WYOMING ENERGY AUTHORITY

Energy Impact on Wyoming Economy: Annex

Analysis on Impact of Energy Matching Funds on Wyoming Economy & Interview Summaries

Note: See Energy Impact on Wyoming Economy for full documentation of assumptions, methodology, and appendices.

1. 2. Wyoming Energy Matching Funds

The Energy Matching Funds (EMF), launched in 2022, are designed to accelerate energy innovation statewide. The Legislature initially allocated $100 million to the Governor's Office to match private or federal investments in projects advancing Wyoming's energy needs.[1] The Legislature appropriated an additional $55 million to the EMF through 2024, with an additional $100 million separately appropriated in 2024 for large-scale energy projects exceeding $50 million.

> "WEA incentives have been crucial. The EMF has enabled research that wouldn't have happened otherwise"
>
> -Dr. J. Fred McLaughlin, Director, UW Center for Economic Geology Research

As of August 2025, the EMF has provided $131.8 million to 25 projects, the majority of which are fossil fuel & extraction projects (89 percent), while seven percent were nuclear and four percent were renewable projects (Figure 1). The average award size is $4.8 million per project and the median is $3.7 million. Awarded projects have leveraged more than three times the EMF funds in matching non-state funding, on average, indicating strong value to the state.

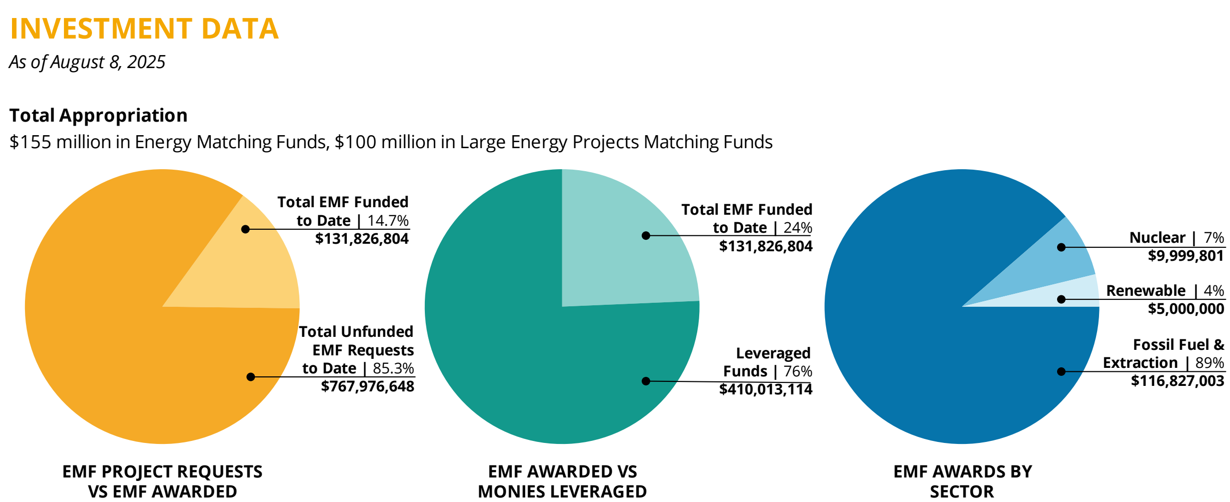

Figure 1. Energy Matching Funds Investment Data as of August 8, 2025.

[1] According to SF001(321)(a) 2022 https://wyoleg.gov/2022/Enroll/SF0001.pdf, this includes "carbon capture utilization and storage, carbon dioxide transportation, industrial carbon capture, coal refinery, and hydrogen production, transportation, storage, hydrogen hub development, biomass, biochar, hydropower, lithium, processing and separation, battery storage or wind and solar energy."

1.1. Assessing the Economic Impacts of the EMF

> "The EMF was a key driver in securing Series B funds. The EMF was a catalyzer. It brought in outside state investment that wouldn't have happened otherwise. It helped investors know that the state is a partner".
>
> – Steve Farkas, Executive VP of Business Development, Cowboy Clean Fuels

By providing matching funds, the state increases its competitiveness for large federal grants and private investments, amplifying the impact of state funding. Additionally, early-stage EMF-supported projects are generating manufacturing, construction, and research jobs, with the potential for sustained long-term employment in operations and maintenance once the projects are realized.

Over the long term, EMF-supported projects are expected to boost state and local tax revenues, support workforce retention, and enhance Wyoming's appeal for investment in both traditional and emerging energy sectors. Additionally, the EMF strengthens Wyoming's influence over federal energy policy by demonstrating its commitment to transformative projects and securing a prominent role in future regulatory and funding decisions.

To estimate the economic impacts of the EMF, this study analyzed financial data provided by the WEA and interviewed 12 stakeholders, including eight EMF projects awardees. Collectively, the quantitative and qualitative analyses allow for assessment of the economic benefits of the program. Financial and operational data on the EMF awardees enabled assessment of the size and sectoral distribution of the positive investment shocks that have been catalyzed by the program—accounting for both the matching funds investments from the EMF program and additional funding brought in from private and federal sources. These shocks were incorporated into a structural macroeconomic model to estimate the potential new trajectory of Wyoming's economy as a consequence of the EMF program and assess the impacts of these investments on the state's economy. Based on the descriptions of the various funded projects, which span the mining and energy, utilities, and research sectors, the modeling assumes these investments are deployed over a three-year ramp up period, in line with industry averages. In the absence of detailed operational data on the projects, and to succinctly capture the expected likelihood the pilot studies and proof of concept projects leading to successful operations further down the line, we assume that these industries grow at their steady state long-run rates after the three-year ramp up period.

As outlined in Figure 2, investments in Wyoming—stemming from the one-time investment of $131.8 million into the EMF program—are projected to have an average impact of over $105 million in additional real GSP (in 2017 dollars) each year over the next decade, representing a 0.26 percent increase to Wyoming's GSP by 2035.

This cumulates to $1.2 billion added to Wyoming's GSP over the next decade, with an employment impact of 350 net new jobs added and sustained by 2035. Qualitative interview findings suggest a similarly positive impact, as all companies interviewed that were recipients of the EMF mentioned that the incentive was critical for their project's success (see Stakeholder Interviews section for more details).

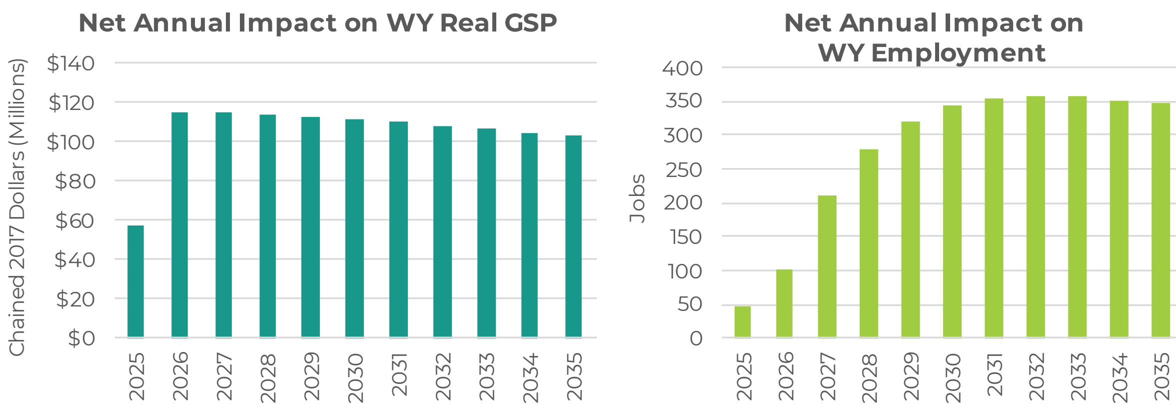

Figure 2. Economic Impacts of EMF-related Project Investments.

2. Stakeholder Interviews

The project team interviewed and gathered information from representatives of 12 organizations to gain insights into their respective innovative operations in Wyoming. Of the organizations represented, nine are recipients of the EMF. Each of the organizations interviewed, except as noted with an asterisk (*), is a recipient of the EMF: *(1) ATR Partners; (2) Babcock and Wilcox; (3) BWX Technologies; (4) Cowboy Clean Fuels; (5) DISA Technologies; (6) Frontier Carbon Solutions; (7) Ramaco Resources; (8) University of Wyoming: Center for Economic Geology Research; (9) University of Wyoming: Hydrogen Energy Research Center; (10) *Power Company of Wyoming, Chokecherry and Sierra Madre, TransWest Express; (11) Prometheus Hyperscale; (12) TerraPower.* Three organizations opted to respond to request for interview via email only: *Ramaco Carbon; *TerraPower; and *Prometheus.*

Each interview was conducted virtually and lasted approximately 30-45 minutes. The interviews consisted of the following questions:

1. Can you briefly describe the scale and scope of your current projects in Wyoming?
2. What incentives, regulations, and policies in Wyoming (as well as Federal) have helped or hindered your investment decisions, your project timelines, and your costs?
3. What is the projected economic benefit for the state (jobs, tax revenue)? How do you view the economic viability of energy development in WY over the next 5 and 10 years? What economic policies and trends are shaping your strategy?
4. What is the expected timeline for full-scale operation and commercialization?
5. How many jobs have been created (both directly and indirectly) as a result of your developments? How many will be created through full-scale operations?
6. How do you engage with local governments and communities during project planning and execution? What are the primary economic benefits your projects bring to local communities?
7. How do you address concerns about environmental impacts, and what are the associated costs? How do you plan for the eventual decommissioning or reclamation of project sites? What are plans, if any, to integrate other innovations (e.g., hydrogen) into the project?

2.1. Key Takeaways

- **All organizations interviewed expressed that EMF funding played a key role in their project's success**. It enabled research that would not have happened otherwise, mitigated the risks associated with new technologies, crowded in outside investment, and spurred innovation. Projects are expensive and can take a long time to reach commercialization, so EMF funding has helped reduce overall risk.
- **State policy and regulatory support play an important role for energy companies.** The state is generally viewed as helpful, although permitting requirements present a challenge as well as the lack of a direct power purchase agreement (DPPA).
- **Coordination for large-scale innovation projects is critical, but it becomes more challenging as more organizations are involved.** Innovative projects such as these are costly, timely, and complicated, and companies can't move them forward on their own. For example, permitting approvals take longer when federal agencies are involved.

D.1. ATR PARTNERS – Alpha Enriched Air Enhanced Oil Recovery (EOR)

Person Interviewed	Scott Dobson, President
Incentives Received	$9,850,000 from EMF
Project Overview	This initiative implements advanced air separation technology to inject enriched air—rather than conventional atmospheric air—into legacy oil fields, to significantly improve oil recovery efficiency. Beyond oil recovery, the Alpha Pilot Project is designed to capture and sequester greenhouse gases, with the added objective of evaluating the commercial viability of hydrogen production from these captured gases.

Key Takeaways

- **State entities are viewed as helpful.** Fundraising is a challenge for ATR Partners, but WEA has helped bridge the gap with its quick evaluation period. According to ATR Partners, some companies are overwhelmed by states' Departments of Environmental Quality (DEQ) requirements, and oil and gas commissions, but these entities are viewed as a positive for WY. They were impressed by the advances made by the university and energy authority.

- **Permitting remains a challenge.** Permitting takes longer when federal agencies are involved. There is oftentimes an overlap in federal and state permitting jurisdictions.
- **There is a need to disrupt the market and make hydrogen more affordable**. According to ATR Partners, if you can make hydrogen clean and affordable (somewhere in the \$0.50/kW range), it becomes interesting for WY and places that have large hydrocarbon reservoirs will act.

D.2. BABCOCK & WILCOX – Low Carbon Hydrogen Production Facility

Person(s) Interviewed	**Brandy Johnson (CTO), Will Latta (Business Development), Tugrul Uysal (Project Manager)**
Incentives Received	\$15,995,451 from EMF
Project Overview	Babcock & Wilcox, and Black Hills Energy are developing a low-carbon hydrogen production facility. The facility will utilize B&W's BrightLoop™ technology, which produces hydrogen from natural gas while capturing CO_2 emissions for storage or utilization. The project aims to demonstrate commercial-scale, low-carbon hydrogen production, supporting Wyoming's clean energy and decarbonization goals.

Key Takeaways

- **EMF funding has helped drive innovation** and mitigate the risks associated with new technologies. It has played an important role in getting new technologies into WY.
- **Government support is important for energy companies.** According to Babock & Wilcox, they are working in WY because there is support from senators and legislators to make projects viable on the national stage. Innovative projects such as these are complicated, and companies can't move them forward on their own.
- **Coordination is critical for the success of big bets.** The team has been working on this technology since 2004. It's a once in a generation development as B&W, DOE, Ohio State University (OSU), and the state of WY have spent \$300m to move this project forward.

D.3. BWX TECHNOLOGIES – Microreactor Deployment and Nuclear Technologies

Person Interviewed	Erik Nygaard, Director of Advanced Technology Division

Incentives Received	$9,999,801 from EMF
Project Overview	Developing small-scale nuclear microreactors for off-grid power use. The project aims to confirm Wyoming's potential to support nuclear supply chains and component fabrication. It builds on prior work from the Department of Energy's Advanced Reactor Demonstration Program and involves collaboration with Idaho National Laboratory. The initiative positions Wyoming to become a hub for advanced nuclear technology, leveraging its local uranium resources and industrial base.

Key Takeaways

- **Government support has been critical in creating market pull.** BWX Technologies was first contacted by the state government explaining how WY wanted to change its energy portfolio, which was the impetus for the project. BWX Technologies didn't want to move forward on their own without having strong demand signals from customers first.
- **WY is viewed as a good place to do business**. According to BWX Technologies, the project has been a great collaboration between government and industry. Tax credits have been critical to the company's success. They have shared their positive experience in WY with others.
- **Developing nuclear energy requires trust from the community.** It is normally communities that don't have trust who are the most skeptical about the work they're doing. BWXT has led town halls, presented at high schools, and given nuclear 101 sessions to build this trust.

D.4. COWBOY CLEAN FUELS – Renewable Natural Gas

Person Interviewed	Steve Farkas, Executive VP of Business Development
Incentives Received	$7,792,653 from EMF
Project Overview	Cowboy Clean Fuels (CCF) is an energy company working towards the commercialization of renewable natural gas (RNG) production. The patented technology applied by CCF taps into the geologic resources available in the Powder River basin of Wyoming. Biomass feedstock of processed sugar beets is injected

	into a suitable coal bed methane (CBM) stratum, where bacteria convert the material into natural gas. This process sequesters a portion of the carbon stream while also generating RNG for energy generation

Key Takeaways

- **The EMF was critical for crowding-in investment.** The EMF was catalytic in that it attracted outside state investment and Series B funding that wouldn't have happened otherwise. EMF funding provided validation to investors that the state was a partner. The 45 Q (the federal tax credit for carbon capture and storage) was also critical. The EMF partnership also helped accelerate requirements needed by the DEQ.

D.5. DISA TECHNOLOGIES – High Slurry Ablation

Person Interviewed	Kristin Walker, Chief External Affairs Officer
Incentives Received	$8,516,625 from EMF
Project Overview	DISA Technologies, with support from Wyoming's Energy Matching Funds, is advancing a project focused on expanding manufacturing of its patented High Pressure Slurry Ablation mineral processing technology in Wyoming. This development upgrades critical minerals from mined ore and legacy waste. The project will create jobs, strengthen local supply chains, and deliver over $130 million in economic impact by 2029.

Key Takeaways

- **EMF funding has helped overcome access to capital challenges.** Access to capital is a barrier in WY, and the EMF grant was pivotal in extending the project's runway by one year.

D.6. FRONTIER CARBON SOLUTIONS – Sweetwater Carbon Storage Hub

Person Interviewed	Erik Holt, General Counsel & VP Land
Incentives Received	$9,135,000 from EMF
Project Overview	Developing the Sweetwater Carbon Storage Hub ("SCS Hub"), one of North America's first open source, multipurpose carbon storage hubs. When fully

	developed, the SCS Hub is expected to store over 350 million metric tons of CO_2 in geologic reservoirs.

Key Takeaways

- **WY has a strong workforce.** Frontier views WY as having a strong energy workforce. All of its vendors (for drilling, casing, supplies, etc.) are sourced from within the state. They believe there is strong expertise in WY.
- **The carbon storage project will help WY industries stay competitive globally.** According to Frontier, it will accomplish this by providing a Net Zero product.

D.7. RAMACO RESOURCES – Brook Mine

Person Interviewed	[Responded via Email]
Incentives Received	$6,098,969 from EMF
Project Overview	Ramaco Resources new Brook Mine project, is a pioneering effort to develop a domestic supply chain for rare earth elements and critical minerals from unconventional coal-based deposits in Sheridan, Wyoming. The project covers over 15,800 acres, with 4,500 acres currently permitted for mining operations.

Key Takeaways

- **Strategic Development of Critical Minerals Supply Chain:** Ramaco's newly opened Brook Mine (operations commenced in June 2025) is a large-scale initiative focused on extracting rare earth elements and critical minerals, e.g., gallium, germanium, and scandium, from coal deposits. The project aims to establish a domestic supply chain for these minerals, which are vital for national security and advanced technologies.
- **Strong Public-Private Investment and Support:** The project is financed through a mix of private capital and significant government grants, including a $6.1 million Energy Matching Fund grant from the Wyoming Energy Authority. Ramaco is actively pursuing additional state and federal funding and expects to benefit from federal tax credits. Regulatory approvals and state incentives have helped streamline project timelines and reduce costs, though local zoning challenges have posed some risks.
- **Community Engagement and Economic Impact:** Ramaco is engaged with local communities and governments, and focused on stimulating workforce development through scholarships and internships. The Brook Mine project

is expected to create over 100 permanent jobs at full scale, stimulate local economic activity, and contribute to regional development.

D.8. UW CENTER FOR ECONOMIC GEOLOGY RESEARCH – CarbonSAFE at Dry Fork Station

Person Interviewed	Dr. J. Fred McLaughlin, Director for SER's Center for Economic Geology Research
Incentives Received	$975,000 from EMF, awarded via Williams Company
Project Overview	Wyoming's CarbonSAFE is a carbon capture research lab partnership between UW School of Energy Research and a CA-based carbon filtration company which is funded through DOE. The research site is located at Dry Fork Station power plant (10 mi north of Gillette, WY) and is focused on investigating the feasibility of practical, secure, permanent, geologic storage of CO_2 emissions from coal-based electricity generation facilities

Key Takeaways

- WEA Incentives have played an important role in the project's success. The EMF has enabled research that wouldn't have happened otherwise.
- **Industry uncertainty presents a challenge.** There has been tax credit uncertainty from the One Big Beautiful Bill. This is important considering it can take 15-20 years to achieve commercialization. Carbon storage and EOR disappeared under the last administration but has returned under the current one.
- **Permitting is a challenge.** Even though Wyoming has Class VI primacy, meaning the Wyoming Department of Environmental Quality administers and enforces federal regulations for Class VI wells, the permitting process is challenging and the specific requirements are hard to meet in the Rocky Mountain region.

D.9. UW HYDROGEN ENERGY RESEARCH CENTER – Blue Hydrogen Initiative

Person Interviewed	Eugene Holubnyak, Director of Hydrogen Energy Research Center
Incentives Received	$2,750,000 from EMF
Project Overview	Integration of Produced Water Thermal Desalination and Steam Methane Reforming for Efficient Hydrogen Production. Water is a precious resource in

	Wyoming. Oil and Gas wells produce large quantities of water, but this water is too salty to use. The project aims to water produced by oil and gas production and put it to beneficial use by generating hydrogen (H2), or blue hydrogen—hydrogen generated from natural gas with CCUS—in Wyoming. Researchers are integrating hydrogen production with CCS to minimize carbon emissions, leveraging Wyoming's natural gas resources and geological storage potential.

Key Takeaways

- **EMF funds have played an important role in the project's success.** Without the EMF funds, the university would have had to turn to the DOE for funds. EMF incentives were critical to help drive innovation. The problem is the risk of new tech.

D.10. **POWER COMPANY OF WYOMING –** Power Company of Wyoming LLC, Chokecherry and Sierra Madre Wind Energy Project, and TransWest Express LLC, TransWest Express Transmission Project

Person Interviewed	Kara Choquette, VP of Communications & Government Relations
Incentives Received	No incentives received; privately funded
Project Overview	The Power Company of Wyoming LLC is developing the 3.5 GW Chokecherry and Sierra Madre Wind Energy Project, expected to be the largest in the US upon its completion. TransWest Express LLC is building the complementary 732-mile high-voltage transmission line TransWest Express Transmission Project, which will connect the power generated by Chokecherry and Sierra Madre Wind to adjacent power markets across the U.S.

Key Takeaways

- **Wyoming's policy and regulatory environment present challenges.** The lack of a direct power purchase agreement (DPPA) as an option for Wyoming power producers is a barrier, as it limits the ability of large energy consumers including tech companies and industrial firms to buy renewable energy directly from producers. Permitting requirements for wind and solar also present a challenge.

- **The TransWest Express Transmission Express is designed to truly expand Wyoming's energy economy.** It will bring direct and indirect benefits from property taxes, jobs, and local spending.

D.11. PROMETHEUS HYPERSCALE – Data Center

Person Interviewed	[Corresponded via Email] Sam Heintz, Policy and Partnerships Analyst
Incentives Received	Privately funded by family offices and high net worth individuals
Project Overview	Prometheus Hyperscale is developing its flagship next-generation data center campus in Evanston, Wyoming. The project will be developed in phases and is expected to be 1.2 GW, with a unique, long-term opportunity to scale up to 5 GW.

Key Takeaways

- **Wyoming's low-tax, pro-business regulatory environment has been a key factor in Prometheus's investment decisions.** The state's sales and use tax exemption for data centers significantly reduce capital expenditures. At the federal level, growing support for American AI infrastructure has strengthened the investment climate. Prometheus also benefits from the Investment Tax Credit (Section 48)—which lowers the cost of its proprietary geothermal liquid-cooling systems.

D.12. **TERRAPOWER** – Natrium Demonstration Project

Person Interviewed	Sarah Young
Incentives Received	Wyoming Legislature 2022 House Bill 131 supported TerraPower's site selection.
Project Overview	The Natrium Demonstration Project is America's first advanced commercial reactor located in Kemmerer, WY. It is expected to generate 345–500 MWe, the equivalent to powering 250,000–400,000 homes.

Key Takeaways

- **It is expected to support WY job creation.** The plant is estimated to create approximately 1,600 constructions jobs and 200-250 jobs at the operational plant.
- **Public-private partnerships have played an important role in getting the project off the ground.** It is being built through a public-private partnership including a large government grant. Bechtel Corporation will build the

reactor with the help of many direct employees and subcontractors. Along with PacifiCorp and DOE, Bechtel, a world-class engineering and construction company, will guide the development of the site.