



Environment, Social and Governance | 2021



A message from our president and CEO

Great River Energy is focused on building a better future for the member-owner cooperatives we serve and the external stakeholders who are impacted by the things we do. Over the past several years, we have controlled costs, mitigated our carbon dioxide risk and added renewable energy. Sustainability is a foundation of our mission to provide member-owners with affordable, reliable energy in harmony with a sustainable environment.

Great River Energy recorded historic financial results in 2021. Consistently strong margins allowed us to return \$57 million to our members through bill credits and manage wholesale electric rates. We issued \$24.6 million in bill credits to member-owners during the year and provided a \$32.5 million credit from year-end margins. These measures helped keep rates stable.

Our financial position has never been stronger. Great River Energy's wholesale power rates are well below the weighted regional average cost of electricity, and we project they will remain stable well into the future.

We are rapidly transitioning from a historically coal-dependent cooperative to one with low carbon intensity. This shift has us positioned to meet Minnesota's 80% greenhouse gas reduction goal by 2032—nearly two decades ahead of schedule.

As a cooperative, our success is determined largely by how well we serve our member-owners, interact with the world and people around us, and attract and engage the best employees. Our efforts are paying off. Member satisfaction remains high. We are advancing our industry to new places, and we commit uncompromisingly to being a responsible corporate citizen and leader in the evolution of the electric industry.

A handwritten signature in black ink, appearing to read 'D. Saggau'.

David Saggau
President and Chief Executive Officer
Great River Energy



Environmental, social and governance

Great River Energy’s founding principles emphasize the importance of environmental stewardship (E), supporting our local communities and our employees (S), while providing reliable and affordable power (G). As a result, these principles are ingrained in everything we do.

Sustainability and ESG performance are increasingly important to our employees, bondholders, the communities in which we work and serve, and our member-owner cooperatives.

Many of our commercial and industrial end-use members expect to obtain power from suppliers that can demonstrate effective ESG performance. Our credit rating agencies now evaluate our ESG performance when establishing our credit ratings. Finally, many of our employees are committed to Great River Energy knowing that we provide a critical resource to the communities we serve and do so in a responsible way that supports those communities and protects the environment. Great River Energy is emphasizing our foundational values to achieve industry-leading ESG performance and ensure that we continue to meet and exceed the expectations of our stakeholders.

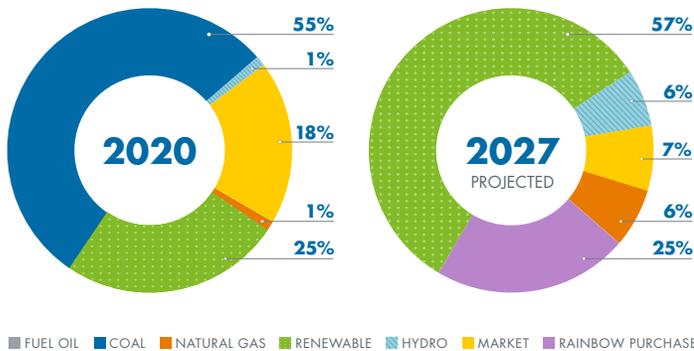


Doing right by our members, and our world

Our member-owners are clear about what they want from Great River Energy: affordable rates, reliable service and environmental stewardship. Our cooperative bases every decision on these key ideas.

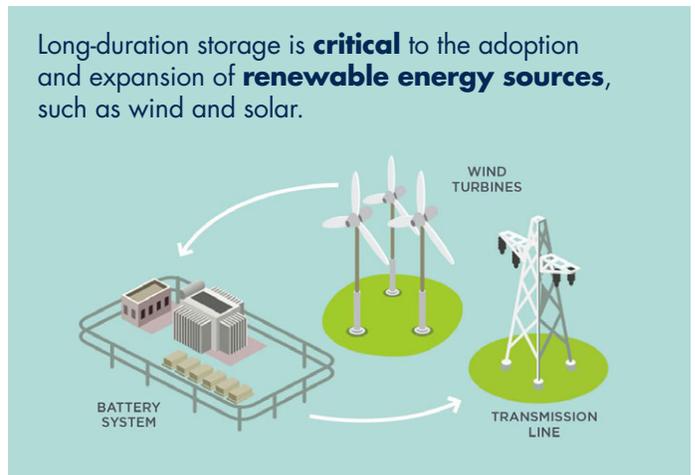
Clean energy transition

Great River Energy has been transitioning from an energy mix heavily reliant on coal to one that will be more than 50% renewable energy by 2027. These measures have resulted in significant reductions in Great River Energy’s carbon dioxide emissions since 2005. Great River Energy anticipates achieving Minnesota’s 80% greenhouse gas reduction goal by 2032 – 18 years ahead of schedule.



The sale of Coal Creek Station is a major component of Great River Energy’s power supply strategy. Great River Energy is in the process of selling the power plant and HVDC transmission system to Rainbow Energy Center and Nexus Line, respectively. The transaction will be finalized in 2022. Following the sale of Coal Creek Station, Great River Energy will have a power purchase agreement with Rainbow Energy Center. Great River Energy will purchase 1,050 megawatts (MW) of power from Rainbow Energy Center until 2023 when the purchase amount decreases to 350 MW. In past years, the cooperative shut down two uneconomic power plants. Great River Energy will also convert its last remaining coal resource to be fueled primarily

with natural gas. Recognizing the rapid transition of the portfolio and increasing electrification demands, Great River Energy is working with Form Energy to install a 1.5-MW, multi-day storage demonstration system.



Specifically, the Cambridge Battery Storage Project will be a 1.5-MW, grid-connected storage system capable of delivering its rated power continuously for 100 hours, far longer than the four-hour usage period available from utility-scale lithium-ion batteries today. The pilot project is expected to be complete by the end of 2023 in Cambridge, Minnesota and is designed to help determine whether Form Energy’s technology will be capable of providing grid-scale long duration storage.



Energy transition brings era of rate stability

Due to these changes in our power supply portfolio, at a time when prices are rising on many products and services, Great River Energy is holding its wholesale electricity rates relatively flat into 2022 and projecting rate stability into the future.

Twenty of Great River Energy’s 28 member-owner cooperatives will see their wholesale rates decrease slightly in 2022. The other eight member-owners will see increases, primarily due to reductions in planned energy purchases from Great River Energy.

Employee business improvements keep costs competitive

Great River Energy employees are passionate about finding innovative, efficient, safe and cost-effective ways to do their jobs and work to identify ways to protect and enhance the environment. Our business improvement culture encourages them to do just that. Employees achieved \$17.8 million in business improvements in 2021 despite yet another year of challenges, changes and uncertainty. More than 530 employees contributed to 246 ideas to improve our business. Out of those approved ideas, there were 37 business improvements that reduced our impact on, or improved, the environment, and 64 improved health and safety.

Powering the future

Great River Energy and its member-owner cooperatives encourage end-use members to pursue electric uses to save money, reduce emissions and improve overall efficiency of the electric grid. In addition, consumers may be driven to adopt electric end uses that improve their quality of life, product quality or productivity.

The cooperative has ongoing initiatives to support beneficial electrification:

- Expanding the electric vehicle charging system
 - [Bringing chargers to Minnesota’s state parks](#)
- [Holding ride and drive events](#)
- [Collaborating to bring an all-electric tram to Hemker Park & Zoo](#)
- [Partnering on a pilot program for a battery electric school bus](#)
- Collaborating with member cooperatives and other stakeholders on [‘Sota Grown](#) an innovative pilot project that is growing leafy greens inside a renovated shipping container at Central Lakes College’s campus in Staples, Minnesota
- Promoting the use of electric water and space heating



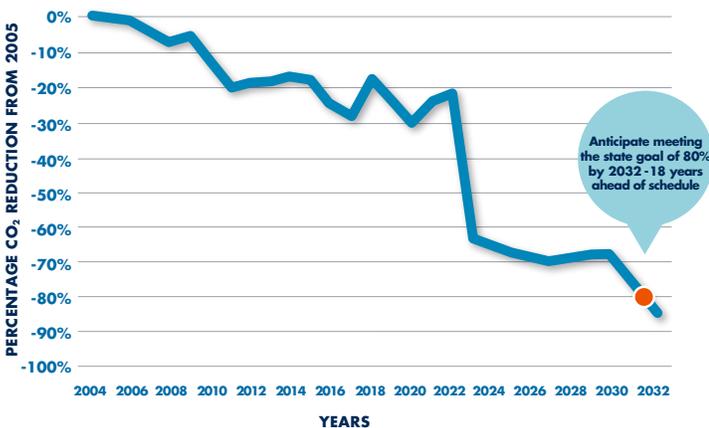


Environmental

Great River Energy’s triple bottom line commits us to minimizing our impact on the environment. We conduct our business in a cost-effective manner and ensure our members benefit from our efficient power generation resources and reliable transmission system. Our sound environmental policy also contributes to our competitive strength and drives our decision-making. We live this commitment in several ways. In this section, we highlight some examples of how this commitment leads to measurable reductions in our impact on the environment.

Greenhouse gas (GHG) emissions

Great River Energy has spent more than a decade positioning its portfolio, controlling costs and reducing dependence on coal as a fuel source, all while improving the overall flexibility of our power supply portfolio. These measures have resulted in significant reductions in Great River Energy’s carbon dioxide emissions since 2005.



These reductions are attributable to changes in our portfolio including:

- Installing DryFining as Great River Energy’s novel multipollutant control at Coal Creek Station that reduced the plant’s emissions of carbon dioxide by 4%
- Exiting two contracts for coal-based electricity
- Retiring a Great River Energy-owned coal-fired power plant
- Adding significant renewables

We expect the pace of reductions in our GHG emissions to increase in future years. We are in the process of selling the coal-based Coal Creek Station and our Spiritwood Station will be modified to be fueled primarily by natural gas.

Following these changes, the direct emissions from our facilities will drop by more than 95%. The total portfolio emissions associated with our power generating plants, our market purchases, and power purchase agreements will also drop substantially. By 2032, our total portfolio emissions will drop by more than 80% from 2005 levels by 2032, putting us far ahead of schedule for meeting Minnesota’s goal of 80% reductions by 2050.

Projected reductions in total portfolio emissions from 2005:

- 2020: 30%
- 2025 to 2030: > 65%
- 2032: > 80%

Adding renewable energy

Great River Energy will more than double its wind energy by the end of 2025. Recent wind project announcements include:

- Discovery Wind Project: 400 MW in McLean County, North Dakota, effective 2025
- Deuel Harvest Wind Farm: 200 MW, Deuel County, South Dakota, effective 2023
- Buffalo Ridge Wind: 106 MW, Lincoln County, Minnesota, effective 2023
- Dodge County Wind: 259 MW, Dodge and Steele counties in Minnesota, effective 2023
- Three Waters Wind: Approximately 279 MW (final number TBD) Jackson County, Minnesota, effective 2024

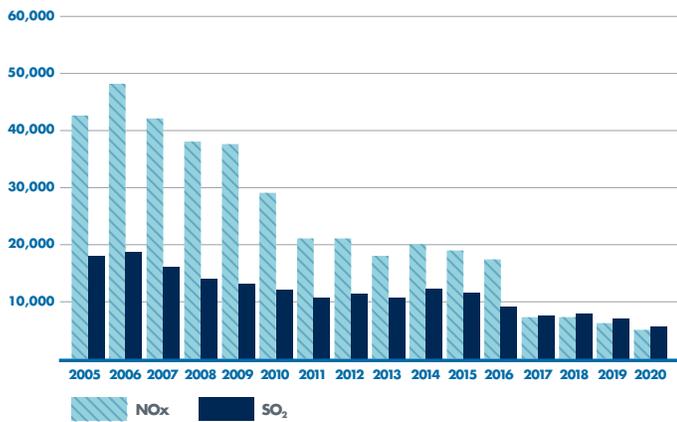
See our current [wind energy portfolio](#).

Air emissions

Great River Energy's emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) from its power plants have dropped significantly since 2005.

These drops are attributable to changes in our portfolio and the installation of state-of-the-art emissions control systems on our facilities. Our commitment to expanding our use of renewable energy will lead to continued reductions in these values going forward.

Direct emissions of NO_x and SO₂

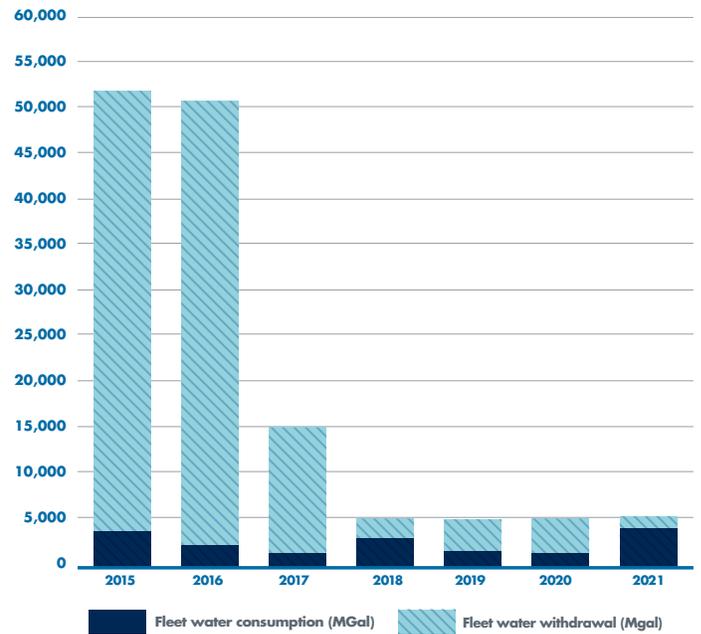


Compilation of 2021 air emissions data was not finalized by the publication of this report.

Water

Great River Energy's water withdrawal for power plants has dropped by more than 90% since 2015. This drop is attributable to changes in the power plant fleet – including the retirement of Stanton Station and Elk River Energy Recovery Station. These facilities used high volumes of surface water for cooling. Great River Energy's remaining facilities primarily utilize closed-cycle cooling systems that recirculate and reuse cooling water – reducing water use for cooling by more than 90% relative to systems that use once through cooling. The end result is a fleet that uses water in a highly efficient manner, reducing the impacts on surface water bodies and aquifers. The planned evolution of our fleet to a greater reliance on renewables will continue to reduce our water use associated with our power supply portfolio in future years.

Water



Waste

Whenever possible, Great River Energy reduces the amount of waste we dispose through reuse and recycling. This reduces the amount of material that ends up in landfills and in many cases saves our member-owner cooperatives money. Two examples that highlight the benefits of our approach to reducing waste are the recycling that was conducted as part of the Elk River Energy Recovery Station decommissioning and our recycling of fly ash.

Elk River Energy Recovery Station demolition

During the demolition of the retired Elk River Energy Recovery Station, staff identified opportunities to recycle a large portion of the scrap metal and concrete rubble. In total, more than 90% of the material removed from the demolition of the buildings was recycled. This included 10,700 tons of concrete and 6,927 tons of scrap metal. This significantly reduced the amount of material landfilled.

In addition, this recycling resulted in cost savings. The sale of the scrap material netted approximately \$1.6 million dollars and avoided approximately \$480,000 in avoided landfill costs.

Fly ash

Great River Energy began selling fly ash into the concrete market in 1997, turning the beneficial use efforts of fly ash into a revenue stream. In doing so, Great River Energy not only generates revenue for its cooperative members, but also saves money and avoids landfill costs.

In 2021, Great River Energy's fly ash business sold more than 457,000 tons of Coal Creek Station ash into the market, generating approximately \$7.5 million and avoiding \$4.6 million in disposal costs.

Over the life of the project, more than 8.3 million tons of fly ash have been sold generating \$74 million and avoiding \$60 million in disposal costs.

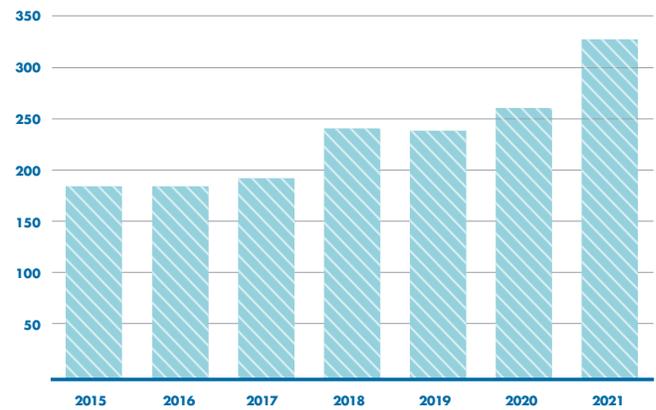
This also benefits the environment by displacing portland cement in concrete—a significant contributor of carbon dioxide emissions.

Habitat

Great River Energy actively evaluates opportunities to manage our properties to increase their value as habitat for wildlife. Doing so has benefits to the species that utilize these lands and, in many cases, results in significant cost savings.

More than 68 acres of pollinator habitat were planted in 2021. With the closure of the Elk River Energy Recovery Station, Great River Energy identified two opportunities to expand on the amount of dedicated pollinator habitat that we have established. Approximately 3.4 acres of area formerly occupied by the plant have been planted with mix of butterfly milkweed, black-eyed susans, little bluestems and other pollinator-friendly species. This brings the total amount of pollinator habitat at the site to more than 12 acres. In addition, the Great River Energy landfill that managed the ash from the power plant was closed in 2021. During this closure, an additional 25 acres were planted as pollinator habitat.

Acres of pollinator habitat planted



In addition to these areas, Great River Energy manages a very large area in transmission line rights of way using practices that foster the establishment of habitat that supports pollinators. Great River Energy utilizes integrated vegetation management on thousands of acres of right-of-way. This approach to managing vegetation aims to promote species that are low growing and require less frequent cutting or removal than the traditional approach of indiscriminate mowing or herbicide use.



Social

Supporting our communities and our employees

Concern for community is ingrained in the culture of every cooperative—it is the seventh cooperative principle. Great River Energy gives back to the communities where we live and serve.

The most important thing Great River Energy does for the communities we serve is provide affordable, reliable electricity.

Affordable, reliable electricity is an important component of the rural economies our member-owners serve and helps them remain competitive and attract industry. In 2021, we were able to provide additional financial support to our communities:

- Issued monthly bill credits that totaled \$24.5 million through November.
- Refunded an additional \$32.5 million on the December member-owner power bills.
- Issued \$25 million in patronage capital credits to members.
- Spent more than \$88 million on goods and services from local businesses in Minnesota, North Dakota and Wisconsin.

Additionally, Great River Energy showed a commitment to these communities by providing used equipment and materials as well as monetary donations to nonprofit organizations.

- More than \$220,000 was invested into local community organizations focused on providing programming—including those that emphasize children and at-risk teens—and initiatives that promote environmental stewardship.
- Our annual employee giving campaign raised \$91,000 (including a company match) for nonprofits.

In total, Great River Energy and our employees donated more than \$1,010,000 in cash and other items in 2021:

- Corporate contributions - \$822,000
- Employee contributions - \$52,000
- Donated goods (fly ash) - \$136,000

As a result of these donations, we celebrated 11 years of membership in the Minnesota Keystone Program, which promotes corporate philanthropy by acknowledging and honoring companies that donate at least 2% of their pre-tax earnings to charitable organizations. The program's purpose is to sustain Minnesota's spirit of generosity and sense of community.

Volunteering

Great River Energy exemplifies the concern for community cooperative principle, in part, by encouraging employees to participate in volunteer opportunities and provides paid volunteer hours to do just that. Eligible employees used more than 700 paid volunteer hours in 2021.

Taking care of our employees

Great River Energy truly values the people that make the organization successful—our employees. We strongly believe in helping employees, and their loved ones, live their best lives possible. This dedication is demonstrated in many ways: our safety programs, our inclusion efforts, our wellness programs and our benefits.

A healthy employer

Over the past decade, Great River Energy has partnered with workplace wellness programs and our wellness committees to continually add benefits, tools, resources and programs to make positive changes in employees' healthy living. Those efforts have resulted in achievements that contributed to health-care premiums that are consistently lower than the national average—saving our member owners and employees money.

Great River Energy donated a 2012 Chevy Suburban to the Garrison Food Pantry in North Dakota. The truck was filled with groceries and supplies purchased by employees at the cooperative's Coal Creek Station and Bismarck locations.



Beyond the Yellow Ribbon

Since our beginning, Great River Energy has actively supported our nation's service men and women and their families. We recognize the many sacrifices made by these individuals and their families, and we're proud and honored to be able to do our part to give back to service men and woman on active duty and veterans. As a result of this commitment, we have been a Yellow Ribbon Company since 2017.

Valuing diversity

At Great River Energy, valuing diversity means creating a work environment that respects and includes differences, recognizes unique contributions of individuals and maximizes the potential of all employees.

Our diversity, equity and inclusion statement:

*We are a cooperative
Our members make up a diverse community and so do we.
We embrace authenticity and work to eliminate bias.
Diversity, equity, and inclusion makes our organization strong, and it's the right thing to do.*

Our culture of diversity, equity and inclusion:

- Fosters a safe and open work environment by respecting and valuing differences and recognizing the contributions of all individuals.
- Recognizes the importance of understanding diverse individual needs in the workplace.
- Understands that we have a diverse population of employees and we respect differences.

In 2021, our work continued as the diversity, equity and inclusion council developed a written action plan that includes practical initiatives, metrics and timelines. This ongoing effort will help us to continue building upon our strong workplace culture.

Great River Energy employees completed "Beyond Diversity 101" training in 2021. The training helped employees become more self-aware of the many ways certain people are marginalized based on social identities such as race, gender, disability, religion, class, sexual orientation, etc. The training also helped us understand our own identities, how we demonstrate unconscious bias and how we can move toward equity.

Employee resource groups (ERGs) are an important part of Great River Energy's culture. They exist to foster inclusivity in the workplace by creating a space for employees who share a common interest or affinity to support one another and raise awareness. ERGs facilitate hard, important conversations and, through collaboration, education and community outreach, elevate awareness on many important topics.

Great River Energy has six ERGs:

- Women's
- Pride Alliance
- Veterans
- Mental Health & Well-being
- Today's Family
- Indigenous, People of Color and Allies (IPCA)

Health and safety—our top priority

Nothing comes before the well-being of our employees, their families and the communities we serve. Safety is a core value at Great River Energy and deeply ingrained in our culture. Great River Energy is committed to maintaining a safe, reliable electric system and work environment. This includes ensuring safe power plants, safe environments for our employees, safe practices for anyone who works at and visits our facilities and clear rights of way along our transmission lines.

At Great River Energy, safety is personal: Everyone is responsible/accountable on a personal level for being safe and looking out for coworkers, friends and family members. We regularly begin meetings with a safety moment and leadership often reminds staff that there is nothing Great River Energy will ask you to do that cannot be done safely. Through our “Safety is Personal” campaign in 2021, Great River Energy launched a leader focus group, expanded safety leadership training, and launched safety leadership moments and spotlights. In addition, we highlighted additional “at-home” safety topics each month of the year: from ice fishing to distracted driving, and fireworks, to holiday safety tips.

In 2021, Great River Energy also continued its mission to advance our culture of safety by advancing our new enterprise safety program, myExperience, a human and organizational performance program. While it was successfully launched in the transmission division in 2018, our enterprise safety council was charged with expanding the program and bringing it to all employees in 2022.

Finally, Great River Energy adapted to meet the demands of a global pandemic by continuing focus with a pandemic response team, a health and safety accountabilities policy, and numerous measures including facilities and HVAC upgrades to ensure a healthy environment for employees reporting to the office. All facilities incorporated weekly updates, protocol and procedure creation, procurement of personal protective equipment and a vaccination clinic for employees.

Other highlights include drug and alcohol awareness training for all employees, 64 safety related business improvements approved with an associated cost savings of \$531,000 and a First Responder EV Safety Training program offered to member-owner communities to ensure knowledge and safety around electric vehicle safety.



Governance (G)

Led by our member-owners

Great River Energy is a not-for-profit electric cooperative. While other types of businesses must produce returns for investors, cooperatives focus on doing what's best for their member-owners.

As a cooperative corporation incorporated under Minnesota law, Great River Energy's member-owners have the ultimate authority to govern Great River Energy. Like many other corporations, management of Great River Energy is centralized in a board of directors. Our bylaws provide: "The business and affairs of this Cooperative shall be managed by a Board of Directors, which shall exercise all of the powers of this Cooperative, except as are by law, the Articles of Incorporation, or these Bylaws conferred upon or reserved to the Members."

The member-owner cooperatives retain their ultimate control over Great River Energy by their power to democratically elect our board, which is comprised solely of members of the boards of directors of our all-requirements member-owners. Our bylaws grant our member-owners the power to vote directly on certain important matters, such as mergers, major sales of our assets, and amendments to the Articles of Incorporation and Bylaws. In addition, the power purchase contracts between Great River Energy and our member-owners provide for member votes on certain matters, such as all requirements member votes on new power supply resources or power purchase agreements and all member votes on changes to Great River Energy's rate formula.

The Great River Energy board of directors meets nearly every month to conduct the business of Great River Energy. Among the board's many responsibilities are approval of Great River Energy's annual budget and all decisions regarding the employment and compensation of the president and chief executive officer.

The Great River Energy member manager group (MMG), which consists of the CEOs of all our member-owners, plays an invaluable role at Great River Energy. The MMG meets nearly every month to review and provide feedback on matters of importance to Great River Energy. Although the MMG does not have governance authority with respect to Great River Energy, the MMG works closely with Great River Energy's management and board of directors.

Strategic planning

Great River Energy has a robust strategic planning process. As part of this process, the cooperative regularly reviews its vision, mission and strategic plan. Updates are then made to the strategic imperatives that guide the company.

Our employees play a prominent role in the development of our strategic plan through a process called Connect the Dots which ensures we have the proper plans in place. A team of employees conducts one-on-one interviews with their colleagues to gain insight on existing and proposed company strategies. The collective findings are reported back to our senior executives who use it to frame the strategic plan that is ultimately presented to our board of directors and the MMG for their review and approval. This is an example of how Great River Energy engages its employees, member-owner cooperatives and stakeholders ensuring their investment in the future of the cooperative.

Once finalized, the strategic imperatives are shared and then implemented by each division and department. Efforts are captured as work plans are updated quarterly. These updates are reviewed by senior management for continual progress.

Risk management

Staff across the organization engage risk management to coordinate and participate in risk assessments of significant projects and transactions. Formalized risk assessments are conducted in joint discussions with a team of individuals representing a variety of disciplines. The team reviews a comprehensive list of issues to consider the subject of the assessment against strategic, stakeholder, financial, operational, regulatory and other issues, resulting in a broad understanding of the risks and benefits associated with a project or transaction. This process identifies top risks and benefits and documents the findings in a report that includes a conclusion on the risk of proceeding.

Cyber risk management

Great River Energy's enterprise security program builds upon formalized cyber security efforts dating back to 2003. Security policy under the program requires annual resiliency and security control risk assessments of Great River Energy's critical physical, cyber and information assets, through which gaps are identified, reported and addressed. The policy establishes requirements for contingency planning, including crisis, business continuity, facilities emergency response, information technology disaster recovery planning and periodic testing.

Great River Energy is a member of the national Electricity Information Sharing and Analysis Center (E-ISAC) and participates in its Cyber Risk Information Sharing Program (CRISP), a service that analyzes all Great River Energy inbound and outbound internet traffic for malicious traffic signatures and IP addresses, providing real-time alerts of any suspected malicious activity or cyberattack attempts. We implement robust technical malware controls, network segmentation, traffic monitoring and regular employee email phishing testing. Great River Energy also participates in the North American Electric Reliability Corporation's (NERC) biennial grid security exercise, GridEx.

Environmental management system

Corporate governance is supported in part by the environmental management system (EMS) that Great River Energy maintains. This system provides for the allocation of resources, assignment of responsibilities, and the evaluation of company practices, procedures and processes. It enhances Great River Energy's ability to anticipate and meet environmental performance expectations and to ensure on-going compliance with regulatory requirements. Regular internal and third-party audits of these systems and associated records are conducted to ensure our EMS meets the applicable requirements and that our facilities are in compliance with the environmental regulations.

ESG program

Great River Energy recognizes the increasing importance of our ESG performance and has in place a team to track our performance on ESG metrics and holding ourselves accountable.

Measuring the performance of our governance structure

Great River Energy exists to serve our member-owners by providing affordable, reliable electric power in harmony with a sustainable environment. Providing this service affordably to our members is a key outcome of our governance structure. Therefore, the best way to measure the performance of our governance structures is with the financial metrics that demonstrate our performance at meeting those goals.

In 2021, Great River Energy had another outstanding year for financial performance.

Strategic decisions to position our power supply portfolio and control costs have Great River Energy poised to begin 2022 in a strong financial position while keeping rates steady:

- Wholesale power rates are 10.9% below the weighted regional average cost of electricity, and they are projected to remain steady or decline over the next several years
- Issued \$24.5 million in bill credits to members in 2021
- Provided a \$32.5 million credit from year-end margins
- Returned \$25 million in patronage capital payments to member-owners
- Increased equity to capitalization ratio to 23.2% at the end of the year

Another measure of the performance of our governance structure is the satisfaction of our member owners. Great River Energy periodically surveys member-consumers served by our 28 member-owner cooperatives to measure opinions on important energy issues, identify member expectations and better understand member views. In 2021, we surveyed members and learned:

- Cooperative members support Great River Energy's commitment to an affordable transition to more renewable energy.
 - When asked to name the highest priority initiatives for Great River Energy, a majority of members included increasing renewable energy and keeping costs as low as possible in their top two priorities.
- 70% of cooperative members have a favorable view of Great River Energy and only 2% hold a negative view.
- Member-consumers trust cooperatives first to address their most important energy issues.

[You can view a summary of our 2021 member-consumer survey here.](#)



Great River Energy is proud to report on these many sustainability efforts. We are using an ESG framework for reporting, but the projects and successes are a direct result of our cooperative structure and corporate culture. Although the reporting format is new, the projects and successes reflect many years of dedication and efforts on behalf of our member-owners. As we strive to implement an industry-leading ESG program, we will build upon many years of foundational successes.



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