

Annual Report

2023



2023 marked the third year of the Wyoming Energy Authority and my first as Executive Director. I am incredibly proud of the work that our team has accomplished. From launching the Energy Matching Funds to making major developments in Wyoming's burgeoning nuclear industry to traveling across our state to meet with industry leaders, we truly embody our name and strive to be an authority on all things energy.

As a Wyoming native, I know firsthand how integral energy is to our state. And how fortunate we are to have such an abundant array of natural resources. Our team has focused our efforts on growing

production of affordable and reliable energy, advocating for Wyoming-sourced energy to new and existing markets, and increasing investment by leveraging state resources and infrastructure.

In many ways, we are just getting started.

A handwritten signature in black ink, which appears to read "Rob Creager". The signature is stylized with a large, sweeping "R" and a long, horizontal stroke at the end.

Rob Creager
Executive Director

ENERGY MATCHING FUNDS

“When state and federal agencies work together with the private sector, we can unlock the economic and environmental benefits of nuclear innovations.”

– Joe Miller
*BWXT Advanced
Technologies president*

One of the biggest highlights of the year was launching the Energy Matching Funds (EMF). The groundbreaking fund, the first of its kind, is intended to spur innovation and bring transformative energy projects to Wyoming, leading the way to provide the nation with the energy it requires, solving sustainability issues without deteriorating reliability and affordability.

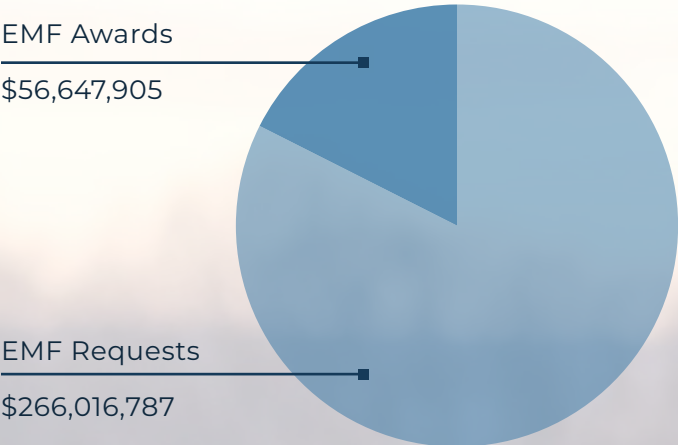
Appropriated by the Wyoming State Legislature in 2022 and delegated to our office by Governor Gordon, the EMF is a cost-share source for private or federal funding for research, demonstration, pilot projects or commercial deployment projects related to Wyoming energy needs.

By leveraging federal and private capital, the EMF is a prime example of how state, federal and private sectors can work together. Thus far, the program has exceeded its minimum 1:1 match requirements. The first round of EMF awarded two projects for \$19.1 million, leveraging \$51.5 million of federal or private funds. The second round approved six projects for over \$37.5 million, leveraging over \$121.6 million of capital.

The EMF project review process includes an initial concept paper, followed by an invitation to submit a formal proposal. The project proposal then goes to the Review Committee – comprised of the Executive Director of the WEA, a designee from the Governor’s Office, the Director of the Department of Workforce Services, the CEO of the Wyoming Business Council, and the Executive Director of the University of Wyoming School of Energy Resources.

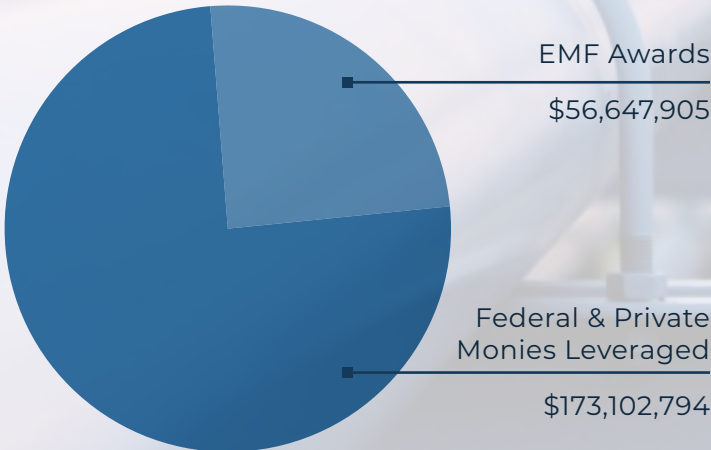
ENERGY MATCHING FUNDS REQUESTS & AWARDS

There has been a tremendous amount of interest in the Energy Matching Funds from companies and entities who are working on projects in Wyoming and looking for matching funds. Our diligent review process ensures thoughtful and responsible investments.



ENERGY MATCHING AWARDS & MONIES LEVERAGED

The projects that we have awarded have far exceeded the minimum 1:1 match required to qualify, with public monies leveraging three times the amount of state investment.



“On the innovation front, the WEA has supported our research to advance technologies toward more efficient and affordable ways to deliver energy with lower emissions to benefit our customers and communities. It’s our long-held belief and experience that the best solutions come about through collaboration with our partners and customers, and the Wyoming Energy Authority represents both.”

– Mark Lux

Vice President of Power Delivery, Black Hills Energy

PROJECTS

Black Hills Energy and Babcock & Wilcox

*BrightLoop™ - CCS Demonstration Plant:
Converting Wyoming PRB Coal to Hydrogen*

BWXT Advanced Technologies

*Assessment of Microreactor Deployment, Applications
and Development of Nuclear Microreactor Technologies
and Knowhow in the State of Wyoming*

Cowboy Clean Fuels

Triangle Unit Carbon Capture and Storage Projects

Flowstate Solutions

CO2 and Hydrogen Pipeline Safety: AI-Driven Leak Detection

Membrane Technology and Research, Inc.

*MTR’s DOE Carbon Capture and Storage Activities
at Basin Electric’s Dry Fork Station*

University of Wyoming School of Energy Resources

*Integration of Produced Water Thermal Desalination and
Steam Methane Reforming for Efficient Hydrogen Production*

**University of Wyoming School of Energy Resources
and Frontier Carbon Solutions**

Sweetwater Carbon Storage Hub

Williams Companies

*The Williams Echo Springs
CarbonSAFE Storage and
Complex Feasibility Study*

**INTERESTED IN
KNOWING MORE
ABOUT THE ENERGY
MATCHING FUNDS?**





STATE ENERGY OFFICE

STATE ENERGY PROGRAM

The State Energy Program (SEP) is a federally funded program that helps Wyoming communities save money on electricity bills. SEP provides funding and technical assistance to enhance energy security, advance state-led energy initiatives, and increase energy affordability.

Wyoming's State Energy Programs focus on providing grants to K-12 schools, local governments, and small businesses throughout the state looking to complete approved energy efficiency retrofits. This year, we awarded fourteen grants to local governments, seven grants to k-12 school districts, and seven grants to small businesses across our state. The State Energy Program grant application will open again on March 1, 2024.

Local Government

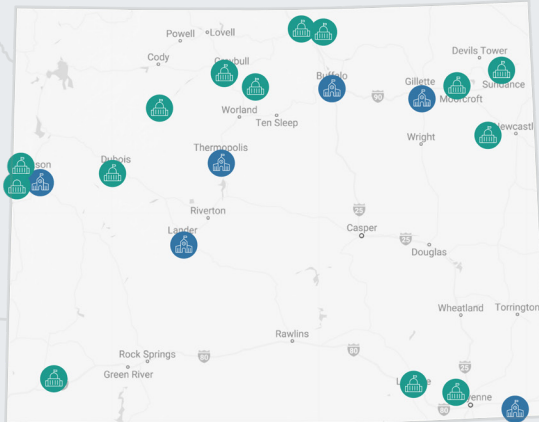
Grant Amount	Project Cost	Est Annual Cost Savings	Payback Period	Annual Energy Savings (kWh)
\$250,000	\$275,000	\$17,127	16 years	212,072.59 kWh

K-12 Schools

Grant Amount	Project Cost	Est Annual Cost Savings	Payback Period	Annual Energy Savings (kWh)
\$250,000	\$250,000	\$31,274	8 years	379,481.71 kWh

WYLite Total

Grant Amount	Project Cost	Est Annual Cost Savings	Payback Period	Annual Energy Savings (kWh)
\$500,000	\$525,000	\$48,400.64	11 years	591,554.3 kWh



LOCAL GOVERNMENT



K-12 SCHOOLS



“Our District has been the recipient of up to the project maximum of \$25,000 for four separate LED lighting upgrades in our school buildings. This total of nearly \$96,000, spread over four years, has allowed us to upgrade the lighting in some of our older building corridors and classrooms, which we may not have been able to do within our annual Major Maintenance budget alone.”

– Kim Nelson
*Laramie County School District
#2 Facilities Manager*

“Lander City Council has adopted a strategic plan with a high priority goal to have energy efficient building maintenance. Since 2017, the City has utilized the WEA audit and grant opportunity to provide approximately \$80,000 of grant funds for upgraded HVAC equipment, insulation additions, and light fixture LED relamping for our facilities. The program is thorough by providing an energy audit that relates to our decision makers the economic benefit of a proposed project.”

– Rajeane Strube Fossen
Recording Secretary for the City of Lander




INFLATION REDUCTION ACT (IRA) AND INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA) UPDATES

The Wyoming Energy Authority has applied for or anticipates applying for a number of programs through the IRA and IIJA. To date, the WEA has received additional State Energy Program funding through the IIJA to continue grant programs for schools, local municipalities, and small businesses. The WEA has also received funding through the IIJA for grid resiliency and grid reliability projects in the state. Furthermore, the WEA has applied for the Energy Efficiency and Conservation Block Grant program to continue our work on energy efficiency. In 2024, the WEA plans to apply for two

energy efficiency workforce development programs -- the State-Based Home Energy Efficiency Contractor Training Grants Program and the Energy Auditor Training Grant Program.

Finally, the WEA is closely monitoring two Home Energy Rebate Programs, Home Efficiency Rebates (HOMES) and Home Electrification and Appliance Rebates (HEEHRA), in anticipation of the August 31, 2024, deadline to apply for these programs. As always, the WEA continues to monitor newly announced federal programs and will pursue those programs that are beneficial to Wyoming.



WYOMING ENERGY: MORE IS MORE

As stewards of the Wyoming energy industry, the WEA believes that all kinds of energy are needed to meet rising demands. The Energy Information Administration (EIA) has projected that world energy consumption will grow close to 50% by the year 2050, and given Wyoming's abundant natural resources – from coal to wind to natural gas to uranium, more is more.

Luckily, Wyoming has abundant natural resources and the can-do mindset to capitalize on this challenge. From fossil fuels to world-class wind, to the largest uranium reserve in the nation, and newly discovered rare earth elements, we have it all. We have an opportunity to steer

our country to a new energy future as an honest, reliable and pragmatic partner. We have an opportunity to show, not just tell, our country's leaders and anyone else who will listen that the future of energy is a future that embraces not just one source or another.

This is not an either/or solution but an everything-we-have solution. Fortunately, Wyoming has a lot to work with in terms of resources and willingness, and we are determined to use it.

**READ THE REST
OF DIRECTOR
CREAGER'S
OPINION PIECE**





WEA INDUSTRIAL DEVELOPMENT EFFORTS:

The WEA's Nuclear Industrial Development has made tremendous strides in 2023. Starting an industry from the ground up is no easy feat, but thanks to the essential partnerships with the Idaho National Laboratory, the University of Wyoming School of Energy Resources, and the Atlantic Council's Frontiers Project, we are well on our way.

In August, we announced the funding of a BWXT Advanced Technologies project, which is assessing the viability of deploying small-scale nuclear reactors in the state as a supplement to existing power generation resources to meet future growing energy needs. This project has the potential to create new job opportunities while creating carbon management strategies for Wyoming's extraction industries. This approach is attracting the attention of Wyoming's trona and manufacturing industries – both L&H Industrial in Gillette and Tata Chemicals in Green River recently partnered to collaborate with BWXT AT and bring a “whole of Wyoming” approach to this emerging industry. If these microreactors prove successful, this project could both generate crucial manufacturing jobs for Wyoming and help one of our most valuable industries remain competitive in a global market.

At the end of last year, TerraPower announced a memorandum of understanding with Uranium Energy Corp (UEC) with the objective to “[re-establish] domestic supply chains of uranium fuel.” As Wyoming holds the largest reserves of uranium in the country, there is potential to grow our uranium mining production – a win for Wyoming and a win for our energy security. In January 2024, UEC announced that it is reopening Christensen Ranch In-Situ Recovery operations in August of 2024.

**WATCH THE 2023
FRONTIERS PROJECT
MEETING:**





AREAS OF GROWTH

This year also marked tremendous progress for rare earth element (REE) mining in Wyoming. With three projects moving forward, Wyoming has become the epicenter for the American rare earth mining efforts. Rare Element Resources, which received a WEA grant, is now working on clearing the final hurdles in building its demonstration processing plant in Upton.

American Rare Earths' exploration in Albany County recently announced stellar findings of higher concentrations of minerals than previously thought. Last but not least, in May of 2023, Ramaco announced their discovery of a major deposit of REEs, potentially the largest in the United States and worth \$37 billion, at the Brook Mine outside of Sheridan.

In June, the long-awaited 732-mile-long TransWest Express Transmission Project broke ground. The project adds 3,000 megawatts of transmission capacity from the Chokecherry and Sierra Madre Wind Energy Project and expands the reach of Wyoming energy through Colorado, Utah and Nevada. While this project promotes Wyoming energy to new export markets – it also highlights the monumental challenges with the permitting process. It took eighteen years to get the building permits and final agreements for this project. In a world that is going to require more and more energy, it is imperative that the federal government streamline the permitting process for projects like this.





NEXT FRONTIER ENERGY SUMMIT

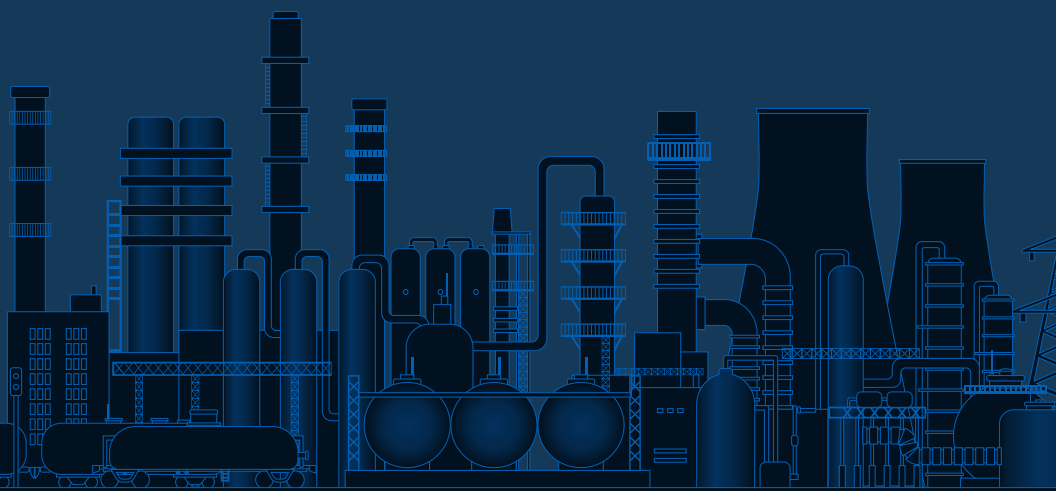


In May of 2023, we hosted the second 2023 Next Frontier Energy Summit, presented by BWX Technologies and the Wyoming Business Council in Cheyenne.

Seventeen speakers from as far-flung as Japan to as close to home as within the WEA's own offices came to present to a sold-out audience. Panelists' topics covered the need for baseload power to keep our grid secure, the role of natural gas in the evolution of energy, the latest nuclear advancements, and Wyoming's newest solar installation.

Throughout, speakers affirmed that "technologies, not ideologies," are what will offer solutions to decarbonization. "Today, we are talking about so many different technologies and possibilities to power our nation," said Governor Gordon in his address. The Next Frontier Energy Summit, like the state that hosts it, he continued, "truly has an all-of-the-above approach to solving our problems."

**Please save the date
for this year's Summit
on May 1-2, 2024.**



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