



WYOMING
ENERGY
AUTHORITY

ANNUAL REPORT 2022

WYOMING ENERGY AUTHORITY:
THE HUB OF ALL THINGS
ENERGY IN WYOMING

2022 was a busy and exciting year for all things energy in Wyoming. As our state continues to lead the nation in energy production and innovation, we at the WEA are energized by the inspiring collaborations, projects, and successes that have come our way.

CURRENT INITIATIVES

Western Interstate Hydrogen Hub

Wyoming joined forces with fellow states Colorado, New Mexico and Utah to form a bipartisan interstate coalition: Western Interstate Hydrogen Hub (WISHH). WISHH has accomplished a tremendous amount over the last year, including pulling together public and private partners to develop a proposal that can support the region's diverse energy needs and policy goals, including reducing greenhouse gas emissions, using a broad range of feedstock to develop hydrogen, ensuring economic competitiveness, and supporting communities on the front lines of the energy transition. The first step was completed in November of 2022, when WISHH submitted a concept paper for the U.S. Department of Energy's Regional Clean Hydrogen Hubs program.

Idaho National Laboratory Partnership

In May, the state of Wyoming formalized its partnership with the nuclear industry's longtime leader, the Idaho National Laboratory (INL). As the state of Wyoming builds a next-generation nuclear industry, the WEA and the INL have been collaborating on the research, development, demonstration and deployment of advanced energy technologies and approaches – from fuel cycle to end-use applications.

Hydrogen Roadmap

In partnership with Cheyenne LEADS, we released a five-year plan to advance the hydrogen economy. The Hydrogen Roadmap outlines specific roles and responsibilities for various stakeholders, addresses potential roadblocks and leverages our state's strengths to create a plan for building a hydrogen economy. With a high energy IQ, extensive transmission and abundant hydrogen feedstock sources, Wyoming is well-poised to be a leader in this burgeoning field.

Nuclear Energy - Industrial Development Efforts

After several listening sessions, meetings, and outreach to industry leaders and experts, we developed an assessment of the Nuclear Energy Industry and its opportunities and challenges for Wyoming. Ongoing continued engagement with industry leaders and stakeholders from the public and private sectors will continue to help us identify both challenges and opportunities. On the books for 2023: engagements with reactor and Microreactor developers, potential end-users of nuclear power and heat, the Idaho National Lab, the State of Alaska, and leading universities in these areas, and releasing our Nuclear Roadmap.

U.S. Senate Committee for Energy and Natural Resources

In February, Dr. Murrell testified in front of the U.S. Senate Committee for Energy and Natural Resources on the opportunities and challenges for clean hydrogen and its future in the transportation, utility, industrial, commercial, and residential sectors. While representing a state's direct interests, Dr. Murrell's testimony discussed how, with support, Wyoming is in an advantageous position to play a central role in developing clean hydrogen due to our infrastructure and business-friendly economy.

Direct Air Capture Hub

Together with the Wyoming Business Council and the University of Wyoming School of Energy Resources, the WEA has been exploring a federal funding opportunity from the Department of Energy's Four Regional Clean Direct Air Capture (DAC) Hubs program. DAC is a form of Carbon Capture Utilization and Sequestration (CCUS) where air is captured, and the CO₂ is separated out and then permanently stored underground, used for enhanced oil recovery, or converted into products. The group released a Request for Expression of Interest last fall and is now moving towards a plan of action as the Funding Opportunity Announcement is released.

FUNDING

EDA Grant Awarded

WEA received an EDA grant to establish a Wyoming Regional Energy Economic Coordination Office (RECO). This office will, among other things, help enhance the economic development planning capacity of Wyoming by researching opportunities in the energy industry, developing roadmaps and strategies for new energy initiatives, supporting industry coordination, and supporting a just energy transformation for inclusive, sustainable energy development in Wyoming

WEA-Provided Funding

This year, we were able to support many projects through the Request For Proposals process. The WEA supported \$13,879,001 worth of energy projects around the state and \$296,879 of projects through the State Energy Program. From hydrogen technology to carbon capture and rare earth elements, WEA is investing in innovative projects in order to support Wyoming's entire energy spectrum.

Carbon Capture, Utilization and Storage Deployment Project RFP:

Tallgrass Energy, "Eastern Wyoming Sequestration Hub," is studying the potential to sequester CO2 in the Wyoming Denver-Julesburg Basin in support of the development of a commercial-scale sequestration hub in Eastern Wyoming.

North Shore Energy, "Painter Project," is an exploration in the development of a state-of-the-art ammonia complex with on-site carbon capture and sequestration capabilities at existing depleted hydrocarbon reservoirs and processing facilities near Evanston, WY.

Hydrogen Pilot Project

Black Hills Energy was awarded funding for a hydrogen demonstration pilot project at its Cheyenne Prairie Generating Station. Black Hills Energy is leading a team with members from General Electric, Black & Veatch, and Tallgrass Energy, LP, in the development of a feasibility study and estimate for a hydrogen use demonstration



project. It is considering natural gas-fed blue hydrogen as well as green hydrogen fed with renewable energy and water. Additionally, the project will include conceptual engineering for equipment modifications of an existing gas turbine at the facility to accommodate a blended mix of hydrogen and methane.

Rare Elements Resources Funding

WEA awarded funds to be utilized for the advancement of the company's rare earth element processing and separation demonstration plant project in Upton, Wyoming.

Solid Fuels to Hydrogen RFP

The Solid Fuels to Hydrogen RFP is designed to make progress toward the construction of a project demonstrating the viability of low, net-zero or negative carbon intensity hydrogen as a component of the Wyoming energy economy when sourced using solid feedstock such as coal, municipal waste, plastics and biomass. In December, Black Hills Energy was awarded for its proposal to pilot a project converting Powder River Basin coal to convert into Hydrogen. More information on this project will be coming shortly.

RESEARCH AND REPORTS

A major piece of our work is the research and reports that are produced. This year, alternative fuel sources and production were major topics of interest. Due to our expansive resources and all-of-the-above approach, we continue to generate research within our state.

Mowry Shale This funding will help improve the understanding of the Mowry Shale in Northern Wyoming to improve overall production and help to grow the unconventional oil and gas research being conducted at the University of Wyoming. Phase I funding for the project is being provided by the Wyoming Energy Authority.

Geothermal Study The Wyoming Energy Authority was excited to partner with Petrolern to study and better understand the geothermal energy opportunities that exist in Wyoming. Geothermal technology aligns well with our all-of-the-above net-zero energy strategy, and we hope to see it as a complement to all of the resources our office is exploring.

Guide to Permitting Wind Energy Projects in Wyoming The Wyoming Energy Authority commissioned the preparation of this Guide to Permitting Wind Energy Projects in Wyoming for the Wyoming Renewable Energy Coordination Committee for use in reviewing the permitting processes that are required in

Wyoming for the development of wind energy projects. This guide outlines the criteria needed to help developers in the navigation of local, state, and federal regulatory and permitting processes and provides contact information and references to assist in the development of wind facilities in the state.

UW Decarbonization Prize In May, the University of Wyoming School of Energy Resources (SER), Baker Hughes and the Wyoming Energy Authority offered students the opportunity to innovate in the decarbonization space through a \$5,000 ideation innovation contest. The “Decarbonization Prize” was meant to focus on discovering innovative applications for existing products and services or to bring forward new concepts for cutting-edge, transformative, and disruptive technologies that will decarbonize various industries.



EVENTS

This spring we hosted the inaugural Next Frontier Energy Summit, presented by Rocky Mountain Power & The Wyoming Business Council. Over 17 speakers from all over the country assembled for two days in Cheyenne to a sold-out audience to network, share, and inspire the Wyoming energy community.

Our small but mighty team attended a number of events as well. From state-wide summits to national and international meetings, our continued presence at these events helps us keep a finger on the pulse of energy around the globe and upholds Wyoming's legacy as an energy leader. Stay tuned for upcoming dates for 2023.





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