

**Lansing Board of Water and Light's**

# **Energy Waste Reduction Plan**

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**2018-2020**

**Program Descriptions**



## LBWL Proposed Energy Waste Reduction Programs - Table 1

<b>Program Element</b>	<b>Residential Low Income Services</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>	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. BWL will partner with other agencies and utilities to provide customers with coordinated closely related programs when applicable.
<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 LED's, refrigerators, dehumidifiers, room air conditioners, and electric hot water reduction measures. Other eligible measures include recycling of secondary refrigerators and room air conditioners and the installation of other efficient appliances and HVAC measures as applicable.
<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>• Presentations in the community</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>2018</b>	<b>2019</b>	<b>2020</b>
	14,449	13,477	12,908
<b>Estimated Budget</b>	<b>Annual Budgets</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
	\$239,247	\$247,059	\$267,149
<b>Savings Targets</b>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
	592,565	552,697	529,340

<b>Program Element</b>	<b>Residential High Efficiency Lighting</b>
<b>Objective</b>	Produce long-term annual energy savings in the residential sector by promoting high-efficiency lighting.
<b>Target Market</b>	Residential customers seeking to purchase and install replacement 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.  While the program will continue, it is expected that the cost and market acceptance of LEDs will reduce program participation as rebates are adjusted to reflect changing market conditions.
<b>Program Description</b>	<p>The Lighting program will leverage the nationally-recognized ENERGY STAR brand, when applicable, to promote lighting 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 primarily on upstream retail sales and direct marketing of ENERGY STAR lighting products.</p> <p>The Lighting program will provide opportunities for customers to use efficient ENERGY STAR lighting products 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.</p> <p>The program will provide convenient recycling for CFL's at local retailers and customer service outlets.</p>
<b>Eligible Measures</b>	<p>Eligible measures include:</p> <ul style="list-style-type: none"> <li>ENERGY STAR lighting products (LEDs and LED Fixtures, and Ceiling Fans).</li> </ul>
<b>Implementation Strategy</b>	<ul style="list-style-type: none"> <li><b>Lighting strategies.</b> The Lighting program employs multiple delivery strategies, including upstream, midstream, and downstream offers. The upstream offers use manufacturers to apply incentives that are 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> <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 incentives.</li> </ul>

<b>Marketing Strategy</b>	<p>High efficient lighting products will be marketed through local retailers. All marketing materials will carry a strong consumer education message emphasizing the cost savings with the use of ENERGY STAR lighting products. 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> </ul>									
<b>EM&amp;V Requirements</b>	<p>Savings values are based on documented values from the Michigan Energy Measures Database. Evaluation activity will focus on verification of installation and estimates of deemed savings.</p>									
<b>Estimated Participation</b>	<table border="1" data-bbox="472 688 1203 884"> <thead> <tr> <th colspan="3">Participation (in Units of Installed Measures)</th> </tr> <tr> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>117,047</td> <td>36,390</td> <td>11,618</td> </tr> </tbody> </table> <p>The annual number of rebates for efficient lighting will decline over the three-year EWR Plan.</p> <p>The US Energy Information Administration (EIA) projects that LEDs will approach price parity with CFLs and incandescent bulbs by 2020. Between now and 2020, utility rebates will continue to be an important driver for customers who are wary of spending more than they have to on light bulbs, even if the bulbs last longer and reduce energy use. Rebates will need to continue to support the next wave of growth over the next twelve to 36 months as LED costs come down further.</p>	Participation (in Units of Installed Measures)			2018	2019	2020	117,047	36,390	11,618
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<b>Program Element</b>	<b>Residential High-Efficient Appliances</b>
<b>Objective</b>	Produce long-term annual energy savings in the residential sector by promoting high-efficient appliances.
<b>Target Market</b>	Residential customers seeking to purchase and install new dehumidifiers, clothes washers and dryers, dish washers, TVs, room air conditioners, refrigerators or freezers and advanced smart power strips. 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-Efficient Appliances 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 retail sales of clothes washers and dryers, dishwashers, TVs, freezers and refrigerators, room air-conditioners, advanced power strips and dehumidifiers.</p> <p>The High-Efficient Appliances program will provide incentives to customers to encourage them to replace their older, inefficient refrigerators and freezers, TVs, clothes washers and dryers, dishwashers, dehumidifiers and room air-conditioners with high-efficiency units.</p> <p>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>
<b>Eligible Measures</b>	<p>Eligible measures include:</p> <ul style="list-style-type: none"> <li>• ENERGY STAR TVs</li> <li>• ENERGY STAR Room Air Conditioners and Dehumidifiers</li> <li>• ENERGY STAR Refrigerators and Freezers</li> <li>• ENERGY STAR Clothes Washers and Dryers (with moisture sensor)</li> <li>• Advanced Power Strips</li> </ul>
<b>Implementation Strategy</b>	<ul style="list-style-type: none"> <li>• <b>Retailer recruitment, education and outreach.</b> The utility's implementation contractor will utilize a field representative to facilitate the recruitment of local appliance 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>Application processing:</b> The utility's implementation contractor will coordinate processing of all rebate applications.</li> </ul>

<p><b>Marketing Strategy</b></p>	<p>High-Efficient Appliances 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 BWL website and newsletter</li> <li>• Point-of-purchase displays</li> <li>• Cooperative advertising with retailers</li> </ul>									
<p><b>EM&amp;V Requirements</b></p>	<p>Savings values are 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>Residential High-Efficiency HVAC</b>
<b>Objective</b>	Produce long-term coincident peak demand reduction and annual energy savings in the residential sector by promoting high-efficiency HVAC equipment.
<b>Target Market</b>	Residential customers seeking to purchase and install new central air conditioning units, furnaces with ECM, heat pumps, electric water heaters and pool pumps. 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 HVAC 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 contractor-installed heating, cooling, and water-heating equipment and pool pump installers.</p> <p>The High-Efficiency HVAC 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 furnaces that have the high-efficiency motors. Incentives for the installation of setback thermostats will also be available.</p> <p>Although federal efficiency standards for central air-conditioning have recently increased in some states, 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 <math>\geq 15</math>. Incentives for central air-conditioning tune-ups will also be promoted.</p> <p>The program will offer incentives for ENERGY STAR heat pump water heaters and pool pumps.</p>
<b>Eligible Measures</b>	<p>Eligible measures include:</p> <ul style="list-style-type: none"> <li>• Central Air Conditioners (SEER <math>\geq 15</math>)</li> <li>• Central Air Conditioner Tune-Ups</li> <li>• ECM Motors on High Efficiency Furnaces</li> <li>• Air-Source, Dual-Fuel Heat Pumps (SEER <math>&gt; 15</math>)</li> </ul>



	<ul style="list-style-type: none"> <li>Heat Pump Water Heaters (ENERGY STAR)</li> <li>Setback and Wi-Fi Thermostats</li> <li>High-Efficiency Pool Pumps</li> </ul>									
<b>Implementation Strategy</b>	<ul style="list-style-type: none"> <li><b>Contractor recruitment, education and outreach.</b> The utility's implementation contractor will utilize a field representative to facilitate the recruitment of local HVAC/plumbing contractors 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>Application processing:</b> The utility's implementation contractor will coordinate processing of all rebate applications.</li> </ul>									
<b>Marketing Strategy</b>	<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.</p> <p>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</li> </ul>									
<b>EM&amp;V Requirements</b>	Savings values are 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>2018</b>	<b>2019</b>	<b>2020</b>	
	448,259	464,555	494,359	

<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 as 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 dehumidifiers and room air conditioners 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 are 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>Estimated Participation</b>	<b>Participation (in Units of Installed Measures)</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
	1,026	1,063	1,131
<b>Estimated Budget</b>	<b>Annual Budgets</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
	\$129,381	\$136,567	\$147,971
<b>Savings Targets</b>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
	696,278	721,590	767,884

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 LED lighting products.</p> <p>Work with multifamily property owners/developers to encourage 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. The crew will install high-efficiency lighting products. 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 through coordinating EWR programs for installing 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 LED lighting products.</p> <p>Eligible measures for the new construction/remodeling component include replacing incandescent light bulbs with energy-efficient LED lighting and coordinating with other programs for the installation of efficient heating and cooling equipment, 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.</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 the in-unit installation of high-efficiency products. The installation 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 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</li> </ul>

	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 are 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>Commercial &amp; Industrial – Prescriptive</b>
<b>Objective</b>	<p>There are two primary objectives for the Commercial &amp; Industrial Prescriptive 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> </ol>
<b>Target Market</b>	<p>All business customers except for Self-Directed Customers are eligible to participate in the Prescriptive program when they purchase qualifying equipment. 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. The Prescriptive program will provide incentives for the purchase and installation of specific high efficiency technologies.</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 of efficient technologies 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>
<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:</li> </ul>

	<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> <ul style="list-style-type: none"> <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 the energy and cost savings benefits from using the prescriptive incentives for new high efficiency equipment in their operations. The utility's business account representatives will assist with outreach within the course of their regular contacts with business customers.</li> <li>• <b>Energy Assessments.</b> The implementation contractor will provide energy assessments to eligible customers. Energy assessments will include a walk through analysis by the implementation contractor's Energy Advisor and a report detailing recommended next steps and estimated energy savings. The assessments will drive customers to participate in the mail-in incentive programs.</li> </ul>	
<b>Marketing Strategy</b>	<p>The Commercial &amp; Industrial Prescriptive 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. Energy assessments will be offered to eligible customers to further encourage participation.</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, download incentive applications, and complete and monitor applications via an online portal.</li> </ul>	
<b>EM&amp;V Requirements</b>	<p>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:</p> <ul style="list-style-type: none"> <li>• Collect and track all participating customers, measure installations, and incentive data.</li> <li>• In the incentive process, verify that each product on which incentives are paid meets the prescribed efficiency standards for the incentive.</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 in which they are associated.</li> </ul>	
<b>Estimated Participation</b>	<table border="1" style="width: 100%; height: 40px;"> <tr> <td style="text-align: center;"><b>Estimated Participation (in Units of Installed Measures)</b></td> </tr> </table>	<b>Estimated Participation (in Units of Installed Measures)</b>
<b>Estimated Participation (in Units of Installed Measures)</b>		



	<b>2018</b>	<b>2019</b>	<b>2020</b>
	1,237,759	1,807,736	1,990,126
<i>Estimated Budget</i>	<b>Annual Budgets</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
	\$1,272,138	\$1,677,466	\$1,818,247
<i>Savings Targets</i>	<b>Energy Savings (Gross Annual kWh)</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
	8,442,096	10,989,275	11,717,956

<b>Program Element</b>	<b>Commercial &amp; Industrial - Custom</b>
<b>Objective</b>	<p>There are three primary objectives for the Commercial &amp; Industrial Custom Program:</p> <ol style="list-style-type: none"> <li>1) Increase the market share high-efficiency electric technologies sold through market channels.</li> <li>2) 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 except for Self-Directed Customers are eligible to participate in the Custom program when they purchase and install cost effective energy efficiency equipment. 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 customers (such as industrial customers and others that use unique processes or equipment that are not covered by the Prescriptive program)</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.</p> <p>The Custom 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 technologies, and new facility design and/or modernization. To address the first-cost barrier for customers, the program will utilize financial incentives based on energy savings from the cost effective high efficiency technologies.</p> <p>The program will affect the purchase and installation of unique 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 these unique technologies.</p> <p>The program will increase market 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.</p> <p>The implementation contractor will employ field sales representatives to proactively train and equip market providers to convey the energy and money saving benefits to customers.</p> <p>The Custom program will also include a new construction/renovation component that will assist customers in specifying and installing unique high efficiency measures and establishing effective commissioning on the long-term performance of the building.</p>

<b>Eligible Measures</b>	Unique measures, innovative technologies and new processes that cost effectively save energy are eligible for the Custom program.
<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>• Innovative technologies and solutions from: <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> </ul> </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 opportunities for the Custom program for their operations. The utility’s business account representatives will assist with outreach within the course of their regular contacts with business customers.</li> <li>• <b>Energy Assessments.</b> The implementation contractor will provide energy assessments to eligible customers. Energy assessments will include a walk through analysis by the implementation contractor’s Energy Advisor and a report detailing recommended next steps for installing innovative technologies or new processes.</li> </ul>
<b>Marketing Strategy</b>	<p>The Custom 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 cost effective high efficiency innovative technologies or processes 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. Energy assessments will be offered to eligible customers to further encourage participation.</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 download incentive applications and complete/monitor applications via an online portal.</li> </ul>
<b>EM&amp;V Requirements</b>	<p>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:</p> <ul style="list-style-type: none"> <li>• Collect and track all customers, measure installations, and incentive data.</li> <li>• Custom projects 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> </ul>

	<ul style="list-style-type: none"> <li>• Provide engineering support to identify and analyze the cost-effectiveness and energy saving of each project. 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 all installations to verify that the specified equipment has been installed and is operating as outlined in the grant application. Any inconsistencies will be researched and the resolution recorded.</li> </ul>									
<b>Estimated Participation</b>	<table border="1" data-bbox="472 491 1230 688"> <thead> <tr> <th colspan="3">Estimated Participation (in kWhs)</th> </tr> <tr> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>5,826,671</td> <td>5,868,829</td> <td>5,873,599</td> </tr> </tbody> </table>	Estimated Participation (in kWhs)			2018	2019	2020	5,826,671	5,868,829	5,873,599
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<b>Program Element</b>	<b>Commercial &amp; Industrial – Direct Install</b>											
<b>Objective</b>	The primary objective of the Direct Install program is to install cost effective energy efficient measures in business customers’ facilities that would not install these measures without the support of the program.											
<b>Target Market</b>	Small business customers, who have an annual energy consumption of 400,000 kWh or less, are eligible to participate in the Direct Install program. The program will target hard-to-reach customers.											
<b>Program Duration</b>	Ongoing element of the program portfolio.											
<b>Program Description</b>	The utility is interested in providing energy efficiency services to its small hard-to-reach business customers. The Direct Install program will provide the direct installation of energy efficiency measures. The program will offer free or subsidized installation of lighting upgrades, setback thermostats, vending machine energy management and water-saving measures for businesses that heat water with electricity.											
<b>Eligible Measures</b>	Eligible measures are listed in Table 2.											
<b>Implementation Strategy</b>	<b>Outreach to targeted customers.</b> In coordination with other EWR programs, the implementation contractor(s) will personally contact decision makers within the targeted customer sectors.											
<b>Marketing Strategy</b>	In coordination with other EWR programs, the Direct Install program will be marketed directly to targeted small business customers.											
<b>EM&amp;V Requirements</b>	The utility’s implementation contractor(s) 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 customers, measure installations, and incentive data.</li> </ul>											
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	<b>2018</b>	<b>2019</b>	<b>2020</b>	
	329,672	315,455	331,497	

**TABLE 2 – ELIGIBLE MEASURES**

Measure eligibility was determined based on many factors. These included MEMD incremental cost and energy savings data, incentives, implementation costs and several utility supply factors. During the EWR Plan, measures may be added or removed based on market response, technology availability, changes to the MEMD data and changes in efficiency standards. Technologies must be cost-effective, passing the Utility System Resource Cost Test individually, to be included. Other measures may become eligible pending engineering review of cost-effectiveness analysis.

<i>Residential Measures</i>
LED task light
LED downlight fixtures
LED bulbs replacing A-lines
LED Flood/Par bulbs
ENERGY STAR ceiling fan with light
Advanced power strip plug outlet
High efficiency electric clothes dryer
ENERGY STAR clothes washer
ENERGY STAR dish washer
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 heat pump water heater
Low flow showerheads/aerators (electric water heaters)
Furnace with ECM blower
Central air-conditioning tune-up
Central air conditioners - SEER ≥15

*Residential Measures (continued)*

Setback thermostat

Weatherization measures (central air conditioning savings)

Multifamily in-unit measures (lighting)

Multifamily upgrades for new construction/remodeling (lighting)

High-efficiency pool pump



***C&I Prescriptive Measures – Lighting***

LED Downlight

LED Exit Sign

LED MR16 10W

LED PAR 20W

LED Downlight

LED Exit Sign

LED MR16 10W

LED PAR 20W

Central Lighting Controls

Daylight Sensors

Exterior HID to LED

Interior HID to High Bay T8 T5

Interior HID to High Bay LED

75W Replacement LED Flood (BR30)

40W Replacement Globe LED

40W Replacement Candelabra LED

6W LED Lamps Replacing 40W Incandescent Light

60W Replacement LED (A19)

T8 to LED Retrofit Tube

Garage 24 Hour HID to Induction

Garage 24 Hour HID to LED

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

CRAC Unit
AC 5.4 Tons
AC 20 Tons
Air Cooled Chiller
Water Cooled Chiller 300 Tons
Water Cooled Chiller 150-300 Tons
Chiller Tune-up 20 Tons
VFD for HVAC Fan 100 HP
VFD for HVAC Pump 100 HP
CRAC and CRAC economizer
CRAC Economizer
CRAC and CRAC economizer Hi Eff
HVAC Occupancy Controls
Building Temp Controls
Programmable T-stat (Gas Heat)
Programmable Thermostats

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

Building Operator Certification Class
ENERGY STAR Commercial Solid Door Freezer 30-50 ft3
ENERGY STAR Commercial Solid Door Refr. 30-50 ft3
Steam Cooker 6-Pan
Electric Pre-rinse Sprayers
Dishwasher-High Temp Heat Elec Boost Door Type
Dishwasher-High Temp as Heat Elec Boost Under Counter
ECM Walk-In Cooler Freezer
Anti-Sweat Heater Controls
Cooler Strip Curtains
Freezer Strip Curtains
Variable Frequency Drive for Process Pump 50HP
ECM motors
VSD Air Compressor
Thermal Mass Air Dryer
1.0 GPM Bath Aerators
1.5 GPM Kitchen Aerators
Vending Equipment Controller

***C&I Direct Install***

1.0 GPM Bath Aerators

1.5 GPM Kitchen Aerators

Lighting measures

Pre-rinse sprayers for electric water heating customers

Programmable thermostats

Vending Equipment Controller