

# 2022

## Beneficial Electrification & Environmental Responsibility





## MISSION

Kaukauna Utilities strives to be a catalyst in the utility industry. It is our responsibility to promote wise use of resources and find new ways to preserve and improve the environment we all live and work in while continuing our commitment to provide safe, reliable, clean, sustainable energy at competitive rates.

Key initiatives will focus on:

- **Beneficial Electrification** – Encourage the transition towards clean electricity generation and utilization with zero emissions. Implementation will save consumers money, create more resilient and reliable infrastructure, and reduce our carbon footprint.
- **Awareness** – Educate and support all internal and external stakeholders as we advocate for the benefits of a clean energy future.
- **Sustainability** – Promote environmentally responsible initiatives, including recycling, composting, community environmental activities, and other sustainability practices.
- **Maximizing Efficiencies** – Endorse efficient use of energy and water resources in ways that help improve our customers' experience and promote responsible use for the benefit of generations to come.

## WHERE WE ARE NOW

Over the past 15 years, Kaukauna Utilities has taken steps towards a more sustainable future. Most of these steps have been through energy efficiency efforts throughout facilities. When the main office building addition and remodel occurred, it was important that the new and updated building was built with LEED certification. Upon completion of the project, KU had a solar tracking array installed outside its main office building to offset a portion of the building load.

In more recent years, the utility has installed three roof-top solar arrays at city-owned or utility-owned facilities. These three installations amount to a total of more than 250 kW of energy to help offset the load at each building. In 2021, Kaukauna Utilities felt the importance of leading the community by ensuring 100% of its electricity utilized is generated from renewable, carbon-free sources: a step that the City of Kaukauna appreciates and practices as well.

In addition, Kaukauna Utilities continuously looks at initiatives that will directly benefit the community while being environmentally responsible. In 2008, the utility purchased a hydro-generation plant from the failing New Page Mill located in Kimberly, WI. The acquisition of this plant increased Kaukauna Utilities' hydro production by approximately 10%. Utilizing this clean energy source, we can keep rates lower for our customers. Two other programs in place are the LED streetlight replacement program and an electronics recycling program. The utility hosts an electronics recycling event annually to allow its customers the ability to properly dispose of old electronic equipment. Since the inaugural event in 2015, a total of 293,184 pounds (~147 tons) of electronics have been kept out of the landfill or otherwise improperly disposed of.

Other programs KU is involved with include:

- Sponsor tree-seedling sales at 1000 Islands Environmental Center
- Support and promote Focus on Energy programs in Wisconsin
- Water conservation programs
- Rebate programs (EV chargers, outdoor power equipment, etc.)
- Education and awareness efforts to local schools and community as a whole

## **WHERE WE ARE GOING**

The efforts made to date have created a platform for Kaukauna Utilities to continue improving our environment as we embrace new technologies that enhance the quality of life of our customers. We feel Kaukauna Utilities can make the greatest impact within our communities served and environment by focusing on the following areas in the short and long term. The areas of focus include:

1. Transportation Electrification
2. System Resiliency
3. Clean Energy
4. Energy Efficiency
5. Sustainability
6. Education and Awareness

As technologies advance and this plan matures, updates will be made to ensure Kaukauna Utilities remains focused on benefiting all KU stakeholders.

The background image shows an outdoor electric vehicle charging station on the left, with a charging cable plugged in. To the right is a blue rectangular sign with white text that reads "RESERVED FOR ELECTRIC OR HYBRID VEHICLE". The scene is set in a parking lot with trees and a white car in the background. A semi-transparent white rectangle is overlaid in the center, containing the text "01" and "Transportation Electrification".

01

Transportation  
Electrification



According to the Environmental Protection Agency (EPA), the transportation sector produces more carbon emissions than any other sector of the American economy. By electrifying the transportation sector in conjunction with generation of more clean energy, we will reduce greenhouse gas (GHG) emissions. As we continue to cut greenhouse gas emissions on our system, electric vehicles (EV) will run on ever-cleaner energy. Today, an EV powered by electricity from Kaukauna Utilities produces 58.4% less carbon than a comparable vehicle with an internal combustion engine.

*By 2050, emissions from an EV powered by Kaukauna Utilities' electricity will be carbon free!*

In order to help achieve this goal, Kaukauna Utilities will support transportation electrification primarily in the following three categories:

- Charging Infrastructure
- Electric Vehicle Fleet Conversion
- Electric Rate Design

By focusing on these categories, we can ensure that all stakeholders can participate in transportation electrification.

## CHARGING INFRASTRUCTURE

In order to support long distance travel with electric vehicles, the DC fast charging network needs to be built out to provide the convenience travelers are accustomed to. The State of Wisconsin developed the Wisconsin Electric Vehicle Infrastructure (WEVI) Plan, which identified alternative fuel corridors throughout the state. Interstate 41 is one of these corridors, which positions the KU territory to host potential sites for DC fast chargers.

In addition to DC fast chargers, Kaukauna Utilities is looking at ways to help residential, commercial, and industrial customers with their charging needs. The most common of these installations would require a level 2 charger to be installed at the customer's premise and would provide a full vehicle charge in approximately 5-8 hours. We are working on strategies (through rate design) to encourage off-peak charging of their electric vehicles to minimize overall impact on the EV owner as well as the distribution system.

### DC Fast Charging

DC fast chargers allow for charging of the battery to 80% capacity in as little as 15 minutes. Due to the cost of these chargers, they need to be installed in a location where the charger will receive high utilization by customers. Initially, we expect to see these chargers installed along the alternative fuel corridors (as defined by the WEVI plan). Depending on a customer's needs, this type of charger could be installed on a customer's premise for charging of their fleet. Kaukauna Utilities needs to be involved with these installations as most will require an upgrade to the existing infrastructure.

- ✓ By the end of 2025, Kaukauna Utilities would like to either own or partner with a customer to install a DC fast charger on our system.
- ✓ By 2040, we would like to have at least 12 DC fast chargers on our system.

## **Residential**

Kaukauna Utilities would like to offer residential customers the ability to own or lease a level 2 charger from the utility. In the case of a lease, the customer would be responsible to get the wiring to the location where the charger would get installed. They would also be responsible to provide an internet connection to the charger, which would allow Kaukauna Utilities the ability to monitor the status of the charger and the load data through it. In the event of failure, the utility would maintain the unit.

Currently, Kaukauna Utilities offers up to a \$400 rebate with the installation of a qualifying level 2 charger. With this incentive in place and the development of the leasing program, we have the following goals:

- ✓ By the end of 2025, we would like to see the total number of residential EV chargers in the service area increase from 14 to 25.
- ✓ By 2040, we would like to see 30% of the homes within our service area equipped with an EV charger.

## **Commercial, Industrial, and Public Charging**

Kaukauna Utilities will work with commercial customers based on their needs of electrification. If the company is looking to electrify their fleet, we can help determine if the current utility service is adequate for the charging requested. If companies wish to provide electric vehicle chargers for their employees, KU will work with them to help develop the best solution.

KU currently has four public chargers installed with point-of-sale capabilities. We will continue to identify locations where public chargers would provide benefit to customers. We will seek customer input to help determine places of need for public EV charging. A separate rate tariff is being created for these charging stations to allow KU the ability to recoup the energy costs.

- ✓ By the end of 2025, we will have a minimum of eight public charging locations with an increase of the average monthly charging sessions from 38 to 60.
- ✓ By 2040, our goal is to have 15% of non-residential customers equipped with at least one EV charger.

## **EV FLEET CONVERSION**

Kaukauna Utilities will begin an EV fleet conversion. Starting in 2023, two utility vehicles will be replaced with an electric equivalent. We will continue to replace internal combustion engine vehicles with electric equivalents under our normal replacement schedule. In doing so, a full EV fleet conversion will be completed by 2040. In order to achieve this task, advancements in  $\frac{3}{4}$  ton EV pick-up trucks, as well as Class 6 bucket and digger derrick trucks, will have to take place. Initially, support vehicles will be converted as there are multiple options to choose from. We will continue to monitor grant funding and may accelerate some of the conversions if funding becomes available.

- ✓ By the end of 2025, Kaukauna Utilities will have a minimum of five electric vehicles in the fleet.

## ELECTRIC RATES

In order to incentivize charging at certain times of the day, Kaukauna Utilities will have to create new rate structures that differ from the traditional structures currently available. Some of these rate structures may have to be introduced as pilot programs to gather information and see if it is viable moving forward. The goal of a new residential rate structure would be to encourage EV charging during off-peak hours. By doing this, the system load curve should flatten out, giving a more efficient purchase of power from WPPI Energy.

With DC fast chargers, the energy consumption is high enough that a customer with these units installed would quickly become a CP2 customer and incur demand charges. In the early adoption period, when the utilization factor is low, demand charges may discourage places from installing equipment. Once utilization surpasses a threshold, the normal CP2 rate is appropriate as a rate class for DC fast chargers. The WEVI plan hopes to help accelerate these installations by providing up to 80% of the installation cost. Kaukauna Utilities is looking at multiple rate options to help support the growth of DC Fast Chargers in our territory.

Pilot programs are being developed to allow KU and the Public Service Commission of Wisconsin (PSCW) the ability to gather data and gain more knowledge that the impacts EV charging will have on the system. Pilots that are deemed a success will be converted to a new rate or integrated into an existing rate.



“Electrification is coming. The private sector has spoken. The major auto manufacturers are retooling and have announced ambitious plans to transition to producing predominantly electric vehicles in the near future. That is good for our environment because it can dramatically reduce emissions from burning fossil fuels. We in the public sector need to be ready for this transformational change – and in Wisconsin, we will be. That is why WisDOT is continuing to work with our partners to enhance Wisconsin’s EV infrastructure and make the benefits of EVs available to everyone in Wisconsin.”

*- Wisconsin Department of Transportation Secretary, Craig Thompson*



02

System  
Resiliency



As transportation electrification becomes more mainstream, the loading on the electrical system will increase. With this load growth, it is important that the system resiliency is not negatively impacted. Kaukauna Utilities strives to increase system resiliency through the following efforts:

- Managed Charging / Devices
- Increase field telemetry
- Change in design requirements
- Distribution Automation

By addressing each of these areas, Kaukauna Utilities' system will remain resilient as electrification efforts increase by all stakeholders.

## MANAGED CHARGING / DEVICES

Utilization of rate structures is one way to help balance the load on the system throughout the day. Managed charging is another tool that would allow Kaukauna Utilities the ability to communicate with the charging station to throttle back the charger output during times of high usage or throttle up the output during times of low usage. A distributed energy resource management system (DERMS), or managed charging solution, will need to be installed at Kaukauna Utilities. KU will develop a pilot program and look to enroll interested customers willing to participate. This DERMS solution will allow KU the ability to limit/restrict the output of chargers enrolled in the pilot program during periods of high demand. Ultimately, this system would have the capability to utilize energy in a vehicle-to-grid application to help ease the burden during these high demand periods. In order to make the implementation of a DERMS solution most successful, it would be easiest to get the system in during the early adoption period of electric vehicles. KU is going through one of the first steps of upgrading the supervisory control and data acquisition systems (SCADA) to help give spatial visibility on the distribution system.

By utilizing the same theory, other residential equipment, like heat-pump water heaters, HVAC equipment, or battery storage can be managed to best control the load on the electrical system. By limiting the peaks that the utility experiences, average purchased power costs decrease, saving the customers money.

- ✓ By the end of 2027, KU would like to have the DERMS solution integrated into the system.

## INCREASE FIELD TELEMETRY

Increasing field telemetry provides more data to the system operations center where further evaluation can be completed to identify potential areas of system overload. Before the system experiences a failure, the system operations center can determine how to shift load off these constrained areas and onto circuits that have capacity. This increased field telemetry is also utilized by the DERMS solution to manage EV charging, release energy from battery storage devices, and curtail other non-essential loads.

In most cases, the additional data will come from reclosers connected to KU's SCADA network, but the advanced metering infrastructure (AMI) will also be leveraged to determine overloaded service transformers.

## CHANGE IN DESIGN REQUIREMENTS

As electrification becomes more mainstream, the average load at a typical residence will increase. Given this, the design criteria for a service/new residential development will have to change as well. In 2022, all new designs on the electrical system include components to handle the increased loads expected with electrification. Existing systems will be monitored as load grows with opportunities to work with customers in several ways to extend the life of the current assets. Some of these opportunities include shifting the electrical demand to off-peak periods, increase field telemetry to identify constraints, or installation of distributed energy resources (ex. distributed generation and battery storage). By utilizing these opportunities, we will be able to extend the life of current assets installed in the distribution system. If, after exploring these opportunities, it is found that the system will be stressed, projects will be created to rebuild an area with the new design criteria.

## DISTRIBUTION AUTOMATION

In addition to the increase in equipment ratings, reclosers are being installed and connected to KU's SCADA system. These devices are being installed in strategic locations in preparation for an automated distribution management system (ADMS) at Kaukauna Utilities. The ADMS is a module that can be added and configured onto the OSI SCADA platform. In order to fully recognize the benefits of this system, we will focus first on the circuits that experience the highest number of outages and work through all remaining circuits. This will take time as communication also must be installed to get the information back to the SCADA system.

- ✓ By the end of 2023, KU will have a plan developed for the priority of feeders and the locations of reclosers and fiber to be installed over the next three years.
- ✓ By the end of 2025, KU will add the ADMS module to the SCADA platform



A report from the National Renewable Energy Laboratories (NREL) states:

"Utilities could go from stagnant demand to compound annual growth rates of 1.6%, which would amount to sustained absolute growth of 80 terawatt-hours per year. This unprecedented absolute growth in annual electricity consumption can significantly alter supply-side infrastructure development requirements."





03

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Clean  
Energy

Renewable generation has been part of Kaukauna Utilities since it was originally formed in 1912. The utility harnessed the energy of the Fox River to provide power to its customers. As load growth continued and other technologies advanced, the addition of non-renewable generation was added to the Kaukauna Utilities' power portfolio mix. The hydro-generators owned by Kaukauna Utilities produce around 30% of energy needs. As a member of WPPI Energy, we purchase the remainder of our power needs from them. WPPI Energy has diversified their portfolio mix to limit the effects of price fluctuations by any one type of generation.

WPPI Energy's portfolio includes generation from coal, natural gas, wind, solar, and nuclear. In efforts to diversify and shift towards clean energy goals, WPPI Energy has reduced carbon producing generation by adding more clean energy sources like wind, solar, and nuclear. They have also invested in clean coal technologies to reduce carbon emissions from these plants while new technologies are being explored for carbon-free emissions. WPPI Energy has a goal of 100% clean energy by 2050.

- ✓ By 2050, KU will purchase 100% clean energy from WPPI Energy.

## HYDROELECTRIC GENERATION

Kaukauna Utilities will continue to monitor advances in hydro generation technologies and determine which technologies would be beneficial to implement for KU stakeholders. This may include the addition of new hydro generators or implementing design changes to our hydro generation plants to increase unit efficiency.

- ✓ By the end of 2025, KU will assess new hydro technologies to see if there are locations where additional hydro assets can be deployed. We will also look for ways to optimize the current technologies utilized at each plant. This assessment will be done periodically to stay abreast of new technologies that can be taken advantage of.

## SOLAR

Since 2018, Kaukauna Utilities has installed three roof-top solar arrays - two City of Kaukauna municipal buildings and one KU building. These installations have amounted to over 250 kW of rated capacity, which have reduced purchased energy at each facility. Each one of these arrays were installed with 50% of the funding coming from grant opportunities. Kaukauna Utilities will continue to explore the addition of behind-the-meter solar opportunities at all KU owned facilities. Projects will be created where the solar installation has a realizable payback and funding opportunities are available. These installations will reduce the amount of energy KU needs to purchase by offsetting with 100% clean energy.

- ✓ By September of 2023, KU will create a list of viable roof-top solar projects, along with additional funding options.

## PUMPED STORAGE

Pumped hydroelectric storage is one source of clean energy that has been discussed. A viable site could be the quarry if it becomes inactive. This site could be utilized to route water from the river (upper reservoir), through a turbine, and into the quarry (lower reservoir). This would be utilized during times of high energy costs to reduce KU's



demand. During off-peak hours, the water would get pumped out of the lower reservoir and back into the river system. As the system requires more power to operate than it produces, it becomes an economic evaluation of when it is appropriate to dispatch.

- ✓ By 2030, KU will evaluate whether pumped hydroelectric storage is a viable option to pursue. Evaluations of other potential sites will be looked at as well.

## BATTERY STORAGE

Battery storage solutions have been discussed at Kaukauna Utilities for over seven years, but the technology and price point were not at an acceptable level to move forward with any projects. Battery storage is a technology that enables power system operators and utilities to store energy for later use. A battery energy storage system (BESS) stores energy from the distribution system that later discharges energy back into the distribution system. There are many benefits being evaluated to determine the best location for a storage solution. The benefits include:

*Energy Arbitrage* – charging the BESS when prices are low and discharging during peak hours.

*Peak-Shaving* – discharging the battery during peak times to reduce the overall demand of the utility.

*Voltage/Power Factor Regulation* – charging and discharging the BESS to correct voltage and power factor on the distribution system.

*Black Start* – utilizing the BESS as a power source in the event of a complete outage of the ATC lines feeding Kaukauna Utilities.

*Ancillary Services* – such as frequency regulation or under frequency load shedding to help support the grid.

Additional funding opportunities have been identified, which makes a utility scale battery solution a viable option within the Strategic Intent.

- ✓ By end of 2025, KU will perform feasibility analysis to determine a location providing most benefits, cost effectiveness, develop an implementation plan, and place in service.



The combined output of the solar arrays installed on the City of Kaukauna's and Kaukauna Utilities Facilities have produced more than 1,270,000 kWh to date. **This has saved 1,984,219 pounds of carbon dioxide from being released into the environment.**

Currently, the batteries in most BESS are made primarily with lithium-ion technologies. There are other solutions being developed utilizing more common metals like an iron flow battery (comprised of iron and saline solution).

Current customers that wish to receive all of their power from Green Energy sources can purchase "Green Energy Blocks".





04

Increase Efficiencies at  
all KU Sites



# 04

## Increase Efficiencies at all KU Sites

One of the four key initiatives in the environmental mission statement is maximizing efficiencies. This initiative states that Kaukauna Utilities endorses efficient use of energy and water resources in ways that help improve our customers' experience and promote responsible use for the benefit of generations to come. In order to fully live this initiative, we must do the same internally. Kaukauna Utilities has been implementing measures over time to improve efficiencies, especially during the main office building rebuild. A focus was made to achieve LEED certification for the sustainable practices put in place. Since the time of the building remodel, technologies have advanced that can be put in place to make this space more efficient.

We have evaluated all our facilities and identified four action items that would allow us to operate more efficiently.

### LED CONVERSIONS

Any facility on Kaukauna Utilities' property built or remodeled prior to 2014 are currently operating with either fluorescent or high-pressure sodium (HPS) lights. LED lights were not deemed a viable option at the time, but with advances in technology, KU can realize energy savings as well as reduced maintenance cost savings on each fixture. The two most common HPS lights installed at KU facilities are 400W and 250W. An equivalent LED fixture would utilize 150W and 85W, respectively. The average life of an LED fixture is 60,000 hours compared to the 24,000-hour lifespan of HPS fixtures. With these cost savings, we feel it is our responsibility to upgrade lighting at all KU sites.

- ✓ By the end of 2024, Kaukauna Utilities will convert lighting fixtures to utilize the efficiencies of LED.

This upgrade has already started on street and security lights maintained by Kaukauna Utilities.

- ✓ By the end of 2028, Kaukauna Utilities will convert all street and security lighting fixtures to utilize the efficiencies of LED.

### ADDITION OF VARIABLE FREQUENCY DRIVES (VFDS)

Kaukauna Utilities currently utilizes soft starters as the technology to start large motors at wells and booster stations. This type of starter is more efficient than a full-voltage starter, but there are more benefits that can be realized by converting these starters to VFDs. These drives allow you to consume less energy when load requirements are less than full speed. As the speed of the motor can be changed with the use of a VFD, tighter process controls are capable, and less wear and tear occur on the motor, extending its useful life. Kaukauna Utilities currently replaces well pumps/motors approximately every ten years. At the point of replacement, KU will evaluate the benefits of upsizing the motor to allow for more operating flexibility at each well location, while also operating more efficiently.

- ✓ By the end of 2025, Kaukauna Utilities will add variable frequency drives on all large motors at water facilities.

## REDUCE ELECTRIC/WATER DEMAND

By utilizing energy at times outside of peak electric demand, operational costs at a facility can be reduced. Kaukauna Utilities has put this practice in place by running the pumps to fill the water towers late at night when electric energy costs are low. There are some areas where KU can evaluate if further reduction in demand is possible. One specific area pertains to the cooling water flows at the hydroelectric plants.

- ✓ In 2023, Kaukauna Utilities will evaluate cooling water flows at hydroelectric plants to reduce pump usage and/or city water purchased. Implementation of this plan will be completed by the end of 2023.
- ✓ In an on-going effort to reduce demand, Kaukauna Utilities will continuously evaluate old and new processes.

## VERIFY AUXILIARY EQUIPMENT SIZING


The hydroelectric plants have been well maintained over the past 110 years of Kaukauna Utilities existence. In some cases, the auxiliary equipment (compressors and pumps) is still operating on original equipment. These compressors and pumps, in some cases, may be oversized for the application. A modern, more efficient solution may be available for replacement.

- ✓ By the end of 2022, Kaukauna Utilities will identify equipment that is oversized for application and determine end-of-life replacement.



**Focus on Energy** is Wisconsin utilities' statewide energy efficiency and renewable resource program funded by the state's investor-owned energy utilities and participating municipal electric utilities and electric cooperatives. Kaukauna Utilities is a participating member, which makes it's customers eligible to participate in programs and incentives.





05

Sustainability



A key initiative to Kaukauna Utilities' Environmental Mission is to not only practice, but also promote, environmentally responsible initiatives including recycling, composting, community environmental activities, and other sustainability practices. Kaukauna Utilities has practiced sustainable efforts in many ways throughout our history. Many of these programs are still in place today as they have been successful in making our environment a better place. KU is committed to reducing its impact on the environment by reducing its carbon footprint towards carbon neutrality. Most of the initiatives above have a positive impact on the sustainability for Kaukauna Utilities and its stakeholders.

Kaukauna Utilities is committed to the environment and this community by supporting the following efforts in years to come:

**Tree sales** – Kaukauna Utilities has been a sponsor of the Tree Seedling Sale run by 1000 Islands Environmental Center for 12 years. We look to expand this effort by creating a program to incentivize the planting of more trees in our community. More details to come as this program is developed.

A **waste management plan** will be developed to ensure all waste is being disposed of in the correct manner. This includes the viability of repurposing materials. Reducing use of disposable items like plates and utensils will be explored and included in this plan. A movement towards digital processes will help reduce the amount of paper printed daily.

Electronics/battery **recycling event** has proven to be a success for our customers and will continue to be an event for the foreseeable future. We will look for ways to expand this to include recycling of EV batteries, solar panels, and other end of life components.

**Appliance disposal** – Kaukauna Utilities will develop a program to cover the removal of a gas appliance with the conversion to heat-pump or induction technology.

Replace petroleum-based lubricants with **environmentally acceptable lubricants (EALs)** at hydroelectric plants. This is currently a practice taking place *if* there is a viable substitute available. We will continue to monitor new EALs produced and remove petroleum based from service. The goal is to complete this by 2030.

Explore the viability of **utilizing heat from Badger Hydro Plant** to heat Kaukauna Utilities' Main Office Building. This could reduce or eliminate the need for fossil fuel boilers at the building.

Identify and correct **water loss** throughout the system by:

- Ensuring accurate meters are installed in the system.
- Investigate flushing once per year and determine the exact amount of time each hydrant needs to be flushed.
- Investigate the backwashing process and determine if efficiencies can be gained.
- Investigate new technologies (e.g., iHydrants) to help detect water leaks/breaks.
- Develop asset management register to determine water main that needs to be replaced.

Installation of **AMI meters** allow for excess water usage to be identified in a day rather than a month (leaky toilet/faucet).

**Fossil fuel phaseout** will be accomplished through transportation electrification, building electrification, and a shift to clean energy in WPPI's power portfolio.

**Supply chain evaluation** – Kaukauna Utilities would like to do business with companies that have similar values and commitments to environmental sustainability. A scorecard will be developed to determine a suppliers environmentally sustainable effort. Ratings will be used to help determine who we do business with.



Over 20 million Hershey's Kisses are wrapped in aluminum foil each day, and all that wrapping can cover an area of 133 square miles! Those wrappers are recyclable, so put your Kisses to good use!



An aerial photograph of a car show event. In the foreground, a row of red sports cars is parked on a paved area. To the right, a grassy field is filled with various cars, including a white sports car and a dark sedan, with people walking around. In the background, a parking lot is filled with many cars, and a large crowd of people is gathered near a building. A semi-transparent white rectangular overlay is centered on the image, containing the number '06' and the text 'Education & Awareness'.

06

Education &  
Awareness



According to the United States Environmental Protection Agency, environmental education is “a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions.” While Kaukauna Utilities will do their part to be a catalyst in environmental responsibility, we also need to do our part to educate our customers on the initiatives in this plan. Through further awareness, our customers will be able to make informed decisions, making our environment a better place for generations to follow.

The list below includes some examples of education and awareness initiatives that will take place now and in the future as we move through our beneficial electrification and environmental responsibility plan:

- Continuous education of ways to save energy and reduce emissions
- Continuously educate students and customers about energy sources and conservation
- Utilize community PV solar / solar hot water displays
- Host EV car show
- Develop and promote rate design to encourage beneficial electrification
- Maintain/own parks, fishing piers, kayak launches
- Promotion of bike-to-work and sustainable commuting benefits
- Promotion of incentives - air source heat pump heaters and water heaters, heat pump clothes dryer
- Develop incentive programs to help customers create efficiencies and conversion to electric
- Continuous participation in Focus on Energy



#### **Environmental Education is More Than Information about the Environment**

Environmental Education:

- Increases public awareness and knowledge of environmental issues
  - Does teach individuals critical-thinking
- Does enhance individuals' problem-solving and decision-making skills
  - Does not advocate a particular viewpoint

# Glossary

**ADMS** - Advanced Distribution Management System  
**AMI** - Advanced Metering Infrastructure  
**BESS** - Battery Energy Storage System  
**CP2** - Commercial Power 2 rate class in KU's rate tariff  
**DC** - Direct Current  
**DERMS** - Distributed Energy Resource Management System  
**EAL** - Environmentally Acceptable Lubricants  
**EPA** - Environmental Protection Agency  
**EV** - Electric Vehicle  
**GHG** - GreenHouse Gas  
**KU** - Kaukauna Utilities  
**kW** - Kilowatt  
**LED** - Light Emitting Diode  
**LEED** - Leadership in Energy and Environmental Design  
**NREL** - National Renewable Energy Laboratories  
**PSCW** - Public Service Commission of Wisconsin  
**SCADA** - Supervisory Control and Data Acquisition  
**VFD** - Variable Frequency Drives  
**WEVI** - Wisconsin Electric Vehicle Infrastructure  
**WisDot** - Wisconsin Department of Transportation