Thank you for your interest in MGE’s 2018 Environmental and Sustainability Report. Our commitment to environmental stewardship goes beyond regulatory compliance. Our team in Safety and Environmental Affairs takes a proactive approach to advancing the culture and continual improvement of environmental, safety and sustainability practices throughout our organization. This helps ensure MGE remains an industry leader in these areas—critical to our operations and to the communities we serve. This report highlights how your community energy company is focused on our goals for the future by sharing our performance with you.

Jeff Jaeckels
Director of Safety and Environmental Affairs
Madison Gas and Electric
Our service territory
MGE generates and distributes electricity to 151,000 customers in Dane County and purchases and distributes natural gas to 158,000 customers in seven south-central and western Wisconsin counties. MGE is a regulated utility and the main subsidiary of MGE Energy. MGE’s roots in the Madison area date back more than 150 years.
A message from our Chairman, President and CEO

This is a transformational period in the energy world. New technologies are creating opportunities to be more sustainable in how we generate and use energy, and in how we deliver lasting value to our customers and shareholders.

Locally based in the community we serve, MGE is committed to providing safe, reliable and sustainable energy. Throughout the company, our employees consider the environmental and community impacts when fulfilling our mission.

MGE introduced our Energy 2030 framework in November 2015. Energy 2030 reflects our business strategy for increased sustainability and sets the following goals:

- At least a 40% reduction in carbon dioxide emissions by 2030.
- 30% renewable energy by 2030.

If we can go further faster by working together with our customers, we will. The framework also prioritizes new products and services, energy efficiency and conservation, and customer engagement.

Working toward deep decarbonization: 80% reduction in carbon emissions by 2050

Beyond 2030, MGE is on a trajectory to reduce our carbon emissions at least 80% by 2050—a target identified in the U.S. Mid-Century Strategy for Deep Decarbonization (MCS). The MCS is a strategy identified by the U.S. for limiting global warming to 2 degrees Celsius under the landmark Paris Agreement on climate change.

As we work toward these goals, MGE is participating in the Edison Electric Institute’s (EEI) voluntary environmental, social, governance (ESG) and sustainability-related reporting template. The template offers our industry consistency in data reporting and, importantly, transparency for our investors and customers as we work toward our goals. MGE’s template is available online at mgeenergy.com/environment.

Since announcing Energy 2030, MGE has continued to grow our clean energy resources for the benefit of our customers, investors and broader community. We also are advancing innovative ways to reduce our community’s collective footprint through energy efficiency, grow our business through the electrification of transportation and better our community’s quality of life through our engagement and giving.

This report captures many of the ways in which we continue to operate as your community energy company, dedicated to our fundamental responsibilities while embracing opportunities to build a cleaner, smarter future. Thank you for working together with us in this effort.
A message about our report

As Vice President and General Counsel, I oversee the company’s sustainability and safety initiatives. Safety and sustainability are core values at MGE, and we strive to continuously improve in both areas.

MGE is a leader in embracing the technology shaping our industry and the broader energy landscape. We are advancing new programs, products and services to help our customers manage their energy use and to enable us to build a more advanced community grid for the future.

At MGE, we continue to explore ways to reduce our own environmental footprint. In late 2017, we installed nearly 450 solar panels on the roof of our corporate headquarters, producing almost 10% of the electricity used in the building annually.

We also continue to transition our own vehicle fleet to all-electric or hybrid where possible and have implemented workplace charging, using our experience to help our customers to do the same as we work to electrify transportation and expand charging options throughout our communities.

For the fourth year in a row, MGE was named a Green Master by the Wisconsin Sustainable Business Council. This voluntary, statewide sustainability program uses an objective, points-based evaluation to place companies in one of three categories. The top 20% of the companies achieve the Green Master distinction. MGE was the first utility in Wisconsin to be designated a Green Master.

Transparency and disclosure

Through our participation in EEI’s ESG/Sustainability reporting template, our investors and customers can find transparent and meaningful information about our performance. Within the EEI template, which we will update annually, readers will find additional information about our generation, emissions, capital investments, human resources and other ESG-related disclosures.

Since we set our goals for Energy 2030 and 2050, we have said that if we can go further faster by working with our customers, we will. We are committed to customer and stakeholder engagement to reach shared sustainability goals.

Throughout this report, we highlight our commitment to advance clean energy and sustainable practices, to continuously improve workforce safety, and to contribute to the health and vitality of our communities. Whether it is partnering with the Wisconsin National Guard to enhance cybersecurity, with our community’s mass transit to electrify transportation, or with industry stakeholders to advance new programs, MGE will continue to work with our partners and community stakeholders to seek new and improved solutions for our collective future.
Environmental accountability is a core focus throughout our company. Strong oversight and participation in third-party benchmarking and evaluation programs help us assess our performance and promote continuous improvement in our proactive approach to sustainability.

Active Board of Directors provides effective oversight
The MGE Energy Board of Directors has oversight of MGE’s environmental and sustainability performance. Directors understand sustainability is integral to the company’s long-term success, to our management and mitigation of risk and to our commitment to those we serve.

The board receives timely and relevant information on a regular basis related to the company’s environmental and sustainability initiatives. Their oversight includes review of environmental risks and mitigation, assessment of current and/or future environmental regulations, and review of the company’s environmental and sustainability performance and related initiatives. Our comprehensive approach to oversight of risk encourages all of our directors to initiate discussion at any time, either directly or through our Lead Independent Director, on any areas of concern.

Our board is active and engaged with 10 regularly scheduled meetings annually, in addition to committee meetings. In 2017, every director attended all the meetings of the board.

In 2018, MGE moved from biennial to annual production of our Environmental and Sustainability Report. The report is reviewed by the board every year.

Additional environmental, social and governance information related to MGE operations is available through the voluntary EEI ESG/Sustainability reporting template, accessible at mgeenergy.com/environment.

Executive compensation
MGE Energy’s Board of Directors’ compensation committee, composed of independent directors, takes into consideration environmental performance, among other factors such as cost containment and management of day-to-day operations, when evaluating executive compensation. The committee also considers performance goals that are critical to the company’s success, such as earnings, system reliability and customer satisfaction as well as long-term strategic goals, including those related to sustainability.
In 2011, MGE retired 90 megawatts (MW) of older, less efficient capacity and discontinued coal use at Blount Generating Station in downtown Madison, Wis. The switch to natural gas at the historic power plant helped MGE reduce carbon dioxide emissions 20% from 2005 levels under our Energy 2015 plan.
MGE’s short- and long-term carbon targets are consistent with international benchmarks

In November 2015, MGE introduced Energy 2030, our framework for a more sustainable future. Energy 2030 sets the following goals:

- At least a 40% reduction in carbon dioxide emissions from 2005 levels. This target is consistent with the U.S. emissions targets for the 2030 time frame established as part of the landmark Paris Agreement on climate change.
- 30% renewable energy by 2030; 25% by 2025 as an interim goal.

Beyond 2030, MGE also has committed to reducing carbon dioxide emissions at least 80% by 2050.

Energy 2030 also includes the following objectives:

- Increase engagement around energy efficiency and conservation to reduce our community’s overall and peak energy use.
- Create a more dynamic, integrated electric grid that supports and integrates new technology.
- Develop and test new products and services to offer customers more control over their energy use.
- Deepen our engagement with customers to determine over time how best to meet their needs and achieve our long-term goals.

MGE is committed to advancing cleaner energy while maintaining our top-ranked electric reliability. Our goals for further reduced carbon dioxide emissions build upon our record as an industry leader.

CZ

CARBON REDUCTION
From 2005 levels

40% by 2030

80% by 2050

RENEWABLE ENERGY

25% by 2025

30% by 2030

energy2030together.com illustrates how we are working with customers to reach our shared energy goals.
MGE is on a trajectory to reduce carbon emissions at least 80% by 2050. This longer-term target aligns with the goals of the U.S. Mid-Century Strategy for Deep Decarbonization (MCS). The United States identified this strategy for meeting the goals of the Paris Agreement to limit global warming to 2 degrees Celsius.

Our key, long-term strategies for reducing carbon emissions include:
- Reducing carbon intensity in electric generation.
- Promoting energy efficiency.
- Electrifying the transportation sector.

MGE already has a record of delivering on our commitment to reduce carbon emissions. Between 2005 and 2018, we have reduced our carbon emissions about 23%.

MGE will continue to seize opportunities to take advantage of new, evolving technologies as they develop to advance our carbon reduction goals.

**Ongoing transition from fossil fuels to renewables**

MGE continues to seize opportunities to build upon our record of reduced emissions and to grow our use of renewable resources. MGE’s current renewable energy projects will serve to mitigate customer rate impacts.

MGE filed a rate case settlement agreement in July 2018 with the Public Service Commission of Wisconsin that lowers electric rates.

The settlement agreement approved by regulators decreases overall electric rates by 1.94% in 2019. No change was proposed for 2020. The decrease reflects the ongoing tax impacts of the 2017 Tax Cuts and Jobs Act as well as the addition of lower-cost renewable generation capacity, which has no fuel costs.

As part of the settlement agreement, MGE identified steps we can take to benefit customers in the short- and long-term. Those steps include the accelerated depreciation of certain assets, including our combustion turbines, Blount Generating Station and Columbia Energy Center Unit 1.

The accelerated depreciation schedule for some of our fossil fuel-fired assets, combined with savings generated by the tax legislation, help the company move forward plans for additional investment in cost-effective, clean energy in furtherance of our goals.

The agreement also increases natural gas rates in 2019 and 2020 by 1.06% and 1.46% respectively. The increase covers system infrastructure improvements to ensure the continued reliability and safety of our system. It also reflects the impacts of the tax legislation. The changes take effect Jan. 1, 2019.

A new Wisconsin law allows MGE to work with intervening parties to file a settlement agreement to resolve a rate case. The other parties in the settlement agreement are: Citizens Utility Board, Wisconsin Industrial Energy Group, Airgas USA LLC, RENEW Wisconsin, Clean Wisconsin, and Board of Regents of the University of Wisconsin System.
**Solar energy**

In late May 2018, MGE and Wisconsin Public Service announced plans to partner on two major solar projects in Wisconsin. Combined, the two utilities would own a total of 300 MW, if regulators approve the projects.

The Badger Hollow Solar Farm would be located in southwestern Wisconsin. MGE would own 50 MW of Badger Hollow. The Two Creeks solar project would be located near the Point Beach Nuclear Power Plant in northeastern Wisconsin. MGE would own 50 MW of Two Creeks. If approved by the end of 2018, construction of both projects is expected to begin by spring 2019. The installations would come online by the end of 2020.

MGE also is working to expand our Shared Solar program, which began with a 500-kilowatt (kW) array in the City of Middleton in 2017. We are developing a waiting list of interested customers for a second Shared Solar installation. The Shared Solar program delivers locally generated clean energy to subscribing customers.

**Wind energy**

Our Saratoga wind farm in northeast Iowa is expected to come online by early 2019. MGE’s largest wind farm to date, the 66-MW wind farm near Saratoga, Iowa, will deliver cost-effective, clean energy to about 47,000 households.

In 2018, MGE also purchased a 16-MW share of the Forward Energy Center wind farm in Wisconsin. When combined with the Saratoga wind farm, the purchase grows MGE-owned wind generation by more than 200%.

Crews prepare a foundation for one of 33 turbines at MGE’s Saratoga wind farm.
A unique, renewable energy option for larger customers

Our Renewable Energy Rider is a new model unique to MGE. It gives the company the ability to partner with larger business customers who seek customized renewable energy solutions. It is designed to meet the needs and goals of companies that support or have signed on to the Corporate Renewable Energy Buyers’ Principles, a collaboration facilitated by the World Resources Institute and the World Wildlife Fund. MGE is proud to offer this one-of-a-kind program.

Our first proposed project announced under the Renewable Energy Rider is a solar installation of up to 8 MW at the Dane County Regional Airport. MGE is partnering with Dane County on the project, which will cover 41 acres, if approved by regulators.

Ongoing shift away from coal-fired resources

MGE has no controlling interest in coal-fired power plants and, several years ago, announced we would not invest in additional coal-fired resources. In 2011, MGE discontinued coal at the only coal plant in which we had sole ownership, our Blount Generating Station.

In 2016, MGE reduced its minority ownership in the Columbia Energy Center, a coal-fired power plant. MGE reached an agreement with the plant’s co-owners to reduce our MW capacity share by about 14%.

When making generation decisions, MGE’s economic analysis explicitly includes a possible projected carbon surcharge to help ensure our decisions are financially sound—whether or not carbon is regulated in the future.

A commitment to reliability

MGE is transitioning to more renewable resources while maintaining our top-ranked reliability. MGE consistently ranks among top utilities for electric reliability.

For 2017, MGE’s electric service reliability is ranked No. 1 in the country for both the fewest number of outages and shortest duration of outages per customer, according to an annual survey of more than 80 electric utilities nationwide.

MGE has ranked in the top 3 utilities nationwide for the fewest number of outages in each of the last 11 years, according to the annual survey. In addition to 2017, MGE ranked number one nationwide for the fewest outages in 2007, 2013 and 2015.

Safe, dependable natural gas service is critical to our customers. When notified of a potential natural gas emergency, MGE recorded the fastest average response time, according to a 2017 nationwide industry survey of nearly 90 utilities.
Working to reduce carbon

We already have reduced carbon dioxide emission rates by 20% and total carbon emissions by almost 23% since 2005. MGE is on a trajectory to reduce carbon emissions at least 40% from 2005 levels by 2030, which aligns with the U.S. emissions targets established as part of the Paris Agreement on climate change.

Our longer-term goal is to reduce carbon emissions at least 80% by 2050. This target is consistent with the U.S. Mid-Century Strategy for Deep Decarbonization (MCS). The MCS is a strategy identified by the U.S. for limiting global warming to 2 degrees Celsius under the Paris Agreement.

Harnessing methane

MGE continues to reduce greenhouse gas (GHG) impacts with initiatives that generate electricity from the combustion of methane, which is produced locally in landfills and by cow manure. As a GHG, methane is at least 25 times more potent than carbon; however, methane as a fuel burns much cleaner and produces 50% less GHGs than coal.

MGE purchases electricity generated from methane at a Dane County landfill. MGE also receives energy from a manure digester. The digester converts cow manure from local farms into electricity.

- Landfill gas: The Dane County site currently produces more than 31 million kilowatt-hours (kWh) of electricity per year or enough to power about 5,000 households.
- Manure digester: In 2017, the manure digester generated more than 13.9 million kWh of electricity. This is enough to power approximately 2,275 households.

Under an Environmental Protection Agency requirement, MGE monitors, measures and reports several GHG emissions annually. MGE tracking covers power plant emissions, natural gas distribution and smaller combustion sources.
Transparency and disclosure
MGE is a participant in EEI’s voluntary ESG/Sustainability reporting template, which has additional generation and emissions information. It is available at mgeenergy.com/environment.

Easy and affordable green power
Green Power Tomorrow, our green pricing program, is a convenient and effective way for customers to buy more of their energy from renewable sources and offset their GHG emissions. Today, about 9,500 customers buy green power from MGE through this program.

Options for customers to support solar
Our Shared Solar program offers customers the benefits of solar power without having to install their own system. Our 500-kW solar array on the roof of the Middleton Municipal Operations Center provides an easy way for customers to support locally generated solar energy. We are in the process of developing a second Shared Solar array to expand our program.

Visit mge.com/SharedSolar for additional details as the planning process unfolds.

MGE also works with customers who want to install solar to help power their homes or businesses. These customers connect to our community grid and sell their excess electricity to MGE. We have more than 600 solar installations connected to our grid.

Improving air quality
Since 2005, we have significantly reduced air emissions by installing new emission-reduction equipment, growing our investment in renewable generation and improving the equipment efficiencies of our diversified generation mix, which includes:

- Blount Generating Station, Madison.
- Columbia Energy Center, Portage.
- Combustion turbines, Madison and Marinette.
- Elm Road Generating Station, Oak Creek.
- Forward Energy Center wind farm, Dodge and Fond du Lac Counties.
- Rosiere Wind Farm, Kewaunee County.
- Saratoga Wind Farm, Howard County, Iowa. (Currently under construction; operation expected by early 2019.)
- Shared Solar, Middleton.
- Solar photovoltaic units, Dane County.
- Top of Iowa Wind Farm, Worth County, Iowa.
- West Campus Cogeneration Facility, Madison.

MGE also purchases power through contracts and on the Midcontinent Independent System Operator energy market.

We have significantly reduced emissions since we began modernizing our generation fleet in 2005. We continue to transition to cleaner sources of generation while also working with customers to advance energy efficiency and conservation efforts to help reach our carbon reduction goals. The graphic below compares 2005 and 2017 emission rates for carbon dioxide and other regulated air emissions.

<table>
<thead>
<tr>
<th>EMISSION RATES</th>
<th>2005</th>
<th>2017</th>
<th>% change</th>
</tr>
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<tbody>
<tr>
<td><strong>CO₂</strong></td>
<td>2.019</td>
<td>2.31</td>
<td>20%</td>
</tr>
<tr>
<td>lbs./KWh</td>
<td>1.610</td>
<td>0.93</td>
<td>-60%</td>
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<tr>
<td><strong>NOₓ</strong></td>
<td>0.55</td>
<td>0.05</td>
<td>-91%</td>
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<tr>
<td>lbs./MWh</td>
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<td>0.0000042</td>
<td>-93%</td>
</tr>
<tr>
<td><strong>PM</strong></td>
<td>10.34</td>
<td>0.37</td>
<td>-96%</td>
</tr>
<tr>
<td>lbs./MWh</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Carbon dioxide (CO₂) emissions are calculated from generating units owned by MGE, power purchase agreements and power purchased by MGE on the regional Midcontinent Independent System Operator market. The market purchase emission rate is based on a seven-state regional average CO₂ emission profile from all power produced in Wisconsin and the surrounding Midwest states.

Nitrogen oxide (NOₓ), particulate matter (PM), mercury (Hg) and sulfur dioxide (SO₂) emission rates are calculated from MGE-owned generation assets, including MGE’s share of jointly owned units. MGE is a co-owner of the Columbia Energy Center, Elm Road Generating Station, West Campus Cogeneration Facility and the Forward Energy Center.
ENERGY EFFICIENCY AND CONSERVATION

Using energy efficiently and conserving energy are two of the most important actions people can take to reduce their environmental footprint and save money. At MGE, we believe working together with customers and encouraging them to conserve energy is key to building a sustainable future.

Working together with our customers
MGE works hard to educate customers and to encourage them to conserve energy and protect the environment. We are committed to providing customers with the innovative tools and resources they need to make wise energy choices that help to reduce their individual carbon footprints. MGE strives to “meet customers where they are” in engaging customers around energy efficiency. Our website dedicated to our Energy 2030 framework, energy2030together.com, illustrates some of the ways in which we work to assist customers to reduce energy use.

Customers explore new technologies to save energy
MGE works with customers to take advantage of evolving technologies that make it easier for customers to manage their energy use. Reducing energy use reduces the need for additional electric generation and helps lower long-term costs for everyone. We are partnering with customers to develop the programs and services that meet their needs and help us reach shared energy goals.

Demand response program wins award
MGE’s On Demand Savings (ODS) program, originally launched in partnership with Wisconsin’s Focus on Energy, helps large customers cut energy costs and advance sustainable practices. The program was recognized in 2018 with an Inspiring Efficiency Award for Innovation by the Midwest Energy Efficiency Alliance, a regional organization dedicated to advancing energy-efficient technologies, products and best practices.

The ODS program uses an online dashboard to give large customers, such as schools and businesses, near real-time energy usage information, enabling them to take action to reduce their use, especially during periods when demand for electricity is at its peak. See how a local school is saving thousands of dollars per month in a video at energy2030together.com/ODS.
Online tools
Customers can find valuable energy-saving resources on multiple MGE websites. Easy, low-cost, energy-saving tips for homeowners, renters, small businesses and large commercial businesses are available. Customers also can track and compare their energy use and learn what has worked for other customers. The following websites share energy-saving information from MGE:

- mge.com
- energy2030together.com
- genre2030.com
- livinginbalancemadison.com

Energy meters
MGE has donated a number of portable energy meters to area libraries for customers to use. The meters measure voltage, electricity cost and electric consumption. They help customers identify the potential causes of high energy use and better understand the exact operating costs of various items in their homes.

Energy Expert Line
MGE's Home Energy Line is an efficient way for customers to get energy tips and answers to their energy-related questions. MGE also maintains a separate line for commercial and industrial customers who need assistance. Our local energy experts are available by phone and email.

Loan program enables energy efficiency projects
Through MGE's Shared Savings, business customers can secure loans to help finance building upgrades to improve their energy use. MGE provides upfront financing, and the customer repays the loan through energy savings. The Shared Savings program has loaned about $15 million for 150 projects throughout the last 10 years.
COMMUNITY ENGAGEMENT AND PARTNERSHIPS

Collaborating with customers
As a community energy company, we take seriously our responsibility and our commitment to those we serve. Meeting our shared sustainability goals requires many different partnerships and collaborations.

Working group leads to innovative ideas
MGE continues to work with the Citizens Utility Board and Clean Wisconsin as a Technical Work Group, examining innovative program ideas in a focused, deliberative fashion. The work group, which began in 2014, seeks to identify ways that MGE can be responsive to our customers’ evolving energy needs while ensuring a modern, sustainable electric system. Some of MGE’s pilot programs, such as Shared Solar, On Demand Savings, Smart Thermostat Demand Response and Charge@Home have been informed by the group’s efforts.

Living in Balance
Living In Balance is an MGE initiative focused on environmental sustainability and healthy lifestyles in communities of color. MGE partners with groups like Sustain Dane and Centro Hispano to engage these communities and to share information about saving energy and MGE’s efforts for building a more sustainable future. Visit livinginbalancemadison.com to learn more.

GENRE 2030
Our Genre 2030 initiative includes a website and film series, featuring 20- and 30-year-olds in the Madison area. The initiative is designed to engage customers through stories that connect local personalities to energy and inspire viewers to explore sustainability through our energy programs and tools. Visit genre2030.com to watch the films and related energy videos.

MGE values the diversity of perspectives in our community. Under our Energy 2030 framework, we are committed to furthering our engagement efforts to reach shared energy goals and to provide value to our community.
Partnering with the communities we serve

MGE has an ongoing collaboration with the City of Madison around renewable energy, electric vehicles, and energy efficiency and conservation.

In support of the city’s goal to electrify 50% of its bus fleet by 2035, MGE helped secure a federal grant under the Low-No Emission Vehicle Program. The grant provides funding for the city’s first three all-electric buses. MGE also is providing financial and continued in-kind support and expertise to address technological issues and facilitate the electrification of the city and Metro Transit fleets.

MGE also serves as a member of the Dane County Climate Action Council. The council includes local government, businesses, utilities and environmental organizations. MGE’s partnership with local stakeholders through the council offers another opportunity to work toward common goals, including carbon emission reductions.

Educating tomorrow’s energy consumers

MGE partners with local teachers and schools from elementary school through college to help educate thousands of students every year about energy, safety, new technologies and career opportunities in the energy industry.

For example, MGE works in partnership with the Wisconsin K-12 Energy Education Program (KEEP) to develop lessons on energy efficiency as part of KEEP’s School to Home initiative. Using energy meters and a worksheet from MGE, students are able to see how much energy a device or appliance uses and calculate the estimated cost of the energy used. The idea is to help students apply the lessons learned in class to everyday life and educate them about energy.

Students race MGE-sponsored electric vehicle

With financial support from the MGE Foundation, students from Madison Memorial High School received a first-hand lesson in the future of transportation during the 2017-2018 school year.

A team of 18 technical education students raced their classroom-built electric vehicle (EV) in the statewide Electrathon competition at Road America in Elkhart Lake. The competition is organized by the Wisconsin Energy Efficient Vehicle Association, a statewide group that works to educate young people on how to design and build energy-efficient vehicles.

The high school students spent a year designing and building their electric vehicle.

Earth Day educational outreach

For more than 10 years, our campaign—Earth Day, Every Day—has provided teachers with a resource to introduce sustainability concepts in the classroom. Each year, we publish and distribute more than 8,000 classroom fun books. With the books, students can learn about water and energy conservation, electric vehicles and climate change among other topics. The books are coupled with interactive, online activities to expand and amplify learning.

Kids to Careers

MGE partners with Big Brothers Big Sisters of Dane County and participates in the Kids to Careers program. The program gives kids a chance to visit different Madison-area businesses and organizations to learn about various jobs in the community. The goal is to introduce children to potential careers and to help them learn about the skills those careers require.

MGE community education manager Jim Jenson works with students.
Giving back to our community

MGE’s commitment to our communities extends beyond reliable energy. As a community energy company, we are committed to improving the quality of life for those we serve.

We contribute to and help to better our community in three different ways:

- Charitable giving by the MGE Foundation.
- Corporate giving by MGE through partnerships, collaborations and projects with local organizations and stakeholders.
- Volunteerism and service of our valued employees.

MGE publishes an Annual Report on Giving, which highlights some of the ways in which we give, partner and work to support our communities. Our full report on annual giving is available at mge.com/Foundation.

This section of our Environmental and Sustainability Report captures a few examples of how our giving advances healthy communities, sustainability and environmental stewardship.

Visit mge.com/Foundation to read our 2017 Annual Report on Giving.

In the last five years, the MGE Foundation has given over $5 million to more than 350 community organizations, such as the Aldo Leopold Nature Center.
Strang, a Madison architecture firm, partners with the Urban League of Greater Madison to bring STEAM Camp to MGE and other local organizations.

As a participant in STEAM Camp, MGE hosted about 50 middle school students who toured our rooftop solar array.

Healthy communities
Many of MGE’s more than 700 employees volunteer their time and resources to help create healthy, vibrant communities. They embody what it means to serve as your community energy company.

MGE is a longtime supporter of the United Way of Dane County. The United Way seeks to bring community stakeholders together to improve education, income and health for everyone.

MGE employees serve on various United Way boards and committees to help provide guidance and support for the organization as well as the necessary resources to address the needs facing our community.

In addition, our employees and retirees give generously through volunteer opportunities and the annual Seasons of Caring fundraising campaign. In 2017, MGE employees gave more than $172,000 to the Dane County campaign.

MGE employees participated in United Way’s Days of Caring, sorting and repacking bulk food items for distribution in our community.
Improvement process for natural resource impacts

Natural gas and electric construction projects are required for new developments and often are necessary to maintain reliability for customers. That type of work can impact natural resources.

MGE implemented a process improvement to ensure impacts are minimized or mitigated before construction projects begin.

We focus on several areas of potential impact to natural resources:

- Erosion control
- Stormwater management
- Wetlands impacts
- Archaeological impacts
- Threatened and endangered species impacts
- Shoreland impacts
- Previous site contamination management
- Water discharge management

Our project managers submit an electronic notification with initial project information before work is scheduled. Safety and environmental affairs staff screen those details to determine if further information is required for obtaining special permits and approvals or if other steps are needed prior to construction.

Our process serves to maintain internal workflow efficiency to benefit our customers who depend on their safe, reliable utility services while ensuring work resulting from construction projects prevents or mitigates potential environmental impacts.

MGE works to restore the landscape to its original state after completing construction projects, such as this gas expansion project.

From water and land to air and animals, MGE takes steps to protect our natural resources. This means doing our part to help improve waterways, preserve the natural beauty of our communities and protect wildlife and habitats.
MGE completes hundreds of project reviews annually to support gas and electric construction. This new centralized process helps facilitate the natural resources review and allows project managers to see the status of project approvals at any time. Once all reviews and approvals are complete, a job packet is sent electronically to the project manager with any applicable permits, approvals and cautions.

While permitting is a regulatory requirement, our review process takes our commitment to natural resources a step further. We are dedicated to following these extra steps to ensure efficiency, thorough review, proper permitting and protection of our natural resources.

**Supporting clean lakes**

The Madison area sits among lakes, rivers and streams. These waterways enhance our quality of life and help strengthen the local economy. MGE actively partners with other stakeholders to protect and enhance water quality.

**Yahara Watershed Academy**

Partnering with Clean Lakes Alliance, MGE is helping to take the Yahara Watershed Academy from a first-year pilot to full implementation. Under the pilot in 2017, a group of 23 students learned about the science and policies that underpin land and water sustainability. They also learned to apply a new skillset to advance positive change in the community.

The Academy now serves as a model for educating and empowering area leaders who are interested in spearheading local-level action. The goal is to develop a community of “watershed captains” who will actively engage partners in promoting healthy lakes. The MGE Foundation is proud to support this partnership effort to create a healthier watershed.

Another way we support clean lakes is through Yahara WINS. This collaborative water cleanup effort began as a pilot and expanded to a 20-year program to reduce phosphorus in our watershed. MGE supports this groundbreaking project financially through the MGE Foundation and by serving on its technical advisory board. The collaborative approach pools the resources and expertise of community partners. It employs the strategy of watershed adaptive management in which all sources of phosphorus pollution are addressed together to meet water quality goals.

Efforts in 2018 will focus on manure composting and water quality monitoring in partnership with the U.S. Geological Survey and Rock River Coalition. This work will help evaluate the impact of land-based phosphorus-reduction efforts.

The Yahara WINS grant program recently received seven grant applications totaling more than $100,000 in funding requests for projects aimed at reducing phosphorus in the watershed.
Successful waste management requires a solid recycling program. We encourage employees to make smart choices about the environment—that includes supporting our recycling and waste reduction efforts. It’s part of our jobs—every day.

Reducing our impact
At MGE, we seek environmentally friendly practices that prevent pollution and minimize waste. From the office to the field, we:

- Consider environmental impacts and look for cost-effective ways to reduce those impacts.
- Educate employees about MGE’s environmental responsibilities.
- Conserve, recycle and manage waste efficiently.

Our commitment to recycling
Our annual recycling rate continues to be more than 40%. Our all-in-one recycling method includes paper products, glass, plastic and aluminum. We also recycle various metals and other scrap materials left over from field work. Our computing equipment and supplies are sent to an e-Stewards certified company for recycling or reuse, and our alkaline batteries go to a vendor who recovers steel and zinc. Additionally, a local vendor takes our wood pallets, recycling them into mulch.

We also recycle thermostats and other mercury-containing devices, chemicals, steel, iron, copper, glass and cell phones.

Think local, buy local
Local purchases support the local economy. When it’s time to purchase goods needed to run our organization, we review our supplier database and buy from local vendors when possible and cost-effective. Many of the materials and equipment that utilities need are highly specialized; however, we buy U.S. products whenever possible. This includes power poles from northern Wisconsin and transformers from the southern United States.

MGE also supports Dane Buy Local, an organization that promotes the benefits of buying local to help build vibrant communities and a sustainable local economy.
More paint, less waste
At MGE, we are using earth-friendly paint options in place of aerosol cans that have been traditionally used to mark underground gas and electric facilities. When customers call Diggers Hotline, our locators use paint to mark where the pipes and lines are buried.

Aerosol cans push out the paint using a propellant, which is often hazardous. In addition, aerosol cans are under pressure, causing them to be considered hazardous waste even if the paint in the can is not hazardous.

MGE is using two different pouched bag systems. These newer systems offer several benefits, including:

- Reduced waste associated with marking underground facilities. Once empty, the pouched bags are biodegradable. With aerosol cans, the tips can clog and prevent the paint from spraying out properly. This results in excess waste.
- Increased safety. The pouches, which also are less bulky, are not stored under pressure.

Green products and practices
Sustainability is part of our corporate culture and integral to our business operations. MGE makes responsible choices about the materials and products we use in our operations as well as the processes and procedures we implement internally. We use earth-friendly paint and cleaning products. We recycle our electronic equipment and purchase electronic devices that meet strict environmental criteria that offer a reduced environmental impact across their life cycles.

Solar powers corporate office
Nearly 450 solar panels on our corporate office in Madison, Wis., generate about 10% of the energy needed annually to power the facility. The array, along with another 52 panels in our visitor parking lot, represent another step in our ongoing path toward greater sustainability throughout our operations.

In addition, MGE’s 2,000-square-foot office building in Prairie du Chien, Wis., also has 20 solar panels on the roof capable of producing about 5.3 kW of energy.

Electronic records to reduce waste
Our E-records Center at MGE allows employees to submit electronic documents to be stored as records rather than keeping paper copies. Over time, this effort will reduce our volume of paper. This environmentally friendly option also frees up physical storage space. We are committed to continuous improvement to reduce our collective impact and create a more sustainable future for the benefit of our employees, customers and larger community.
Electrifying transportation
Transportation accounts for more than 25% of greenhouse gas emissions in the United States. The electrification of transportation is one of our key strategies for achieving deep decarbonization. MGE is targeting at least an 80% reduction in carbon emissions by 2050.

MGE works with employees, customers, municipalities, property owners and community partners to grow the use of electric vehicles (EVs) and to enable charging opportunities. We are committed to growing the use of EVs in our own operations and throughout the communities we serve.

Offering more charging options
The number of EV drivers continues to grow—in the Madison area and nationwide. As a long-time supporter of alternatives to gasoline- and diesel-fueled vehicles, MGE is making it easier for EV drivers to charge their vehicles throughout our electric service territory.

We continue to expand our public charging network, which will reach 32 stations this year. Our network includes three fast chargers, including one of Wisconsin’s first. Located throughout our service area, the charging stations are powered by 100% wind energy. MGE’s network was one of the first in United States when it was introduced in 2009.

While most charging happens at home, EV drivers also expect to charge at public places. Our partnerships with local businesses and municipalities that host charging stations help us expand opportunities for EV charging and advance our Energy 2030 objective of supporting new technology options for a more sustainable energy future.

Our home charging pilot program, Charge@Home, serves residential customers who want faster charging at home. The program gives MGE the ability to study drivers’ charging habits and to explore remote management of charging sessions to better understand the potential impact of EVs on the grid. MGE installs, owns and maintains the chargers.

MGE also helps area employers of all sizes and multifamily developers who want to offer employees and apartment residents charging. We discuss options and help them navigate the decision-making and implementation process.
MGE workplace charging
At our MGE facilities, we recently installed our fourth EV charging station. Our chargers for employees are housed at three different MGE locations—each has dual ports for employees to use. Workplace charging offers many benefits, including employee attraction and retention, and support for sustainable initiatives.

Electrifying our fleet
MGE has a process and plan in place to electrify our vehicle fleet where possible. It includes tracking new technology, setting parameters for which vehicles can transition to greener options and establishing goals for the future. We have plans to purchase a variety of EV fleet vehicles, including a plug-in electric pickup truck and step van.

EVs currently in use in MGE operations
MGE has been testing commercially available EVs for fleet operations for more than a decade. We continue to add electric or hybrid vehicles in place of gas-powered vehicles where appropriate, most recently, purchasing a hybrid step van.

Improving air quality through less vehicle idling
MGE recently updated its anti-idling policy to align with a new City of Madison ordinance. The policy directs employees to turn off company vehicles and equipment that is not in use for more than five minutes while stopping, standing or parking. Following this practice helps reduce air emissions and fuel use, and minimize wear and tear on engines.

MGE’s fleet of electric hybrid bucket trucks contributes to a reduction in idling by company vehicles. Bucket trucks are typically parked in one location for a period of time while crews perform their work. The hybrid trucks allow crews to use the truck’s battery-powered ancillary features while the engine is off, reducing emissions and noise from the truck.

Partnering to bring electric buses to Madison
MGE is partnering with the City of Madison to help electrify 50% of its bus fleet by 2035. MGE worked with the city’s Metro Transit (Metro) to secure a $1.3 million federal grant for three, zero-emission buses. As part of the ongoing collaboration, MGE will provide:

• 100% of the required local matching funds for charging infrastructure for the three buses.
• Continued in-kind support and expertise to address technological issues and facilitate cost-effective and efficient use of energy.

MGE is committed to working with the City of Madison, Metro and other community stakeholders to advance new, cleaner energy technologies to reduce carbon emissions. Zero-emission buses will play a key role in this effort.

According to the U.S. Department of Transportation, for every zero-emission bus on the road, carbon emissions are reduced by nearly 1,700 tons over their estimated 12-year lifespan. With three electric buses, that would be an estimated carbon reduction of 5,100 tons. MGE continues to work with the city to seek ways to further the electrification of transportation.

Educating about the benefits of EVs
MGE helps to educate customers, businesses and our community at-large about the benefits of EVs. Our experts are on hand at many community events with our all-electric Chevy Bolt to share information. In 2018, we also launched two new EV resources online:

• EV Rider at energy2030together.com/EVRider offers the latest industry news, information and expert tips.
• LovEV at mge.com/LovEV covers drivers’ most common questions about “going electric.”
Environmental commitment begins with our employees

Every employee at MGE is a member of our Green Team and has a responsibility to the environment while at work. For nearly 25 years, MGE’s Green Team has encouraged environmental awareness, proactively shared ideas and made improvements that strengthen our practices.

Green Team Leaders represent departments across the company. They guide activity, implement regulations and serve as educational resources.

Sustainability Steering Team launched

MGE transitioned its Management Environmental Task Force into a Sustainability Steering Team in 2018. The Sustainability Steering Team, which oversees Green Team Leaders, acts as a sounding board and helps direct activities supporting sustainability initiatives such as benchmarking, Green Tier and Green Masters.

The Sustainability Steering Team will evaluate and prioritize continuous improvement opportunities. It then will commission Continuous Improvement Sustainability Teams to spearhead sustainability improvement initiatives. The Sustainability Steering Team also is overseeing the expansion of MGE’s Environmental Management System.

MGE employees share our company’s strong environmental values. They reinforce their environmental commitment by following procedures, looking for new opportunities and taking part in stewardship projects.
Preparing the next generation
The demand for gas utility technicians has grown faster than the supply of skilled workers. MGE is supporting an effort to help close that gap. With contributions from the MGE Foundation and other donors, Moraine Park Technical College opened a new Energy Education Center in 2018. The cutting-edge facility in Beaver Dam, Wis., is home to a newly developed Gas Utility Technician program that will train workers for jobs in the gas industry.

The outdoor training neighborhood allows students to work through actual gas utility scenarios, equipping them with the fundamentals to perform and enabling them to simulate emergency situations they may encounter in the field. MGE is proud to be part of this effort to support the next generation of gas utility workers.

MGE also has a representative on an advisory board, which oversees the program, reviews and provides feedback on curriculum.

Environmental stewardship in the community
While MGE employees know how their individual actions at work can improve the environment, they also are aware of how they can put their Green Team knowledge to work at home and throughout the community.

LED Lighting Fair
Working with Focus on Energy, Wisconsin utilities statewide energy efficiency and renewable resource program, MGE organized two LED Lighting Fairs for employees. Employees purchased more than 5,100 LED bulbs combined during the two events. Those bulbs, when used, have an estimated 313,000 kWh of energy savings compared to conventional lighting.

Adopt-a-Highway
MGE maintains a two-mile stretch of Highway 14 as part of the Wisconsin Department of Transportation’s Adopt-a-Highway program. The goals of the program are to reduce litter along state highways, provide education on proper litter disposal, enhance the environment and help beautify our roadsides. Employee volunteers coordinate MGE’s clean-up efforts.
Cybersecurity is a priority

MGE recognizes the potential impact of cyber threats to our company and the utility industry. We are committed to protecting our computers, networks and data from unauthorized access to ensure safe, reliable service for customers. This requires ongoing effort.

In 2018, more than 100 MGE employees participated in the statewide Dark Sky exercise. MGE and the Wisconsin National Guard worked together to craft the objectives and to design the scenarios involved in the advanced cybersecurity and emergency response exercise.

Dark Sky put MGE employees in realistic and stressful technical and operational scenarios, allowing us to assess our processes, technologies and overall performance in response to a potential incident.

MGE and the Wisconsin National Guard continue to have an ongoing collaboration around cybersecurity.
Continuous improvement is key to safety excellence

In 2014, MGE launched an employee safety initiative. A critical element of its ongoing success is the commitment by employees throughout the company to continuous improvement. We take the approach that everyone can always improve upon their safety performance.

Near-miss/good catch

One of the more recent employee-led continuous improvement projects has focused on the development of a “near-miss/good catch” process for employees. The proactive process, developed by a group of 14 mostly frontline employees, is designed to encourage employee reporting that identifies, documents, tracks, communicates and allows everyone to learn from safety issues. The reporting process establishes accountability at all levels of the company to ensure it is implemented in a safe, no-blame environment.

In the first 18 months using the near-miss/good catch process, more than 85 near-miss or good catch reports were filed. When completed, each report is shared with all MGE employees.

Sharing near-miss and good catch reports with employees is designed to help all employees learn about safety issues and prevent incidents, both of which serve to improve our safety culture and collective performance.

Safety vision statement

In 2018, one of our employee-led Continuous Improvement Safety Teams was tasked with developing a safety vision statement. The team drafted a statement of safety values that encompasses the business of MGE and creates a positive message that all MGE employees can embrace.

Injury prevention

In 2017, MGE introduced a new injury prevention initiative to reduce the number of sprains and strains among employees. An employee-led team assessed various programs implemented by other utilities and industrial companies. The team selected an athletic trainer specializing in industrial sports medicine to provide injury prevention resources as well as injury evaluation, management and care on-site three days a week. The initiative, which includes daily warm-up exercises and other tools, serves to reduce the incidence of one of the most common injuries for operations personnel.

MGE works to keep our communities safe

In addition to the safety of our employees, the safety of our customers also is a top priority. We strive to keep customers well informed about the potential dangers of electricity and natural gas and what to do in an emergency, using electric and natural gas safety advertising and information included with our bills and on mge.com.

Safety Saturday

MGE is a proud sponsor of the Madison Fire Department’s annual Safety Saturday event. MGE employees staff a display to share important gas and electric safety information.

Safety Saturday uses interactive displays and exhibits to educate parents, children and the public on ways to make safe decisions, to prevent injuries and to encourage the use of safety devices such as seat belts, bike helmets, smoke alarms and carbon monoxide detectors.

First responder training

MGE works closely with police and firefighters who respond to emergencies within our service territory. Every year, MGE’s Electric and Gas Operations departments conduct safety training with first responders within the communities we serve. MGE also routinely conducts drills at both of our Madison power plants with the Madison Fire Department.
MGE's peregrine falcons

Since 2009, peregrine falcons have nested at our Blount Generating Station in downtown Madison, Wis. Man-made nesting boxes at power plants have proven ideal homes for the birds of prey, which are an endangered species in Wisconsin. The use of the DDT pesticide beginning in the 1940s eradicated them.

Falcons were reintroduced to Wisconsin in the 1980s and have made a slow, steady comeback due to statewide efforts and nesting boxes like the one at Blount. With help from an MGE employee and his son, MGE installed our nesting box in 1999. MGE has seen 39 falcons hatch at Blount, including the 2018 chicks. Falcon expert Greg Septon visits Blount every year for our naming ceremony during which the chicks also are banded for tracking throughout their lifetimes.

For more information on MGE's falcons, visit mge.com/falcons.

MGE annually hosts a naming and banding ceremony for our falcon chicks at Blount Generating Station. In 2018, the chicks’ names were inspired by ice cream flavors from the Babcock Hall Dairy Store on the University of Wisconsin-Madison campus.

Dianne Moller, Executive Director of Hoo’s Woods Raptor Center, with Catelyn, a peregrine falcon born at Blount in 2013, and falcon expert Greg Septon

MGE is proud to support the ongoing recovery of these raptors through our nesting box and support from the MGE Foundation for Hoo’s Woods Raptor Center, a local nonprofit dedicated to the rehabilitation of birds of prey and to the preservation of their ecosystems.
The use of the pesticide DDT begins during World War II.

The peregrine population continues to decline; there are no peregrines in the eastern U.S.

Wisconsin bans the use of DDT.

The Environmental Protection Agency bans the use of DDT.

The American peregrine falcon is listed as endangered under the Endangered Species Act.

MGE installs its falcon nesting box at Blount Generating Station.

The peregrine falcon is declassified as a federally endangered species.

A pair of falcons begins using MGE’s nesting box, hatching three chicks named Steve, Genny and Cole.

Four falcon chicks hatch at MGE’s nesting box, bringing the total to 39 chicks since 2009.

Source: The Nature Conservancy, Wisconsin Department of Natural Resources, mge.com/falcons