

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • SEPTEMBER 2023

Welcome Message

Greetings NETL RWFI stakeholders,

This month's funding opportunity in focus is the National Science Foundation's *Broadening Participation in Engineering* with a deadline of November 15, 2023. The program's goal is to strengthen the U.S. engineering workforce by supporting efforts at broadening participation in the engineering enterprise.

In the DOE STEM Rising section of this month's e-note is an announcement from the U.S. Department of Energy's (DOE) Hydrogen and Fuel Cell Technologies Office (HFTO) encouraging interested candidates to apply for *available fellowships*.

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. Please also check final deadline dates with original links.

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 RWFI Team

Workforce Funding Announcements

FUNDING SPOTLIGHT



Broadening Participation in Engineering (BPE)

National Science Foundation, Deadline, Nov. 15, 2023

Through the BPE Program, the National Science Foundation (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.

Advanced Technological Education (ATE)

National Science Foundation, Deadline, Oct. 5, 2023

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. It is required that projects be faculty driven and that courses and programs are credit bearing, although materials developed may also be used for incumbent worker education.

Bipartisan Infrastructure Law (BIL): Energy Improvement in Rural or Remote Areas (ERA) Fixed Award Grant Program

Department of Energy, Deadline Oct. 12, 2023

This funding opportunity announcement (FOA) provides \$50M in federal funding and is designed to support small community-driven clean energy projects requiring \$500K–\$5M in federal funding. Other ERA funding opportunities include DE-FOA-0002970, titled "Bipartisan Infrastructure Law: Energy Improvement in Rural or Remote Areas," which provides \$5M–\$100M in federal funding to community- and large-scale demonstration projects that address region-specific energy challenges, and a \$15M Energizing Rural Communities Prize, which provides up to \$300,000 cash prizes to assist development of partnerships and financing models to advance clean energy projects. This FOA utilizes a simplified application process and will award fixed-amount grants. This grant mechanism significantly reduces financial reporting requirements associated with larger DOE awards. Recipients are responsible for accomplishing their proposed work.

Clean Communities Investment Accelerator (CCIA) Grant Competition

Environmental Protection Agency, Oct. 12, 2023

The Environmental Protection Agency (EPA) is launching three distinct but complementary grant competitions: a \$14B National Clean Investment Fund (NCIF) competition to finance clean technology deployment nationally; a \$6B CCCIA competition to finance clean technology deployment in low-income and disadvantaged communities while simultaneously building the capacity of community lenders that serve those communities; and a \$7B Solar for All competition to spur adoption of clean distributed solar energy that lowers energy bills for millions of Americans in low-income and disadvantaged communities. This Notice of Funding Opportunity

provides details on the \$6B CCIA competition. This competition will provide grants to 2–7 hub nonprofits that will provide funding and technical assistance to specific industry networks of public, quasi-public, not-for-profit, and nonprofit community lenders, supporting the goal that every community in the country has access to the capital they need to deploy clean technology projects in their homes, small businesses, schools, and community institutions. These community lenders could include community development financial institutions (including Certified Native CDFIs), credit unions, green banks, housing finance agencies, minority depository institutions, and other types of lenders.

National Community Investment Fund Grant Competition

Environmental Protection Agency, Oct. 12, 2023

The EPA is launching three distinct but complementary grant competitions: a \$14B NCIF competition to finance clean technology deployment nationally; a \$6B CCIA competition to finance clean technology deployment in low-income and disadvantaged communities while simultaneously building the capacity of community lenders that serve those communities; and a \$7B Solar for All competition to spur adoption of clean distributed solar energy that lowers energy bills for millions of Americans in low-income and disadvantaged communities. This Notice of Funding Opportunity provides details on the \$14B NCIF competition. This competition will provide grants to 2–3 national nonprofit financing entities to create national clean financing institutions capable of partnering with the private sector to provide accessible, affordable financing for tens of thousands of clean technology projects nationwide.

Office of Career, Technical, and Adult Education: Perkins Innovation and Modernization (PIM) Grant Program Assistance Listing Number 84.051F

Department of Education, Deadline, Oct. 13, 2023

The purpose of the PIM grant program is to identify, support, and rigorously evaluate evidence-based and innovative strategies and activities to improve and modernize career and technical education (CTE) and ensure workforce skills taught in CTE programs funded under the Carl D. Perkins Career and Technical Education Act of 2006, as amended by the Strengthening Career and Technical Education for the 21st Century Act, align with labor market needs.

Expanding Artificial Intelligence (AI) Innovation through Capacity Building and Partnerships (ExpandAI)

National Science Foundation, Deadline, Oct. 20, 2023

The NSF and its partners support the continued growth of a broad and diverse interdisciplinary research community for the advancement of AI and AI-powered innovation, providing a unique opportunity to broadly promote the NSF vision and core values, especially inclusion and collaboration. The ExpandAI program aims to significantly broaden participation in AI research, education, and workforce development through capacity development projects and through partnerships within the National AI Research Institutes ecosystem.

Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)

National Science Foundation, Deadline, Oct. 30, 2023

NSF INCLUDES is a comprehensive, national initiative to enhance U.S. leadership in STEM discovery and innovation, focused on NSF's commitment to ensuring accessibility and inclusivity in STEM fields, as communicated in the *NSF Strategic Plan for Fiscal Years 2022–2026*. The vision of NSF INCLUDES is to catalyze the STEM enterprise to work collaboratively for inclusive change, resulting in a STEM workforce that reflects the diversity of the nation's population. More specifically, NSF INCLUDES seeks to motivate and accelerate collaborative infrastructure building to advance equity and sustain systemic change to broaden participation in STEM fields at scale. Significant advancement in the inclusion of groups that have historically been excluded from or underserved in STEM will result in a new generation of STEM talent and leadership to secure the nation's future and long-term economic competitiveness.

University Turbine Systems Research (UTSR)

U.S. Department of Energy, Deadline, Nov. 7, 2023

The UTSR Program encompasses a portfolio of gas turbine-focused university projects which address a wide variety of technical topics (including combustion, aerodynamics/heat transfer, and advanced materials topics) by conducting cutting edge R&D.

Fossil Energy Based Production, Storage, Transport and Utilization of Hydrogen Approaching Net-Zero or Net-Negative Carbon Emissions

U.S. Department of Energy, Deadline, Nov. 12, 2023

This FOA is a modification to the funding opportunity announcement DE-FOA-0002400 previously titled Fossil Energy Based Production, Storage, Transport and Utilization of Hydrogen Approaching Net-Zero or Net-Negative Carbon Emissions. The current modification titled Clean Hydrogen Production, Storage, Transport and Utilization to Enable a Net-Zero Carbon Economy aims to continue advancement in hydrogen technologies that are capable of improving performance, reliability, and flexibility of existing and novel methods to produce, transport, store and use hydrogen in support of the nationwide goals of reducing greenhouse gas pollution associated with energy use by 2030 and achieve economy-wide net-zero emissions by 2050.

Broadening Participation in Engineering

National Science Foundation, Deadline, Nov. 15, 2023

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. 17, 2023

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*.

Innovative Technologies to Eliminate Flaring from Oil and Natural Gas Production

U.S. Department of Energy, Deadline, Nov. 27, 2023

The objective of this FOA is to competitively solicit cost-shared research proposals for pilot-scale field deployment and validation of efficient, cost-effective solutions ready for pre-commercialization that can eliminate flaring and non-safety related venting of natural gas at the well site.

BIL Consumer Electronics Battery Recycling, Reprocessing, and Battery Collection

U.S. Department of Energy, Deadline, Nov. 29, 2023

This Funding Opportunity Announcement will provide funding to support the recycling of consumer electronics batteries and battery-containing devices to help build a robust domestic critical material supply chain for electrovoltaic batteries in the United States. The program will accomplish this by increasing participation by consumers in recycling programs; improving the economics of consumer battery recycling to create a market for recycling, including battery recycling research, development, and demonstration activities to create innovative and practical approaches to increase the reuse and recycling of batteries; and increasing the number of these programs, including state and local programs to assist in the establishment or enhancement of state consumer electronics battery collection, recycling, and reprocessing programs and to establish collection points at retailers.

Domestic Manufacturing Conversion Grants

U.S. Department of Energy, Deadline, Nov. 30, 2023

This is a notice of intent DE-FOA-0003113 associated with FOA for Domestic Manufacturing Conversion Grants. This notice of intent is issued for informational purposes only and DOE is not seeking comments on the information contained in this notice.

NETL News



Consortium of Hybrid Resilient Energy Systems (CHRES) Interns Convened at NETL To Discuss Work on Hybrid Resilient Energy Systems

Next-generation engineers and scientists who served internships at NETL, two other national laboratories, and four universities to study hybrid resilient energy systems converged in Morgantown, WV, recently to share presentations on their work as part of the CHRES Technical Forum..



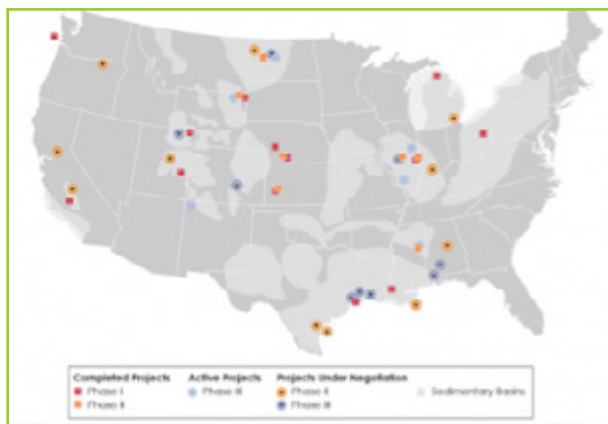
Biden-Harris Administration Announces \$30M to Build Up Domestic Supply Chain for Critical Minerals

In support of President Biden's Investing in America agenda, the DOE announced up to \$30M to help lower the costs of the onshore production of rare earths and other critical minerals and materials from domestic coal-based resources. The funding, provided by the BIL, will help meet the growing demand for critical minerals in the United States, while reducing our reliance on offshore supplies. Rare earths and other critical minerals are key to U.S. manufacturing of clean energy technologies—such as solar panels, wind turbines, electric vehicles, and hydrogen fuel cells—to advance President Biden's historic climate agenda.



NETL Joins Interagency Partnership to Address Major Driver of Climate Change

NETL will leverage its technical expertise and successful track record of innovation to help lead a \$1.3B interagency initiative to reduce methane emissions—a potent greenhouse gas (GHG) and major driver of climate change—across the U.S. oil and natural gas industry.



Carbon Storage Assurance Facility Enterprise (CarbonSAFE) Initiative Making Progress Toward Commercialization!

The DOE's NETL-led CarbonSAFE Initiative has funded 24 and is currently negotiating 20 additional projects around the country to address key gaps on the critical path toward commercial carbon capture and storage (CCS) deployment. These projects are the first of many, that will de-risk geologic storage capacity across the United States, while initiating the storage infrastructure of the future.



Chemical Engineer Quickly Makes Impact to Address Climate Change

It didn't take long for NETL's Mariah Young to find her perfect fit. Her first job after graduating from Carnegie Mellon University in Pittsburgh involved working on the system that powers NASA's deep space missions, such as the Perseverance rover which was sent to Mars to collect rock and soil samples and conduct research.



DOE Announces \$17.2M to Use Carbon Dioxide for Enhanced Oil Recovery in Unconventional Reservoirs, Combined with Carbon Storage

The DOE's Office of Fossil Energy and Carbon Management (FECM) today announced up to \$17.2M to evaluate the potential for unconventional oil production through a combined process that uses captured CO₂ emissions to recover residual oil—called CO₂ enhanced oil recovery (CO₂-EOR)—while safely and permanently storing that CO₂ underground in the oilfield..



NETL's Sensors Monitor Natural Gas Pipeline Corrosion to Mitigate Methane Emissions, Ensure Safety

Advanced sensors developed by NETL to detect and predict corrosion in natural gas pipelines can prevent ruptures and leaks that release methane—a potent GHG—into the atmosphere and help mitigate climate change.



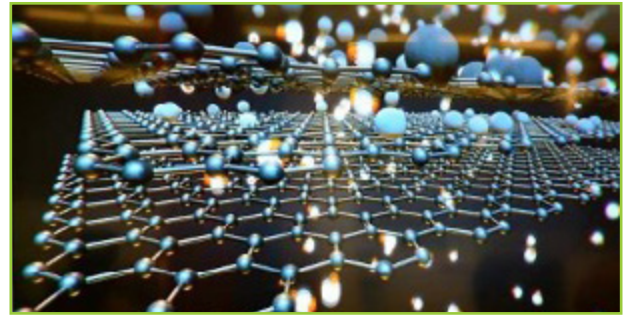
DOE Announces \$19M to Advance Hydrogen Technology That Converts Waste to Clean Energy

The DOE's FECM today announced up to \$19M in funding for research that will develop cutting-edge technology solutions to make clean hydrogen a more available and affordable fuel for electricity generation, industrial decarbonization, and transportation.



New Microwave Reactors Up and Running at NETL to Drive Decarbonization

A pair of microwave reactors recently installed at NETL provides researchers with tools to quickly screen materials called catalysts for their potential to trigger the chemical reactions needed to convert CO₂ into useful chemicals and decarbonize industrial processes that emit greenhouse gas.



NETL-Supported Technology Transforms Coal and Coal-Wastes into Nanomaterial That Is 200 Times Stronger Than Steel

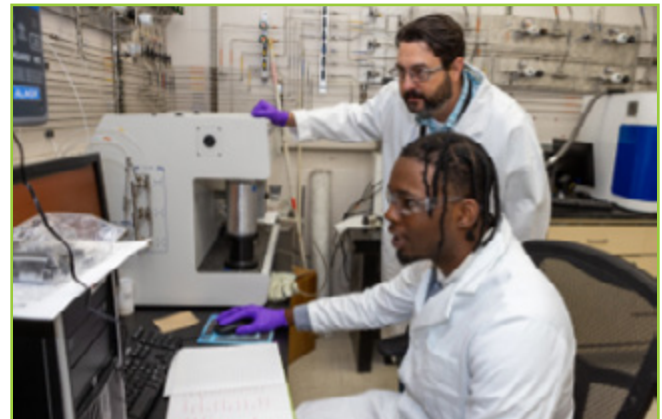
An innovative technology that transforms carbon-rich materials including coal and coal-wastes into high quality graphene for use in a wide range of products is closer to reality as a result of support from NETL—progress that could have positive implications for a wide array of materials that are a part of everyday life.



Number of Users and Acclaim for NETL's CO₂ Storage prospective Resource Estimation Excel aNalysis (CO₂-SCREEN) Continues to Grow Worldwide

CO₂-SCREEN, a user-friendly yet sophisticated tool developed by a team of NETL researchers to estimate the resource potential of storing captured CO₂ in underground geological environments, continues to attract a wide range of international users as the world intensifies efforts to address climate change.

Reports and Resources



What Works: Ten Education, Training, and Work-Based Pathway Changes That Lead to Good Jobs

Georgetown University Center on Education and the Workforce

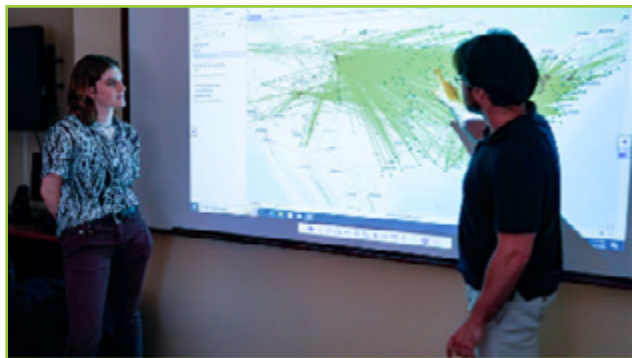
All along the journey from youth to young adulthood, there are critical junctures at which a change in pathway can have a tremendous impact on a young person's future. What Works: Ten Education, Training, and Work-Based Pathway Changes That Lead to Good Jobs identifies 10 pathway changes with the greatest potential to improve employment outcomes for young adults. The report uses the pathways-to-career policy simulation model, developed by the Center on Education and the Workforce researchers using longitudinal data, to identify promising junctures at which strategic interventions could increase the likelihood of working in a good job.



DOE Announces \$6.4M for University Research to Improve Hydrogen Turbine Performance

The DOE's FECM today announced \$6.4M for university-based research and development projects that will develop advanced materials and components to improve the performance of hydrogen-fueled turbines. This research will support the increased use of low-carbon fuels like hydrogen in industrial and power sectors, helping to achieve the Biden-Harris Administration goal of net-zero emissions by 2050.

DOE STEM Rising



Clean Hydrogen Fellowships Available in DOE's Hydrogen and Fuel Cell Technologies Office (HFTO)

The DOE's HFTO is encouraging interested candidates to apply for available fellowships. These fellowships directly support the Biden-Harris Administration's commitment to advancing innovative climate solutions and strengthening America's leadership in science and engineering, which are critical to achieving a carbon-free grid by 2035 and net-zero emissions by 2050.

DOE Recognizes Eleven Women for their Outstanding Leadership and Achievements in Clean Energy

DOE announced the winners of the 2023 Clean Energy Education & Empowerment (C3E) Awards, honoring 11 women for outstanding leadership and accomplishments in clean energy. The C3E Initiative aims to close the gender gap and increase the participation, leadership, and success of women in clean energy fields. In its 12th year, the C3E Initiative is led by DOE in collaboration with the MIT Energy Initiative, Stanford University's Precourt Institute for Energy, and the Texas A&M Energy Institute.

Oak Ridge Internship Program Helps Build Future Workforce

Oak Ridge Office of Environmental Management contractor United Cleanup Oak Ridge LLC just completed its largest ever summer internship program. Forty students from 14 schools across the country gained valuable experience, and some finished their term with job offers in hand. With the increase in the number of students this year, there was also an increase in the number and depth of projects.

Empowering the Next Generation: 15 Interns Graduate from the Office of Technology Transitions' (OTT) 2023 Technology Commercialization Internship Program (TCIP)

On August 9, 2023, all 15 interns from the 2023 TCIP, led by the OTT, gathered at the DOE's Thomas Jefferson National Accelerator Facility (Jefferson Laboratory) for graduation week. Over three days, the interns delivered their final presentations, heard from DOE and lab leadership, toured Jefferson Laboratory, and celebrated their successes.

ABOUT NETL



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.

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