



MLGW Green Initiatives and Community Engagement 2015 Annual Report



Our Dedication to Environmental Responsibility and Community Enrichment

Memphis Light, Gas and Water Division exists for the benefit of the Memphis and Shelby County communities. While our primary goal is to supply affordable and reliable energy and water to our customers, MLGW provides a much deeper value than these services alone. Both with policy and through the generosity of our employees, MLGW seeks to enrich the lives of those who live in our service area and help secure a bright future for generations to come. To adequately detail the full impact of our dedication to corporate responsibility, sustainability and social improvement would be impossible. Instead, this annual overview serves to document our most prominent efforts and to illustrate the significance of organizations making responsible citizenship an active priority. We constantly strive to further our positive influence and to continue in our role as a community leader.

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Conservation at Home

Saving energy begins with the individual. Providing resources for residential customers to monitor and reduce their usage is a vital part of our mission to do what is best for those we serve. Not only does conservation save money for the individual customer, it helps keep rates low, benefiting everyone.

eScore

eScore is an energy efficiency program from TVA and MLGW. The program gives customers a way to identify a home's energy efficiency level based on a rating from 1 – 10, with 10 being the most energy-efficient. Registered homeowners have two options to join the program:

- Option 1: Identify a TVA Quality Contractor Network member and begin energy efficiency improvements right away. The QCN member will discuss options, rebates and program details with the homeowner.
- Option 2: Request an eScore evaluation to determine how to make a home more energy-efficient. A professional energy advisor will provide a list of recommended improvements. Then the homeowner selects a QCN member to begin the desired improvements.

The eScore evaluation includes a detailed eScore report that contains:

- An eScore card that ranks the home from 1 – 10.
- A customized list of energy efficiency upgrades that can be made over time to achieve a rating of 10.
- A list of rebates for all qualified energy efficiency upgrades.
- Photos of evaluated areas.
- Instant-saving measures installed at the time of the home evaluation.



For additional information, program details, restrictions or to register, visit 2escore.com or call 1-855-2eScore (237-2673).

My Account (Residential)

MLGW's online My Account service continues to attract huge numbers of customers each month to see information about their bills, usage, payments and more. As many as 25 percent of MLGW customers log in to My Account in any given month. November 2015 saw more than **100,000 users** log in. Customers visited My Account more than 2.2 million times in 2015, viewing more than 12 million pages of content to analyze bill changes, see bill history and learn about energy-saving opportunities for their homes. My Account also provides the ability to pay bills electronically and enables customers to enroll in paperless eBilling.

Among My Account users, more than 1,100 qualified in 2015 to receive a free TVA energy kit, including common household items to start saving energy immediately. To qualify, customers log in, click "My Home Energy Advisor" and complete at least one category in the Energy Profile. Since this promotion began in 2008, more than **37,500 customers** have received energy kits.

A screenshot of the My Account dashboard for a residential customer. The dashboard is divided into several sections: 'Ways To Save' showing a potential saving of \$240 per year with a progress bar from 1% to 30%; 'Energy Profile' with fields for Zip Code, Square Feet, Occupants, and Heat; 'My Community' with an 'Energy Comparison' bar chart showing 'Your Home Model Estimates' at \$1602, 'Similar Homes' at \$996, and 'Efficient Homes' at \$741; 'My Annual Use' with a pie chart for energy usage by category (Other, Refrigeration, Lighting, Cooking); 'My Account Dashboard' with a welcome message and links for 'Bill History', 'Bill Analysis', 'My Bills', 'My Payments', and 'My User Profile'; 'Memphis Light, Gas and Water Bill Payment Express' with a 'Pay Bill' button; 'Account Summary' showing 'Account status as of 8/10/2015', 'Last Payment Received 8/2/2015 - Thank you!' for \$137.60, and 'Account Balance \$142.20' with a 'Pay Bill' button; 'live green. reduce your footprint GO' with a 'GO' button; 'Rate Comparison Calculator for Time-of-Use option' with a calculator icon; and 'When does my home use energy and water?' with a bar chart showing 'Actual Daily Use & Average' for the months 8/04 through 8/10, with 'Average' in blue and 'Total' in yellow.

Smart Meters



In 2015, the MLGW Board of Commissioners and the Memphis City Council approved a contract for MLGW to install smart meters at homes and facilities across Shelby County. The five-year project will include one million electric, gas and water smart meters as well as a telecommunications network.

With approximately **60,000 smart meters** installed in 2014 and early 2015, MLGW continued to implement programming changes to import remote meter readings into its billing system, as well as receive and respond to a variety of meter alerts—including tilt/tamper alarms, water leak alerts, outage alerts and voltage alerts. This two-way communication with utility meters is what makes them “smart,” enabling MLGW to monitor the meters’ operational status as well as collect consumption information on a daily basis.

Phase I highlights:

- Excellent remote meter reading results mean customers can keep gates locked and pets safely outdoors on meter reading day.
- Customers with smart meters can access previous electricity, gas and water usage online through My Account. Customers can review the data and recall what activities occurred or what appliances and equipment may have operated to see the impact and to identify opportunities to save.
- Electric smart meters have voltage sensors to alert MLGW to potential problems before they may be apparent to customers.
- Electric smart meters have sensors to determine if the meter has been removed or tampered with, enabling MLGW to investigate utility tampering much faster and to remotely disconnect electric service to prevent illegal reconnections. As a result, utility diversion has decreased in areas where smart meters have been installed.
- Water smart meters feature leak detection capability, enabling MLGW to notify customers of emerging problems. Approximately one-third of water smart meters have identified potential leaks thus far, giving customers the opportunity to save on water and sewer costs after making repairs.
- Less than four percent of customers in Phase I smart meter zones opted out, meaning that most customers look forward to the benefits of smart meters.



Phase II preparations began in early 2016. The telecommunications network will be completed within the first 18 months, and smart meter installation began in spring 2016. For more information, visit mlgw.com/smartgrid.

Conservation for Business

As a leader in the community, MLGW sets an example by being smart about energy usage. To encourage other organizations to follow our lead, we provide and promote a number of programs designed to incentivize conservation, energy efficiency and sustainable practices.

TVA Energy Right Solutions for Business/Industry

Businesses and organizations planning to make energy efficiency upgrades at existing facilities can qualify for incentives through the Energy Right Solutions for Business/Industry programs. TVA helps businesses lower operating costs by providing incentives to encourage the selection of higher-efficiency equipment. Incentives are available for qualified lighting, heating, cooling and business equipment.

energyright.com

MLGW customers completed **106 projects** in 2015, earning nearly \$1 million in incentives. These local energy efficiency upgrades are projected to save **14.8 gigawatt-hours** of electricity — or enough electricity to meet the needs of 987 average local households — and reduce nearly **2 megawatts** of peak electric load. These consumption and load savings provide value to TVA and MLGW in terms of avoided generation costs and reduced system demand during peak periods, thereby helping keep electric rates low.

In mid-December 2015, Congress reinstated and extended tax incentives for energy efficiency upgrades in commercial buildings. The incentives previously expired in 2014 but will recognize the original efficiency levels (ASHRAE 90.1-2001) for systems placed in service prior to Dec. 31, 2015. Systems placed in service after that date must use the ASHRAE 90.1-2007 criteria.

programs.dsireusa.org/system/program/detail/1271

My Account (Business)

Businesses and organizations can register and access My Account at mlgw.com to view information about their MLGW bills. Up to 24 months of billing history, including consumption and costs, can be viewed, graphed and downloaded. In addition, small to mid-size businesses have access to bill analysis tools to identify factors that caused bills to change. Each month, an average of 3,300 unique users log in to view their commercial account information. In 2015, more than **84,000 user sessions** were recorded among businesses and organizations, who viewed more than **600,000 pages** of content. One of the main attractions for business customers is the ability to download usage and cost information, which eliminates the need to manually enter data as well as the clutter of paper bills.

TVA Main Street Efficiency

The second year of the Main Street pilot continued successfully as small business customers received free lighting assessments and cost-effective lighting upgrades to reduce their capital investment as well as cut monthly electricity expenses.

2015 highlights:

- **3,403 free lighting assessments** were conducted, educating business owners and operators on energy-saving opportunities.
- **2,688 facilities** received lighting upgrades, benefiting from improved lighting and visual appearance as well as reduced electricity use.
- **22,183,834 kWh** of electricity were saved on an annual basis, a direct savings on utility expenses that will be repeated each year of the equipment's operating life.
- **\$5.5 million** was invested by TVA, with \$525,000 paid by customers whose projects exceeded the program incentive.



The Main Street Efficiency pilot will continue for a third year, through September 2016, with a few modifications including a 50-percent cost share incentive, eligibility of customers with electric demand up to 100 kW and inclusion of new lighting fixture types.

mlgw.com/mainstreet

Energy Edge

Businesses and organizations interested in learning about MLGW programs, incentives, rates and other utility-related topics can subscribe to Energy Edge, our electronic newsletter. Customers can visit mlgw.com/energyedge to read current and past issues. Subscribe by emailing CRC@mlgw.org to receive an email alert when each issue is posted online.

TVA EnerNOC Demand Response

Each month, MLGW records an electric system peak based on simultaneous electricity use among our more than 400,000 customers. These system peaks can add hundreds of thousands — sometimes, millions — of dollars in demand charges to MLGW's wholesale electricity costs, which are then passed to customers through the electric rates, even if the peak lasts just a few minutes.

Likewise, TVA sets a peak based on the collective electricity use of all the energy users in the region. These maximum levels are important because TVA must supply enough electricity to meet the system peak, no matter how high it is or how briefly it lasts. TVA can meet that peak by operating reserve power plants, buying supplemental electricity at market prices and/or building new power plants. Each of these options has a significant cost, so TVA bills utilities for peak demand to encourage utilities — and their customers — to help control that peak. By controlling the peak, everyone helps control power costs.

The TVA-EnerNOC Demand Response program is a fourth option to help control system peaks. The program recruits and pays businesses and organizations based on their ability and willingness to reduce electric use during requested periods. Each participant receives a free demand response audit to identify potential actions, communications to provide real-time electric load details and access to a website for tracking electric load. Participants are paid quarterly based on their agreed-to capacity, whether or not an event is called. They are also paid for each kilowatt of electric load they reduce during demand response events called by TVA.

mlgw.com/enernoc

2015 highlights:

- More than **200 locations** are enrolled in the program, including major manufacturers, retailers, churches and public schools.
- Eight demand response events were called, representing a total of 28 hours of requested load control. Seven of those events were for mid-afternoon to early evening hours, when both MLGW and TVA systems traditionally reach peaks based on simultaneous customer use of electricity.
- Participants' ability to achieve their committed load reduction averaged 86 percent, with some events achieving up to **137 percent** of the requested reduction. (Participants who over-deliver get rewarded while those who under-deliver are coached to better activate their demand response plans.)
- Participants earned more than **\$400,000** in collective payments for their 2015 results.
- The average event reduced MLGW's system load by **17 MW**, or approximately 0.5 percent, illustrating that individual efforts to reduce usage during high-demand periods can add up to a sizable benefit across the region.



Reducing the peak, saving energy

All customers can help reduce the system peak through two types of activities: conservation and load shifting.

Conservation includes eliminating energy waste during late afternoon and early evening hours through simple steps, such as turning off computers and office lights before leaving work and adjusting residential thermostats to the most efficient settings while you will be away. Each kilowatt-hour of electricity you eliminate saves on your MLGW bill and helps reduce the total system peak.

Load shifting includes delaying the time at which you perform energy-intensive activities until after peak hours have passed. Examples include using the delay setting on your dishwasher instead of starting the machine immediately after dinner, or waiting until after 7 p.m. to run the clothes dryer on summer nights. The same activities are performed with the same outcomes — clean dishes and dry clothes — but during hours when TVA's electricity generation costs are lowest. For more ideas, visit mlgw.com/peakalerts

Renewable Generation

While traditional energy sources currently remain the predominant methods of supplying power, advancing technology continues to make alternative options increasingly affordable and efficient. MLGW promotes and facilitates several programs to encourage customers – both commercial and residential – to explore alternative, renewable energy sources.

TVA Green Power Switch

MLGW participated in TVA's spring direct mail campaign to recruit Green Power Switch participants. The campaign produced solid results, with 90 new local subscribers, bringing MLGW's 2015 Green Power Switch program to 1,535 participants.

These customers sponsored 4,541 blocks of green power in 2015, which equals 8.2 million kWh of generation – enough to meet the annual electricity needs of 545 average Shelby County households. The environmental impact of this renewable generation commitment is equivalent to recycling 35 million aluminum cans, planting 2,271 acres of trees, recycling 2,005 tons of newspaper or removing 757 cars from the roads for a full year.

In scientific terms, MLGW's Green Power Switch customers were responsible for avoided generation emissions equal to 6,114 tons of carbon dioxide, 41 tons of nitrogen oxides and 16 tons of sulfur dioxide each year. mlgw.com/greenpower

The following businesses participate in Green Power Switch and are recognized on MLGW's and TVA's website for their commitment to renewable power:

- Askew Nixon Ferguson Architects
- Cloverleaf Animal Clinic
- EnSafe Inc.
- GG Lutherie
- Haizlip Firm
- Jabberblabber Inc.
- Kele Inc.
- Memphis Light, Gas and Water
- Midtown Yoga
- New Tech Packaging
- Rhodes College
- River Inn at Harbor Town Landing
- State of Tennessee Department of Environment and Conservation (T.O. Fuller and Shelby Forest parks)
- Superior Carriers
- The Daily News
- Village at Cypresswood
- Westmoreland Cabinetry



TVA has a calculator that illustrates Green Power Switch purchases as a percentage of household electricity use and shows the environmental impact. Check it out at tva.com/Energy/Renewable-Energy-Solutions/Green-Power-Switch/GPS-for-Home/Green-Power-Purchase-Calculator.

8.2 million kWh of energy sponsored by Green Power Switch participants in 2015

1,535 total participants in the MLGW service area

Green Power Providers

2015 marked the 10th anniversary of Generation Partners/Green Power Providers availability in Shelby County. Six MLGW customers completed solar installations in 2015, including three who expanded existing solar arrays. These activities brought total solar generation capacity through the Green Power Providers program (previously called Generation Partners) to **4,126 kW**. An additional 18 solar projects were approved in 2015 but chose not to move forward with construction.

Program highlights:

- As of Dec. 31, 2015, there are **79 MLGW customers** generating solar power to sell to TVA. Of those customers, 44 percent are residential and 56 percent are businesses or organizations.
- These systems can generate nearly **6 million kWh** of solar power each year. That's enough to meet the annual electricity needs of 399 average homes served by MLGW.
- Customers participating in Green Power Providers sell 100 percent of their generation to TVA under a 20-year agreement. Customers who executed agreements in 2015 are paid the retail electric rate (residential E-1 or General Service Agreement Part 1) for their output.

The 30 percent federal solar investment tax credit that has spurred solar development in the United States, which was set to expire on Dec. 31, 2016 for residential installations and to fall to 10 percent for business installations, was extended by Congress via the Consolidated Appropriation Act in late December 2015. The incentive remains at 30 percent through 2019 then begins to gradually taper off through 2021. More information about tax credits:

programs.dsireusa.org/system/program/detail/1235 (Residential)

programs.dsireusa.org/system/program/detail/658 (Commercial)



Renewable Standard Offer

Another TVA option for onsite power generation, for projects greater than 50 kW and up to 20 MW, was Renewable Standard Offer. The program enabled customers – as well as third-party generators/developers – to install and sell their generation to TVA under long-term contracts at set market prices. There are four completed RSO solar projects in Shelby County, totaling 607 kW of solar capacity. TVA continues to purchase power from these existing RSO projects but has closed this program to new applicants.



Responsible Energy in Construction

The best way to be energy smart is to plan for efficiency and sustainability from the beginning. Whether building a new home or constructing a large industrial facility, customers can have a positive impact on the environment while saving themselves money in the long run.

EcoBUILD

EcoBUILD is a voluntary green building program that includes a set of construction standards that exceed the 2003 International Energy Conservation Code and common building practices. This MLGW program was created to increase energy and environmental awareness through the promotion and use of energy-efficient and environmentally friendly technology, materials and techniques for new home construction. Many advances in the home-building industry can help customers minimize wasted energy and save money on their MLGW utility bill. By following the EcoBUILD guidelines, participating builders can construct homes that use up to **30 percent less energy** while providing greater customer comfort and other environmental benefits, such as reducing the home's carbon footprint.

MLGW inspects EcoBUILD homes twice. The first inspection takes place during construction, before the drywall is installed. The second inspection is performed after building completion to ensure compliance with all EcoBUILD standards.

In 2015, 16 EcoBUILD homes were constructed and certified, representing over **9,200 kWh** savings per year.

For more information, visit mlgw.com/ecobuild, or to apply for EcoBuild certification, call 901-528-4887.

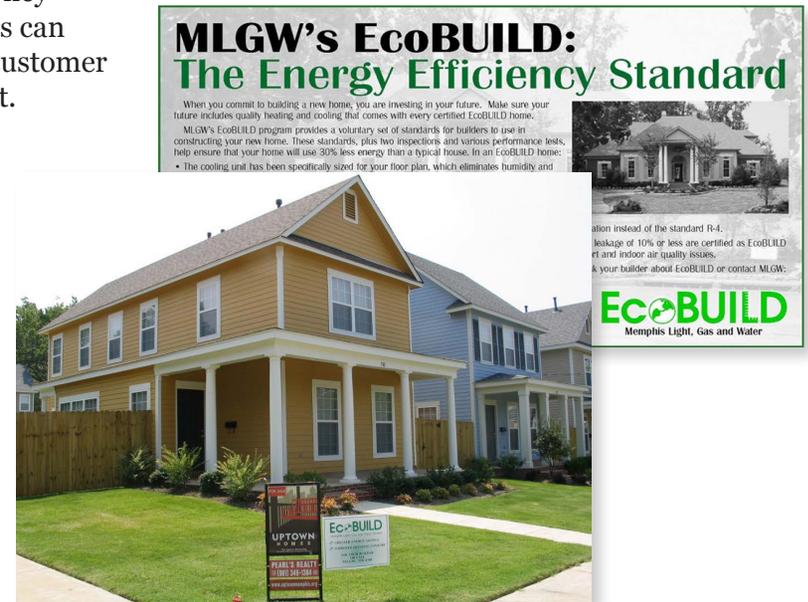
Benefits to EcoBUILD homeowners:

- Energy savings of 30 percent, compared to standard construction practices
- More comfortable indoor temperatures with less need for thermostat adjustments
- Better indoor air quality with fewer allergens from building materials and air infiltration
- Construction techniques that make your home different from others in the neighborhood, providing a higher resale value in the future
- Personal satisfaction from investment and involvement in a green community
- A personalized EcoBUILD Homeowner's Manual, which serves as proof of certification and outlines all the unique energy and environmental features of your new home

USGBC/MLGW LEED Incentive

The U.S. Green Building Council – Memphis Regional Chapter uses funds from an MLGW grant to encourage the adoption of energy-efficient and environmentally responsible construction practices in commercial facilities. To apply for these funds, qualified project teams must submit an application, the project's final LEED Scorecard and detailed review and an educational document highlighting the project's sustainable attributes to the USGBC Memphis Chapter. usgbcmemphis.org

To date, five projects have been recognized, although none qualified in 2015. Read about the green building aspects of previously honored projects at mlgw.com/leedincentive.



Internal Responsibility and Sustainability

Energy management and resource conservation opportunities within MLGW abound. By focusing on internal operations, the company is implementing projects that control operating costs, thereby helping to delay or minimize the need for utility rate increases. In addition, energy management enables MLGW to lead by example, showing customers that everyone has the potential to reduce energy waste.

MLGW Alternative Fuel Vehicles

MLGW owns and operates a diverse fleet of alternative fuel vehicles that is used by employees for service calls, field inspections and project deployments. The portfolio includes the following:

- **Flex-fuel:** Over 200 on-road light-duty vehicles, which utilize unleaded gasoline or ethanol (E-85) fuel.
- **CNG:** Thirty-six on-road light-duty F-150, F-1500 series trucks and 56 on-road heavy-duty F-2500, F350 series trucks using compressed natural gas.



- **Hybrid:** 24 Ford Prius, Escape and Fusion vehicles, powered by unleaded gasoline and a lithium battery.
- **Plug-In Electric:** Four Nissan Leaf vehicles powered 100 percent by lithium-ion batteries, which are charged by electricity from Level 2 EV charging stations. MLGW has five charging site locations: the Administration Building, Beale Street Landing Garage (accessible to the public), Electric & Systems Ops, North Service Center and Netters Business Operations Center.
- **Plug-In Hybrid Electric:** 1 Odyne on-road heavy-duty bucket truck used in electric line repair and installations. MLGW promotes electric vehicle technologies via its Plug-in Memphis page at mlgw.com/about/pluginmemphis. Since 2006, MLGW has been actively involved with Plug-In Partners for the mass deployment of plug-in electric and hybrid electric vehicles. Through EV purchases and a growing fuel infrastructure, the company continues its support of alternative fuel transportation.



More than **320 alternative fuel vehicles,**
5 electric vehicle charging sites
and 2 CNG fueling stations

Energy Management within MLGW

Tracking: Data from over 100 electric, gas and water meters that serve MLGW facilities are tracked to identify the impact of facility upgrades, trends in usage, operations adjustments and account anomalies.

Planning: Long-range planning provides a framework for managing existing resources and expanding infrastructure in a way that allows MLGW to make informed and cost-effective decisions. MLGW actively plans for the anticipated needs of its physical environment through the following:

- The MLGW Facilities Master Plan is developed on an annual basis to provide a roadmap of capital improvements to MLGW's facilities. Based on a 10-year horizon, the plan details existing facilities, new facility developments and equipment upgrade installations in 1.9 million-plus square feet of buildings.
- An Equipment Replacement Database tracks envelope, mechanical/plumbing, electrical, new building additions and structural projects completed in each facility. The database aids in the planning process in identifying when upgrades are needed for equipment and space needs.
- Facility Seismic Mitigation planning is done in the areas of monitoring, screening, strengthening and containment. Facilities are monitored by seismograph equipment for earthquake events. MLGW's buildings have been screened and inventoried for potential earthquake hazards. HVAC and electrical equipment have been anchored to prevent damage during seismic events. Finally, seismic valves have been installed at critical facilities to prevent natural gas eruptions during earthquake occurrences.
- Compliance planning in facilities is necessary in order to meet the American Disabilities Act requirements. MLGW has planned and implemented upgrades to its publicly accessible facilities. Improvements include entrance accessibility, rest room access accommodations, accessible parking spaces, etc.

Energy audits: Building tune-ups are done to identify low-hanging fruit opportunities such as programming building automation controls to reduce energy at times when facilities are vacant. Cost-effective technologies have been identified for application such as controls, LED lighting deployments in facilities, efficient boiler equipment upgrades, variable air volume and on-demand ventilation. Future plans to expand auditing practices include retro-commissioning of systems where economically feasible.

Demand response: Since 2011, MLGW has participated in TVA's demand response program administrated by EnerNOC. To date, seven MLGW facilities are enrolled into the program: David F. Hansen Administration Building, James L. Netters BOC, Joyce M. Blackmon MLGW University, Larry Papasan ESO, North Service Center #8 and the Allen and Shaw water-pumping stations. As of 2015, MLGW has received **\$89,573** in energy and capacity payments from the program.

Building Automation and Insight

Insight into how facilities use energy can help identify efficiency opportunities. At MLGW, control systems have been installed to automate heating, ventilation and air conditioning systems to identify and resolve operations issues and reduce energy usage. Automated systems are installed at the following facilities: Administration Building, Netters BOC, North Service Center #8, Electric & Systems Operations, MLGW University, Water Laboratory, North Community Office (Air Handlers) and Beale Street Landing.



MLGW also utilizes services to view the metering data graphically and to gain insight into how and when facilities use energy. Automated Energy and EnerNOC EfficiencySmart help MLGW identify operational efficiencies in the top energy-spend facilities.

Energy Efficiency Equipment Upgrade and Operations

MLGW has made sustainable energy efficiency upgrades in many of its facilities:

David F. Hansen Administration Building (MLGW Headquarters): Limestone facade rehabilitation; elevator modernization; T-8 lighting retrofit; chiller and cooling tower retrofit/rebuild

James L. Netters Business Operations Center: Protective window film; elevator controls to reduce lighting and fan energy usage when the cab is not in use; wireless occupancy controls on lighting; photocell installation to turn off parking lot and exterior building lighting

Service Centers: Roof replacements; T-8 and T-5 lighting retrofits with occupancy sensors; boiler and A/C upgrades

Community Offices: Remodeling upgrades and ADA compliance; roof replacements; T-8 lighting retrofits with occupancy sensors; HVAC upgrades (including building automation system in North office)

Larry Papasan Electric & Systems Operations: Roof replacements; T-8 and T-5 lighting retrofits; HVAC upgrades (including BAS)

Substations: Roof upgrades; programmable digital thermostats with lockable capability to replace inefficient analog models; Energy-efficient A/C installations

Water Pumping Stations: Roof upgrades; lighting retrofits with occupancy sensors; heating system replacements

ENERGY STAR Partner



MLGW has been an ENERGY STAR partner since 2004 and provides information to employees and customers about energy-efficient products and resources via mlgw.com/energystar. There, customers can obtain up-to-date information about efficient home building, energy saving equipment and appliances, facility energy performance and resource conservation tools.

MLGW hosts and participates in many community outreach events held during the year throughout Memphis and Shelby County. The company promotes its ENERGY STAR partnership by distributing brochures to customers and promoting energy efficiency on the company's web site. These tools allow MLGW to lead by example in educating the community on how to use resources wisely.

Recycling and Reuse

- **Paper:** In 2015, MLGW's employees recycled **373,135 lbs. of paper**. The emissions equivalencies of recycling paper and beverage containers at the company produced an avoided **956 metric tons of CO₂e**. This is equivalent to the greenhouse gas emitted by 201 passenger vehicles or the amount of carbon sequestered by 24,513 tree seedlings grown for 10 years.
- **Cell phone and rechargeable batteries:** MLGW recycled **169 lbs. in 2015**. Recycling receptacles are available at the Administration, Netters, Electric & Systems Operations, and the MLGW University buildings. Call2Recycle recycles these items at no charge.
- **Printer ink and toner cartridges:** Office workers reused and recycled **238.9 lbs. of printer ink and toner cartridges** in 2015. Employees can recycle cartridges at most facilities. Guy Brown is MLGW's new office supply vendor and cartridge recycler.
- **Tires:** Since 2012, MLGW has worked with Shelby County to recycle about **2,612 lbs. of tires** abandoned by others on the company's grounds and right-of-ways. There is no cost to MLGW for recycling the tires through the county's program.
- **Materials exchange:** In 2015, MLGW initiated an internal materials exchange program, which **promotes the beneficial reuse of material resources at MLGW**. What one department might classify as surplus or obsolete may be reusable in another department. Office products, construction materials and project-related items that employees can use in their daily work are shared via the internal Weekly Bulletin email.

Green & Sustainable Grounds

Erosion control: MLGW maintains its grounds through care and sustainable practices. Erosion control prevents the development of ruts and washed-out areas on the grounds that are typically caused by precipitation, wind or vehicles. Eroded areas are refilled with reused soil, and silt fences are installed on banks or berms before trees are planted. These preventative measures ensure that the company's properties are well maintained.

Sustainable plant material and maintenance practices: The plant material selected to array the grounds have low moisture requirements and in some cases are perennials, which do not require replanting every year. Remaining green waste is recycled through a local mulch yard, turning the waste into compost or mulch.

Turf areas are planted with grasses that will thrive in this region such as zoysia and Bermuda. Mowers used to groom the turf are equipped with mulching kits and blades that recycle turf and leaves back into the soil.

Integrated pest management practices are also used to treat plant material only when necessary. Pests are monitored and identified accurately, so that appropriate control decisions can be made in conjunction with action thresholds. MLGW also uses the newest and safest chemical technology.

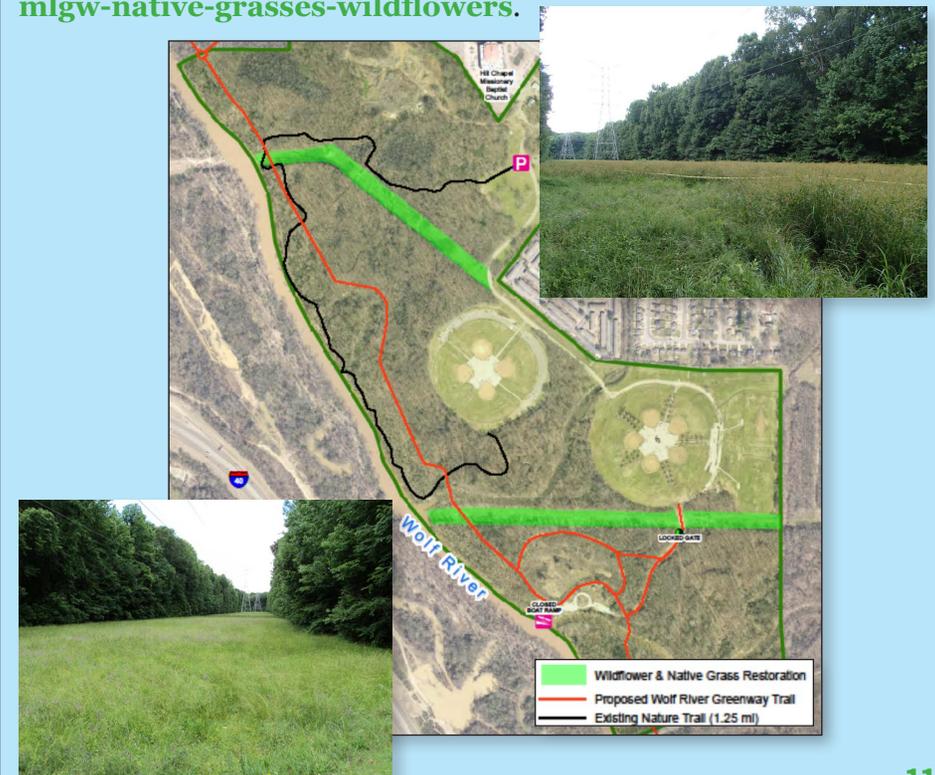
Trade-a-Tree program: When trees/shrubs are deemed hazardous to MLGW's overhead power lines, they are removed. Dead or diseased trees are also removed from MLGW's properties. Through the Trade-a-Tree program, plant material is replaced with low-height varieties such as Bradford pear or crape myrtle trees, Foster's holly, photinia, weeping privet or Japanese maple shrubs. In 2015, **83 trees and shrubs** were replaced in the program.

Water conservation: MLGW assessed the irrigation systems at the Administration Building and the Netters Business Operations Center and installed smart sensors and controllers. The new efficient systems schedule watering based on data downloaded from local weather stations. When precipitation is forecasted, the watering times are adjusted or delayed. In 2015, both systems **saved 1,104,642 gallons of water**. This savings is equivalent to the amount of water used (indoor and outdoor) by 10.32 average American homes in one year.

Sustainable products: MLGW uses recycled paper products to clean and stock its restroom and kitchen areas. Environment-friendly products are also used to remove ice from hardscape areas that are located on the company's grounds.

John F. Kennedy Park

MLGW is committed to serving its customers while being a responsible steward of our natural resources. To that end, a new project began in partnership with the Wolf River Conservancy in 2015 to restore right-of-ways that were cleared for electric and gas transmission lines in John F. Kennedy Park. Approximately **13 acres** of land will be replanted with native grass and wildflower species. The project will have several benefits for the environment, including the elimination of non-native plants that provide little benefit to nearby wildlife. Newly planted species will provide a habitat and food source for insects and wildlife such as birds, bees and butterflies. Growth of woody plants, which could interfere with transmission lines, will be naturally suppressed. Less maintenance of the land, including mowing and herbicide, means lower cost, reduced fuel usage and less pollution. Water runoff from the area will be better filtered before it reaches the Wolf River. Preparation of the area began in fall of 2015. The first round of seed and bulb planting took place in spring of 2016. The site should be well established by summer of 2018. For more information and to follow the site's progress, visit midsouthgreenprint.org/progress/project/kennedy-park-mlgw-native-grasses-wildflowers.



Diversity in Business

Supplier Diversity

MLGW recognizes the power of diversity and the vast resource a diverse pool of suppliers and contractors provides businesses. The Supplier Diversity Program demonstrates the Division's intentional focus on creating opportunities for demographics that have been traditionally underrepresented in business. Its mission is to help foster economic parity within the Memphis and Shelby County community. The Supplier Diversity Program is designed to give maximum practical opportunities to certified businesses as a partner in the buyer-seller relationship with MLGW.

MLGW bases its diversity spending on independent certification that businesses are at least 51 percent owned, controlled, operated and managed by a person or persons who represent one of the three business classifications outlined in the program definition.

2015 was a record year for supplier diversity efforts at MLGW. **Of the \$127 million spent on procurement, 37 percent — or \$47 million — went to minority, women and locally-owned small businesses (MWBE/LSBs).**

This represents a full **13-percent increase** from 2014. Since the program began to improve MWBE/LSB spending in 2012, procurement with these entities has risen each year. This latest increase is by far the largest yet. mlgw.com/supplierdiversity

Procurement Opportunities Fair

To make procurement as equitable as possible, especially for business owners who might not have much experience with the bidding process, MLGW hosts an annual Procurement Opportunities Fair.

The Division invites representatives of local small businesses and minority- and women-owned enterprises to attend and learn about business opportunities with the utility. Business owners have an opportunity to meet one-on-one with MLGW project managers, end users and procurement professionals.

By facilitating direct interaction with MLGW decision-makers, the Procurement Opportunities Fair allows MWBE/LSBs to understand the Division's business needs and compete for a fair share of procurement spending.



**Do business with
MLGW!**
Visit mlgw.com/bids

Sheltered Market Program

Supporting business owners within our region is essential to promoting a healthy local economy. MLGW established its Sheltered Market Program to provide opportunities for local organizations to compete for business on a more level playing field. This race- and gender-neutral program shelters any purchase under \$100,000 by offering three or more certified local small businesses the opportunity to bid on products or services. A local small business may be certified as such if it is located in Shelby County; has an average gross annual sales in the last three years less than SIC category limits for the contractor SIC code found in 13 CFR, Part 121.601; and is at least 51 percent owned, operated and controlled by a resident or residents of the Metropolitan Statistical Area.

In 2015, MLGW spent **\$9.5 million** through its Sheltered Market Program, helping area businesses grow and stimulating our local economy.

Community Education

At MLGW, we believe that a sound educational system is the foundation for a healthy community. Therefore, we offer a number of programs to support students, teachers and the community at large in being safe and successful. For more information about these programs, call 901-528-4188.

Community Conservation Days

Our Residential Services department hosts conservation education events throughout Memphis and Shelby County at MLGW Community Offices, libraries, museums, colleges and community centers. MLGW employees provide attendees with energy efficiency and conservation tips.

Attendees also receive free energy efficiency kits containing a CFL bulb, outlet switch covers and a faucet aerator. Customers can potentially save up to 58 kWh per year if they install these items.

49 Conservation Days in 2015

6,900 energy kits distributed

400,000 kWh total potential electricity savings for energy kit recipients

EnergySmart Memphis

MLGW, in partnership with TVA and the City of Memphis and Shelby County governments, provides free, 90-minute EnergySmart Memphis workshops. Trainers discuss common household energy problems, lead hands-on demonstrations of weatherization measures and review basic strategies to manage energy costs.



Gas Safety Days

Twice annually, Gas Engineering employees volunteer to visit local Lowe's Home Improvement stores to educate the public about natural gas safety, particularly working safely during digging, excavating, landscaping, gardening and construction projects. Residents and contractors are informed why it's important to "Call Before You Dig" and provided information about Tennessee One Call and the national 811 safe digging hotline.



**Know what's below.
Call before you dig. 13**

Attendees receive a large EnergySmart Memphis kit containing compact fluorescent bulbs, a caulk gun, caulk, plastic window covering, gasket insulators and other energy-saving items (a \$45 value). Customers can potentially save up to 116 kWh per year if they install items in the kit.

56 EnergySmart workshops in 2015

680 energy kits distributed

112,000 kWh potential electricity savings

Neighborhood Leaders Conference

The Neighborhood Leaders Conference is an annual event to provide workshops and networking opportunities for neighborhood leaders, from learning more about emergency preparedness to understanding the utility restoration process. “Passport to Safety” was the theme for 2015.

160 NLC 2015 attendees

A-Blazing Race

2 events, 14 schools, 28 teams

The A-Blazing Race is a model solar car race for middle and high school students to promote MLGW’s interest in solar energy. MLGW provides kits containing a solar panel and motor. Using any other materials, students design and build a solar-powered vehicle that will compete in a 20-meter race. Employees also host an engineering workshop before the race to help students plan their designs.

mlgw.com/community/ablaze



Community Fairs and Exhibits

More than 100 community and school events

MLGW participates in many community events in the Memphis and Shelby County area to provide information about our services, energy conservation, careers and more. Events include

the Southern Women’s Show, U of M Housing Fair, Africa in April, Bridge Builders Eco Fairs, Shelby Farms Summer Concert Series, A Day of Merrymaking in Overton Park, Earth Day at St. Jude, Earth Day at ALSAC, Senior Expo, Sisterhood Showcase, Juneteenth Festival, Delta Fair, Stone Soul Picnic, Memphis Black Expo, Senior Safari and more.



Our Speakers’ Bureau also provides volunteer presenters for school career days, community groups, churches and civic organizations. Visit mlgw.com/speaker to submit the speaker request form.

Energy Awareness Month Poster Contest

87 student submissions in 2015

Each October, MLGW holds the annual Energy Awareness Month Poster Contest for Shelby County students. Students learn about energy savings and submit poster artwork about energy awareness and conservation. The winners and their art teachers are each awarded \$150 gift cards to The Art Center.

2015 poster contest winners Ethan Brown (Peabody Elementary), Shadarious Grandberry (Douglass High) and Rupali Ahir (Snowden Middle)



Community Assistance

Many in our community face challenges that can make meeting basic needs difficult. MLGW provides several programs to assist those who may need a helping hand. Whether one-time events or chronic financial troubles, we are determined to help community members overcome their obstacles.

Play it Cool and Power of Warmth

Each year, MLGW teams up with the Neighborhood Christian Center to provide heating and cooling appliances to low-income seniors and disabled residents of Shelby County.



200 window A/C units

100 space heaters

100 electric blankets



On Track

MLGW's payment program provides energy conservation and financial guidance to customers who need help to get back "On Track" with their bills.

On Track is designed to help residential customers with limited incomes manage debt and pay off their bills over a period of time. The program focuses on education, financial management and social services. mlgw.com/ontrack

583 customers enrolled in On Track

Plus-1

The Plus-1 program was created in 1982 and is a partnership between MIFA and MLGW to provide utility assistance for individuals and families experiencing a financial crisis. In 2015, Plus-1 kept the lights on for 3,000 families, though nearly 17,000 requests were received. The most common reasons for assistance include medical crisis, loss of income, fire and theft. The Plus-1 program offers one-time assistance and serves as a "stop-gap" measure to those in need, not an ongoing source of assistance.

Customers can elect to add one dollar or more to their monthly bill to support families in need through the program. In 2015, MLGW hosted a telethon with MIFA and WREG Channel 3 and raised \$62,000 for Plus-1.

mlgw.com/plus1

\$408,350 raised for Plus-1 in 2015

3,000 families received assistance

89.7 percent of customers who receive utility assistance through Plus-1 between July and December 2015 were still connected 90 days later



Project CARE and Share the Pennies

Project CARE, sponsored by MLGW and MIFA, is designed to help low-income customers who are elderly, disabled or undergoing critical medical care by providing a \$1,500 grant for home repairs to reduce energy consumption. Repair work includes sealing the building envelope of the home, providing proper levels of insulation and addressing water or gas leaks. For more information about Project CARE, call 901-528-4188.

Share the Pennies allows customers to round their utility bill to the next highest dollar amount, with the difference being donated to Project CARE. More than 7,500 customers are enrolled in Share the Pennies.

mlgw.com/sharethepennies

\$190,000 in repairs through Project CARE as of 2015

200 households assisted

6.2 percent average electric savings

3.8 percent average gas savings

Rental Housing Energy Efficiency Ordinance

Memphis Housing Code section 48-133, adopted in 2009, allows MLGW to inspect rental properties that have been identified for excessive energy usage. MLGW Residential Service Technicians look for a number of energy-wasting issues such as holes in exterior walls and roofs, leaks, insulation problems and non-functional heating or cooling units. MLGW will ensure that minimum energy-efficiency standards are met and if necessary, take the landlord to Environmental Court if the issues are not addressed within a reasonable amount of time. Since inception, all landlords have complied. For more information or to schedule a Rental Ordinance inspection, call 901-322-5757.

138 rental properties inspected in 2015



Wesley Highland Meadows

Alco Property Management and the Greater Memphis Chamber contacted MLGW to discuss potential energy efficiency renovations at Wesley Highland Meadows, a property managed by Alco and owned by Wesley Housing Corp. The residents of the 200-unit community are primarily elderly and low-income. Highland Meadows was built in the 1970s in the Scenic Hills area. Unfortunately, much of the housing had not been updated since it was built. The units relied primarily on electric resistance technology for heating, a popular method many decades ago, but is now “absolutely the most inefficient, expensive way to heat a home,” according to Bill Bullock, the MLGW Commercial and Industrial Customer Care manager who coordinated the project.

MLGW worked with the group to partner with TVA, who was able to develop a **\$100,000 incentive plan** to offset the costs of new high-efficiency heat pumps, ENERGY STAR windows and proper insulation. MLGW inspected all 200 housing units.

“We’ve already had a few residents [say], ‘I’m seeing a 30 percent reduction in my utilities,’” said Jim Nasso, CEO of Wesley Housing Corp. “We’re ready for the next 20 or 30 years [at Wesley Highland Meadows], and you all helped us do it.”



Lynn Dabney of TVA; Andy Rainer and Robert Hyde of Alco; Jim Nasso of Wesley Housing; and MLGW Board Chair Derwin Sisnett, Bill Bullock, Commercial and Industrial Customer Care, and President & CEO Jerry Collins Jr.

Volunteering and Giving

MLGW employees support a wide range of charities, both financially and through action. MLGW encourages and supports participation in the community. Working together, MLGW employees donate more than \$1 million annually in money and service. We continue to strive to make Memphis and Shelby County a better place to live.

Walking and Riding

MLGW has an active group of employees who put their energy to good use, participating in walks and cycling events to raise money for several charities. In 2015, MLGW workers participated in the following:

- National Kidney Foundation Kidney Walk – \$2,030
- American Heart Association Mid-South Heart Walk – \$8,981
- American Diabetes Association Step-Out Walk – \$3,665
- Tour de Cure, benefiting the American Diabetes Association – \$5,230
- Tour for a Cure, the Juvenile Diabetes Research Foundation – \$560
- St. Jude Ride, St. Jude Children’s Research Hospital – \$1,480
- American Cancer Society’s Making Strides Against Breast Cancer
- Bluff City Ride to Fight On, West Cancer Center

Over **\$22,000** raised in walks and rides for local and national charities



Operation Feed

The mission of the Mid-South Food Bank is to fight hunger through the efficient collection and distribution of wholesome food and through education and advocacy. Each year, departments across MLGW work internally to raise money to support this important mission. In 2015, MLGW raised over \$32,500, the most the Division has ever raised, and was recognized as the second-highest-giving organization with 1,000 to 4,999 employees.

\$32,500 raised in 2015 for the Mid-South Food Bank



Additional Events

- Bowling on the River Bowl-a-thon: **\$21,273** for Junior Achievement
- Salvation Army bell ringers in December: **\$1,425.54** collected
- Salvation Army Angels: Gifts for **100 children and seniors**
- Gas Engineering Ronald McDonald House holiday gift boxes
- Fishing Rodeo
- ...and more!

United Way

MLGW has a special relationship with United Way of the Mid-South. Not only does President and CEO Jerry Collins Jr. serve as chairman-elect of the organization's board of directors, but employees organize and take part in numerous activities throughout the year to raise funds for the group. Events in 2015 included the following:

- Walk United, a walking event along the Mississippi River
- The MLGW United Way Golf Tournament
- Midday Music series, featuring MLGW employees playing music in the Administration Building lobby for "tips" to United Way
- The Big Buck contest, with prizes for adults and youth who submit photos of their deer hunting conquests
- Park Like an Executive, allowing employees to bid for a week of premium workplace parking
- Pie an Executive, which gave employees a chance to hurl pies of whipped cream at MLGW leaders

In 2015, \$606,199.51 total raised for United Way

In addition to fundraising and payroll contributions, MLGW employees volunteered in United Way's Day of Caring, joining with other volunteers to help renovate homes in the Memphis community.



**LIVE UNITED.
SOLVE IT TOGETHER.**

