# MLGW Green Initiatives and Community Engagement 2016 Annual Report









## **MLGW** is Committed to the Environment and to its Communities

Memphis Light, Gas and Water Division's main purpose of existence is to benefit the Memphis and Shelby County communities. Although our primary activities revolve around providing affordable and reliable utility services to our customers, MLGW supplies a much deeper value than these services alone. Through the generosity of our employees, and the consistent efforts of the Division, MLGW seeks to enhance the lives of those in our service area and to help secure a bright future for generations to come. As difficult as it would be to adequately detail the full impact of our dedication to corporate responsibility, sustainability and social improvement, the intent of this annual overview is to serve as a document that highlights our



most prominent efforts and illustrates the significance of organizations making responsible citizenship an active priority. We constantly strive to further our positive influence and to continue our role as a community leader.

## **MLGW Executive Leadership**

Jerry R. Collins Jr., President and CEO Christopher Bieber, Vice President of Customer Care Von Goodloe, Vice President of Human Resources Dana Jeanes, Vice President, CFO and Secretary-Treasurer Nicholas Newman, Vice President of Construction and Maintenance Cheryl Patterson, Vice President and General Counsel Lashell Vaughn, Vice President and Chief Technology Officer Alonzo Weaver III, Vice President of Engineering and Operations Gale Jones Carson, Director of Corporate Communications Clifford DeBerry, Director of Analysis, Strategy and Performance Lesa Walton, Director of Internal Audit Roland McElrath, Controller

## **MLGW Board of Commissioners**

Steven Wishnia, Chair Carlee McCullough, Vice Chair Derwin Sisnett Mitch Graves Leon Dickson Sr.

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# **Conservation at Home**

Saving energy begins with you, 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, and restrictions or to register, visit 2escore.com or call 1-855-2eScore (237-2673).

## My Account – Residential

In an average month, nearly one-third of MLGW customers log in to our My Account portal to see information about their bills, usage, payments and more. October 2016 set a record with more than 123,254 residential users accessing the site. Customers visited My Account more than 1.3 million times in 2016, viewing more than 14.9 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 view bills, pay bills electronically and enables customers to enroll in paperless eBilling.

Among My Account users, more than 1,334 qualified in 2016 to receive a free TVA energy kit, including common household items to start saving energy immediately. To qualify, 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 37,000 residential customers have received free energy kits as well as customized recommendations and the ability to track their savings goals.







## **Smart Meters**

Back 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 project, which has a completion goal of 2020, includes one million electric, gas and water smart meters as well as a telecommunications network.

At the closing of this publication, approximately 455,000 smart meters have been installed, and MLGW has 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.

# Here are some of the benefits to our customers:

- Gates stay closed on meter reading day so properties remain secure and pets stay happy in the backyard.
- Estimated bills are virtually eliminated. In the past, extreme weather could keep MLGW from reading the meter every month. Smart meters are read remotely so there's no guessing.
- Lights on in 60 minutes or less. Wait times for electric service connections are drastically reduced.
- Customers can pay with PrePay. The flexibility to set the amount to pay based on the desired frequency and individual's lifestyle is available with this optional service.
- Usage data is available daily on mlgw.com.
- Leaks and electricity problems are detected sooner. Water leaks and meter alerts mean MLGW can notify you of a problem before there's damage.
- Lower costs and fees. Reductions in MLGW's workforce and operational costs mean reduced fees for services are achieved without layoffs.

To learn more, go to mlgw.com/smartgird.







# **Conservation for Business**

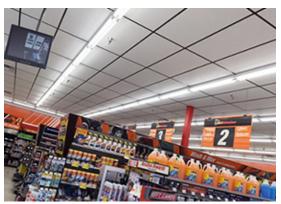
As a leader in the community, MLGW sets an example by being smart about energy usage. To encourage other organizations to follow our lead, we provide and promote a number of programs designed to incentivize conservation, energy efficiency and sustainable practices.

## **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.

In 2016, there were 183 projects undertaken by MLGW customers, earning \$1.76 million in incentives. These local energy efficiency upgrades are projected to save **25,273,633 kilowatt-hours (kWh)** of electricity—or enough electricity to meet the needs of 1,685 average local households and reduce **3,105 kilowatts (kW)** 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.



AutoZone signed up for the EnergyRight program and the image shows LED lights inside one of their stores.

Learn more at energyright.com

## 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 4,300 unique users login to view their commercial account information. In 2016, more than **52,000 user sessions** were recorded among businesses and organizations, who viewed more than **900,000 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 enter data manually and the clutter of paper bills.

## **TVA Main Street Efficiency**

2016 was the third and final year of the Main Street pilot, which provided small business customers with free lighting assessments and cost-effective lighting upgrades to reduce their capital investment, as well as cut monthly electricity expenses.

#### 2016 highlights:

- More than 500 free lighting assessments were conducted, educating business owners and operators on energy-saving opportunities.
- Nearly 200 facilities contracted for lighting upgrades, benefitting from improved lighting and visual appearance as well as reduced electricity use.
- **3,646,194 kilowatt-hours (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.
- **\$1.49 million** was invested by TVA in 2016, for a three-year program total of nearly \$10 million in incentives for local small businesses.

The pilot ended in the fall of 2016, with TVA beginning analysis to determine its cost-effectiveness and whether there is potential for a future offering.

## **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 mlgwbsc@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 400,000-plus 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

#### 2016 Highlights:

- More than **200 locations** are enrolled in the program, including major manufacturers, retailers, churches and public schools.
- These locations represent 16.2 MW of demand reduction—or 0.5% of MLGW's total system peak—which shows that the actions of individual businesses can have a positive effect on the greater community.
- Eight demand response events were called, representing a total of 29 hours of requested load control. All events were called for mid-afternoon to early evening hours, when both MLGW and TVA systems traditionally reach peaks based on simultaneous customer use of electricity.
- Participants earned more than \$451,616 in collective payments for their 2016 results.

## Reducing the peak, saving energy

All customers can help reduce the system peak through 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 appliance immediately after dinner, or waiting until after 7 p.m. to run the clothes dryer on Summer weeknights. The same activities are performed with the same outcomes—clean dishes and dry clothes—but during hours when TVA's electricity generation costs are lower. 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**

Green Power Switch ended 2016 with **1,341** participating households and businesses (including MLGW's Administration Building). These customers sponsored **3,849** blocks of green power per month, which equals **6.93 million kWh** of generation—enough to meet the annual electricity needs of **462** average Shelby County **households**. The environmental impact of this commitment to renewable generation is equivalent to: recycling **10.2 million** aluminum cans, or planting **671 acres** of trees, or recycling **592 tons** of newspaper, or removing **223 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: **1,806 tons** of carbon dioxide, **12 tons** of nitrogen oxides and **4.7 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:

- ANF Architects
- Cloverleaf Animal Clinic
- EnSafe Inc.
- GG Lutherie
- Haizlip Firm
- Kele, Inc.
- Memphis Light, Gas and Water
- Midtown Yoga
- 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 its environmental impact.

Check it out at tva.com/Energy/Renewable-Energy-Solutions/Green-Power-Switch/GPS-for-Home/Green-Power-Purchase-Calculator.

## **Distributed Generation**

Customer interest in renewable power generation continues, spurred by both falling prices for solar generation equipment and the extension of the 30 percent federal tax credit. MLGW offers the following options for customers wishing to install distributed generation.

- Green Power Providers enables customers to install small-scale generation at their homes and businesses, selling 100 percent of the output to TVA through 20-year agreements at retail prices with generation incentives appearing on their MLGW bills. Eligible system sizes range from 500 watts (W) to 50 kilowatts (kW).
  - MLGW has **81 customers** enrolled in Green Power Providers as of Dec. 31, 2016, 53 percent residential and 47 percent business.
  - These customers have installed a collective **4,173 kW** (or 4.17 MW) of solar generation capacity, capable of generating more than **six million kWh** of solar power each year. That's enough to meet the annual electricity needs of 404 average homes served by MLGW.
  - Find total annual generation data from local Green Power Providers at mlgw.com/images/content/files/pdf/SolarGraphic.pdf
- Dispersed Power Production enables customers to install onsite renewable generation and sell all or a part of their output to TVA at short-term avoided costs. TVA pays the incentives directly.

#### **Green Definitions:**

- "Distributed generation" refers to decentralized power generation sites.
- "Green power," also called "renewable generation," is electricity created from sustainable resources such as the sun, wind and biomass. Green power produces little to no emissions, thereby improving air quality while also reducing dependency on traditional fuel sources such as coal and natural gas.
- Self-Generation enables customers to generate power for use at their homes or businesses. Any power generation in excess of instantaneous consumption flows to the MLGW grid without financial benefit, so it's vital to size the generation capacity carefully. Self-Generation customers may opt to sell any excess power to TVA via the Dispersed Power Production program, described above.
  - As of Dec. 31, 2016, there are three businesses generating a portion of their own power and interconnected to MLGW's electric grid as their primary power source.
- **Distributed Solar Solutions**, a pilot launched by TVA in 2016, enables utilities such as MLGW to work with developers and/or customers to submit proposals for installation of mid-size solar generation projects which sell 100 percent of the output to TVA. Eligible projects must provide distinct benefits to the local utility and meet TVA market criteria.
  - MLGW did not submit a DSS proposal in 2016 but provided input on criteria for future years.
- Negotiated Unsolicited Proposals enable customers and/ or developers to submit proposals for large, utility-scale (>20 MW) generation projects, which would sell 100 percent of the output to TVA at long-term avoided costs.

Because MLGW has an all requirements contract with TVA, we are prohibited from buying electricity from any other source. As a result, MLGW does not offer "**net metering**." Should customers wish to generate power for use onsite and sell the excess to TVA, then Self-Generation with Dispersed Power Production is the applicable option.

# **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.

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

## **Carter Work Project**

The Carter Work Project was a unique event that took place in Memphis under Habitat for Humanity, and MLGW's Residential Services team inspected the completed houses just like they would EcoBUILD. A total of **25 homes** were built and inspected by MLGW in 2016.



Former U.S. President Jimmy Carter and his wife Rosalynn visited Memphis to work along side Habitat for Humanity.





## **Henry Turley Central Station Project**

The Henry Turley Central Station project is composed of apartment units. Despite the fact that these units are not technically EcoBUILD, they are definitely built to a higher energy efficiency standard. For 2016, MLGW conducted **716 calls/ inspections** at the units.

## **USGBC/MLGW LEED Incentive**

NovaCopy was the latest recipient of the (U.S. Green Building Council) USGBC/MLGW LEED incentive for its new energy-efficient building near I-40 and Whitten Road, which received LEED Gold certification in 2016. The facility houses copier and managed IT service sales and support, as well as warehousing space. The building features a variable refrigerant heat pump system with individual controls for each office, controlled lighting and plumbing designed to use 40 percent less water. NovaCopy also is the first MLGW LEED Incentive recipient to include onsite solar generation, with a 51 kW solar array on its roof. NovaCopy consumes the solar power onsite.

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. Learn more at **usgbcmemphis.org**.

To date, six projects have been recognized. 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's owns and operates a diverse fleet of alternative fuel vehicles for service use in 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.



MLGW Beale St. Landing Garage EV Charging System

- Hybrid: 24 (Toyota Prius, Ford Escape & Fusion) vehicles which are powered by unleaded gasoline and lithium batteries.
- **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: Admin bldg., Beale St. Landing Garage (accessible to the public), Electric & Systems Ops., North Service Center, and Netters Business Operations Center.
- **Plug-In Hybrid Electric:** One Odyne on-road heavy duty bucket truck used in electric line repair and installations.



MLGW also promotes electric vehicle technologies via its corporate Plug-in Memphis website. Since 2006, MLGW has been actively involved with Plug-



In Partners for the mass deployment of plug-in electric and hybrid electric vehicles. Through electric vehicle purchases and a growing fuel infrastructure, the company continues to support alternative fuel transportation.

## **Energy Management within MLGW**

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.

## Tracking, Master Planning, Energy Audits, Demand Response

**Tracking:** Data from over 100 electric, gas and water meters that serve MLGW facilities are tracked in order 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:

- MLGW Facilities Master Plan is developed on an annual basis in order 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 the 1.9 million-plus square feet of buildings.
- 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. Also, HVAC and electrical equipment has 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 during times 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, on-demand ventilation, etc.

**Demand response** programs are popular among utilities and their customers. Since 2011, MLGW has participated in TVA's demand response program administrated by EnerNOC, Inc. To date, seven MLGW facilities are enrolled into the program including: David F. Hansen Administration, James L. Netters Business Operations Center, Joyce M. Blackmon MLGW University, Larry Papasan Electric and Systems Operations, North Service Center #8, the Allen and Shaw water pumping stations. As of 2016, MLGW has received \$100,914.65 in energy and capacity payments from the program.



**MLGW University Roof Replacement** 

## **Energy Efficiency Equipment Upgrade and Operations**

Sustainable energy efficient upgrades made through facility improvements include the following:

#### MLGW Headquarters - David F. Hansen Administration Building:

2016 planned improvements:

• Elevator system modernization

#### Previous improvements:

Envelope - Limestone façade rehabilitation; Elevator modernization; T-8 lighting retrofit; Chiller and cooling tower retrofit/rebuild.

#### James L. Netters Business Operations Center:

2016 planned improvements:

- Boiler replacement
- ADA compliance upgrades



#### Previous improvements:

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:

2016 planned improvements:

- Emergency generator upgrades
- HVAC upgrades

#### Previous improvements

Roof replacements; T-8 and T-5 lighting retrofits with occupancy sensors; boiler.

#### **Community Offices:**

2016 planned improvements:

- Air handling unit replacement (HVAC upgrades)
- Elevator system modernization

#### Previous improvements

Remodeling upgrades and ADA compliance; Roof replacements; T-8 lighting retrofits with occupancy sensors; HVAC upgrades (including BAS—North office)

#### Larry Papasan Electric & Systems Operations:

2016 planned improvements:

• Boiler replacement

#### Previous improvements

Roof replacements; T-8 and T-5 lighting retrofits; HVAC upgrades (including BAS).

#### Substations:

#### 2016 planned improvements:

- Roof replacements (continuation)
- HVAC upgrades (continuation)

#### Previous improvements

Roof upgrades; replaced inefficient analog thermostats with programmable models with lockable capability; Energy efficient A/C installations.

#### Water Pumping Stations:

#### 2016 planned improvements:

- T-8 lighting retrofit with automation (continuation)
- Roof replacements (continuation)
- Heating system replacements (continuation)

#### Previous improvements

Roof upgrades; Lighting retrofits with occupancy sensors; Heating system replacements.

## **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 in order to identify and resolve operations issues and reduce energy usage. Building automated systems are installed at the following buildings: Administration Building, Netters Business Operations Center, North Service Center, Building #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 help MLGW to identify operational efficiencies related to energy usage in the buildings.

## **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. 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 Energy Star brochures to customers and promoting energy efficiency on the company's Energy Star corporate web site. These venues allow the company to lead by example in educating the community on how to wisely use its resources.

## **Recycling and Reuse**

- Paper: In 2016, MLGW's employees recycled 448,511 lbs of paper.
- The emissions equivalencies of recycling paper at the company produced an avoided **1,145 metric tons of CO2e**. This is equivalent to the avoided greenhouse gas emitted by 242 passenger vehicles or the avoided carbon dioxide (CO2) emitted by the usage of 128,840 gallons of gasoline by transportation or equipment.
- Cell Phone and Rechargeable Batteries: 349 pounds were recycled in 2016.
- Recycling receptacles for paper to be shredded are available at the Administration Building, Netters Business Center, Electric & Systems Operations, and the MLGW University buildings. Call2Recycle recycles these items at no charge.
- **Printer Ink and Toner Cartridges: 1,194 pounds** were reused and recycled in 2016. Employees can recycle cartridges at most facilities. Guy Brown is MLGW's new office supply vendor and cartridge recycler.

## **MLGW 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. Notices of availability of office products, construction materials and project-related items in which employees can use in their daily work are posted in the company's Weekly Bulletin email. As of 2016, over 210 items were exchanged by departments which diverted 676 pounds of material away from the landfill into useful purposes.







**Green & Sustainable Grounds** (Erosion Control, Trade-a-Tree Program, Water Conservation, Sustainable Products)

**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 insure that MLGW'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 green 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 Crepe Myrtle trees, Foster Holly Photina, Weeping Privet or Japanese Maple shrubs. In 2016, **84 trees/shrubs** were replaced in the program.

**Water Conservation:** In 2014, MLGW assessed the irrigation systems at the downtown headquarters, David F. Hansen Administration building and the James L. Netters BOC. Smart sensors and controllers were installed on their irrigation systems. 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. As of 2016, both systems have saved **6,200,019 gallons** of water. This savings is equivalent to the amount of water used (indoor and outdoor) by 42.5 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.

## **Employee Awareness**

MLGW educates employees on the importance of saving resources while at work and in their daily work tasks by promoting green campaigns such as: Fix Water Leaks Month (March), Earth Day (April), Energy Awareness Month (October) and America Recycles Day (November). Throughout the year, these initiatives provide tips and resources to employees on how to wisely use resources in MLGW's facilities. Additionally, resource conservation reminders are distributed to employees instructing them on how to help the company save energy during after-hours and holidays.



## 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 are being replanted with native grass and wildflower species. The project represents several benefits for the environment, including the elimination of non-native plant life that provides little benefit to nearby wildlife. Newly planted species provide a habitat and food source for insects and wildlife such as birds, bees and butterflies. Growth of woody plants, which would interfere with transmission lines, are being 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 is also being better filtered before it reaches the Wolf River. The first round of seed and bulb planting took place in spring of 2016. The site should be well established by the 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/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.

The Supplier Diversity program reported its highest year-end spending in its 20-year history with roughly \$76.4 million – or **33 percent** of the utility's \$234 million spend for procurement – to minority, women and locally-owned small businesses (MWBE/LSBs) in 2016.

The Supplier Diversity program's spending breaks down to nearly \$22.8 million to locally-owned small businesses, \$10.9 million to women-owned business enterprises and \$42.6 million to minority-owned business enterprises.

This marks a \$29 million increase from 2015 when the program recorded \$47 million – or **37 percent** of \$127 million – to MWBE/LSBs. **mlgw.com/supplierdiversity** 

#### **Procurement Opportunities Fair**

To make procurement as equitable as possible, especially for business owners who might not have as 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, endusers 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.



#### **Sheltered Market Program**

Supporting business owners within our region is essential to promoting a healthy local economy. MLGW established its Sheltered Market Program back in 2014 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 portion of the total spend for the year, the Sheltered Market program also increased an additional \$1 million from the year prior to \$10.6 million in 2016 and continues to provide growth for local businesses.



## **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 901-528-4820.

## **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 all of these items.

52 Conservation Days in 2016

6,902 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.

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 all of the items in the kit.

37 EnergySmart workshops in 2016

851 energy kits distributed

98,000 kWh potential electricity savings



## **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, and gardening and construction projects. Residents and contractors are informed why it's important to "Call Before You Dig" and are provided information about Tennessee One Call and the national 811 safe digging hotline.

## **Neighborhood Leaders Conference**

"Keys to Safety" was the theme for 2016 Neighborhood Leaders Conference which is an annual event to provide workshops and networking opportunities for neighborhood leaders. This year's workshops included topics such as Mental Health First Aid, Active Shooter Awareness and Neighborhoods and Government — Partners in Safety. In addition to an array of safety workshops, featured speakers for the event were Ron Childers (WMC Action News 5 Chief Meteorologist) and Andy Wise (WMC Action News 5 Chief Consumer investigator.) Childers talked to attendees about frequently used weather terms, what weather events are likely to strike our area and how to survive such events. Wise discussed local scams and how to avoid being a victim. Approximately 165 leaders attended.

## **A-Blazing Race**

The A-Blazing Race took place Friday, October 21 at the University of Memphis Herff College of Engineering as a part of E-Day. The goal of the race is to engage youth in grades six through twelve in the design and construction of model solar cars. MLGW provided a kit containing a solar panel, battery holder and motor to build their solar powered vehicle. The model cars compete in a race on a 20-meter course to determine which vehicle completes the course in the shortest possible time using available power.

There were two divisions, grades 6<sup>th</sup> through 8<sup>th</sup> and grades 9<sup>th</sup> through 12<sup>th</sup>, representing 17 middle schools and 18 high schools.

## MIDDLE SCHOOLS

First Place Speed - Collierville Middle School; Second Place Speed - Maxine Smith STEAM Academy; and Third Place Speed - Maxine Smith STEAM Academy

First place Notebook/Design - Houston Middle School

## HIGH SCHOOLS

First Place Speed - Memphis Business Academy High School; Second Place Speed - Lausanne Collegiate; and Third Place Speed - Middle College High School

First Place Notebook/Design - Harding Academy

## More than 100 community 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, Africa in April, A Day of Merrymaking in Overton Park, Professional Network on Aging Senior Expo, Latino Memphis Festival, Delta Fair, Stone Soul Picnic, Collierville Business 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**

MLGW's Energy Awareness Month Poster Contest (held each October) is designed to give students throughout Shelby County the opportunity to learn about saving energy. The 2016 contest focused on emergency preparedness and each student was asked to depict their very own interpretation of that in art form. The winners and their art teachers were each awarded \$150 gift cards to The Art Center.

# Approximately 100 student submissions in 2016

#### WINNERS:

Elementary Ellsie Day, Harding Academy Lower School Teacher – Ms. Bridget Cornelius Title - *Prepare* Middle Maggie Dearmore, Snowden Middle School Teacher – Mr. Hal Harmon Title - *Be prepared for any emergency* High School Karla Sanchez, Douglass High School Teacher – Dr. Tameka Townes Title - *Are you ready* 







## **Terminator Truck**

Now The Terminator has his very own ride! Employees from ML-GW's Communications and Public Relations led a project to restore a decommissioned bucket truck and wrap it with Terminator graphics and safety tips. Crews from MLGW's Paint and Body Shop worked their magic to make an old truck look brand new.

The fun and colorful bucket truck helps promote safe energy use at home to students for many years to come. Don't be surprised if you see the Terminator show up with his flashy ride at a school or



community event near you!

At the end of 2016, MLGW's newly restored and improved Terminator Truck debuted as an important addition to Christmas community parades in Whitehaven and downtown Memphis. MLGW volunteers walked close to the truck and distributed gifts and candy to parade attendees while the Terminators drove the unique vehicle and shared in the excitement with observers. The pictures tell the story.



# **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

200 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

609 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. 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.

#### \$406,390.50 raised for Plus-1 in 2016. For the calendar year 2016, Plus-1 assistance was provided for 1,329 families

MLGW partnered with MIFA and the Hard Rock Café to host LipSync Plus, an online and live lip syncing fundraiser bene-

fitting MIFA's Plus-1 utility assistance program. The event was held Thursday, April 14 at the Hard Rock Café on Beale Street. Celebrity contestants Mayor Jim Strickland, radio host Bev Johnson, Food Network Star Gina Neely, Rapper Al Kapone and Larry Dotson of the Bar-Kays battled in a live performance against community contestants for the LipSync Plus grand championship.

LipSync Plus Event - \$17,985

Internal Contest - \$1,020





### Plus-1 Jam

After last year's hiatus, Plus-1 Jam was back on Beale Street during the month of May by the Elvis Statue where MLGW once again sponsored a stage for Plus-1 Jam on weekends during the Memphis in May celebration as local bands and more than a few talented MLGW musicians played a little music to raise funds for Plus-1.

#### FIRST exhibit

MLGW's Junior Engineer/Professional Engineer program (JEPE) and TVA hosted a FIRST (For Inspiration and Recognition of Science and Technology) exhibit at MLGW's Admin. Bldg. Teams from seven schools showcased their robotic Lego creations. FIRST participation encourages students to pursue education and careers in STEM (Science, Technology, Engineering and Mathematics) related fields and inspires them to become leaders and innovators.

#### Share the Pennies program expanding

Share the Pennies allows customers to round their utility bill to the next highest dollar amount, with the difference being donated to Project CARE.

The MLGW Board of Commissioners recently approved changes to the Share the Pennies program from an opt-in to an opt-out program. The change will take effect Jan. 1, 2018, which means that at that time, customers will be enrolled automatically. However, starting in July of 2017, customers can opt out of the program if they wish. Opt out methods will be explained extensively throughout several print and electronic media long before the change of the program is implemented.

Collectively, that small amount can add up to big changes in our community. If you would like to enroll early to begin helping now or have questions, visit our webpage or contact sharethepennies@mlgw.org.

#### mlgw.com/sharethepennies

\$223,000 in repairs through Project CARE as of 2016

232 households assisted

## **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 before issues escalated to Environmental Court. For more information or to schedule a Rental Ordinance inspection, call 901-322-5757.

## 220 rental properties inspected in 2016

## Share the Pennies Small change, big difference.





# **Volunteering and Giving**

MLGW employees donated or raised more than \$700,000 in money, supplies and gifts in 2016 for organizations such as United Way, the Mid-South Food Bank, St. Jude, the American Cancer Society, the Salvation Army and many more. Our first-ever LipSync Plus event was a success, raising money and awareness for our Plus-1 program in partnership with MIFA. Employees volunteered to represent the Division in more than 100 school and community events, educating and assisting our customers and their families. MLGW even donated 500 cases of water to the people of Flint, Michigan to help with their water crisis. Perhaps more than any other accomplishment, our employees' dedication to going beyond their duties in order to change the lives of those around us is something we can all be proud of.

#### 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 2016, MLGW workers participated in the following:

- National Kidney Foundation Kidney Walk \$2,362
- American Heart Association Mid-South Heart Walk \$6,636
- American Diabetes Association Step-Out Walk \$5,486
- Tour de Cure, benefiting the American Diabetes Association \$1,000
- Tour for a Cure, benefiting the Juvenile Diabetes Research Foundation – \$570
- Tour de Peddler bike ride, benefiting The American Diabetes Association \$465
- Ride for Life bike ride, benefiting the Mid-South Organ Transplant Foundation \$110
- Ride to Fight On, benefiting The West Clinics' cancer research \$195
- Mid-South Heart Walk and Red Dress Dash, benefiting the American Heart Association \$6,020
- Bluff City Blues 100 bike ride, benefiting the Memphis Hightailers Foundation Advocacy and Education programs – \$250
- St. Jude Ride 24-hour relay, benefiting St. Jude Children's Research Hospital – \$1,980
- American Cancer Society's Making Strides Against Breast Cancer Walk – \$1,222

## Altogether more than \$26,000 was 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 whole-

some food, and through education and advocacy. Each year, departments across MLGW work internally to raise money to support this important mission. In 2016, MLGW raised over \$29,822, the most the Division has ever raised, and was recognized as the second-highest-giving organization with 1,000 to 4,999 employees.

#### \$29,822 raised in 2016 for the Mid-South Food Bank





#### **Additional Events**

- Donated 500 cases of bottled water to the residents of Flint, Michigan to assist with their water contamination crisis
- Donated 53,520 bottles of water to various community events
- Distributed more than 7,000 energy efficiency kits to community residents
- Fifth Annual Otis L. Sanford "Bowl for HER" Bowl-A-Thon for Her Faith Ministries (benefiting the homeless, needy women and children) \$1,465
- Bowling on the River Bowl-a-thon: \$18,414.35 for Junior Achievement
- Salvation Army bell ringers in December: \$1,011.70 collected
- Salvation Army Angels: Gifts for 100 children and seniors
- Fishing Rodeo
- ...and more!





#### **United Way**

MLGW has a special relationship with United Way of the Mid-South. Not only did President and CEO Jerry Collins Jr. serve as chairman of the organization's board of directors last year, but employees organized and took part in numerous activities throughout the year to raise funds for the group. Events in 2016 included the following:

- The MLGW United Way Golf Tournament: \$10,000
- Midday Music series, featuring MLGW employees playing music in the Administration Building lobby for "tips" to United Way
- Park Like an Executive, allowing employees to bid for a week of premium workplace parking

#### In 2016, \$603,592 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 serve local non-profits Hope House and Grace House.

