RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • SEPTEMBER 2022

Welcome Message

Greetings NETL RWFI stakeholders,

This month's funding opportunity in focus is the *Strengthening Community Colleges* Training Grants Round 2 awards. The purpose of these awards is to address two interrelated needs: 1) to increase the capacity and responsiveness of community colleges to address identified equity gaps, and 2) to meet the skill development needs of employers in in-demand industries and career pathways, as well as the skill development needs of underserved and underrepresented workers.

On Tuesday, Sept. 22, from 10–11 a.m. EDT, the NETL RWFI will host an Energy 101 webinar on Direct Air Capture. Registration is free but attendance is limited. You can register to addend by clicking on this *registration link*.

As always, feel free to reach out to us at *NETL.RWFI@netl.doe.gov* if you have any suggestions for information to present in future E-notes.

Attached to this email is a hyperlinked PDF version of this note. If you would like to unsubscribe, please reply "unsubscribe" to this email.

Sincerely,
The NETL Regional Workforce Initiative Team

Workforce Funding Announcements

FUNDING SPOTLIGHT

Strengthening Community Colleges Training Grants

U.S. Department of Labor, Employment, Labor and Training, Deadline, Oct. 14, 2022

This FOA now has two closing dates. The first closing date was June 2, 2022, and the second closing date is Oct. 14, 2022 (see Amendment 2). This Funding Opportunity Announcement (FOA) solicits applications for the second round of Strengthening Community Colleges Training Grants (SCC2 or SCC3). For the purposes of this FOA, this training initiative has two parts: the standard program grants will be referred to as SCC2 or SCC3 Program Grants, and the additional evaluation funds will be referred to as Additional SCC2 or SCC3 Evaluation Funding. The objective of this program is to address two inter-related needs: 1) to increase the capacity and responsiveness of community colleges to address identified equity gaps, and 2) to meet the skill development needs of employers in in-demand industries and career pathways, as well as the skill development needs of underserved and underrepresented workers.

Advanced Technological Education (ATE)

National Science Foundation, Deadline, Oct. 6, 2022

With a focus on two-year Institutions of Higher Education (IHEs), the ATE program supports the education of technicians for the high-technology fields that drive our nation's economy. The program involves partnerships between academic institutions (grades 7–12, IHEs), industry, and economic development agencies to promote improvement in the education of science and engineering technicians at the undergraduate and secondary institution school levels. The ATE program supports curriculum development; professional development of college faculty and secondary school teachers; career pathways; and other activities. The program invites applied research proposals that advance the knowledge base related to technician education. These projects are required to be faculty driven, and courses and programs must be credit bearing, although materials developed may also be used for incumbent worker education.

Clean Energy Manufacturing Innovation Institute for Industrial Decarbonization through Electrification of Process Heating

U.S. Department of Energy, Deadline, Oct. 25, 2022

The purpose of this FOA is to create a new Clean Energy Manufacturing Innovation Institute that will accelerate decarbonization of the industrial sector by developing and scaling electrified industrial heating processes. A consortium made up of industry, academia, non-governmental organizations, national labs, and other stakeholders is sought to: develop electrified process heating solutions for industry; create modeling and optimization tools to facilitate integration of electrified processes into manufacturing plants; develop technology evaluation tools and methodologies; and educate and develop the manufacturing workforce needed to implement this technology.

Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) Programs Phase I

U.S. Department of Agriculture (USDA), Deadline, Oct. 25, 2022

Projects dealing with agriculturally related manufacturing and alternative and renewable energy technologies are encouraged across all SBIR/STTR topic areas. USDA SBIR/STTR's flexible research areas ensure innovative projects consistent with USDA's vision of a healthy and productive nation in harmony with the land, air, and water. The USDA SBIR/STTR programs have awarded over 2000 research and development projects since 1983, allowing hundreds of small businesses to explore their technological potential, and providing an incentive to profit from the commercialization of innovative ideas. Click below for more SBIR/STTR information.

Agriculture and Food Research Initiative Competitive Grants Program Education and Workforce Development (EWD) Program

National Institute of Food and Agriculture, Deadline, Oct. 27, 2022

The Agriculture and Food Research Initiative — EWD focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences. In FY21, EWD invites applications in seven areas: agricultural workforce training; professional development for agricultural literacy; training of undergraduate students in research and extension; fellowships for predoctoral candidates; fellowships for postdoctoral scholars, a new program for food and agricultural non-formal education, and a FY21-only program for evaluation of the National Institute of Food and Agriculture's agricultural literacy and workforce development portfolio. See EWD Request for Applications for specific details.

Geoscience Opportunities for Leadership in Diversity, Deadline, Oct 28, 2022

National Science Foundation, Deadline, Oct. 28, 2022

The world is facing "all minds needed" problems, but due to historical systemic structures, all minds have not been fully engaged. Recent research shows that science scholars who are underrepresented in STEM produce higher rates of scientific novelty, yet they do not persist in the systems where the innovation is created (Hofstra et al., 2020). Because the geosciences continue to lag behind other STEM fields in creating a diverse community of researchers, scholars, and practitioners, disruptive strategies and evidence-based practices are needed to recruit and specifically retain individuals who historically have not been included in geoscience education, research and careers.

Environmental Justice Thriving Communities Technical Assistance Centers Program (EJ TCTAC)

Environmental Protection Agency (EPA), Deadline, Nov. 1, 2022

The mission of the EPA is to protect human health and the environment for all people with an emphasis on assisting those communities adversely and disproportionately affected by environmental, climate, and human health harms and risks. EPA, as illustrated by the funding provided under the Infrastructure Investment Jobs Act (IIJA) and annual appropriations, intends to make significant investments in the health, equity, and resilience of these, and all communities, to address past, current, and future environmental health and justice challenges. To maximize these significant investments, new and innovative strategies and approaches are necessary for issues such as community engagement and participation in environmental programs, equitable distribution of financial resources, capacity-building and outreach, and technical assistance and training to enhance access to financial assistance opportunities and promote effective grants management and performance. This is especially true for underserved communities that have, and continue to be, plagued by environmental pollution and health, and environmental justice, challenges. EPA is seeking applications from eligible entities to establish and operate Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTAC). The EJ TCTACs will provide technical assistance, training, and other eligible forms of assistance, resources, and support to program participants.

Broadening Participation in Engineering

National Science Foundation, Deadline, Nov. 16, 2022

Through the Broadening Participation in Engineering (BPE) Program, NSF seeks to strengthen the future U.S. engineering workforce by enabling and encouraging the participation of all citizens in the engineering enterprise. The BPE Program seeks to support not only research in the science of broadening participation and equity in engineering, but also collaborative endeavors which foster the professional development of a diverse and well-prepared engineering workforce as well as innovative, if not revolutionary, approaches to building capacity through inclusivity and equity within the engineering academic experience.

Louis Stokes Alliances for Minority Participation (LSAMP)

National Science Foundation, Deadline, Nov. 18, 2022

The LSAMP program is an alliance-based program. The program's theory is based on the Tinto model for student retention referenced in the 2005 LSAMP program evaluation. The overall goal of the program is to assist universities and colleges in diversifying the nation's STEM workforce by increasing the number of STEM baccalaureate and graduate degrees awarded to populations historically underrepresented in these disciplines: African Americans, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, and Native Pacific Islanders. LSAMP's efforts to increase diversity in STEM are aligned with the goals of the Federal Government's five-year strategic plan for STEM education, *Charting a Course for Success: America's Strategy for STEM Education*. The LSAMP program takes a comprehensive approach to student development and retention. Particular emphasis is placed on transforming undergraduate STEM education through innovative, evidence-based recruitment and retention strategies, and relevant educational experiences in support of racial and ethnic groups historically underrepresented in STEM disciplines.

Bipartisan Infrastructure Law: Advancing Equity through Workforce Partnerships

U.S. Department of Energy, Deadline, Dec. 6, 2022

The Office of Energy Efficiency and Renewable Energy (EERE) is issuing, on behalf of the Solar Energy Technologies Office, this FOA. Awards made under this FOA will be funded, in whole or in part, with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law (BIL). Under Section 41007(c)(1), the BIL provides funding to carry out research, development, demonstration, and commercialization activities relating to solar energy technologies, which includes conducting workforce development activities. The activities to be funded under this FOA support the broader government-wide approach to addressing the climate crisis and maximize the benefits of the clean energy transition as the nation works to curb the climate crisis, empower workers, and advance environmental justice.

NETL News

Biden-Harris Administration Announces $156M for America's First-Of-A-Kind Critical Minerals Refinery

The DOE today announced up to $156M in funding from President Biden's Bipartisan Infrastructure Law for a first-of-a-kind facility to extract and separate rare earth elements and critical minerals from unconventional sources like mining waste. Rare earth elements and other critical minerals are key to manufacturing clean energy technologies right here in America — such as solar panels, wind turbines, electric vehicles, and hydrogen fuel cells — that will help the nation reach the Biden-Harris Administration's goal of net-zero emissions by 2050.

NETL Drone Program Aims to Enhance America's Energy Infrastructure

With use of aerial drones increasing, NETL has been a major player in this area of technological development and is working on a new program with its partners to enhance the performance of America's energy infrastructure and improve environmental integrity.

NETL Welcomes New Principal Deputy Director

George Guthrie, Ph.D., has been named principal deputy director of NETL. Guthrie joins NETL from Los Alamos National Laboratory, where he served as deputy director for the applied energy programs, leading a diverse portfolio of applied R&D in applied energy and helping to establish and lead a place-based initiative in energy transition for the intermountain west. Guthrie is a scientist with more than 30 years of experience in geosciences and applied-energy applications.

NETL Work to Detect Abandoned Oil and Gas Wells Nets National Geographic Magazine Recognition

NETL researchers' detective work to locate abandoned and undocumented oil and gas wells using drone flights, electromagnetic field detectors, light detecting and ranging technology and even operation of a user-friendly tip line were detailed in a recent article published in National Geographic Magazine, one of the most widely read magazines of all time.

NETL Experts to Discuss Use of Hydrogen-Fueled Turbines to Drive Clean Energy Economy

NETL experts will discuss research that supports expanding the use of hydrogen-fueled gas turbines to produce clean electricity while meeting environmental standards for low emissions of nitrogen oxides, pollutants that contribute to the formation of smog and acid rain.

NETL-Funded Project Among Finalists in 2022 Institution of Chemical Engineers (IChemE) Global Awards

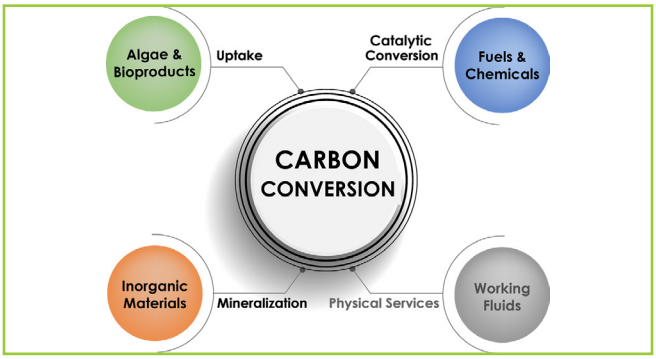
The University of North Dakota's Energy & Environmental Research Center's Produced Water Management Through Geologic Homogenization, Conditioning and Reuse project — funded by NETL and developed in partnership with the North Dakota Industrial Commission Oil and Gas Research Program and Nuverra Environmental Solutions — is a finalist in the Oil and Gas category of the 2022 IChemE Global Awards.

NETL to Share Alloy Expertise at Metallurgical Conference

NETL researchers will exhibited took part in technical sessions at the 2022 Liquid Metal Processing and Casting Conference (LMPC), held Sept. 18–21, 2022, at the Bellevue Hotel in Philadelphia, PA. The conference convenes academic and industry experts to discuss the latest advances in processes used to cast large ingots of highly alloyed metals.

NETL Researcher to Share Expertise on Advancing Well Integrity

Barbara Kutchko, a senior researcher at NETL who develops advanced cement systems to reduce the environmental footprint of drilling operations, will serve as a key organizer and presenter at Cementing in an Unconventional World, a workshop presented by the Society of Petroleum Engineers (SPE) Sept. 27–29, 2022, in Galveston, TX.



DOE Invests $4.7M to Improve Hydrogen Turbine Performance and Reduce Hydrogen-based Energy Costs

On Sept. 13, 2022, the DOE's Office of Fossil Energy and Carbon Management (FECM) announced almost $4.7M in funding for six projects to advance the development of ceramic-based materials to improve the efficiency of hydrogen-fueled turbines that may one day be used in clean power plants.

NETL Team Traveling Appalachia to Address Abandoned Wells

NETL experts have hit the road to develop best practices to find and characterize undocumented orphaned oil and gas wells, which can leak methane, a potent greenhouse gas, contaminate groundwater and create other environmental issues after they are abandoned or taken out of production.

NETL Solvents: Solutions for Carbon Capture and Help for U.S. Farmers

A groundbreaking class of hybrid solvents developed by NETL researchers to capture greenhouse gas from fuel streams and generate clean hydrogen from fossil energy resources could also bolster supply chains of key raw materials needed to address a crisis that is currently facing United States farmers.

DOE Announces $46M to Explore New Technologies That Convert Carbon and Waste into Clean Energy

On Aug. 31, 2022, the DOE announced $46M for 22 projects that will create biofuel energy and bioproducts to help decarbonize the transportation and power generation sectors.

September Edition of the Strategic Systems Analysis and Engineering (SSAE) Newsletter Released

The September 2022 edition of the SSAE Newsletter provides updates about recent research initiatives undertaken within NETL's SSAE directorate. Click *here* to access this latest edition and learn about activities that SSAE is leading to gain insights into new energy concepts, support the analysis of energy system interactions and advance its capabilities.

Meetings and Events

Webinar- NETL Regional Workforce Initiative- Energy 101- Direct Air Capture (DAC)

Tuesday, Sept. 27, 10–11 a.m. EDT, *Registration link*

In this month's NETL RWFI Energy 101, we learn the basics of Direct Air Capture or DAC, and about NETL and DOE research efforts in DAC, including some of potential economic and workforce development implications upon successful deployment of this technology.

DAC is a carbon dioxide removal (CDR) approach that extracts CO_2 emissions from the atmosphere. The CDR Program is aiming to advance DAC technologies through further discovery and optimization of new and novel materials that promote rapid CO_2 uptake with high dynamic CO_2 capacity; structured material systems and component designs; and integrated processes that leverage the functional material's unique characteristics to maximize volumetric CO_2 capture productivity, while reducing pressure drop, heat and power requirements, and capital and operating costs. R&D is focused on processes and materials that will increase the amount of CO_2 removed by DAC, decrease the cost of materials, and improve the energy efficiency of carbon-removal operations. This webinar will cover the basics of DAC, and about NETL and DOE research efforts in DAC, including some of potential economic and workforce development implications upon successful deployment of this technology.

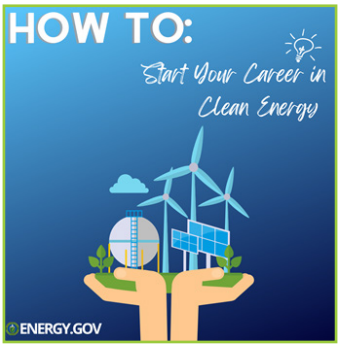
Reports and Resources

World Energy Employment

International Energy Agency

The inaugural edition of the World Energy Employment Report is — to the best of our knowledge — the first comprehensive inventory of the global energy workforce. The report presents new estimates of the size and distribution of the labor force, across regions and technologies, and increases the granularity on the number of workers along the entire energy value chain. This includes fossil fuel and bioenergy production; power sector generation, transmission, distribution and storage; and end uses, including vehicles and energy efficiency for buildings and industry. It also details segments of the value chain where these jobs are located, including raw materials, manufacturing, construction, utilities, and wholesale, as well as how many are employed for building new projects versus operating existing energy facilities, which includes those working in operating and maintenance of plants. It also provides estimates for emerging segments for energy, including clean energy innovation.

DOE STEM Rising



How to Start Your Career in Clean Energy

So, you're starting out your career, and you're interested in clean energy. Or maybe you're looking to switch gears and work towards a good cause. Wherever you are on your career path, the DOE wants to talk to you! There are many reasons to work toward a clean energy future. Whether it's to protect the environment, promote energy justice, secure national energy independence, make scientific advancements, or lower energy costs, take some time to identify which ones speak to you the most. Once you've done so, make sure that these motivators stay at the forefront of your mind as you move through your job search. Clean energy is growing fast and is here to stay.

Hanford Interns Get Glimpse of Past, Look to Future

Office of Environmental Management (EM) Richland Operations Office contractor Central Plateau Cleanup Company hosted 20 college interns and cooperative education students this summer as part of an initiative to build and inspire the future workforce.

EM Minority Serving Institutions Partnership Program's (MSIPP) First-Ever Research Awards Workshop Draws Over 100 Participants

More than 100 educators, students and DOE employees gathered over two days in August for the inaugural EM MSIPP Competitive Research Awards Workshop. Established in 2014, the EM MSIPP is designed to help maintain a well-trained, technically skilled and diverse workforce by partnering with MSIs to develop highly qualified STEM students.

ABOUT NETL

NATIONAL ENERGY TECHNOLOGY LABORATORY

NETL, owned and operated by DOE, is one of the Department's 17 National Laboratories. NETL supports DOE's mission to advance the national, economic, and energy security of the United States.

1450 Queen Avenue SW
Albany, OR 97321-2198
541-967-5892

3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880
304-285-4764

626 Cochran Mill Road
P.O. Box 10940
Pittsburgh, PA 15236-0940
412-386-4687

Program staff are also located in
Houston, Texas and Anchorage, Alaska

WEBSITE: *www.netl.doe.gov*

CONTACTS

Anthony Armaly
NETL RWFI Federal Coordinator
412-386-6040
Anthony.Armaly@netl.doe.gov

Kirk Gerdes
Regional Workforce Initiative Coordinator
304-285-4342
Kirk.Gerdes@netl.doe.gov

Mike Knaggs
Associate Director of Partnerships
304-285-4926
Michael.Knaggs@netl.doe.gov

Matthew Garcia
Regional Workforce Initiative Consultant
956-314-0645
Matthew.Garcia@netl.doe.gov