy resources and the continued low cost of energy optimization has resulted in a combined weighted cost of $37.00/MWh, displacing investments in higher-cost electric generation capacity. Renewable Energy and Energy Optimization continue to be cost-effective resources in the state of Michigan.

2013 Biennial EO Plan Filings			
	COMPANY	**Plan Case #**	**Group**
	Electric IOUs		
1	Alpena Power Company	U-17350	Efficiency United
2	Consumers Energy Company	U-17351	Independent
3	DTE - Energy Electric	U-17352	Independent
4	Indiana Michigan Power Company	U-17353	Independent
5	Northern States Power Company-Wisconsin	U-17354	Efficiency United
6	Upper Peninsula Power Company	U-17355	Efficiency United
7	Wisconsin Public Service Corporation	U-17356	Efficiency United
8	Wisconsin Electric Power Company	U-17357	Efficiency United
	Co-ops		
9	Alger Delta Cooperative Electric Association	U-17367	MI Electric Coop. Assoc.
10	Bayfield Electric Cooperative	U-17368	Efficiency United
11	Cherryland Electric Cooperative	U-17369	Independent
12	Cloverland Electric Cooperative	U-17364	MI Electric Coop. Assoc.
13	Great Lakes Energy Cooperative	U-17370	MI Electric Coop. Assoc.
14	Midwest Energy Cooperative	U-17365	MI Electric Coop. Assoc.
15	Ontonagon Co. Rural Electricification Assoc.	U-17371	MI Electric Coop. Assoc.
16	Presque Isle Electric and Gas Co-op	U-17372	MI Electric Coop. Assoc.
17	Thumb Electric Cooperative	U-17366	MI Electric Coop. Assoc.
18	Tri-County Electric Cooperative	U-17373	MI Electric Coop. Assoc.
	Municipals		
19	Village of Baraga	U-17381	Efficiency United
20	City of Bay City	U-17382	MI Public Power Agency
21	City of Charlevoix	U-17383	MI Public Power Agency
22	Chelsea Department of Electric and Water	U-17384	MI Public Power Agency
23	Village of Clinton	U-17385	Independent
24	Coldwater Board of Public Utilities	U-17386	Independent
25	Croswell Municipal Light & Power Department	U-17387	MI Public Power Agency
26	City of Crystal Falls	U-17388	Efficiency United
27	Daggett Electric Department	U-17389	Efficiency United
28	Detroit Public Lighting Department	U-17390	MI Public Power Agency
29	City of Dowagiac	U-17391	MI Public Power Agency
30	City of Eaton Rapids	U-17392	MI Public Power Agency
31	City of Escanaba	U-17393	MI Electric Coop. Assoc.
32	City of Gladstone	U-17394	Efficiency United
33	Grand Haven Board of Light and Power	U-17395	MI Public Power Agency
34	City of Harbor Springs	U-17396	Efficiency United
35	City of Hart Hydro	U-17397	MI Public Power Agency
36	Hillsdale Board of Public Utilities	U-17398	Efficiency United
37	Holland Board of Public Works	U-17399	MI Public Power Agency
38	Village of L'Anse	U-17400	Efficiency United
39	Lansing Board of Water & Light	U-17401	Independent
40	Lowell Light and Power	U-17402	MI Public Power Agency
41	Marquette Board of Light and Power	U-17403	MI Electric Coop. Assoc.
42	Marshall Electric Department	U-17404	Independent
43	Negaunee Department of Public Works	U-17405	Efficiency United
44	Newberry Water and Light Board	U-17406	MI Electric Coop. Assoc.
45	Niles Utility Department	U-17407	MI Public Power Agency
46	City of Norway	U-17408	Efficiency United
47	City of Paw Paw	U-17409	MI Public Power Agency
48	City of Petoskey	U-17410	MI Public Power Agency
49	City of Portland	U-17411	MI Public Power Agency
50	City of Sebewaing	U-17412	Independent
51	City of South Haven	U-17413	Efficiency United
52	City of St. Louis	U-17414	MI Public Power Agency
53	City of Stephenson	U-17415	MI Electric Coop. Assoc.
54	City of Sturgis	U-17416	MI Public Power Agency
55	Traverse City Light & Power	U-17417	MI Public Power Agency
56	Union City Electric Department	U-17418	Independent
57	City of Wakefield	U-17419	Independent
58	Wyandotte Department of Municipal Service	U-17420	MI Public Power Agency
59	Zeeland Board of Public Works	U-17421	MI Public Power Agency
	Gas IOUs		
60	Consumers Energy Company(filing joint w/electric)	U-17351	Independent
61	DTE - Energy Gas	U-17359	Independent
62	Michigan Gas Utilities Corporation	U-17360	Efficiency United
63	Northern States Power Co-Wisc.(filing joint w/elec)	U-17361	Efficiency United
64	SEMCO Energy, Inc.	U-17362	Independent
65	Wisconsin Public Serv. Corp.(filing jointly w/elec)	U-17363	Efficiency United



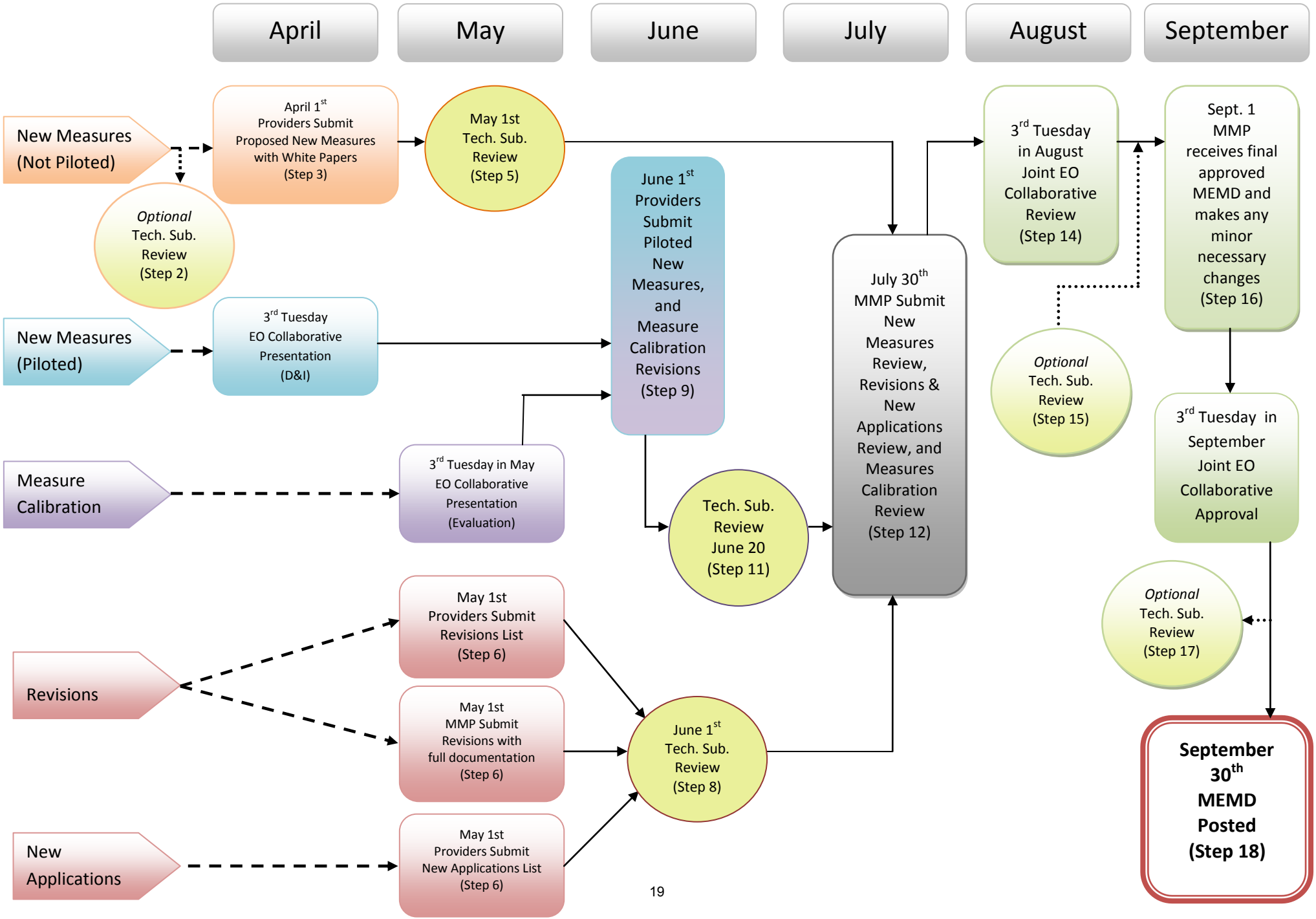
Michigan Utility Type Totals	
Electric IOUs	8
Municipals	41
Cooperatives	10
Gas IOUs	6
TOTAL	**65**

% of MWH Sales		0.30%			0.50%			0.75%			1%			1%			1%		
		2009 Target	2009 Actual	% Achieved	2010 Target	2010 Actual	% Achieved	2011 Target	2011 Actual	% Achieved	2012 Target	2012 Actual	% Achieved	2013 Target	2013 Actual	% Achieved	2014 Target	2014 Actual	% Achieved
Electric IOUs																			
1	Alpena	973	16	2%	2,586	3,859	149%	2,419	3,453	143%	3,244	4,251	131%	3,219	5,352	166%	3,597	6,770	188%
2	Consumers Energy	107,939	145,118	134%	178,509	251,187	141%	255,039	353,006	138%	333,360	409,353	123%	335,498	473,045	141%	332,200	466,000	140%
3	DTE Energy Electric	160,000	203,000	127%	227,153	402,995	177%	477,000	519,000	109%	455,000	611,000	134%	471,000	614,000	130%	534,000	794,399	149%
4	Indiana Michigan	9,159	197	2%	24,110	25,157	104%	22,427	21,626	96%	29,403	30,999	105%	28,743	34,572	120%	28,877	37,634	130%
5	UP Power	2,509	350	14%	6,750	6,357	94%	6,363	7,749	122%	8,272	9,494	115%	8,137	11,195	138%	8,142	10,514	129%
6	Wisconsin Electric	8,414	44	1%	21,614	21,722	100%	19,800	20,745	105%	26,358	26,499	101%	26,709	28,492	107%	29,916	31,706	106%
7	WPSCorp	876	2	0%	2,271	2,474	109%	2,093	2,529	121%	2,739	3,018	110%	2,734	3,466	127%	2,832	3,398	120%
8	XCEL Energy	413	0	0%	1,100	1,407	128%	1,031	1,473	143%	1,378	2,074	151%	1,385	1,833	132%	1,400	1,753	125%
	Subtotal Electric IOUs	**290,283**	**348,727**	**120%**	**464,093**	**715,158**	**154%**	**786,172**	**929,580**	**118%**	**859,755**	**1,096,689**	**128%**	**877,425**	**1,171,955**	**134%**	**940,964**	**1,352,174**	**144%**
Electric Cooperatives																			
9	Alger Delta	303	22	7%	486	732	151%	448	225	50%	588	658	112%	582	678	116%	574	442	77%
10	Bayfield	1	0	0%	2	3	150%	14	19	138%	2	2	118%	2	3	150%	2	2	109%
11	Cherryland	791	751	95%	1,777	2,037	115%	2,699	3,889	144%	3,751	3,798	101%	3,661	3,667	100%	3,840	4,712	123%
12	Cloverland/Edison S.	589	46	8%	1,610	1,760	109%	1,502	532	35%	8,149	7,365	90%	8,073	9,548	118%	7,933	8,337	105%
13	Great Lakes	4,265	286	7%	10,327	11,765	114%	9,887	5,002	51%	13,240	10,341	78%	13,302	19,479	146%	13,231	13,550	102%
14	Midwest	1,618	234	14%	4,390	5,377	122%	4,377	2,191	50%	5,875	5,152	88%	5,905	6,880	117%	5,905	5,951	101%
15	Ontonagon	160	5	3%	210	211	100%	189	212	112%	247	253	102%	248	678	273%	247	182	74%
16	Presque Isle	886	34	4%	1,917	2,621	137%	1,785	1,286	72%	2,362	1,981	84%	2,357	3,176	135%	2,336	2,251	96%
17	Thumb	529	64	12%	1,714	1,315	77%	1,121	663	59%	1,507	1,689	112%	1,512	1,784	118%	1,523	1,094	72%
18	Tri-County	1,092	262	24%	2,425	5,223	215%	2,337	254	11%	3,121	2,483	80%	3,135	3,852	123%	3,160	3,461	110%
	Subtotal Electric Coops	**10,234**	**1,704**	**17%**	**24,858**	**31,044**	**125%**	**24,359**	**14,274**	**59%**	**38,842**	**33,722**	**87%**	**38,777**	**49,745**	**128%**	**38,751**	**39,982**	**103%**
Municipals																			
19	Baraga	60	97	162%	84	7	8%	226	185	82%	188	191	102%	184	233	127%	187	338	181%
20	Bay City	896	715	80%	1,473	2,251	153%	1,937	2,317	120%	2,860	3,037	106%	3,124	3,044	97%	3,374	4,012	119%
21	Charlevoix	203	79	39%	450	262	58%	678	423	62%	603	643	107%	608	693	114%	324	550	170%
22	Chelsea	266	409	154%	365	359	98%	696	1,221	175%	366	479	131%	738	893	121%	591	768	130%
23	Clinton	146	173	118%	113	113	100%	161	164	102%	213	203	95%	227	241	106%	202	208	103%
24	Coldwater	865	37	4%	2,342	1,379	59%	2,342	1,409	60%	2,589	2,104	81%	2,589	2,056	79%	2,887	3,317	115%
25	Croswell	110	247	225%	133	230	173%	188	180	96%	357	489	137%	355	199	56%	288	307	107%
26	Crystal Falls	50	718	1436%	60	459	765%	88	92	105%	164	191	116%	162	325	201%	162	408	252%
27	Dagget Electric Co.	5	7	140%	12	19	158%	11	19	167%	15	26	181%	14	16	114%	12	16	129%
28	Detroit PLD	2	2	100%	1,587	224	14%	2,986	2,286	77%	865	592	68%	0	0		0	0	
29	Dowagiac	239	52	22%	547	521	95%	543	766	141%	417	538	129%	634	745	118%	660	927	140%
30	Eaton Rapids	154	61	40%	347	298	86%	449	470	105%	455	607	133%	331	830	251%	267	905	339%
31	Escanaba	427	0	0%	1,212	1,171	97%	1,104	1,072	97%	1,428	1,338	94%	1,471	1,614	110%	1,266	1,294	102%
32	Gladstone	97	407	420%	182	267	147%	308	136	44%	328	412	126%	321	341	106%	325	406	125%
33	Grand Haven	873	921	105%	1,373	1,591	116%	1,878	2,211	118%	2,223	1,912	86%	2,674	3,198	120%	1,712	2,298	134%
34	Harbor Springs	112	150	134%	171	167	98%	290	248	86%	358	369	103%	375	409	109%	375	572	153%
35	Hart	115	101	88%	196	193	98%	299	140	47%	394	265	67%	421	562	133%	309	461	149%
36	Hillsdale	429	415	97%	726	1,216	167%	536	643	120%	1,275	1,508	118%	1,212	1,572	130%	1,205	1,562	130%
37	Holland	3,089	3,382	109%	4,849	5,481	113%	6,477	7,762	120%	7,948	8,116	102%	9,821	10,934	111%	10,399	10,861	104%
38	L'Anse	42	123	293%	79	10	13%	162	600	370%	137	174	127%	132	166	126%	127	213	168%
39	LBWL	6,831	6,972	102%	11,165	11,524	103%	15,877	17,587	111%	19,280	23,147	120%	18,363	26,757	146%	18,011	23,094	128%
40	Lowell	180	289	161%	226	269	119%	432	578	134%	483	503	104%	548	444	81%	688	697	101%
41	Marquette	872	0	0%	2,534	3,198	126%	2,435	1,827	75%	3,098	2,912	94%	3,199	3,827	120%	2,403	2,861	119%
42	Marshall	357	363	102%	579	835	144%	605	1,129	187%	537	868	162%	725	1,039	143%	746	756	101%
43	Negaunee	67	274	409%	92	85	92%	199	116	58%	217	256	118%	221	317	143%	222	271	122%
44	Newberry	17	0	0%	148	124	84%	144	155	108%	192	243	127%	140	206	147%	129	141	109%
45	Niles	440	234	53%	802	718	90%	1,122	1,052	94%	1,287	1,003	78%	1,496	1,233	82%	1,328	1,401	105%
46	Norway	94	120	128%	159	76	48%	317	313	99%	300	386	128%	294	1,128	384%	293	501	171%
47	Paw Paw	116	109	94%	201	115	57%	373	177	47%	480	450	94%	458	497	109%	344	1,747	508%
48	Petoskey	232	880	379%	404	599	148%	809	477	59%	1,080	839	78%	1,116	688	62%	1,907	1,870	98%
49	Portland	107	103	96%	182	210	115%	240	155	65%	362	332	92%	372	366	98%	298	318	107%
50	Sebewaing	125	531	425%	158	995	630%	203	305	150%	311	1,017	327%	163	716	439%	223	676	303%
51	South Haven	411	423	103%	688	610	89%	1,135	909	80%	1,312	1,582	121%	1,315	1,425	108%	1,347	2,437	181%
52	St. Louis	120	77	64%	242	251	104%	294	275	94%	378	365	97%	379	241	64%	411	397	97%
53	Stephenson	17	0	0%	49	47	96%	45	47	104%	60	68	113%	51	75	147%	37	37	100%
54	Sturgis	720	797	111%	1,198	1,249	104%	1,937	1,792	93%	2,215	2,798	126%	1,557	1,911	123%	1,595	2,189	137%
55	Traverse City	991	1,735	175%	1,149	1,945	169%	1,704	2,650	156%	2,543	4,109	162%	2,157	2,797	130%	2,826	3,437	122%
56	Union City	47	53	113%	79	197	251%	118	129	109%	139	125	90%	164	142	87%	172	173	101%
57	Wakefield	38	0	0%	103	237	230%	44	49	111%	52	52	100%	130	61	47%	130	48	37%
58	Wyandotte	2,464	3,034	123%	2,388	3,832	160%	1,515	1,803	119%	2,495	2,500	100%	1,707	1,981	116%	1,503	1,295	86%
59	Zeeland	1,099	1,122	102%	1,335	2,202	165%	1,472	1,884	128%	2,601	1,484	57%	4,101	5,619	137%	2,132	2,790	131%
	Subtotal Municipals	**23,525**	**25,212**	**107%**	**40,182**	**45,536**	**113%**	**52,379**	**55,753**	**106%**	**62,605**	**68,233**	**109%**	**64,049**	**79,541**	**124%**	**61,417**	**76,557**	**125%**
	Statewide Electric Totals	**324,042**	**375,643**	**116%**	**529,133**	**791,738**	**150%**	**862,910**	**999,607**	**116%**	**961,202**	**1,198,644**	**125%**	**980,251**	**1,301,241**	**133%**	**1,041,132**	**1,468,713**	**141%**

% of MCF Sales		0.10%			0.25%			0.50%			0.75%			0.75%			0.75%		
		2009 Target	2009 Actual	% Achieved	2010 Target	2010 Actual	% Achieved	2011 Target	2011 Actual	% Achieved	2012 Target	2012 Actual	% Achieved	2013 Target	2013 Actual	% Achieved	2014 Target	2014 Actual	% Achieved
Gas Companies																			
1	Consumers Energy	299,623	396,783	132%	743,943	937,915	126%	1,263,564	2,039,609	161%	1,844,899	2,378,978	129%	1,765,915	2,173,124	123%	1,810,552	2,400,000	133%
2	DTE - Gas	164,003	250,680	153%	405,110	792,000	196%	1,164,000	1,364,000	117%	894,701	1,186,000	133%	1,240,000	1,436,000	116%	1,305,000	1,554,995	119%
3	MGU	Combined 2009-2010 as these providers were part of Efficiency United. Two year targets were a total of .10% + .25%			105,323	122,432	116%	150,300	111,990	75%	219,898	262,259	119%	216,038	259,722	120%	210,757	344,998	164%
4	SEMCO Energy				195,859	243,050	124%	280,158	305,433	109%	409,480	417,774	102%	402,944	523,683	130%	394,464	543,646	138%
5	WPSCorp				5,301	5,788	109%	7,515	7,966	106%	10,946	30,877	282%	10,748	13,152	122%	11,366	13,771	121%
6	XCEL Energy				3,126	9,061	290%	4,481	7,009	156%	6,500	6,986	107%	6,264	6,760	108%	6,000	9,265	154%
	Statewide Gas Totals	**463,626**	**647,463**	**140%**	**1,458,662**	**2,110,246**	**145%**	**2,870,018**	**3,836,008**	**134%**	**3,386,424**	**4,282,874**	**126%**	**3,641,909**	**4,412,441**	**121%**	**3,738,139**	**4,866,675**	**130%**

	Utilities	Total Funding			
		2009-2011	2012	2013	2014
Electric IOUs					
1	Alpena	$711,512	$510,504	$456,435	$586,815
2	Consumers	$104,546,754	$67,369,007	$69,097,040	$74,900,000
3	DTE Energy Electric	$117,539,193	$69,600,000	$74,900,000	$84,779,297
4	Indiana Michigan	$5,432,573	$4,420,319	$4,517,294	$4,120,487
5	UP Power	$2,555,556	$1,967,085	$1,834,617	$1,626,752
6	Wisconsin Electric	$983,889	$931,154	$883,440	$820,905
7	WPSCorp	$553,620	$381,404	$409,687	$714,535
8	Xcel Energy Electric	$299,179	$234,475	$203,557	$222,747
	Subtotal Electric IOUs	**$232,622,276**	**$145,413,948**	**$152,302,070**	**$167,771,538**
Electric Coops					
9	Alger Delta	$201,039	$148,468	$155,303	$150,910
10	Bayfield	$1,043	$866	$1,271	$638
11	Cherryland	$439,729	$174,515	$329,623	$344,215
12	Cloverland/Edison Sault	$1,327,578	$904,920	$1,273,334	$1,080,115
13	Great Lakes	$2,656,920	$1,503,475	$2,142,034	$1,849,764
14	Midwest	$1,327,889	$841,983	$929,834	$1,049,336
15	Ontonagon	$122,508	$45,447	$52,279	$43,648
16	Presque Isle	$707,182	$313,565	$425,955	$346,051
17	Thumb	$375,517	$227,833	$254,229	$234,950
18	Tri-County	$814,853	$378,650	$443,333	$493,557
	Subtotal Electric Coops	**$7,974,258**	**$4,539,722**	**$6,007,195**	**$5,593,184**
Municipals					
19	Baraga	$42,794	$48,700	$42,490	$39,737
20	Bay City	$779,774	$469,307	$479,666	$578,296
21	Charlevoix	$124,543	$68,757	$78,900	$63,353
22	Chelsea	$174,424	$72,410	$36,909	$108,690
23	Clinton	$15,365	$9,465	$11,949	$9,391
24	Coldwater	$329,201	$536,800	$536,000	$301,048
25	Croswell	$74,315	$43,500	$57,029	$84,861
26	Crystal Falls	$82,466	$43,440	$43,059	$55,740
27	Daggett	$3,199	$2,469	$1,993	$1,875
28	Detroit PLD	$527,650	$141,860	$0	$0
29	Dowagiac	$179,237	$66,347	$113,166	$113,643
30	Eaton Rapids	$99,978	$67,040	$86,412	$84,448
31	Escanaba	$271,926	$191,237	$211,714	$160,238
32	Gladstone	$106,122	$79,460	$61,598	$70,807
33	Grand Haven	$601,512	$228,811	$173,729	$370,376
34	Harbor Springs	$80,329	$43,205	$64,774	$56,859
35	Hart Hydro	$65,815	$38,926	$68,214	$74,927
36	Hillsdale	$218,169	$214,108	$196,493	$201,931
37	Holland	$2,056,460	$1,066,505	$1,265,403	$1,472,659
38	L'Anse	$37,661	$31,114	$22,350	$25,586
39	LBWL	$5,457,314	$3,260,845	$3,612,207	$3,537,494
40	Lowell	$147,825	$63,247	$92,874	$136,862
41	Marquette	$701,097	$488,019	$468,288	$403,665
42	Marshall	$137,457	$55,902	$74,234	$84,910
43	Negaunee	$93,777	$65,940	$54,094	$45,694
44	Newberry	$43,332	$31,159	$34,013	$16,728
45	Niles	$300,065	$129,103	$120,312	$222,279
46	Norway	$98,179	$72,560	$81,451	$65,792
47	Paw Paw	$64,413	$55,998	$24,638	$79,359
48	Petoskey	$170,584	$96,140	$24,929	$167,240
49	Portland	$80,819	$41,497	$60,388	$57,832
50	Sebewaing	$119,312	$43,577	$79,772	$54,616
51	South Haven	$281,730	$260,203	$224,941	$240,518
52	St. Louis	$86,583	$53,446	$66,106	$73,664
53	Stephenson	$16,467	$7,799	$8,055	$6,854
54	Sturgis	$462,458	$242,340	$230,663	$316,200
55	Traverse City	$865,596	$612,250	$394,329	$460,846
56	Union City	$18,295	$11,577	$12,738	$9,679
57	Wakefield	$18,908	$6,186	$10,525	$5,596
58	Wyandotte	$714,828	$238,925	$205,254	$346,719
59	Zeeland	$618,228	$285,371	$420,021	$405,471
	Subtotal Municipals	**$16,368,207**	**$9,585,545**	**$9,851,680**	**$10,612,483**
	Subtotal Statewide Electric	**$256,964,741**	**$159,539,215**	**$168,160,945**	**$183,977,204**
Gas Companies					
60	Consumers	$87,207,089	$48,148,786	$47,776,959	$40,600,000
61	DTE Energy Gas	$48,112,540	$28,600,000	$25,600,000	$24,113,957
62	MGU	$5,308,430	$3,671,084	$3,471,355	$2,563,990
63	SEMCO Energy	$10,285,456	$6,242,032	$7,363,011	$5,469,134
64	WPSCorp	$169,938	$91,685	$98,743	$77,633
65	Xcel Energy Electric	$218,623	$109,531	$112,867	$102,188
	Subtotal Statewide Gas	**$151,302,076**	**$86,863,118**	**$84,422,935**	**$72,926,902**
	Total Gas and Electric	**$408,266,817**	**$246,402,333**	**$252,583,880**	**$256,904,107**

Utility Providers	2009-2014 USRCT Average
Alpena	6.6
Consumers Energy	3.3
DTE Energy Electric	5.9
Indiana Michigan	6.6
UP Power	6.6
Wisconsin Electric	6.6
WPSCorp	6.6
XCEL Energy	6.6
Electric IOUs Average	**6.1**
Alger Delta	5.6
Bayfield	6.6
Cherryland	1.0
Cloverland/Edison S.	5.9
Great Lakes	5.8
Midwest	5.8
Ontonagon	5.6
Presque Isle	5.8
Thumb	5.7
Tri-County	5.8
Electric Cooperatives Average	**5.4**
Baraga	5.5
Bay City	3.8
Charlevoix	3.8
Chelsea	4.0
Clinton	4.0
Coldwater	4.3
Croswell	4.3
Crystal Falls	5.6
Dagget Electric Co.	6.6
Detroit PLD*	2.5
Dowagiac	4.3
Eaton Rapids	4.1
Escanaba	5.5
Gladstone	5.5
Grand Haven	4.0
Harbor Springs	3.8
Hart	4.2
Hillsdale	4.5
Holland	4.2
L'Anse	5.5
LBWL	3.4
Lowell	4.0
Marquette	5.5
Marshall	4.6
Negaunee	5.5
Newberry	4.6
Niles	4.3
Norway	5.6
Paw Paw	4.2
Petoskey	3.9
Portland	4.2
Sebewaing	4.1
South Haven	4.3
St. Louis	4.0
Stephenson	5.6
Sturgis	3.9
Traverse City	4.0
Union City	3.8
Wakefield	4.3
Wyandotte	3.9
Zeeland	4.9
Municipals Average	**4.5**
Statewide Electric Average	**5.3**
Natural Gas Companies	
Consumers Energy	2.7
DTE - Gas	4.0
MGU	3.5
SEMCO Energy	3.5
WPSCorp	3.5
XCEL Energy	3.5
Statewide Natural Gas Average	**3.4**
Overall Statewide Electric and Natural Gas Average:	**4.4**


April
May
June
July
August
September
New Measures (Not Piloted)
April 1st Providers Submit Proposed New Measures with White Papers (Step 3)
May 1st Tech. Sub. Review (Step 5)
Optional Tech. Sub. Review (Step 2)
New Measures (Piloted)
3rd Tuesday EO Collaborative Presentation (D&I)
June 1st Providers Submit Piloted New Measures, and Measure Calibration Revisions (Step 9)
3rd Tuesday in August Joint EO Collaborative Review (Step 14)
Sept. 1 MMP receives final approved MEMD and makes any minor necessary changes (Step 16)
July 30th MMP Submit New Measures Review, Revisions & New Applications Review, and Measures Calibration Review (Step 12)
Optional Tech. Sub. Review (Step 15)
Measure Calibration
3rd Tuesday in May EO Collaborative Presentation (Evaluation)
Tech. Sub. Review June 20 (Step 11)
3rd Tuesday in September Joint EO Collaborative Approval
Optional Tech. Sub. Review (Step 17)
Revisions
May 1st Providers Submit Revisions List (Step 6)
May 1st MMP Submit Revisions with full documentation (Step 6)
June 1st Tech. Sub. Review (Step 8)
New Applications
May 1st Providers Submit New Applications List (Step 6)
September 30th MEMD Posted (Step 18)