

**Lansing Board of Water & Light  
2013 Biennial Energy Optimization Plan  
MPSC Case No. U-17401**

**Introduction**

This Biennial Energy Optimization Plan Review filing by the Lansing Board of Water & Light (BWL) complies with Public Act 295 of 2008 (the Act) and the related March 15, 2013 Michigan Public Service Commission Order (MPSC Case No. U-17401). This filing serves as an application for a new plan review for the years 2015, 2016 and 2017. The BWL will continue the 2014 plan as filed and approved in 2011. This Energy Optimization (EO) Plan was developed in three sections consistent with the BWL's 2009 EO Plan filing:

- Section 1 will address each requirement under PA 295 Section 71, Subsection 3 (a-i).
- Section 2 will address the requirements under Attachment E of the MPSC Temporary Order U-15800
- Section 3 has additional information under MPSC Temporary Order U-15800

The 2015-17 programs were developed utilizing the same methodology that the MPSC approved on May 24, 2012 for the BWL's 2012-14 EO plan.

**SECTION 1: PA 295 SECTION 71 SUBSECTION 3 REQUIRMENTS**

***Section 71 (3) (a) The EO plan shall offer programs to each customer class including low-income customers;***

The table below shows the total incremental megawatt hour savings required by PA 295 for the BWL Energy Optimization programs for years 2014-2017. The BWL has adjusted the incremental savings to accommodate anticipated third-party verification results.

<i>Savings is reported in Megawatt hours</i>			<b>Total Savings Required MWH</b>	<b>Adjusted for EM&amp;V MWH</b>
<b>Program Year</b>	<b>% Saving</b>	<b>3-Year Average</b>		
2014	1.00%	2011, 12 & 13	22,460	22,460
2015	1.00%	2012, 13 & 14	21,713	22,482
2016	1.00%	2013, 14 & 15	21,691	22,459
2017	1.00%	2014, 15 & 16	21,701	22,469

The BWL developed its Energy Optimization programs to serve all customer classes, including residential low-income. The BWL's Plan for 2014–2017 is based on allocating approximately 5% of its EO budget to low-income program, 26% to residential, 57% to commercial and industrial, and 12% to evaluation and administration. Program allocations will be revised on an annual basis in order to continue meeting the goals under PA 295.

Programs that will be offered to each rate class are listed below and are categorized into Low-Income Services, Residential Solutions and Business Solutions. A detailed list of budget amounts and the associated kilowatt savings for each customer class can be found in Attachment A. Program descriptions with budgets and estimated participation levels of the programs that will be offered are included in Attachment B.

### ***Residential Low-income Services***

The BWL will spend 5% of the program budget on low-income programs. Target market for this program continues to be residential customers whose income is estimated to be below 200% of poverty level as defined by the U.S. Department of Health and Human Services. Services will be targeted to diverse segments of the population including those living in single family and multi-family buildings, home owners and renters, and to the extent possible – age and geographic diversity. This program provides funding to upgrade the electric energy efficiency of customers living on limited incomes, thereby lowering their energy bills. The program will be marketed through utility bill inserts, the media and existing low-income community organizations and other partners.

### ***Residential Solutions***

The programs below will be available to all BWL Residential Electric Service Rates 1 and Residential Senior Citizen Rate 21 customers.

- *Residential Services (appliance recycling, lighting, HVAC, etc)*
- *Multi-Family In-Unit Efficiency*
- *Residential Education Services*
- *Pilot/Emerging Technology Programs*

### ***Business Solutions***

The programs below will be available to all BWL commercial and industrial customers billed on: General Service Rate 3, Large General Service Rate 4, Municipal Water Pumping Electric Service Rate 7, Space Conditioning and Electric Water Heating Service Rate 12, Primary Electric Service Rate 5, Large Capacity Electric Service Rate 8.

- *Business Services (prescriptive and custom)*
- *Business Education Services*
- *Pilot/Emerging Technology Programs*

**Section 71 (3) (b) The EO plan shall specify the necessary funding level;**

In order to achieve the mandatory energy savings targets, the BWL’s Energy Optimization Plan will require the estimated funding levels shown in the table below.

<i>Expenditures Percentage of Retail Sales</i>			<b>Total Spending</b> \$
<b>Program Year</b>	<b>% Spending</b>	<b>Sales Year</b>	
2014	2.00%	2012	\$4,053,316
2015	2.00%	2013	\$4,011,653
2016	2.00%	2014	\$4,090,406
2017	2.00%	2015	\$4,188,705

Note: Expenditures for 2015-17 are estimates and may be revised as actual data becomes available.

**Section 71 (3) (c) Describe how EO program costs will be recovered from customers;**

All costs associated with the implementation of the BWL’s Energy Optimization Plan will be recovered consistent with Section 89 (2) of Public Act 295. Residential customers will be charged on a volumetric basis; primary and secondary customers will be charged on a per meter basis. The unmetered customers are street lighting and traffic signals and when programs are developed for these customers there will be an appropriate charge developed.

The costs for primary customers will not exceed 1.7% of total retail revenues for that customer class and for residential and secondary will not exceed 2.2% of total retail revenues for those customer classes. [PA 295 Section 89 (3)]

The BWL plans to continue the current surcharges that were approved by our Board of Commissioners on January 26, 2010 and levied starting March 2010. These surcharges will be evaluated in the fall of 2013 and revised as needed to ensure adequate funding of the proposed programs.

The estimated monthly charges are shown in the table below.

<b>Levelized Surcharges</b>		<b>Current</b>
Residential	Per kWh	\$0.001853
Secondary 1	Per meter	\$6.58
Secondary 2	Per meter	\$65.78
Primary	Per meter	\$461.20

Due to the varying usage patterns and load characteristics of the secondary customer base, two separate charges were developed for these customers. The rate

per meter for the Secondary 1 category will include those customers that have Rates 3, 7 and 12 while Secondary 2 will consist of customers on Rate 4.

***Section 71 (3)(d) Ensure, to the extent feasible, that charges collected from a particular customer rate class are spent on EO programs for that rate class;***

Charges for each customer class were developed based on the approximate percentage of that program's budget allocations that will be offered for that customer class to the extent feasible.

***Section 71 (3) (e) Demonstrate that proposed EO funding is sufficient to ensure achievement of EO savings standards;***

The BWL Program Portfolio was prepared by Janet Brandt from Morgan Marketing Partners to outline goals, budgets, and programs that have the potential to achieve the targets identified in PA 295. The programs described in this plan were modeled based on typical measure characteristics used in similar "best practice" programs across the country, along with specific savings estimates from the Michigan Deemed Savings Database.

***Section 71 (3)(f) Specify whether electric energy savings will be based on weather-normalized sales or the average megawatt hours of electricity sold by the provider annually during the previous 3 years to retail customers;***

The incremental energy savings for the BWL Energy Optimization Plan will continue to be calculated utilizing the average number of megawatt hours of electricity sold annually during the previous three years to retail customers.

***Section 71 (3) (g) Demonstrate that the providers EO programs, excluding low-income programs, are collectively cost-effective;***

The BWL programs were designed to meet the cost-effective tests as required under PA 295 Sec. 73 (2). The two primary tests that were used to determine if the programs are reasonable and prudent are the Utility System Resource Cost Test and the Cost of Conserved Energy. The definitions according to the California Standard Practices Manual for each of these tests are as follows:

- **Utility System Resource Cost Test**

The Utility System Resource Cost Test measures the net costs of an energy efficiency program as a resource option based on the costs incurred by the utility (including incentive costs) and excluding any net costs incurred by the participant.

- **Cost of Conserved Energy**

The Cost of Conserved Energy is the average lifecycle cost of an efficiency measure or program expressed in cents per kWh saved over the life of the installed measures.

A table of each program with the Utility Cost Test results and the estimated Cost of Conserved Energy is shown below.

<b>Portfolio Category</b>	<b>Program</b>	<b>UCT Results</b>	<b>CCE Results*</b>
	Low-income	N/A	N/A
<b>Residential</b>	Residential Services	3.01	\$0.02
	Multi-Family Direct Install	2.45	\$0.02
	Education Services	2.83	\$0.02
	Pilot/Emerging Technologies	2.83	\$0.02
<b>Business</b>	Business Services	4.31	\$0.01
	Education Services	2.82	\$0.02
	Pilot/Emerging Technologies	2.82	\$0.02
<b>Projected Annual Totals</b>		<b>3.28</b>	<b>\$0.02</b>

\*The CCE is the present value of the program costs divided by the lifetime savings (\$/kWh).

***Section 71 (3) (h) Provide for practical and effective administration of the EO programs;***

The overall administration of the BWL’s Energy Optimization Plan will continue to be the responsibility of BWL personnel with implementation contractors selected in 2014-2017 as needed. The BWL will make use of experienced BWL in-house personnel who will assure quality and compliance by providing oversight, guidance and direction to the outside implementation contractors. BWL personnel will also work with the implementation contractors who have qualified and experienced staff with the technical capabilities and data tracking systems necessary to deliver the programs effectively. This combination will assure effective and efficient program administration.

***Section 71 (3) (i) Include a process for obtaining independent expert evaluation of the actual EO savings;***

The BWL issued a Request for Proposal (RFP) in 2011 to select an independent third-party evaluation contractor to evaluate the 2012–2014 EO programs. The BWL contracted with KEMA Inc. KEMA was responsible for verifying the incremental gross energy savings from each EO program and providing an annual report of such

findings. Another RFP will be issued in 2014 to select an independent contractor to evaluate the 2015-2017 EO program years.

## **SECTION 2: REQUIREMENTS UNDER ATTACHMENT E of MPSC Temporary Order U-15800**

### ***MPSC Attachment E Section 3 (a) Plan Elements;***

#### ***Energy Optimization Plan Development Methodology***

The BWL's 2014–2017 Energy Optimization Program Portfolio outlines goals, budgets and programs that are designed to achieve the energy conservation targets identified in Michigan Legislation Public Act 295 (PA 295). The programs in this plan were based on typical measure characteristics used in similar “best practice” programs across the country, along with specific savings estimates from the new Michigan Deemed Savings Database.

The programs were developed utilizing the same methodology that was used in the 2012-2014 BWL plan that were approved by the MPSC on May 24, 2012. Specifically, the programs were selected based on the following objectives:

- To provide electric energy savings for residential and commercial/industrial customers through a portfolio of proven “best practice” energy efficiency programs that are cost-effective from a Utility System Resource Cost perspective;
- To develop program designs that can achieve the required energy savings goals within the specified budget caps identified in PA 295;
- To recommend potential opportunities to leverage program funding with other state, regional, and national efforts.
- Incentives are only offered on measures that exceed current codes and standards and are often “tiered” to encourage customers to implement the highest level of efficiency available.

The DSMore model was used to conduct the benefit-cost analysis, using the BWL's projected avoided costs. The model calculates benefit-cost results for each of the major and nationally-defined perspectives: Participant Test, Rate Impact Test, Total Resource Cost Test, and the Utility System Resource Cost Test, as well as the Cost of Conserved Energy.

### ***MPSC Attachment E Section 1 (e) Plan Requirements;***

Other cost-effective tests were utilized to determine cost effectiveness of the BWL programs. Brief definitions of those tests according to the California Standard Practices Manual are:

**Utility System Resource Cost Test (UCT)**- The Utility System Resource Cost Test measures the net costs of an energy efficiency program as a resource option based on the costs incurred by the utility (including incentive costs) and excluding any net costs incurred by the participant.

**Total Resource Cost Test (TRC)**-The Total Resource Cost Test measures the net costs of an energy efficiency program as a resource option based on the total costs of the program, including both the participants' and the utility's costs. This test incorporates both the utility's costs and the customer costs associated with purchasing and installing an energy efficiency measure. For DSM programs, those that pass the TRC test with a ratio of greater than 1 are viewed as beneficial to the utility and its customers because the savings in electric costs outweigh the DSM costs.

**Participant Test (PCT)**-The Participants Test is the measure of the quantifiable benefits and costs to the customer due to participation in a program.

**The Ratepayer Impact Measure Test (RIM)**-The Ratepayer Impact Measure (RIM) test measures what happens to customer rates due to changes in utility revenues and operating costs caused by the program. This test indicates the direction and magnitude of the expected change in customer rate level for both participating and non-participating customers.

A table with the multiple cost-effectiveness tests required for each program is shown below:

Portfolio Category	Program	Utility System Resource Cost Test	Total Resource Cost Test	Rate Impact Measure	Participant Test
<b>Residential</b>	Low-Income	N/A	N/A	N/A	N/A
	Residential Services	3.01	1.82	0.42	3.90
	Multi-family Services	2.45	4.92	0.39	N/A
	Educational Services	2.83	2.83	0.39	N/A
	Pilot/Emerging Technology	2.83	2.83	0.39	N/A
	Residential Portfolio (w admin/eval)	2.51	1.95	0.40	5.98
<b>Business</b>	Business Services	4.31	1.72	0.46	2.74
	Educational Services	2.82	2.82	0.40	N/A
	Pilot/Emerging Technology	2.82	2.82	0.40	N/A
	Business Portfolio (w admin/eval)	3.60	1.65	0.45	2.91
<b>Total Portfolio</b>		<b>3.28</b>	<b>1.71</b>	<b>0.44</b>	<b>3.35</b>

### **MPSC Attachment E Section 3 (b-f) Plan Elements;**

**b)** The EO portfolio summary (MPSC Table 2) can be found in Attachment A and a summary of each program (MPSC Table 1) is shown in Attachment B. Savings estimates for all measures are based on the Michigan Deemed Savings Database.

**c)** Since 2010, the BWL has offered a number of residential and business pilot programs to assist in developing future programs and/or to assess emerging technologies. Several of the programs have been integrated into the BWL Energy Optimization portfolio of programs and others have either ended or continue to run as Pilot programs. Examples of those programs are listed below.

#### **Residential Pilot Programs**

- Home Energy Assessments (Lower My Bill)
- Solar Attic Fan Rebate
- Holiday LED Light Exchange & Recycling
- Multifamily New Construction & Remodeling
- Energy Smart Neighbors Geographic Behavioral Program
- Online Energy Education

#### **Business Pilot Programs**

- Programmable T-Stat Direct Install
- Small Business Survey
- New Construction & Remodeling
- Commercial Energy Audits for Nonprofits
- Small Business Direct Install Lighting

The BWL will continue to develop and offer pilot programs and the budgets for pilot programs will also be deemed to generate a proportional amount of required energy savings for each program year where the money is spent.

**d)** Three percent of the EO budget will be used on education programs. These budget expenditures will communicate and educate customers on the benefits of energy efficiency, conservation and load management. Budget funds for education will be deemed to generate a proportional amount of the required energy savings for each program year in which the money is spent. BWL programs are designed to include an education component for both the Residential and Business customers.

**e)** The BWL Plan includes a residential low-income program and costs for this program will be recovered from each customer rate class in proportion to that rate class' funding of all programs.

**f)** The BWL has set aside no more than 8% of program budget for program evaluation, measurement and verification activities to determine actual program energy savings.

## **SECTION 3: ADDITIONAL INFORMATION**

### ***Comment Proceedings;***

An opportunity to convey public comments for the BWL 2014-17 Biennial Energy Optimization Plan was communicated to all BWL customers through the bill insert "Connections" and has been posted on the BWL's website, [www.lbwl.com](http://www.lbwl.com). The BWL solicited public comments from July 2 through July 26, 2013 in three ways: 1) via the website, [www.lbwl.com](http://www.lbwl.com); 2) by mail: Lansing Board of Water and Light, Attn. George Stojic, Executive Director of Strategic Planning and Development at 1232 Haco Drive, Lansing, MI 48901; and 3) in person by appointment with George Stojic, Executive Director of Strategic Planning and Development, July 15-19, 2013. All public comments received on the Energy Optimization Plan will accompany the August 1, 2013 filing. Any public comments received after the Plan filing date will be submitted to the MPSC prior to September 30, 2013.

### ***Michigan Saves Program;***

The BWL supports the financing programs that are offered under the Michigan Saves Program that helps customers invest in high-efficiency equipment and improvements to their homes and businesses. In addition, the BWL will promote the Michigan Saves financing options at local community events.

### ***Recovery of Costs from Customers;***

The BWL does recognize the difference in usage patterns and load characteristics of the secondary customer base and developed two separate charges in response to those differences.

### ***Coordination of Energy Optimization Programs;***

The BWL has been and will continue participation in the EO Collaborative monthly meetings organized by the MPSC which allow for the evaluation of program development and delivery options that may improve program administration and delivery efficiencies.

The BWL and Consumers Energy have collaborated by sharing costs on the delivery of several EO programs to customers in our joint service territories. The BWL claims the electric savings and Consumers Energy the gas savings. These include a Small Business Direct Install Thermostat program, a series of Building Operator Certification Trainings and Think! Energy, which is an interactive presentation program for schools.

**BWL Energy Optimization Program Portfolio 2014-2017**

Portfolio Category	Program Portfolio	USRCT Results	CCE Results	2014		2015		2016		2017		Four Year Totals	
				Gross First Year kWh Savings	Program Budget	Gross First Year kWh Savings	Program Budget	Gross First Year kWh Savings	Program Budget	Gross First Year kWh Savings	Program Budget	Gross First Year kWh Savings	Program Budget
Residential	Low Income Services	N/A	N/A	941,493	\$212,941	754,691	\$195,000	759,968	\$200,000	765,057	\$205,000	3,221,210	\$812,941
	Residential Services	3.01	\$0.02	3,409,907	\$677,923	3,410,377	\$581,919	3,482,915	\$614,765	3,537,568	\$656,757	13,840,767	\$2,531,364
	Multi-family Services	2.45	\$0.02	1,480,905	\$218,850	796,009	\$172,461	713,279	\$157,241	655,760	\$147,046	3,645,952	\$695,598
	Educational Services	2.83	\$0.02	449,208	\$84,376	434,258	\$80,000	433,828	\$81,700	434,023	\$83,800	1,751,317	\$329,876
	Pilot/Emerging Technology	2.83	\$0.02	1,123,020	\$210,940	759,952	\$140,300	759,199	\$143,250	759,540	\$146,500	3,401,711	\$640,990
	<b>Subtotal - Residential Solutions</b>	<b>2.51</b>	<b>\$0.02</b>	<b>7,404,533</b>	<b>\$1,405,030</b>	<b>6,155,287</b>	<b>\$1,169,680</b>	<b>6,149,190</b>	<b>\$1,196,956</b>	<b>6,151,948</b>	<b>\$1,239,103</b>	<b>25,860,958</b>	<b>\$5,010,769</b>
Commercial & Industrial	Business Programs	4.31	\$0.01	14,157,451	\$2,038,873	15,240,617	\$2,113,973	15,225,520	\$2,159,450	15,232,348	\$2,212,102	59,855,936	\$8,524,398
	Educational Services	2.82	\$0.01	224,604	\$42,188	217,129	\$40,000	216,914	\$42,000	217,011	\$41,500	875,659	\$165,688
	Pilot/Emerging Technology	2.82	\$0.02	673,812	\$126,564	868,517	\$158,000	867,656	\$162,000	868,046	\$166,000	3,278,031	\$612,564
	<b>Subtotal - Business Solutions</b>	<b>3.60</b>	<b>\$0.01</b>	<b>15,055,867</b>	<b>\$2,207,625</b>	<b>16,326,263</b>	<b>\$2,311,973</b>	<b>16,310,091</b>	<b>\$2,363,450</b>	<b>16,317,405</b>	<b>\$2,419,602</b>	<b>64,009,625</b>	<b>\$9,302,650</b>
<b>Total Program Portfolio</b>				<b>22,460,400</b>	<b>\$3,612,655</b>	<b>22,481,550</b>	<b>\$3,481,653</b>	<b>22,459,280</b>	<b>\$3,560,406</b>	<b>22,469,353</b>	<b>\$3,658,705</b>	<b>89,870,583</b>	<b>\$14,313,419</b>
Portfolio-Level Costs	LBWL Administration				\$244,812		\$320,000		\$320,000		\$320,000		\$1,204,812
	Evaluation				\$195,849		\$210,000		\$210,000		\$210,000		\$825,849
	<b>Subtotal - Portfolio Level Costs</b>				<b>\$440,661</b>		<b>\$530,000</b>		<b>\$530,000</b>		<b>\$530,000</b>		<b>\$2,030,661</b>
<b>TOTALS</b>		<b>3.28</b>	<b>\$0.02</b>	<b>22,460,400</b>	<b>\$4,053,316</b>	<b>22,481,550</b>	<b>\$4,011,653</b>	<b>22,459,280</b>	<b>\$4,090,406</b>	<b>22,469,353</b>	<b>\$4,188,705</b>	<b>89,870,583</b>	<b>\$16,344,080</b>

Lansing Board of Water and Light's

# Energy Optimization Plan

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2015-2017

Program Descriptions



## LBWL Proposed Energy Optimization Programs - Table 1

<b>Program Element</b>	<b>Services for Residential Customers with Limited Incomes</b>
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Provide recommendations, financial assistance and education to customers with limited income to assist them in reducing their electric energy use and managing their utility costs.</li> <li>• Coordinate low-income services with local weatherization providers and other agencies in order to provide comprehensive assistance at lower administrative costs.</li> </ul>
<b>Target Market</b>	<ul style="list-style-type: none"> <li>• Residential customers whose income is estimated to be below 200% of poverty level. Services will be targeted to diverse segments of the population including those living in single family and multi-family buildings, homeowners and renters, and to the extent possible – age and geographic diversity.</li> <li>• Residential electric customers that are in arrears or at risk of falling behind on bill payments will be the target market for the home energy assessments. These include income-eligible customers who have or may receive shut off notices and those that are on the Winter Protection Plan.</li> </ul>
<b>Program Duration</b>	Services for customers with limited income will be an ongoing element of the program portfolio.
<b>Program Description</b>	<p>Services for customers with limited income will be closely coordinated with local weatherization agencies and other applicable State, municipal and utility programs.</p> <p>The utility will help low income customers get access to existing programs that can assist them and if appropriate, provide a home energy assessment that includes behavioral education and the direct installation of efficiency measures to assist customers in reducing their energy use.</p>
<b>Eligible Measures</b>	Cost effective electric measures that will be permissible for this program include replacement of inefficient lighting/equipment with ENERGY STAR labeled products including CFL's, refrigerators, dehumidifiers, room air conditioners, and furnaces with high-efficiency motors. Other eligible measures include tune-ups for central air conditioning and smart power strips to reduce the energy use of computers, printers, TVs, and other electronic equipment.
<b>Implementation Strategy</b>	This program will be coordinated with local agencies to subsidize the delivery of the program when possible. The utility will work with an implementation contractor to conduct the home energy assessments and install measures in homes and multifamily properties.
<b>Marketing Strategy</b>	<p>Marketing will be closely coordinated with the local weatherization agencies and the BWL's implementation contractor. Key elements of the marketing strategy include:</p> <ul style="list-style-type: none"> <li>• Targeted outreach through local agencies</li> <li>• LBWL website and newsletter</li> <li>• Press release</li> <li>• Targeting of multi-family rental property owners</li> </ul>
<b>EM&amp;V Requirements</b>	Evaluation activities for the residential low-income program will focus on verification and assessment of electric energy impacts for the installed measures.

<b>Estimated Participation</b>	<b>Participation (in Units of Installed Measures)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	14,857	14,961	15,061
<b>Estimated Budget</b>	<b>Annual Budgets</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	\$195,000	\$200,000	\$205,000
<b>Savings Targets</b>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	754,691	759,968	765,057

<b>Program Element</b>	<b>Residential High Efficiency Products</b>
<b>Objective</b>	Produce long-term coincident peak demand reduction and annual energy savings in the residential sector by promoting high-efficiency lighting, appliances, and HVAC equipment.
<b>Target Market</b>	Residential customers seeking to purchase and install new central air conditioning units, furnaces, heat pumps, room air-conditioners, dehumidifiers, clothes dryers, water heaters, and/or lighting products. Residential rental property owners and customers living in rental properties are also eligible.
<b>Program Duration</b>	Ongoing element of the program portfolio.
<b>Program Description</b>	<p>The High-Efficiency Products program will leverage the nationally-recognized ENERGY STAR brand, when applicable, to promote products that can reduce electric energy use. Energy efficient choices can save families about a third on their energy bill, without sacrificing features, style or comfort. The ENERGY STAR brand helps consumers make the most energy efficient choice.</p> <p>The program will focus on three major markets:</p> <ul style="list-style-type: none"> <li>• contractor-installed heating, cooling, and water-heating equipment</li> <li>• contractor-installed residential photovoltaic systems</li> <li>• retail sales of clothes dryers, room air-conditioners, and dehumidifiers</li> <li>• upstream retail sales and direct marketing of lighting products</li> </ul> <p>The High-Efficiency Products Program will promote premium efficiency furnaces that have high-efficiency motors (electrically commutated motors – ECMs). ECM motors save electric energy during the heating and cooling seasons. Since the primary type of heating system in the utility’s service area is natural gas forced air, this program will closely coordinate with the local natural gas provider so that incentives can be coordinated on units that have the high-efficiency motors. Incentives for the installation of setback thermostats and solar attic fans will also be available.</p> <p>Although federal efficiency standards for central air-conditioning have recently increased, there are still opportunities to promote units that exceed the current standards and thus achieve additional energy savings. The program will provide incentives for high-efficiency central air-conditioners with an SEER rating &gt; 14. Incentives for central air-conditioning tune-ups will also be promoted.</p> <p>The program will offer incentives for high-efficiency electric water heaters, heat pump water heaters, and solar water heating systems. Incentives will also be provided for contractor-installed, residential-sized, photovoltaic systems.</p> <p>The High-Efficiency Products Program will provide incentives to customers to encourage them to replace their older, inefficient clothes dryers, dehumidifiers and room air-conditioners with high-efficiency units.</p>

	<p>The High-Efficiency Products Program will provide opportunities for customers to use efficient lighting by receiving the products directly and/or by providing upstream market incentives and market support through retailers to build market share and usage of ENERGY STAR lighting products. The program targets the purchase of lighting products through in-store promotion as well as special sales events. The program will provide convenient recycling for CFL's at local retailers and customer service outlets.</p> <p>Finally, the program will educate customers on the energy use of electronic entertainment and office equipment in the home and encourage customers to utilize an advanced power strip to turn off equipment when not in use.</p>
<p><b>Eligible Measures</b></p>	<p>Eligible measures include:</p> <ul style="list-style-type: none"> <li>• Central Air Conditioners (SEER &gt; 14)</li> <li>• Central Air Conditioner Tune-Ups</li> <li>• Furnaces with ECM Motors</li> <li>• Air-Source, Dual-Fuel, and Ground Source Heat Pumps (SEER &gt; 14)</li> <li>• Electric Water Heaters (EF &gt;=.95)</li> <li>• Heat Pump Water Heaters (EF &gt;= 2.0)</li> <li>• Setback Thermostats</li> <li>• Solar Attic Fans</li> <li>• High-Efficiency Pool Pumps</li> <li>• ENERGY STAR Room Air Conditioners and Dehumidifiers</li> <li>• Clothes Dryers (with moisture sensor)</li> <li>• ENERGY STAR lighting products (CFLs, CFL Specialty Bulbs, LEDs, CFL and LED Fixtures, LED Holiday Lights, and Ceiling Fans.</li> <li>• Advanced Power Strips</li> </ul>
<p><b>Implementation Strategy</b></p>	<ul style="list-style-type: none"> <li>• <b>Contractor/retailer recruitment, education and outreach.</b> The utility's implementation contractor will utilize a field representative to facilitate the recruitment of local HVAC/plumbing contractors and appliance/lighting retailers to participate in the program.</li> <li>• <b>Planning coordination</b> with local natural gas provider. The utility's implementation contractor will work closely with the natural gas utility to coordinate incentive levels, eligibility requirements, marketing materials, and contractor outreach.</li> <li>• <b>Lighting strategies.</b> The lighting program component employs multiple delivery strategies, including upstream, midstream, and downstream offers. Upstream offers use manufacturers to apply incentives that get passed on to customers; midstream offers use distributors, retailers, or contractors; downstream offers provide incentives and/or products directly to the end-use customer.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Bulb recycling:</b> The utility will deploy recycling bins for CFL bulb collection at area businesses. Participants will be given training on proper sealing, labeling, and transportation for the bins.</li> <li>• <b>Application processing:</b> The utility's implementation contractor will coordinate processing of all rebate applications.</li> </ul>									
<p><b>Marketing Strategy</b></p>	<p>The HVAC and water heater components of the program will be primarily marketed through local contractors, the most direct influencers of customer purchase decisions. Contractors will receive educational materials to share with their customers as well as access to cooperative advertising dollars.</p> <p>The appliance and lighting components of the program will be marketed through local retailers. All marketing materials will carry a strong consumer education message emphasizing the cost of operating older, inefficient appliances and the benefits of early replacement with ENERGY STAR qualified models (lifetime dollar savings, energy savings, lower noise, etc.). Marketing materials will leverage the ENERGY STAR brand, which enjoys a high level of consumer recognition and favorable associations.</p> <p>Key elements of the marketing strategy include:</p> <ul style="list-style-type: none"> <li>• Direct consumer marketing through the LBWL website and newsletter</li> <li>• Point-of-purchase displays</li> <li>• Cooperative advertising with contractors/retailers</li> </ul>									
<p><b>EM&amp;V Requirements</b></p>	<p>Savings values were based on documented values from the Michigan Energy Measures Database. Evaluation activity will focus on verification of installation and estimates of deemed savings.</p>									
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<b>Program Element</b>	<b>Appliance Turn-In and Recycling</b>
<b>Objective</b>	Produce long-term coincident peak demand reduction and annual energy savings in the residential sector by removing operable, inefficient refrigerators, freezers, dehumidifiers, and room air conditioners from the power grid and recycling them in an environmentally safe manner.
<b>Target Market</b>	Residential customers who are currently operating older, inefficient refrigerators, freezers, dehumidifiers, and/or room air conditioners either as primary or secondary units.
<b>Program Duration</b>	Ongoing element of the program portfolio.
<b>Program Description</b>	The average household replaces a refrigerator every ten years. However, many of the refrigerators being replaced are still functioning, so they often become backup appliances – energy guzzlers in basements and garages – or sold in a used-market. The Turn-In Program targets those “second” refrigerators and freezers, as well as encouraging the early retirement of older inefficient appliances that are still operable. The program provides the dual benefit of cutting energy consumption and keeping the appliances out of the used-market.
<b>Eligible Measures</b>	Eligible measures include refrigerators, freezers, dehumidifiers, and room air conditioners. Units must be operable at the time of disposal.
<b>Implementation Strategy</b>	<ul style="list-style-type: none"> <li>• <b>Turn-key appliance pick-up/recycling:</b> The utility will work with a qualified recycling service subcontractor to provide comprehensive, turn-key implementation services from eligibility verification and scheduling of pick-ups to proper disposal and recycling of turned-in appliances.</li> <li>• <b>Drop-off events</b> for dehumidifiers and room air conditioners to be coordinated and managed by local recycling specialists.</li> <li>• <b>Incentive coordination and processing:</b> The utility will coordinate prompt processing of incentive payments.</li> </ul>
<b>Marketing Strategy</b>	<p>All marketing materials will carry a strong consumer education message emphasizing the cost of operating older, inefficient appliances, the benefits of early replacement with ENERGY STAR qualified models, and the importance of proper disposal and recycling of older units. Key elements of the marketing strategy include:</p> <ul style="list-style-type: none"> <li>• Direct consumer marketing through LBWL website, newsletter and community events</li> <li>• Press releases</li> <li>• Point-of-purchase displays</li> <li>• Cooperative advertising with retailers</li> <li>• Posters in area businesses</li> </ul>
<b>EM&amp;V Requirements</b>	Deemed savings values were based on documented values from the Michigan Energy Measures Database (MEMD). Evaluation activity will focus on verification of recycled units and estimates of deemed savings.

<b><i>Estimated Participation</i></b>	<b>Participation (in Units of Installed Measures)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	848	894	967
<b><i>Estimated Budget</i></b>	<b>Annual Budgets</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	\$103,869	\$111,527	\$122,821
<b><i>Savings Targets</i></b>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	659,813	695,574	752,333

<b>Program Element</b>	<b>Home Energy</b>											
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Provide recommendations, education, installation of low-cost efficiency measures, and cooperative incentives with the local gas provider, to assist customers in reducing their electric energy use and managing their utility costs at home.</li> <li>• Target customers who are having difficulty in managing their energy costs but are not otherwise eligible for income-qualified programs.</li> </ul>											
<b>Target Market</b>	<ul style="list-style-type: none"> <li>• Residential electric customers who are in arrears or at risk of falling behind on bill payments. These include customers that have or may receive shut off notices and those that are on the Winter Protection Plan, but who are not eligible for income-qualified services. This target market may be expanded in following years.</li> <li>• Residential electric customers who participate in the local gas utility's weatherization rebate program and will therefore further benefit from the resulting savings on their central air conditioning costs.</li> </ul>											
<b>Program Duration</b>	Ongoing element of the program portfolio. May be expanded to additional customer groups in following years.											
<b>Program Description</b>	The Home Energy program will provide a walk-through energy assessment that includes behavioral education and the direct installation of efficiency measures to assist customers in reducing their energy use.											
<b>Eligible Measures</b>	Cost effective electric measures that will be permissible for the Home Energy component include replacement of inefficient lighting with ENERGY STAR labeled CFL's, advanced power strips to reduce plug-load, and the installation of low-flow devices for homes with electric water heating. Incentives for attic and wall insulation, air-infiltration reduction, and ENERGY STAR windows will be offered cooperatively with the local gas provider.											
<b>Implementation Strategy</b>	LBWL will work with an implementation contractor to provide the Home Energy assessments and installation of measures.											
<b>Marketing Strategy</b>	<p>Key elements of the marketing strategy include:</p> <ul style="list-style-type: none"> <li>• Targeted outreach</li> <li>• LBWL website and newsletter</li> </ul>											
<b>EM&amp;V Requirements</b>	Evaluation activities for this program will focus on verification and assessment of electric energy impacts for the installed measures.											
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<b>2015</b>	<b>2016</b>	<b>2017</b>										
\$14,101	\$15,141	\$16,674										

<b>Savings Targets</b>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	34,691	36,571	39,556

Program Element	Residential Multi-Family In-Unit Efficiency
<b>Objective</b>	<p>Produce immediate annual energy savings in multi-family buildings through direct installation of high-efficiency lighting products, smart strips for plug-in devices, and low-flow water-saving devices in units with electric water heating.</p> <p>Work with multifamily property owners/developers to encourage comprehensive in-unit electric efficiency improvements when undertaking remodeling or new construction projects.</p>
<b>Target Market</b>	Property owners of new and existing multi-family buildings (both apartments and condominiums).
<b>Program Duration</b>	Ongoing element of the program portfolio.
<b>Program Description</b>	<p>The Multi-Family In-Unit Efficiency Program provides a turn-key service for helping customers reduce their electric energy use in multi-family buildings. The utility's implementation contractor will send out a crew of installers to retrofit targeted buildings that currently have electric water heaters. The crew will install high-efficiency lighting products, low-flow water-saving devices, and optional smart strips for plug-in devices. Educational information about the energy savings associated with these devices is left behind in all units. The service is provided to property owners and occupants at no cost.</p> <p>The program also assists multi-family building developers and property managers in determining appropriate and cost-effective energy-efficiency products for new or remodeled buildings. Developers and property owners receive cash-back rebates for including efficiency measures that save electricity in new or remodeled multifamily buildings. Property owners and tenants benefit from long-term reduced electricity use and additional water savings.</p>
<b>Eligible Measures</b>	<p>Eligible measures for the direct install component include high-efficiency lighting products, smart strips, low-flow showerheads, kitchen and bath faucet aerators, and pipe wrap.</p> <p>Eligible measures for the new construction/remodeling component include replacing incandescent light bulbs with energy-efficient lighting, installing efficient heating and cooling equipment (including renewable energy systems), choosing new ENERGY STAR® appliances and recycling old appliances.</p>
<b>Implementation Strategy</b>	<ul style="list-style-type: none"> <li>• <b>Targeted outreach to property owners.</b> The utility's implementation contractor will work with the utility's account representatives and an assigned Energy Advisor to build a close working relationship with Lansing's property owners' association and its members. The Energy Advisor will promote the program to interested property owners with electric water heating.</li> <li>• <b>In-unit direct installs.</b> The utility's implementation contractor will schedule installation appointments with interested property owners. The contractor will oversee at least one crew of installers who will complete the in-unit installation of high-efficiency lighting products and low-flow devices. The crew will be trained on the most appropriate applications for such products. The crew will leave behind educational materials in each unit, to describe for the resident the work that has been done and to promote the energy-saving benefits. All in-unit direct install measures will be free to the customer.</li> <li>• <b>Comprehensive remodeling and new construction.</b> The utility's implementation</li> </ul>

	contractor will provide direct outreach and consultation to multi-family property owners and developers who are considering new construction or major remodeling projects. Information about potential in-unit electric savings and product/service availability will be discussed. Flexible incentive packages can be negotiated.									
<b>Marketing Strategy</b>	A targeted marketing strategy will be employed for the multi-family program. Eligible property owners will be identified from the utility's information system. The program will also be marketed through the local property owners' association.									
<b>EM&amp;V Requirements</b>	Savings values were based on documented values from the Michigan Energy Measures Database. Evaluation activity will focus on verification of installation and estimates of deemed savings.									
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<b>Program Element</b>	<b>Residential Education Services</b>
<b>Objective</b>	<ul style="list-style-type: none"> <li>• To develop broad consumer awareness of the benefits of energy conservation and efficiency.</li> <li>• To provide educational materials and services that motivate customers to participate in the utility's energy optimization programs and to motivate behavior change that can further reduce energy consumption.</li> </ul>
<b>Target Market</b>	All residential customers
<b>Program Duration</b>	Ongoing element of the program portfolio.
<b>Program Description</b>	The educational component of LBWL's portfolio allows for implementation of educational outreach initiatives that build and expand consumer awareness of energy efficiency and energy conservation opportunities. LBWL will allocate 2% of the total budget for residential educational activities, with a 2% contribution to the residential energy savings goal.
<b>Eligible Measures</b>	Not applicable for this program.
<b>Implementation Strategy</b>	<p>The following types of initiatives will be considered for implementation:</p> <ul style="list-style-type: none"> <li>• Develop, produce, and distribute energy efficiency tips and information about the energy efficiency portfolio through bill inserts and newsletters.</li> <li>• Enhance the LBWL website to facilitate easy access to educational materials and program offerings.</li> <li>• Promote LBWL's online energy audit and library of energy education resources for residential customers.</li> <li>• Work with the Mayor's office, municipal government agencies and other civic organizations to distribute educational material promoting the benefits of energy conservation and efficiency. Make presentations at their constituent meetings and other joint ventures.</li> <li>• Provide energy education/awareness booths at scheduled community fairs and trade shows.</li> <li>• Promote and deliver special energy workshops for targeted groups of participants, including distribution of free energy-saving products.</li> </ul>
<b>Marketing Strategy</b>	See implementation strategy for a list of marketing activities.
<b>EM&amp;V Requirements</b>	Educational activities will be documented and number of customers reached recorded.
<b>Estimated Participation</b>	To be determined.

<i>Estimated Budget</i>	<b>Annual Budgets</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	\$80,000	\$81,700	\$83,800
<i>Savings Targets</i>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	434,258	433,828	434,023

<b>Program Element</b>	<b>Residential Pilot/Emerging Technology Programs</b>
<b>Objective</b>	To identify and learn more about new energy efficient technologies and program strategies with potential to capture additional electric energy savings.
<b>Target Market</b>	Dependent on specific technology/program.
<b>Program Duration</b>	LBWL continues to initiate research and analysis of other innovative technologies and strategies to reduce residential energy consumption. These efforts will be ongoing and pilot programs rolled out as appropriate.
<b>Program Description</b>	<p>The residential pilot component of LBWL's portfolio assesses the most cost-effective strategies for addressing the existing homes market. Several potential initiatives will be researched and piloted including:</p> <ul style="list-style-type: none"> <li>• Expanding the Home Energy Assessments to include all income levels. This program would provide walk-through energy assessments, education, and low-cost measure installation. The BWL is also interested in looking into how this approach could take advantage of the Energy Fitness and Michigan Saves programs currently being offered in the BWL's service territory.</li> <li>• Analysis and ongoing testing of educational on-line home energy assessment tools that can encourage changes in consumer behavior and result in electric savings in the home.</li> <li>• Home Performance with ENERGY STAR as an efficient and integrated home retrofit program in cooperation with the local natural gas utility.</li> <li>• Michigan SAVES as a potential financing model for capital-constrained customers.</li> <li>• Promotion of LED lighting technology in residential applications</li> <li>• Load management technologies for reducing electric loads in homes</li> <li>• Neighborhood initiatives that motivate energy conservation through better information and normalized comparative energy use-data.</li> </ul> <p>LBWL plans to allocate 3.5% of the total budget for residential pilot activities, with a 3.5% contribution to the total energy savings goal.</p>
<b>Eligible Measures</b>	To be determined based on programs selected.
<b>Implementation Strategy</b>	To be determined based on programs selected.
<b>Marketing Strategy</b>	To be determined based on programs selected.
<b>EM&amp;V Requirements</b>	Evaluation requirements will be determined as pilot initiatives are developed.

<b>Estimated Participation</b>	To be determined based on programs selected.											
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<b>Program Element</b>	<b>Comprehensive Business Solutions</b>
<b>Objective</b>	<p>There are three primary objectives for the Comprehensive Business Solutions Program:</p> <ol style="list-style-type: none"> <li>1) Increase the market share of a targeted group of commercial high-efficiency electric technologies sold through market channels.</li> <li>2) Increase the installation rate of a targeted group of high-efficiency electric technologies in commercial facilities by businesses that would not have done so in the absence of the program.</li> <li>3) Affect the installation of site-specific and unique energy efficiency technologies and process improvements (that do not fit the parameters of the targeted incentive offerings) by business customers that would not have done so in the absence of the program.</li> </ol>
<b>Target Market</b>	<p>All business customers are eligible to participate in the Comprehensive Business Solutions Program when they purchase qualifying equipment. However, the program will utilize a targeted outreach strategy to influence specific markets.</p> <ol style="list-style-type: none"> <li>1) Market Providers (wholesalers, distributors, engineering and architectural firms, developers, and builders) that will promote the qualifying technologies</li> <li>2) High-impact/high-need customer sectors (such as schools, municipal buildings, hospitals, food service, and hospitality)</li> </ol>
<b>Program Duration</b>	Ongoing element of the program portfolio.
<b>Program Description</b>	<p>The utility is interested in providing a seamless set of energy efficiency services to its business customers. Therefore, the Comprehensive Business Solutions Program will provide both a prescriptive and a custom approach, depending on the business' needs.</p> <p>The program will affect the purchase and installation of high-efficiency technologies through a combination of market push and pull strategies that stimulate market demand while simultaneously increasing market provider investment in stocking and promoting them.</p> <p>The program will increase demand by educating business customers about the energy and money saving benefits associated with efficient products and equipping market providers to communicate those benefits directly to their customers. To address the first-cost barrier for customers, the program will utilize financial incentives (i.e. cash-back mail-in rebates) averaging 20% to 40% of the incremental cost of purchasing qualifying technologies.</p> <p>The program will stimulate market provider investment in stocking and promoting efficient products through a targeted outreach effort. The implementation contractor will employ field sales representatives to proactively train and equip market providers to convey the energy and money saving benefits to consumers. Further, the existence of cash-back incentives will elevate efficiency to a competitive issue that will naturally motivate market providers to stock and promote targeted products.</p> <p>The custom component of the program helps customers and market providers identify more complex energy savings projects, analyze the economics of each project, and complete a customized incentive grant application. Over the long term, the custom solutions approach will allow the utility to develop and enhance the assistance they can provide to businesses with unique opportunities – including industrial process improvements, emerging</p>

	<p>technologies, and new facility design and/or modernization.</p> <p>The Business Services program will also include a new construction/renovation component that will assist customers in specifying and installing high efficiency measures and establishing effective commissioning on the long term performance of the building.</p> <p>Finally, the program will also offer a “direct-install” component to a targeted group of small businesses, offering free or subsidized installation of lighting upgrades and setback thermostats.</p>
<b>Eligible Measures</b>	Eligible measures are listed in Table 2.
<b>Implementation Strategy</b>	<ul style="list-style-type: none"> <li>• <b>Outreach to market providers.</b> The implementation contractor will inform and recruit participating market providers. Outreach will include orientation meetings and conducting in-person visits aimed at training and equipping market providers to communicate program information to customers. The Contractor will ensure that providers have an updated stock of program materials. Key market providers that will be targeted include: <ul style="list-style-type: none"> <li>• Lighting distributors, wholesalers,</li> <li>• HVAC distributors and retail contractors</li> <li>• Motors/compressed air vendors</li> <li>• Food service equipment distributors and retailers</li> <li>• Engineering and Architectural firms</li> <li>• Developers and Builders in the commercial market</li> </ul> </li> <li>• <b>Outreach to targeted customers.</b> The implementation contractor will personally contact energy managers and decision makers within the targeted customer sectors. The Contractor will assist business customers in determining whether the prescriptive incentives or the custom approach would be most appropriate for their operations. The utility’s business account representatives will assist with outreach within the course of their regular contacts with business customers.</li> </ul>
<b>Marketing Strategy</b>	<p>The Comprehensive Business Solutions Program will employ the following marketing strategies:</p> <ul style="list-style-type: none"> <li>• <b>Engage market providers.</b> Outreach and training will be provided to a targeted group of providers that have business motivations for promoting incentives to their customers.</li> <li>• <b>Outreach to targeted customers.</b> The utility’s implementation contractor will work closely with the utility to identify and conduct face-to-face meetings with key end-use customers to recruit their participation. The contractor will target decision makers within the customer’s organization including: energy managers, facility managers, financial and operations managers, chief engineer and facility/property managers, maintenance supervisors, and building operators.</li> <li>• <b>Outreach to key influencers.</b> The implementation contractor’s energy advisor(s) will work to generate awareness of the program through presentations and seminars with appropriate trade associations (ASHRAE, BOMA, school administrators, etc.).</li> <li>• <b>Provide complete website presence.</b> The program will be comprehensively outlined on the utility website. Customers and market providers will be able to review qualifying measures and download incentive applications.</li> </ul>
<b>EM&amp;V Requirements</b>	The utility’s implementation contractor will be responsible for implementing the following types of measurement and verification activities to facilitate the utility’s third-party evaluation work:

	<ul style="list-style-type: none"> <li>• Collect and track all customer, measure installation, and incentive data.</li> <li>• Verify that each product on which incentives are paid meets the prescribed efficiency standards using third party databases (e.g. ENERGY STAR, GAMA, ARI). Products that cannot be verified using a credible third party database will be considered on a case-by-case basis; product performance information will be requested from the contractor or manufacturer and efficiency will be verified by a qualified engineer.</li> <li>• Provide engineering support to identify and analyze the cost-effectiveness of energy saving opportunities. The energy advisor will work with the customer and/or market provider to complete custom engineering calculations that assess the energy savings potential, payback horizon, project eligibility, and incentive amount. If the project is deemed eligible, the advisor will assist the customer or market provide in completing a custom incentive grant application.</li> <li>• Conduct on-site inspections of 2% to 5% of equipment for which customers receive incentives to verify that products were installed and that the model and serial numbers match those provided on the incentive claim. Any inconsistencies will be researched and the resolution recorded. Market providers associated with inconsistencies will receive follow up inspections on projects that they are associated with.</li> </ul>									
<i>Estimated Participation</i>	<table border="1"> <thead> <tr> <th colspan="3"><b>Estimated Participation (in Units of Installed Measures)</b></th> </tr> <tr> <th><b>2015</b></th> <th><b>2016</b></th> <th><b>2017</b></th> </tr> </thead> <tbody> <tr> <td>37,522</td> <td>33,353</td> <td>26,362</td> </tr> </tbody> </table>	<b>Estimated Participation (in Units of Installed Measures)</b>			<b>2015</b>	<b>2016</b>	<b>2017</b>	37,522	33,353	26,362
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<b>Program Element</b>	<b>Commercial &amp; Industrial Educational Services</b>
<b>Objective</b>	<ul style="list-style-type: none"> <li>To develop broad business awareness of the benefits of energy conservation and efficiency.</li> <li>To provide educational materials and services that motivate business customers to participate in the utility's energy optimization programs and to motivate energy management practices that can further reduce energy consumption.</li> </ul>
<b>Target Market</b>	All commercial and industrial customers.
<b>Program Duration</b>	Ongoing element of the program portfolio.
<b>Program Description</b>	In addition to the Comprehensive Business Solutions programs, LBWL plans to implement educational outreach initiatives to build and expand the business customer's awareness of the benefits of efficient energy management. LBWL will allocate 1% of the total budget for business customer educational activities, with a 1% contribution to the total energy savings goal.
<b>Eligible Measures</b>	Not applicable for this program.
<b>Implementation Strategy</b>	<p>The following types of initiatives will be considered for implementation:</p> <ul style="list-style-type: none"> <li>Develop, produce, and distribute energy efficiency tips, fact sheets and case studies that promote the benefits of energy efficiency.</li> <li>Enhance the LBWL website to facilitate easy access to educational materials and program offerings.</li> <li>Promote LBWL's online library of energy education resources for business customers</li> <li>Work with the Lansing Chamber of Commerce, Mayor's office, municipal government agencies and other civic organizations (Rotary, Optimists, etc) to promote the energy optimization programs.</li> <li>Sponsor or co-sponsor certification training for facility energy managers.</li> <li>Participate in Rebuild Michigan seminars in the Lansing area.</li> </ul>
<b>Marketing Strategy</b>	See implementation strategy for a list of marketing activities.
<b>EM&amp;V Requirements</b>	Education activities will be documented and number of customers reached recorded.
<b>Estimated Participation</b>	To be determined.

<b><i>Estimated Budget</i></b>	<b>Annual Budgets</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	\$40,000	\$42,000	\$41,500
<b><i>Savings Targets</i></b>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	217,129	216,914	217,011

<b>Program Element</b>	<b>Commercial &amp; Industrial Pilot/Emerging Technology Programs</b>
<b>Objective</b>	To identify and learn more about new energy efficient technologies and program strategies with potential to capture additional electric energy savings in the business sector.
<b>Target Market</b>	Dependent on specific technology/program.
<b>Program Duration</b>	LBWL will initiate research and analysis of innovative technologies and strategies that hold potential for further electric energy reduction in the business sector. These efforts will be ongoing
<b>Program Description</b>	<p>Commercial and Industrial pilot programs could pursue the following types of new initiatives:</p> <ul style="list-style-type: none"> <li>• Design strategies from some of the most highly efficient new buildings that are achieving significant savings from technologies that are under-adopted or “emerging” in today’s market.</li> <li>• New and emerging technologies for daylighting applications including communications and controls.</li> <li>• Promotion of LED lighting technology in commercial applications.</li> <li>• Retrocommissioning and the role advanced controls and diagnostic systems can play in reducing energy use.</li> <li>• Emerging electric technologies specific to Lansing’s industry base.</li> <li>• Technological advances in Data Center systems including DC power distribution, more efficient servers, etc.</li> <li>• Benchmarking energy consumption in schools to better inform projects.</li> <li>• Electric storage systems for commercial and industrial applications.</li> <li>• Recent advances in equipment, controls, and design techniques for large and small commercial HVAC systems, including new chiller designs and variable air volume box controls.</li> <li>• New water and energy saving technologies for the municipality’s water handling system.</li> <li>• Load management technologies that will reduce electric loads in businesses.</li> </ul> <p>LBWL plans to allocate 4% of the total budget for business pilot activities, with a 4% contribution to the total energy savings goal.</p>
<b>Eligible Measures</b>	To be determined based on programs selected.
<b>Implementation Strategy</b>	To be determined based on programs selected.
<b>Marketing Strategy</b>	To be determined based on programs selected.
<b>EM&amp;V Requirements</b>	Evaluation requirements will be determined as pilot initiatives are developed.
<b>Estimated Participation</b>	To be determined based on programs selected.

<b>Estimated Budget</b>	<b>Annual Budgets</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	\$158,000	\$162,000	\$166,000
<b>Savings Targets</b>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2015</b>	<b>2016</b>	<b>2017</b>
	868,517	867,656	868,046

**TABLE 2 – ELIGIBLE MEASURES**

<b>Residential Measures</b>
CFL bulbs including specialty and high wattage
CFL fixtures
LED task light
LED downlight fixtures
LED bulbs replacing A-lines
LED Flood/Par bulbs
LED holiday lights
ENERGY STAR ceiling fan with light
Advanced power strip plug outlet
High efficiency electric clothes dryer
ENERGY STAR dehumidifier
ENERGY STAR room AC
ENERGY STAR refrigerator/freezer
Refrigerator and/or freezer turn-in and recycling
Room AC turn-in and recycling
Dehumidifier turn-in and recycling
High efficiency electric water heater (EF>=.95)

High efficiency heat pump water heater (EF $\geq$ 2.0)
Low flow showerheads/aerators (electric water heaters)
Furnace with ECM blower
Central air-conditioning tune-up
Central air conditioners - SEER $\geq$ 15

<i>Residential Measures (continued)</i>
Setback thermostat
Weatherization measures (central air conditioning savings)
Multifamily in-unit measures (lighting, low-flow devices, smart strips)
Multifamily upgrades for new construction/remodeling (lighting and appliances)
High-efficiency pool pump
Solar attic fan
Solar water heating system
Photovoltaic system

***C&I Measures – Lighting***

CFL bulbs including specialty and high wattage
CFL fixture
CFL reflector flood
Cold cathode
LED downlight fixture
LED lamp MR16
LED lamp PAR
LED lamp replacing A-line
De-lamping
Central lighting controls
Daylight sensor controls
Switching controls for multilevel lighting
Exterior lighting bi-level controls with override
Exterior HID replacement
Garage HID replacement
High Bay T5HO replacing HID
High Bay fluorescent replacing HID
HPT8 replacing T8
Low Wattage HPT8 replacing T8
LED exit signs electronic fixtures -Retrofit Only
Occupancy sensors
Pulse Start metal halide retrofit only

***C&I Prescriptive Measures - HVAC***

Air conditioners (with minimum EERs)
Air cooled chillers
Water cooled chillers
Packaged terminal air conditioners
Air source heat pumps (with minimum EERs)
Ground source heat pumps (with minimum EERs)
Economizers
Efficient condensers
Energy management systems
Demand control ventilation
High performance glazing
Window film
ENERGY STAR Room AC > 14,000 BTU/hr
Setback thermostat

***C&I Prescriptive Measures – Other***

Variable frequency drives
3-phase high frequency battery charger
Vending equipment controller
Strip curtains and door gaskets for freezers/coolers
LED refrigerator case lighting and occupancy sensors
Anti sweat heater control
ECM case motors
ECM cooler and freezer motors
ENERGY STAR commercial solid door freezers
ENERGY STAR commercial solid door refrigerators

ENERGY STAR hot holding cabinets
ENERGY STAR ice machines
ENERGY STAR steam cookers
ENERGY STAR clothes washer
Pre rinse sprayers
Guestroom energy management controls
Engineered nozzles – compressed air
Compressed air pressure flow controller
Cycling compressed air-dryer
Building operator certification training
PC network energy management controls
Plug load occupancy sensor document stations
Smart strip plug outlet
Heat pump water heaters
Photovoltaic system
Solar water heating system