

A D V A N C I N G S T R A T E G I E S
D E L I V E R I N G R E S U L T S

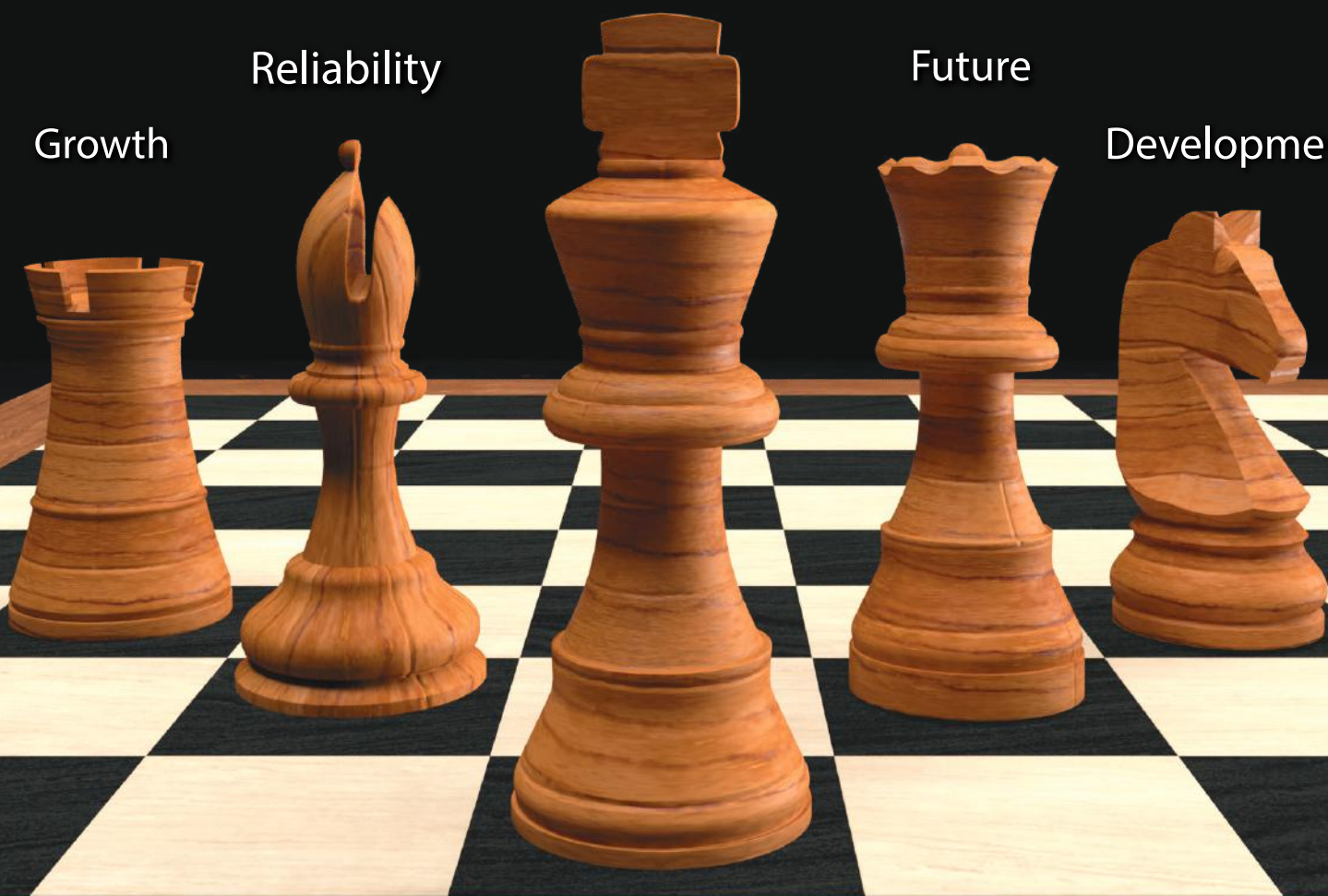
Customers

Reliability

Future

Growth

Development



MUSCATINE POWER AND WATER • 2022

ANNUAL  REPORT

Serving our

neighbors!

**100
YEARS**

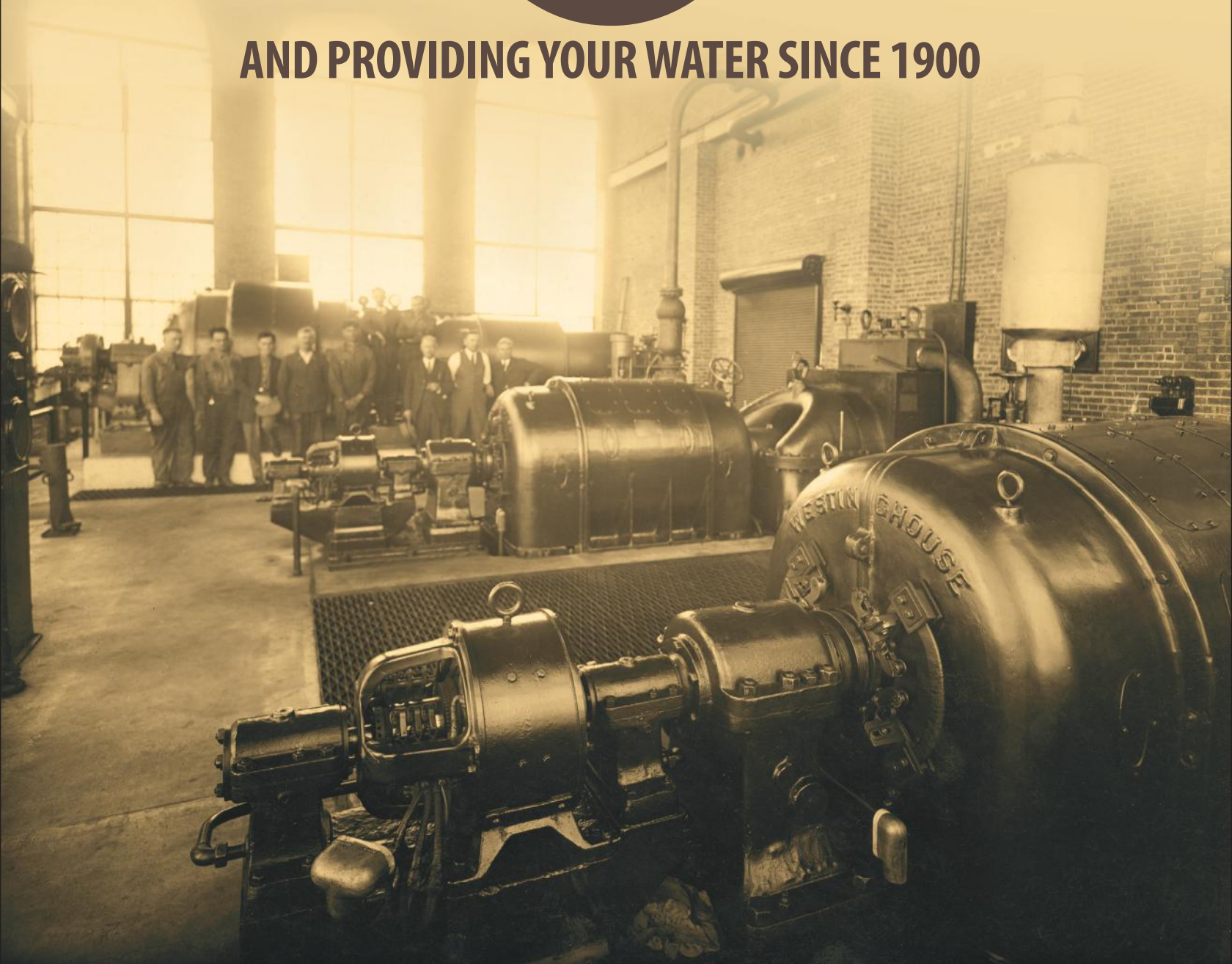
ELECTRIC POWER



**25
YEARS**

COMMUNICATIONS

AND PROVIDING YOUR WATER SINCE 1900



Municipal Water and Light generating Units 1, 2 and 3 - circa 1926



Gage Huston
GENERAL MANAGER

2022 Annual Report

Advancing Strategies. Delivering Results

A MESSAGE FROM OUR GENERAL MANAGER

2022 was a year of celebration and reflection for Muscatine Power and Water (MPW). Two milestones were celebrated – respectively, the 100th and 25th anniversaries of the electric and communications utilities. Although much has changed over those years, MPW’s integrity and unsurpassed dedication to serving our community have not.

The Utility remains a backbone of the Muscatine community with a history of sensible investment in utility infrastructure as well as innovative technologies, along with a laser-focus on the needs of customers of all sizes. As a result of this enterprising spirit, MPW has created an environment where low rates and high reliability allow local industries to be competitive in worldwide markets and small businesses to thrive here at home, while positively impacting the cost of living for every resident.

Guided by MPW’s strategic plan, nearly 275 team members worked faithfully to transform strategies into specific and measurable actions. Like on a chess board, there are many pieces to our plan. It’s through the thoughtful, strategic advance of each piece that we have delivered lasting results in 2022 and set the pace for continued progress to benefit our customers.

One of the Utility’s most challenging and transformational initiatives — **Powering the Future** — is reshaping how electricity is generated for the Muscatine community while concentrating on four key factors: **Reliability, Affordability, Flexibility and Sustainability**. This multi-year project is the result of years of continuous research and collaboration with industry experts. Our plan represents a fundamental change in MPW’s power generation portfolio and positions our community for further growth, while continuing to be a responsible steward of our environment.

In September, we concluded a multi-year project adding a new transmission asset that provides added reliability, resiliency and redundancy in the event local generation or other grid assets would become unavailable. The construction and energizing of MPW’s new **Line 106** helped clear a major hurdle in the Utility’s Powering the Future initiative. With continued changes in power generation and transmission across the national grid, and coal-fired generation decreasing across the region, Line 106 fills a critical role in keeping Muscatine powered 24/7/365.



Community leaders helped us celebrate putting Line 106 into service at MPW West Substation.

Consistent with our advocacy of sustainability, in November, MPW committed to the expansion of renewable energy when the Utility entered into a **Power Purchase Agreement (PPA)** for **Muscatine Solar 1** — MPW’s first utility-scale solar installation. When Muscatine Solar 1 comes online, it will more than double the amount of renewable energy in MPW’s portfolio.

Throughout 2022, with the assistance of grant money designed to support and encourage EV ownership, MPW installed three additional Level II public charging stations. Although it’s a new type of infrastructure investment, the Utility remains committed to keeping Muscatine on the forefront as electric vehicles (EV) become more commonplace.



Once again, your water utility completed major infrastructure improvements through collaboration with the City of Muscatine on the **Grandview Avenue Corridor** and **West Hill Sewer Separation** projects, as well as planned water main replacements and strategic improvements to production, storage, and distribution assets.

Today, internet connectivity is an essential factor for community growth and personal success. Mid-year, the Utility **increased bandwidth and lowered the cost of internet access for many**. More households and businesses in neighborhoods surrounding the Muscatine community were connected to the Utility's fiber network. Additionally, design and engineering were completed for two large scale expansions planned for 2023-2024 thanks to grants awarded by the state's **Empower Rural Iowa Broadband Grant Program** and **Muscatine County**.

There's no doubt MPW's investments in fiber infrastructure to date have set Muscatine apart from comparably sized communities — a distinct edge for attracting and retaining business and industry, as well as a quality of life advantage for every current and future resident who needs reliable high-speed connections for work and for play.

As we commemorated the anniversaries of the electric and communications utilities, the community celebrated with us. In June, MPW staff hosted another **Customer Appreciation Day**. Through interactive displays, equipment demonstrations and hands-on activities, our neighbors were invited to have some fun and learn about their utility services and the people who work around the clock to deliver them.

If we've learned anything in the past few years, it's that change is certain, but we're excited about the challenges ahead of us. The utility industry is experiencing a revolution in technology and philosophy. Innovation may well redefine how power, water and communications services are provided, but rest assured, MPW will meet the future head-on, while delivering on our more than century-long commitment to you.

A vision was cast back in 1900, when the city council procured the assets of the privately-held water company and formed a board of trustees to oversee Muscatine Municipal Water Works. Reliable, low-cost utility services was and is our promise. After 122 years of progress and change, that original vision remains clear, and it is the heart of our strategic plan. MPW will continue to be guided by our focus on serving our customers.

Every one of us understands that pledge. We take pride in having developed a workforce dedicated to you. We work every day to earn your trust. Our record of reliability is one of the best in the industry, and our rates are below state and national averages. As we strategize for the future and for growth, we always remain committed to doing what's in the best interest of our customers and our community.

2022 was a year of advancing strategies and delivering results on your behalf. We invite you to read on and learn more about the projects and people who defined another successful year.



Anniversary banners decorated the Mulberry roundabout.

Gage Huston, General Manager



STRATEGIC LEADERSHIP

Clear direction is the key to results

As it was in the beginning, MPW is guided by a citizen Board of Trustees who represent the interests of our customers. Appointed by the Muscatine City Council and chosen for their years of experience in both public and private companies and organizations, the Trustees provide policy direction and fiduciary oversight.

The true benefit of a municipal utility is its focus on local priorities. Our Senior Leadership Team (SLT) relies on the Trustees' diverse perspectives to help navigate the complex decisions affecting our customers and the community. The Trustees rely on the SLT for their extensive industry expertise, their intimate knowledge of the local Utility and their leadership of the various departments and people in their charge.

Together, these leaders develop and deploy strategic plans executed by the many hardworking employees across the Utility, always striving to provide maximum benefit to the Muscatine community.

Carrying on a tradition that has served Muscatine for over 122 years, MPW leadership ensures our customers remain the top priority.

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AND PEOPLE SERVICES



Ryan Streck
UTILITY
SERVICE DELIVERY

In everything we do, we're making *Muscatine* the best place to live, play, work, and stay.

PLANNING AND EXECUTION

A Strategic Plan is nothing without people dedicated to carrying it out. From the boardroom to the front line, individuals and teams focus their efforts daily on turning strategic objectives into reality by embracing initiatives that translate into customer success.

Communication and shared understanding lead cross-functional teams to break down obstacles and learn new ways to make real progress on behalf of the community we serve. This report chronicles how we advanced our plan's five strategies in 2022 and delivered lasting results.



RELIABILITY

Maintaining our award-winning reliability is no accident. MPW's **Strategy 3** focuses on reliability. It crosses multiple utility lines — from power to water to communications and keeps all of us focused on achieving best-in-class performance for our customers.



The electric utility reached a coveted reliability goal with an **Average Service Availability Index (ASAI) of 99.999%**. Often referred to as “**five 9s**”, it represents near-perfect reliability and is a result of planning, execution, and ongoing maintenance work of Generation, Transmission & Distribution, Substation, and System Control team members who've dedicated years toward continually improving and fortifying our system.



Massive steel poles, like the one shown at left carry Line 106 cross-country from MPW's West Substation to the new North Substation along Highway 38 (above).

In 2022 we took major strides in electric system reliability, completing a multi-year project to add **Line 106**, a 161kv transmission line and a new substation. The project provides a new northern route to the regional power grid and supplements existing southern assets.

The energizing of Line 106 in September also marked a critical milestone in MPW's **Powering the Future** initiative. Muscatine has a diverse customer base — with high demand industrial load as well as commercial and residential users. As power generation changes nationally and here at home, transmission redundancy and voltage support are crucial to maintain a reliable supply in the event other assets become unavailable. The new line and substation are a critical component to meeting that need and ensuring continued progress for Muscatine.

Maintaining the integrity of the nation's power grid is the responsibility of every utility across the country. The increase in renewable, non-dispatchable energy coupled with the decommissioning of fossil fuel units has increased the risk of potential gaps between available capacity and electricity demand.

In early 2022, a cold weather power emergency in Texas captured national attention and brought new focus to what all electric utilities deal with when demand outpaces capacity. Area grid operators like our own **Midcontinent Independent System Operator (MISO)** may be forced to issue **Capacity Emergency Declarations**, prompting utilities like MPW to increase generation and/or to initiate "load-shed" protocols, including rolling blackouts, to reduce demand across the grid.



Although MPW has never had to shed load, the possibility exists. To minimize impact of a maximum generation emergency event and to maintain reliability, MPW team members conducted practice drills to ensure everyone knows their roles and expected duties. The Utility also created customer education materials on reducing consumption to help avoid blackouts and what to expect if MPW is required to load-shed.

Moving overhead electric lines underground has been a longstanding practice for reducing weather-related power outages, but even underground conductors can fail over time. In 2022, the engineering team proactively developed **a matrix to rank conductor cabling risk of failure**. In the past, replacement was based solely on general physical characteristics which were broad and subjective. The new matrix helps pinpoint future trouble spots to better evaluate cables for replacement and strengthens MPW's commitment to reliability.

In designing and maintaining electric infrastructure, we take great care to minimize the possibility of outages. In 2022, one MPW line crew learned just how important the "ounce of prevention" can be when they were summoned to help with restoration efforts in Florida in the wake of Hurricane Ian.

Ian's high winds took down many power lines across the state and left more than two million residents without power. Our lineworkers were assigned to New Smyrna Beach, FL. MPW's crew partnered with a crew from the City of Eldridge, IA and worked 15 to 16-hour days as a team. At times, the lineworkers waded through waist deep water to reach the work area and depended on tree crews to clear paths to reach downed lines. Our team, the last crew to leave New Smyrna Beach, returned home with renewed appreciation for **MPW's own daily tree-trimming program** which helps minimize damage to power lines from falling limbs.



MPW Lineworkers responded to a Mutual Aid request following Hurricane Ian.

Public power utilities across the country have a long tradition of helping each other, participating in mutual aid groups. Impacted utilities can request additional support through mutual aid assistance when there's a catastrophic event. MPW is always willing to help.



Water Distribution Operators lower a new valve into place.

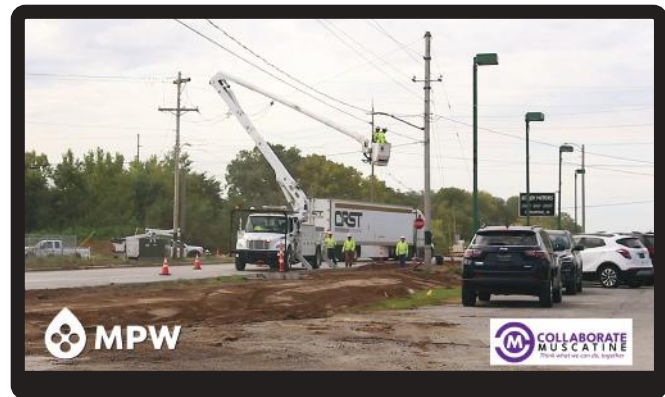
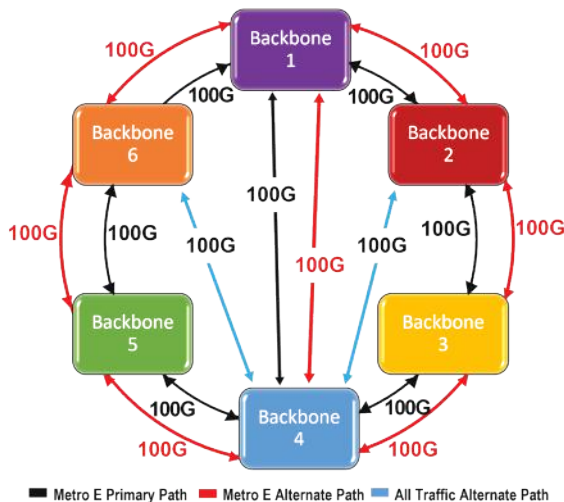
As our oldest utility, MPW's Water Department is also responsible for some of the oldest infrastructure in the community. However, through thoughtful strategic planning over the years, the water system now includes some of the newest infrastructure.

Pursuing its objective to achieve best-in-class water system reliability (Objective 3.2), MPW continued to invest in the water system – not only replacing aged infrastructure, but also improving it. In 2022, the Utility executed planned replacements in several neighborhoods and served an integral role with the City of Muscatine on the **Grandview Corridor** project and the latest phase of the **West Hill Sewer Separation** project.

These collaborative efforts provide MPW an opportunity to evaluate and replace aging valves, hydrants, and water mains while the streets are excavated for sewer and paving work. As needed, lead or galvanized service lines are also replaced and electrical or communications updates are made, ensuring the most reliable service connections across the three utilities.

Although MPW's **Fiber to the Home (FTTH)** is relatively new infrastructure in the community, our communications system has had fiber in place since the late 1990s, as part of our Hybrid Fiber Coax (HFC) transport.

In an effort to achieve best-in-class communications system reliability for all customers, the Communications team replaced the entire backbone infrastructure for the **Metropolitan Area Network (MAN)** in 2021 and built redundant network fiber paths to provide seamless fail over in 2022. Additional MAN upgrades were made to customer premise equipment, expanding service from 1Gb max per connection up to 10Gb max per connection at customer locations.



On Grandview, all three utilities enhanced reliability; with water main and valve replacements, and undergrounding on overhead electric and communications lines.

For FTTH customers, a **PON (passive optical network) level upgrade** was begun to increase shared capacity to 10 Gbps Down/10 Gbps Up. Because fiber capacity is nearly limitless and MPW has fiber to every home and business, these upgrades are implemented with minimal additional investment. The fiber network scales with bandwidth usage growth, providing a better communications product and enhancing customer experience.

In today's interconnected world, threats to reliability extend beyond our borders. In an effort to improve cybersecurity posture and preparedness (Objective 3.5), MPW implemented new and additional security tools in 2022 to help protect the nation's bulk electric system from cyber threats.

Cyber-attacks on the nation’s power grid can disrupt power supply – leaving millions in the dark. MPW fortified its protection against bad actors by participating in an audit of critical infrastructure protection (CIP) standards on its SCADA and System Control. The audit showed that our critical infrastructure was very well secured and a small number of additional enhancements were implemented. We also deployed multi-factor authorization (MFA) tools company-wide for all employees, to prevent unauthorized access to networks and systems.



FUTURE



Throughout our history, MPW has faced numerous opportunities to expand its power generating assets. Each time, as customer demand grew, the Utility responded by seeking expert advice and carefully engineering the most appropriate solution. Our **Powering the Future** strategy is the answer to the next phase of power generation for Muscatine, concentrating on four key factors: **Reliability, Affordability, Flexibility** and **Sustainability**.

In 2022, MPW moved a step closer to MPW’s first utility-scale solar energy project, entering into a Power Purchase Agreement (PPA) for the **Muscatine Solar 1** project in November. In addition to MPW’s existing **South Fork Wind**, Muscatine Solar 1 will double the amount of renewable generation in MPW’s portfolio. The solar PPA marks a major milestone in the Powering the Future strategy’s sustainability component. Development activities on the 24-megawatt solar installation at MPW’s Grandview Avenue Wellfield will continue in the coming years, with an operational target of Q4 2025.



MPW and Nokomis Energy sign the PPA as local industrial supporters look on.

Even with the addition of solar power, there remains a critical need for “dispatchable” generation resources to meet the community’s demand. Staff continue to work with outside experts to study and evaluate different resource options to meet this requirement. One type of resource that continues to be actively evaluated is a combined heat and power (CHP) unit. Fueled by natural gas, the proposed CHP unit is cleaner burning and efficiently uses energy while reducing carbon emissions. CHP units, such as those being evaluated, are endorsed by the EPA, Department of Energy, and the Iowa Economic Development Authority.



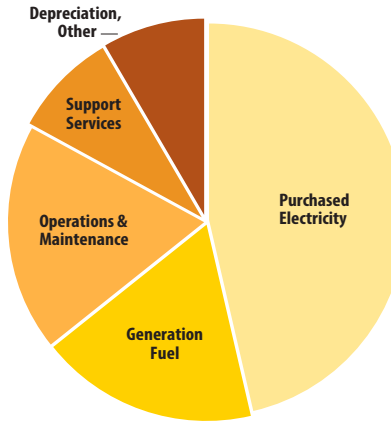
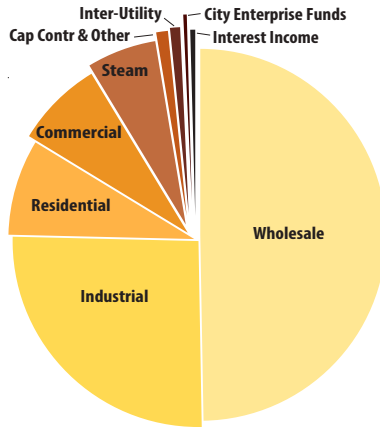
Investing strategically...

The Utility's net income is used to make system improvements like the ones noted in this report.

Electric: The Electric Utility had a net income of \$4.5M and capital expenditures of \$12.8M

ELECTRIC - REVENUE (in 000's)

Wholesale	73,329	49.7%
Industrial	37,833	25.7%
Residential	12,281	8.3%
Commercial	11,247	7.6%
Steam	8,918	6.0%
Capital Contributions & Other	1,502	1.0%
Inter-Utility	1,289	0.9%
City Enterprise Funds	449	0.3%
Interest Income	636	0.4%
Total Revenue, Other	147,484	100.0%



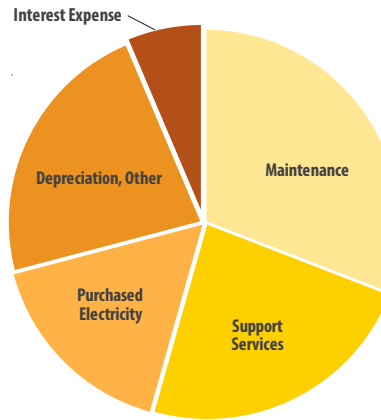
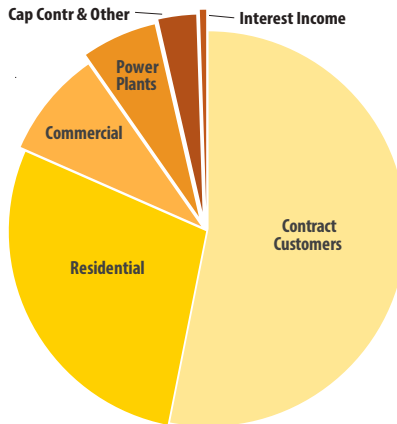
ELECTRIC - EXPENSES (in 000's)

Purchased Electricity	66,292	46.4%
Generation Fuel	25,606	17.9%
Operations & Maintenance	26,676	18.7%
Support Services	12,345	8.6%
Depreciation, Other	12,030	8.4%
Interest Expense	2	0.0%
Total Expense	142,950	100.0%

Water: The Water Utility had a net income of \$1.2M and capital expenditures of \$1.7M

WATER - REVENUE (in 000's)

Contract Customers	4,399	53.1%
Residential	2,356	28.5%
Commercial	721	8.7%
Power Plants	505	6.1%
Capital Contributions & Other	256	3.1%
Interest Income	43	0.5%
Total Revenue, Other	8,280	100.0%



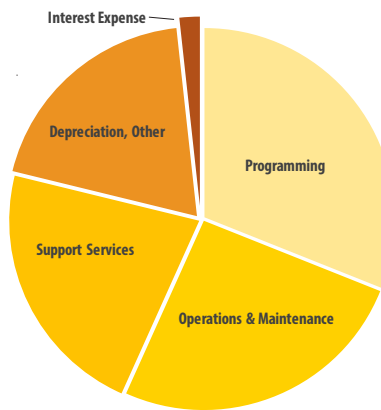
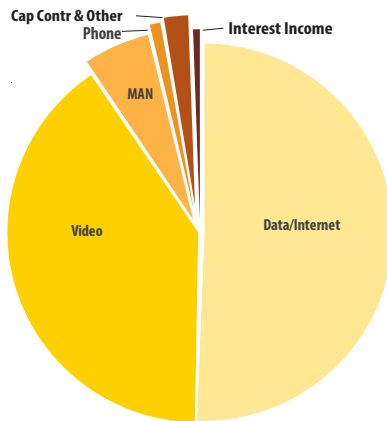
WATER - EXPENSES (in 000's)

Operations & Maintenance	2,187	30.9%
Support Services	1,659	23.4%
Purchased Electricity	1,170	16.5%
Depreciation, Other	1,610	22.8%
Interest Expense	450	6.4%
Total Expense	7,076	100.0%

Communications: The Communications Utility had a net income of \$1.9M and capital expenditures of \$0.9M

COMMUNICATIONS - REVENUE (in 000's)

Data/Internet	8,047	50.6%
Video	6,396	40.2%
MAN	890	5.6%
Capital Contributions & Other	144	0.9%
Phone	325	2.0%
Interest Income	90	0.6%
Total Revenue, Other	15,892	100.0%



COMMUNICATIONS - EXPENSES (in 000's)

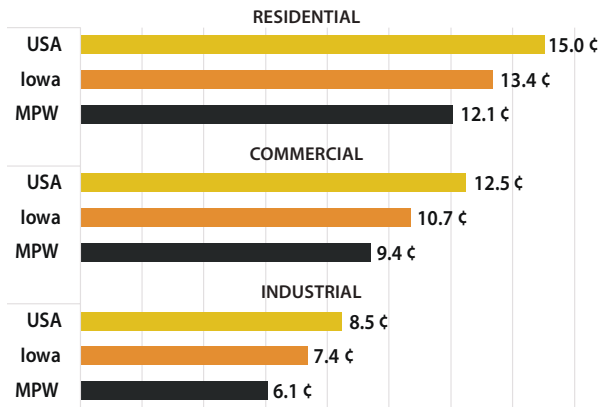
Programming	4,331	31.1%
Operations & Maintenance	3,576	25.6%
Support Services	3,085	22.1%
Depreciation, Other	2,711	19.4%
Interest Expense	241	1.7%
Total Expense	13,943	100.0%

*Unaudited financial data. Full audited 2022 financials will be available at mpw.org/AnnualReport

delivering real savings

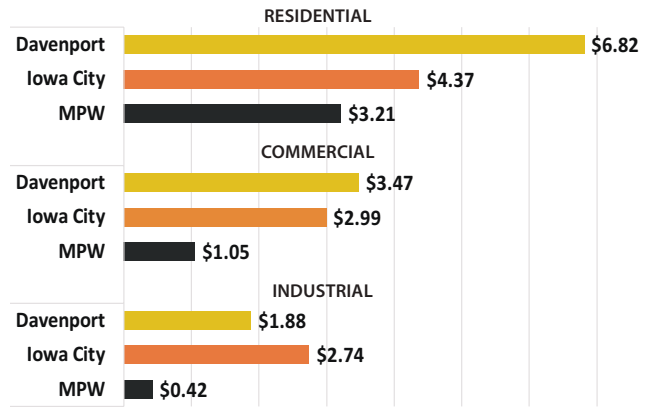
As a municipal utility, MPW is not driven by profit, which results in lower rates than investor-owned utilities elsewhere. Keeping rates below the national and state averages is a priority for us.

Compare electric rate per kWh



USA and Iowa rates per Annual Electric Power Industry 2022 EIA 861 Report (www.eia.gov)

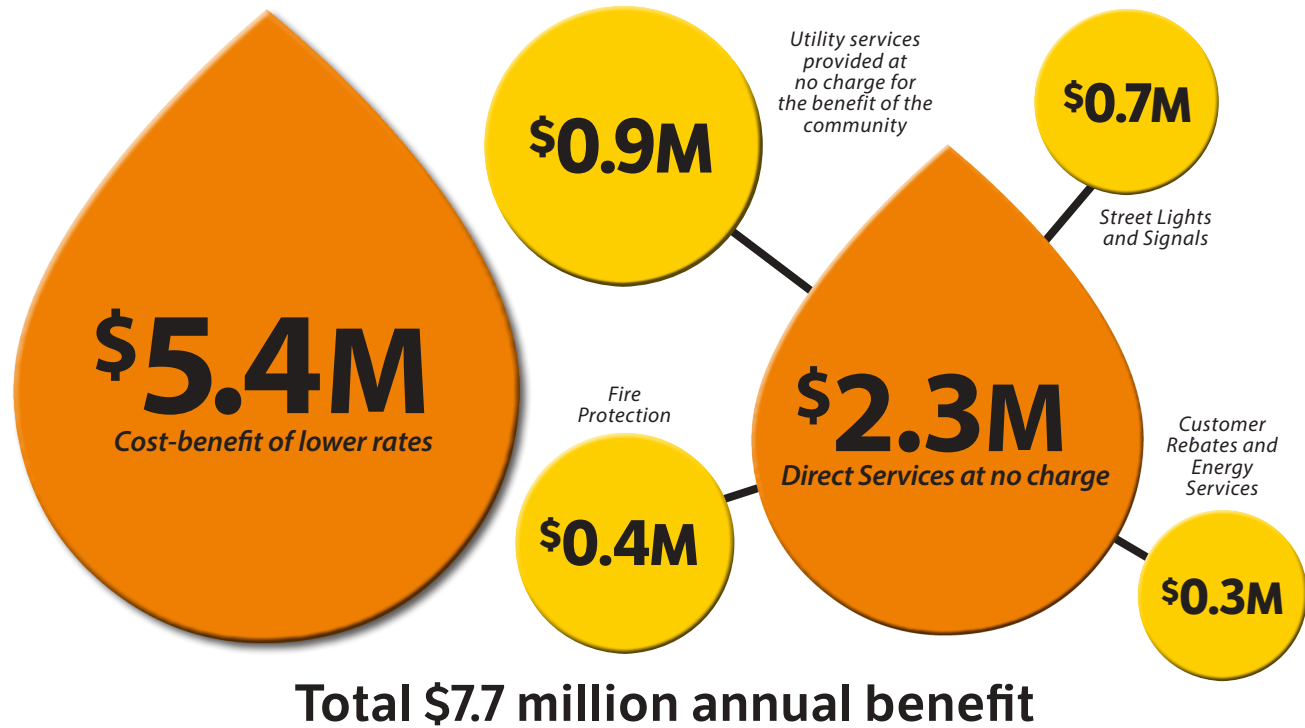
Compare water rate per CCF



CCF= 100 Cubic feet

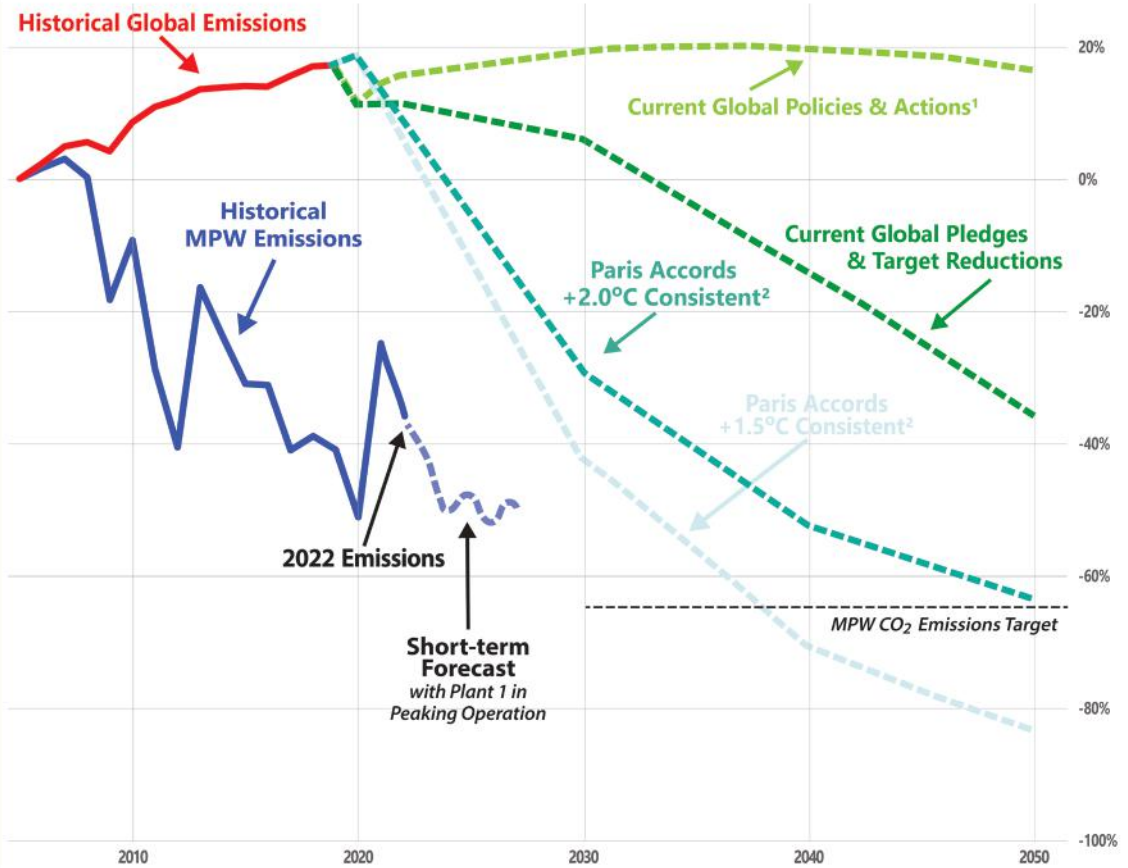
In Muscatine, great reliability does not cost more! When compared to other cities in Iowa and national averages, MPW customers saved \$5.4 million dollars in 2022 — that's about \$490 per year/per customer!

Besides the multi-million dollar cost-benefit customers receive due to lower rates, the Utility also directly provides lights and water to the city's public buildings, spaces and infrastructure, that would otherwise be paid by taxes.





MPW
Projected Carbon Dioxide Emission Reductions



Global emissions data sourced from Climate Action Tracker: Global emissions time series, published 11/6/21. Values represent percent reduction from calendar year 2005 baseline emissions. Values represent reduction in global emissions consistent with the Paris Agreement's goal to hold the increase in global average temperature to below 2.0°C above pre-industrial levels and pursuing efforts to limit temperature increase to 1.5°C. Data sourced from Climate Action Tracker, Climate Analytics and NewClimate Institute. MPW total emissions include CO₂ emissions associated with market purchases. Market Purchase emissions estimated based on emission rates (CO₂-Ton/MWh) projected for MISO WEST region. Projection data sourced from U.S. Energy Information Administration 2022 Annual Energy Outlook Report, released 3/3/2022.

MPW has consistently been on the forefront of environmental compliance, proactively investing in controls and systems to reduce emissions wherever possible. Through Powering the Future, the Utility is on track to meet its strategic goal of **reducing carbon emissions by 25% by 2024!** Work continues on plans to achieve its ambitious goal of **reducing carbon emissions by 65% by 2030** while balancing the need for reliable and affordable service upon which all our customers rely.

Originally intended to retire in 2023, Plant 1's retirement was deferred, in consideration of the area grid operator's forecasted shortages of firm capacity. The importance of Plant 1's operations for grid stability is underscored by recent increases in capacity emergency declarations by the grid operator.

The units at Plant 1 will remain in service as **"peaking units"** – limiting operations to times of high energy demand and grid instability. While this represents a variance in the original strategy, it fulfills the plan's intent to **transition reliably and safely** (Objective 4.4)



Plant 1 houses Units 7 and 8 will continue to operate as peaking units in 2023.

GROWTH

One of our key growth objectives is **Electrify Muscatine 2.0** —to seek and find new ways to promote and use efficient, affordable electric energy and use it wisely. A key component for customers is MPW’s long-running **rebate program** which incentivizes both residential and commercial users to choose energy efficient replacements for appliances, motors, HVAC and lighting with significant bill credits. The Utility also began offering cash rebates for Electric Vehicle (EV) purchases.

Three new in 2022!

Public EV chargers added downtown and at the mall.

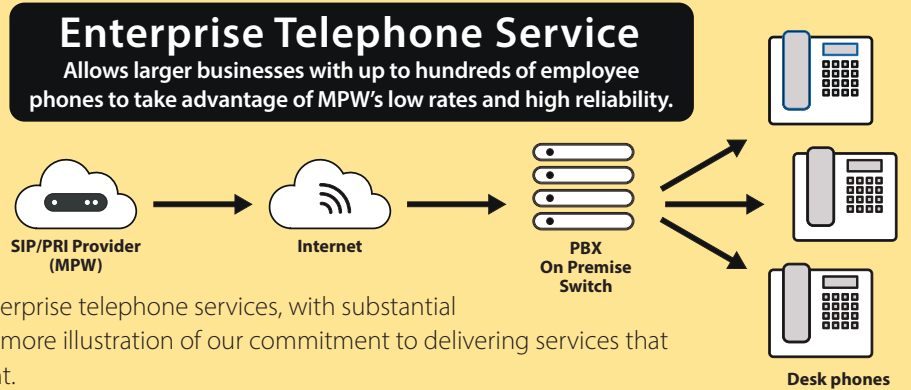


As EV ownership has increased in 2022, MPW placed three additional **public EV charging stations** in strategic locations around Muscatine. The chargers, each capable of charging two vehicles simultaneously, can be found at **Musser Public Library** (408 E. 2nd St.), **The Merrill Hotel** (119 West Mississippi Drive), and at the **Muscatine Mall** (1900 Park Avenue). EV owners can also find these and other charger locations via apps like EV Connect, PlugShare, or even Google Maps.

Additionally, the Utility positioned itself to transform business practices by planning to incorporate EVs and other environmentally responsible solutions for the Utility fleet. Plans include integrating new vehicle technologies, reducing fuel consumption and tailpipe emissions while lowering vehicle maintenance costs.

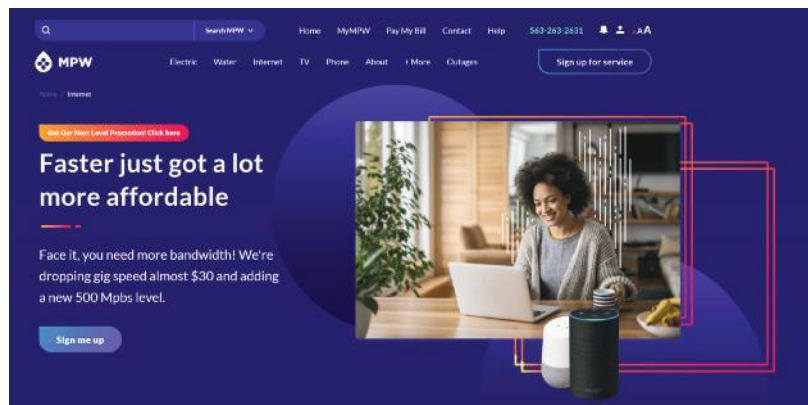
MPW has provided residential and commercial telephone service since the Fiber to the Home conversion, but in 2022, the Communications Utility launched **Enterprise Telephone Service**.

MPW began serving 4 large organizations with multi-line enterprise telephone services, with substantial savings for each. This is just one more illustration of our commitment to delivering services that reinforce economic development.



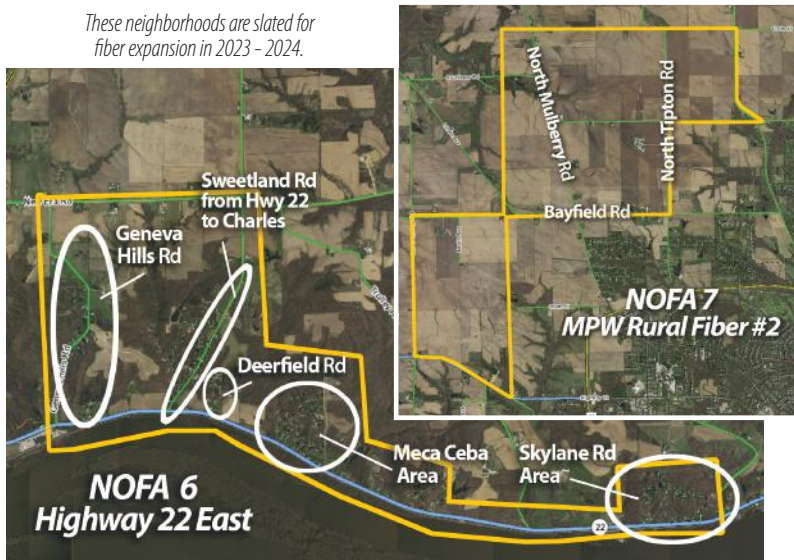
MPW also launched a new **Mesh Network** service for enterprise customers to help provide redundant network connectivity between multiple locations and shared access to the Internet.

As the need for reliable, high-speed internet continues to grow, MPW initiated a restructure of our internet service packages mid-year, eliminating lower speed options and making higher speed options more affordable. This follows industry best practices to right-size offerings and optimize the customer experience with fewer and better bandwidth options. Customers responded favorably and many have taken advantage of low-cost upgrades.



For many years, residents and business outside MPW's communications footprint have been imploring us to expand fiber service to their locations. Until now, the cost of such expansions has been prohibitive with limited payback on the infrastructure investment. Recently, grants provided by the State of Iowa **Empower Rural Iowa Broadband Grant** program and **American Rescue Plan Act** (ARPA) have made it economically possible to serve new areas.

These neighborhoods are slated for fiber expansion in 2023 - 2024.



The vision of these efforts is to provide every lowan with at least 100Mbps internet speed and recognize the value high-speed internet provides to rural Muscatine families. MPW successfully applied for assistance to build out service along Highway 22 and in rural areas north of the Highway 61 Bypass.

In 2022, we completed smaller expansions to new neighborhoods next to our existing service areas and are awaiting a status update on possible new grants to serve other areas.

CUSTOMERS

As a not-for-profit public utility, MPW is uniquely driven to serve and satisfy the needs of customers, who in most cases are our neighbors, and some, even family members. Being that close to the people we serve creates a desire in us to do better, to deal fairly, to go the extra mile, to innovate.

MPW rates remained stable despite national volatility. That difference means MPW rates got even lower by comparison, saving our customers more than ever!

2022 RATE ADJUSTMENT COMPARISON

Rate Category	National Average	MPW
Residential	11.0%	1.1%
Commercial	11.8%	2.5%
Industrial	18.0%	2.2%
All Retail	12.6%	1.8%



In 2022, a cross-functional team began the work to transition to a new customer information system (CIS), **iVue Connect**. The new system will provide numerous process efficiencies based on utility best practices, customer-friendly features, and new self-service options including the **SmartHub** app. The new CIS system will launch February 2023.

MPW makes regular monthly appearances on local TV talk shows like **Muscatine Today** and the mayor's **Muscatine in Focus**. MPW leaders and staff present timely topics that inform and educate. We also operate our own public access channel and a **Local Video On Demand** (VOD) service featuring public forums, tutorials, event coverage, and more. Our website, **mpw.org**, provides instant access to Utility information and we also disseminate news, notices, tips and video assets via our highly followed social media pages.



Hydrant flushing demonstration on Muscatine In Focus.

Also begun in 2022 was the award-winning **I am MPW** video series, which spotlights some of the hundreds of MPW employees working behind the scenes to deliver exceptionally reliable utility services. Front line workers also serve as helpful tutors for various utility topics in our **How To Crew** video series. These efforts serve to underscore that the Utility is operated by people in the community that our customers may know.



Our strategic plan includes support for the improvement of the Muscatine community through collaboration and partnerships with the City, County and non-profit organizations on both projects and events. The Utility and its staff are actively involved in community groups such as **Collaborate Muscatine** and **Keep Muscatine Beautiful**, participating in numerous public outreach events throughout 2022 including the YMCA's **Community Block Party**, **Habitat for Humanity** and **United Way Day of Caring**.



MPW is deeply involved with both **Muscatine** and **Louisa-Muscatine** schools each year providing in-classroom electrical safety demonstrations, power plant tours, subject matter speakers, and most recently, the summer **SPARK** program.

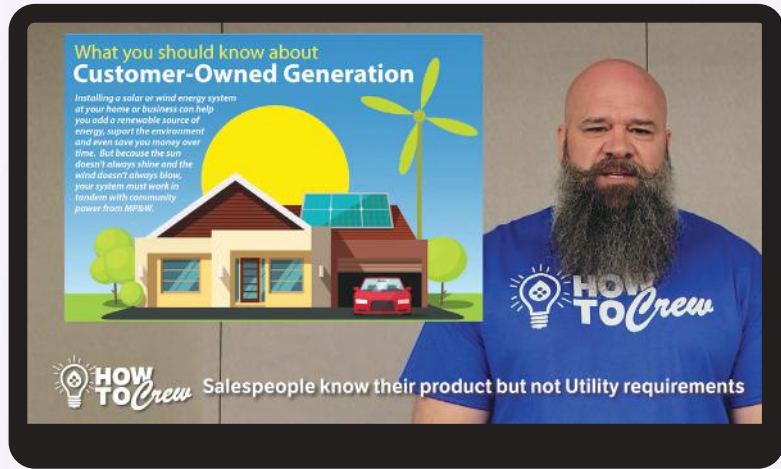


In June, hundreds attended MPW's **Customer Appreciation Day** to learn about utility service delivery through hands-on activities, interactive displays, and equipment demonstrations. Attendees had many positive comments, with many expressing the displays were educational and informative in a way that created a better understanding of the value MPW provides to the community.



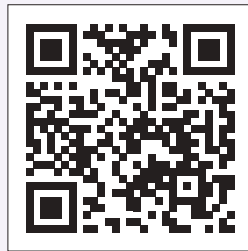
One particular topic of interest at Customer Appreciation Day was residential solar. MPW supports and has made provisions for co-generation to make such interconnections successful for homeowners and businesses. This past year, solar developers from outside Muscatine have been advertising and attempting to sell residential solar power systems in the area.

Unfortunately, some salespeople have passed along inaccurate information and calculations based on national utility rates that simply do not compare with MPW's and homeowners have found themselves making monthly payments on oversized systems that actually cost more than promised. We encourage anyone considering solar to get the facts from MPW's Energy Services Advisor or by visiting mpw.org/solar-wind. Learn more about the dos and don'ts of residential solar in this How To Crew video, and remember: **before you buy, verify**.

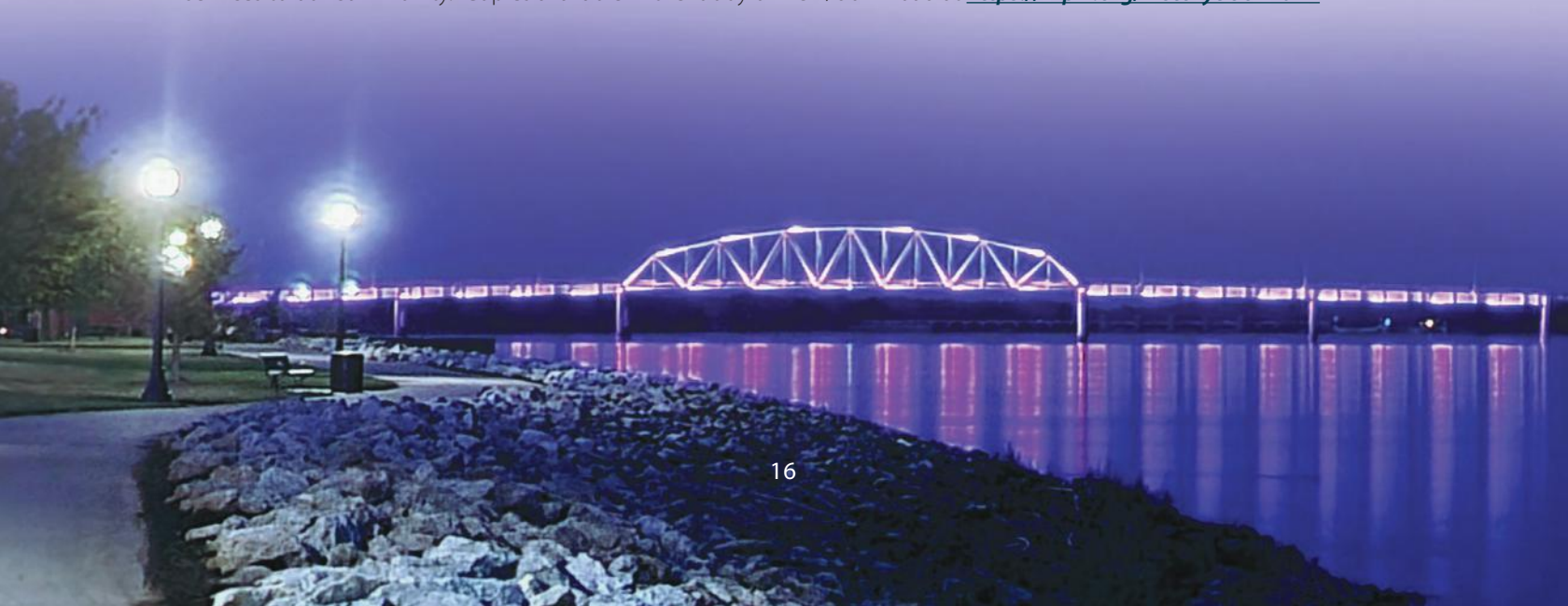


BETTER CALL PAUL - Energy Advisor, Paul Burbuck gives helpful tips and information on what to watch out for when considering solar. Scan the QR code or visit:

<https://youtu.be/yxUJiq4fA00>



During Public Power Week in October, the **Discover Muscatine** newspaper published a special section chronicling the history of MPW in honor of the **100th anniversary of the Electric Utility** and the **25th anniversary of the Communications Utility**. The stories and pictures provided a comprehensive look at MPW's beginnings in 1900 and the subsequent generations of employees who continued the original mission to provide reliable and affordable utility services to our community. Copies available in the lobby or view/download at <https://mpw.org/historybook2022>



DEVELOPMENT

The best person for the job is often already part of the team. Investing in and developing existing talent among MPW's workforce is part of the Utility's culture, as well as continuous improvement, safety, and lifetime learning. In 2022, MPW provided multiple opportunities for employees to become more well-rounded, build their skillsets and learn critical thinking in line with strategic priorities and individual needs.

MPW strives to create an environment which employees at all levels are encouraged to find efficiencies and build operational excellence into all aspects of the Utility. We have an active Continuous Improvement Team (CIT) that reviews process improvement ideas suggested by employees closest to the work. The best of these are implemented and result in cost reductions, time savings, improved safety, and/or better customer service.

In 2022, numerous educational opportunities were available for employees at all levels to learn and apply Lean principles to their daily work including a course on project management. As the year wrapped up MPW began its journey to achieving the **Malcom Baldrige National Quality Award**. Employee teams began training with mentors from award-winning companies and documenting Utility practices to compile MPW's application. The Baldrige team will visit Muscatine in spring 2023.



Employee teams make a difference for safety and reliability.

(Top) The Confined Space Rescue Team training at the power plant.

(Below) Mobile Crane Operators complete the practical testing portion of their certification test.

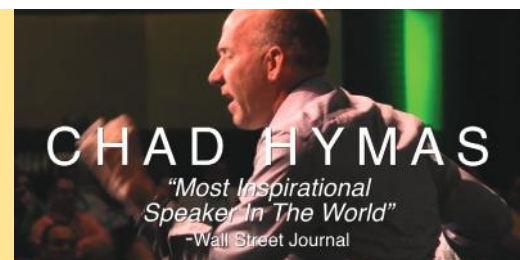


Safety is a cornerstone of operational excellence and MPW's Generation Site **Confined Space Rescue Team (CSRT)** is an example of employees working together. The team, made up of volunteers, have received the same level of training as outside first responders to conduct an emergency rescue; high angle rope rescue, patient packaging, using multiple types of air systems, and confined space entry.

This allows Generation staff to perform maintenance activities in confined spaces without relying on the availability of the Muscatine Fire Department who may be responding to other events throughout the day. This helps maintain reliability for our customers and provides a faster response for our employees' safety.

Another example of specialized training are MPW's **Mobile Crane Operators**. With this team in place, MPW does not have to rely on outside companies to perform tasks like replacing a large transformer in the middle of the night. From a reliability standpoint, this shortens restoration time in the field and allows us to make emergency repairs requiring heavy equipment lifts at the Generation Site and Water Utility without depending on anyone else!

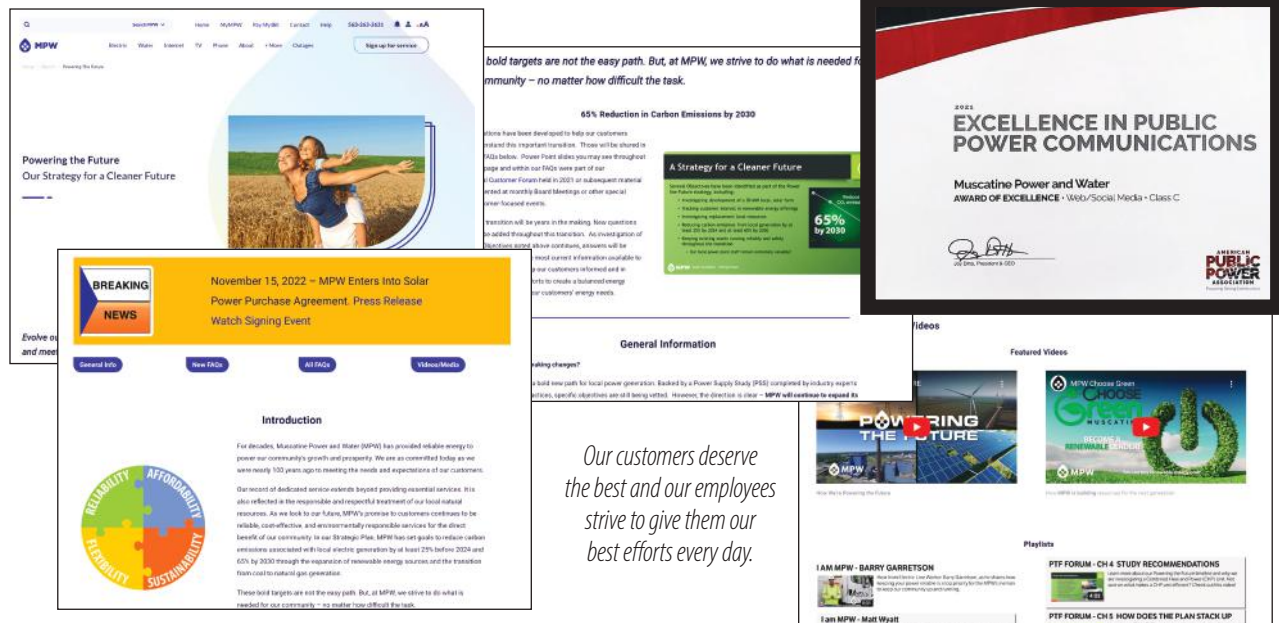
In May, the MPW Safety team coordinated with another local employer to bring international motivational speaker and author **Chad Hymas** to Muscatine. Hymas' inspirational story of his own life-altering work accident provided not only a safety message but strategies for overcoming obstacles and bringing your best efforts to your work each day.



Another initiative was the launch of **MPW Toasties**. Modeled after the successful methods of Toastmasters®, team members are offered a safe environment to develop their public speaking skills. The voluntary program was well attended and continues to attract new participants monthly.



MPW employees are encouraged to study the best practices of other utilities and to network with peers through involvement in industry associations. In 2022, we were recognized by the **American Public Power Association (APPA)** with two **Public Power Communications awards**; an Award of Excellence for our "I am MPW" video series (left) and an Award of Merit for our Powering the Future webpage (below).



Our customers deserve the best and our employees strive to give them our best efforts every day.



With strategies, objectives and initiatives set and a vision clearly defined, the MPW team did what they do best – take action.

Individual goals and work plans mirror the organization's focus and drive their implementation for the benefit of our customers.

An incredible amount of work has been planned, started, or completed in the second year of MPW's Strategic Plan. Fueled by a resolute and enthusiastic workforce, MPW is advancing strategies and delivering results.

Utility Facts:

Electric		Water		Communications	
Power Plant generating capacity:	293 MW	Length of water pipeline:	158 miles	Length of fiber strands in network:	14,553 miles
2022 peak load:	144 MW	Average daily production	30.2 M gallons	Number of customers	10,907
Substations:	13	Fire Hydrants	1,274	Scheduled maintenance windows	48
Transmission and distribution line:	302.56 miles	Active wells	26	Splitters/PONs	545
Number of customers:	11,678	Number of customers:	10,057	Splices	2,125
Utility poles	8,152	Valves:	1,798	HelpDesk calls 2022:	34,130

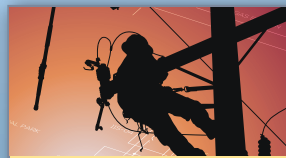


With a service availability index of 99.999%, MPW customers enjoyed near perfect electric system reliability in 2022

ASAI
Average Service Availability Index

99.999%

% TIME POWER AVAILABLE TO CUSTOMERS



Reliability means fewer power interruptions. In 2022, it was just **0.16** interruptions per customer!

SAIFI
System Average Interruption Frequency Index

0.16 TIMES

AVERAGE INTERRUPTIONS PER CUSTOMER



MPW power outages are rare and brief. On average, customers were interrupted/outaged for only **5.114** minutes in 2022.

SAIDI
System Average Interruption Duration Index

5.114 MIN

AVERAGE POWER OUTAGE DURATION



With system availability of 99.9737%, MPW customers enjoyed near perfect Internet connectivity in 2022.

Average System Availability

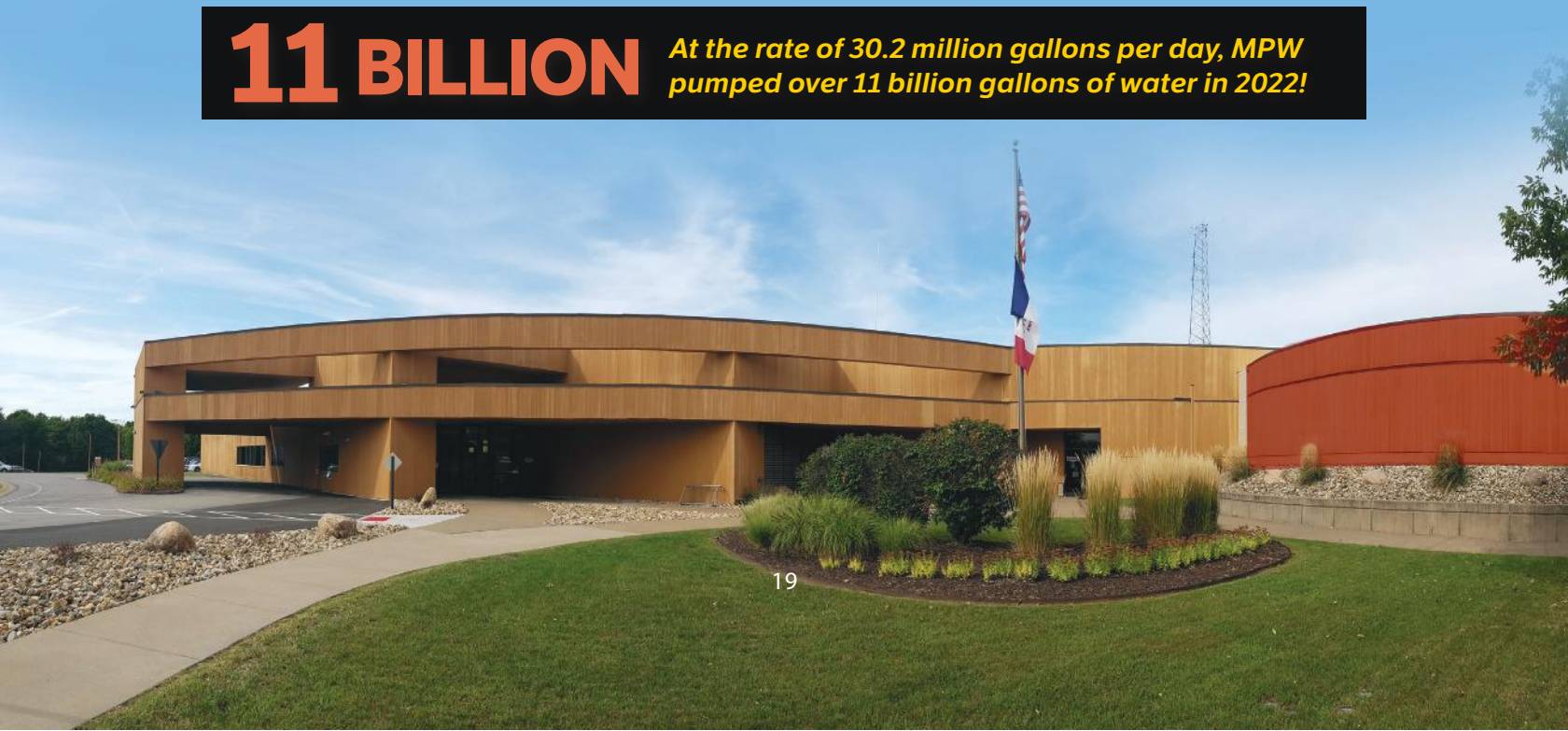
99.9737%

% TIME INTERNET AVAILABLE TO CUSTOMERS

Electric reliability calculated per Institute of Electrical and Electronics Engineers (IEEE) formulas.

11 BILLION

At the rate of 30.2 million gallons per day, MPW pumped over 11 billion gallons of water in 2022!





MISSION

We will competitively meet the needs and expectations of our customers with an environmentally responsible and unique mix of services for the direct benefit of our community.

CORE VALUES

BE CUSTOMER-DRIVEN

CUSTOMER SERVICE

BE ABLE & ACCOUNTABLE

EMPLOYEES

BE PROACTIVE & ENGAGED

ENVIRONMENTAL STEWARDSHIP

BE EFFICIENT & STABLE

FINANCIAL STABILITY

BE RELIABLE & PREPARED

RELIABILITY

BE COMMITTED TO SAFETY

SAFETY