

RWFI E-NOTE MONTHLY

REGIONAL WORKFORCE INITIATIVE • JULY 2021

Welcome Message

Greetings NETL RWFI stakeholders,

This month's E-Note starts with a special announcement of the Economic Development Agency's new effort aimed specifically at Coal Communities, targeting over \$300M dollars in investment and funding opportunities from the \$3B dollars in funding for the *American Rescue Plan Program*. See the special announcement section below and information on a webinar that will be given to unpack this opportunity on August 5, 2021. You can register by [clicking here](#).

In this month's funding in focus is the annual funding announcement for the National Science Foundation's *Advanced Technological Education program*. With a focus on two-year Institutions of Higher Education, the Advanced Technological Education program supports the education of technicians for the high-technology fields that drive our nation's economy.

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

Special announcement



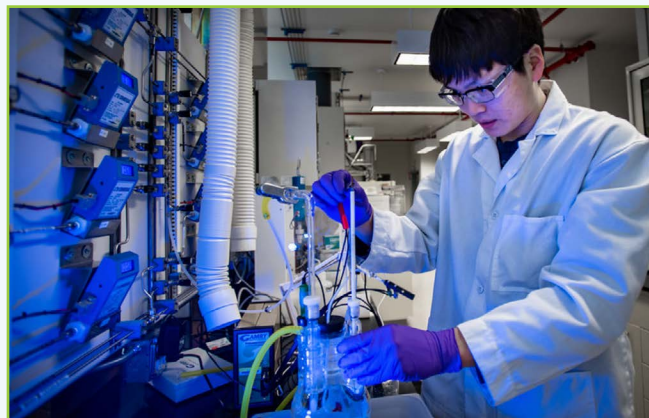
The Economic Development Agency (EDA) Coal Communities Commitment allocates \$300M of its \$3B American Rescue Plan appropriation to support coal communities as they recover from the pandemic. These funds will help them create new jobs and opportunities — including through the creation or expansion of a new industry sector. This announcement builds on the "Initial Report to the President on Empowering Workers Through Revitalizing Energy Communities" developed by President Biden's Interagency Working Group (IWG). Specifically, EDA will dedicate \$100M of its *Build Back Better Regional Challenge funds* and \$200M of its *Economic Adjustment Assistance* funds to directly support coal communities. EDA also supports these communities through its *Assistance to*

Coal Communities (ACC) initiative. Through ACC, EDA awards funds on a competitive basis to assist communities impacted by the declining use of coal through activities and programs that support economic diversification, job creation, capital investment, workforce development, and re-employment opportunities. Visit the coal community's commitment site [here](#) to learn more.

Coal Communities Commitment Webinar

Join the webinar that will provide more information on these opportunities on August 5, 2021, from 2:00–3:00 p.m. EDT. Use [this link](#) to register.

Workforce Funding Announcements



Advanced Technological Education

National Science Foundation, Deadline, Oct. 14, 2021

With a focus on two-year Institutions of Higher Education (IHEs), the Advanced Technological Education (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. The ATE program encourages partnerships with other entities that may impact technician education.

FUNDING SPOTLIGHT

Rural Cooperative Development Grant (RCDG)

U.S. Department of Agriculture, Deadline, Aug. 10, 2021

The primary objective of the RCDG program is to improve the economic condition of rural areas by assisting individuals or entities in the startup, expansion or operational improvement of rural cooperatives, and other business entities. Grants are awarded competitively on an annual basis to Rural Cooperative Development Centers who in turn provide technical assistance to individuals and entities.

Innovative Technology Experiences for Students and Teachers (ITEST)

National Science Foundation, Deadline, Aug. 13, 2021

ITEST is an applied research and development program providing direct student learning opportunities in pre-kindergarten through high school (PreK–12). The learning opportunities are based on innovative use of technology to strengthen knowledge and interest in STEM and information and communication technology (ICT) careers. To achieve this purpose, ITEST supports projects that engage students in technology-rich experiences that: increase awareness and interest of STEM and ICT occupations; motivate students to pursue appropriate education pathways to those occupations; and develop STEM-specific disciplinary content knowledge and practices that promote critical thinking, reasoning, and development of the communication skills needed for entering the STEM and ICT workforce of the future.

Alliances for Graduate Education and the Professoriate (AGEP)

National Science Foundation, Deadline, Aug. 24, 2021

Improving equity and inclusion is critical to advancing STEM faculty, educating the future STEM workforce, fostering individual opportunity, and contributing to a thriving U.S. economy. The National Science Foundation (NSF) AGEP program, therefore, seeks to fund grants that advance and enhance the systemic factors that support equity and inclusion and, consequently, mitigate the systemic inequities in the academic profession and workplace. The AGEP program's goal to increase the number of historically underrepresented minority faculty is bolstered by the National Science Board's "Vision 2030: Vision for the Future."

Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI)

National Science Foundation, Deadline, Aug. 25, 2021

The goals of the HSI program are to enhance the quality of undergraduate STEM education and to increase the recruitment, retention, and graduation rates of students pursuing associate's or baccalaureate degrees in STEM. Achieving these, given the diverse nature and context of the HSIs, requires additional strategies that support building capacity at HSIs through innovative approaches. This includes incentivizing institutional and community transformation and promoting fundamental research on engaged student learning regarding what it takes to diversify and increase participation in STEM effectively and that improves our understanding of how to build institutional capacity at HSIs. Intended outcomes of the HSI Program include broadening participation of students that are historically underrepresented in STEM and expanding students' pathways to continued STEM education and integration into the STEM workforce.

Rural Energy for America Program — Renewable Energy Systems and Energy Efficiency Improvement

U.S. Department of Agriculture, Deadline, Sept. 30, 2021

Eligible applicants are agricultural producers and rural small businesses. All agricultural producers, including farmers and ranchers, who gain 50% or more of their gross income from the agricultural operations are eligible. Small businesses located in a rural area can also apply. Rural electric cooperatives may also be eligible to apply. To be eligible, applicants must be individuals or entities at least 51 percent owned by persons who are either: citizens of the United States, the Republic of Palau, the Federated States of Micronesia, the Republic of the Marshall Islands, or American Samoa; or who are legally admitted permanent residents residing in the United States. The project must be to conduct a feasibility study for a renewable energy system; eligible technologies include projects that produce energy from wind, solar, biomass, geothermal, hydro power and hydrogen-based sources. All projects must be located in a rural area and must be owned by the applicant. Each applicant must have (or obtain) the legal authority necessary to carry out the purpose of the grant.

Scientists in Parks (SIP) Internship Program — Natural Resource Stewardship

Department of the Interior, National Parks Service, Deadline, Oct. 1, 2021

The SIP Internship Program provides opportunities for college students, recent graduates, and early career professionals to complete paid internship projects designed to apply the best available science, resource management principles, and interpretation techniques to natural resource stewardship needs in national parks. For more information and the full announcement contact Steve Livingston, Awarding Officer, at steve_livingston@nps.gov.

FY 21 Department of Navy (DON) STEM Education and Workforce Program

Department of Defense, Office of Naval Research, Deadline, Oct. 8, 2021

The Office of Naval Research (ONR) is interested in receiving a broad range of proposals for augmenting existing and/or developing innovative solutions that directly maintain, and/or cultivate a diverse, world-class STEM workforce to maintain the U.S. Navy and Marine Corps' technological superiority. The goal of proposed efforts must provide solutions that establish, build, and/or maintain STEM educational pathways of U.S. citizens directly relevant to the needs of DON's current and future workforce.

Campus Cyberinfrastructure

National Science Foundation, Deadline, Oct. 11, 2021

The Campus Cyberinfrastructure program invests in coordinated campus-level networking and cyberinfrastructure improvements, innovation, integration, and engineering for science applications and distributed research projects. Learning and workforce development in cyberinfrastructure is explicitly addressed in the program. Science-driven requirements are the primary motivation for any proposed activity.

Tribal Colleges and Universities Program (TCUP)

National Science Foundation, Deadline, Oct. 15, 2021

The TCUP provides awards to federally recognized Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions to promote high-quality science, STEM education, research, and outreach. Support is available to TCUP-eligible institutions for transformative capacity-building or community engagement projects through Instructional Capacity Excellence in TCUP Institutions; Targeted STEM Infusion Projects; TCUP for Secondary and Elementary Teachers in STEM; Tribal Colleges and Universities Enterprise Advancement Centers; Cyberinfrastructure Health, Assistance, and Improvements; and Preparing for TCUP Implementation. Collaborations led by TCUP institutions that involve non-TCUP institutions of higher education are supported through TCUP Partnerships, with the participation of other NSF programs to support the work of non-TCUP institutions. Finally, research studies that further the scholarly activity of individual faculty members are supported through Small Grants for Research.

Science & Technology for Advanced Manufacturing Projects

Department of Defense, Office of Naval Research, Deadline, Oct. 30, 2021

The Department of Defense Manufacturing Technology Program is the Defense Department's investment mechanism for staying at the forefront of defense-essential manufacturing capability. The Program develops technologies and processes for the affordable and timely production and sustainment of defense systems. The Program impacts all phases of acquisition. It aids in achieving reduced acquisition and total ownership costs by developing, maturing, and transitioning key manufacturing technologies. ONR will focus investments on those that have the most benefit to the warfighter and include quick-hitting, rapid response projects to address immediate manufacturing needs.

to establish a carbon emissions-free power sector by 2035 and a net-zero emissions economy by 2050. "Collaborating with Ramaco and other partners, NETL is leading a historic shift, in which coal goes from being used to produce electricity to an inexpensive feedstock for carbon, a versatile building block to manufacture high-tech products," said Christopher Matranga, Ph.D., a member of NETL's Functional Materials Team.



DOE Announces Intent to Fund Direct Air Capture front-end engineering design (FEED) Studies

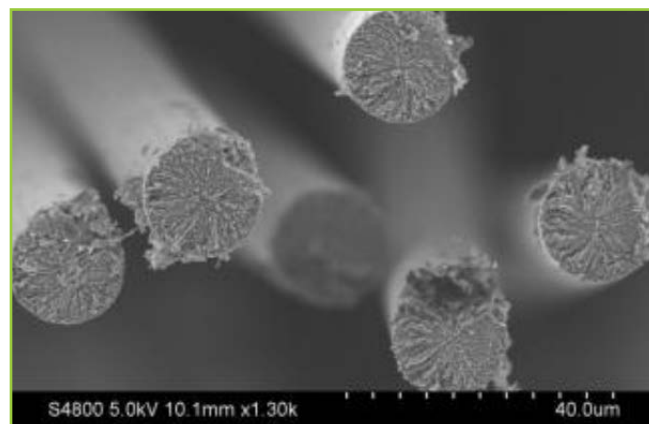
Today, the U.S. DOE's Office of Fossil Energy and Carbon Management, in collaboration with the Office of Nuclear Energy and the Office of Energy Efficiency and Renewable Energy's Geothermal Technology Office, issued a notice of intent for a Funding Opportunity Announcement (FOA) expected to support FEED studies of direct air capture (DAC) combined with dedicated storage and coupled to existing low-carbon energy. If the FOA is issued, it will support the advancement of DAC technologies that remove carbon dioxide (CO₂) directly from the atmosphere. Carbon dioxide removal is essential to addressing the hardest to decarbonize sectors to meet the Biden-Harris Administration's goal of net-zero carbon emissions by 2050. Applications must include host site letters of commitment; therefore, advanced notice is being given to support the development.

NETL News



NETL-Ramaco Partnership Develops Sustainable Carbon Manufacturing Technologies to Assist Distressed Coal Communities

Three years into their formal research partnership, NETL and Wyoming-based technology firm Ramaco Carbon are driving the development of carbon materials that could lead to safer vehicles, less expensive batteries, more durable roads and bridges, and other game-changing innovations while advancing new uses for coal, one of the nation's most abundant resources. These technological breakthroughs have been made as part of the cooperative research and development agreement (CRADA) signed by NETL and Ramaco in June 2018 and will help ensure that fossil energy communities are not left behind as the United States undergoes a sweeping transformation



NETL Collaboration Unlocking High-Value Products from Carbon Ore

In an NETL-supported project, the U.S. DOE's Oak Ridge National Laboratory (ORNL) and the University of Kentucky (UK) are investigating ways to use carbon ore to create high-value products like carbon fiber composites for the aerospace, automotive, wind energy markets and more. The research is also helping achieve a key Biden Administration priority of environmental justice by paving the way for new clean manufacturing industries and good-paying jobs in American coal communities. "The ORNL-UK research team is using advanced multi-scale characterization techniques and high-performance computer modeling to unlock the science needed to

enable competitive industrialization of carbon ore-derived carbon fibers and composites,” said NETL’s Chuck Miller, who manages the project. Carbon ore is an abundant natural resource traditionally used for thermal and metallurgical applications, but researchers across the nation are exploring its use as a feedstock for creating value-added products. Carbon fibers, for example, are used in building products, aerospace and automotive parts, rotating parts, sporting goods, and many other applications.



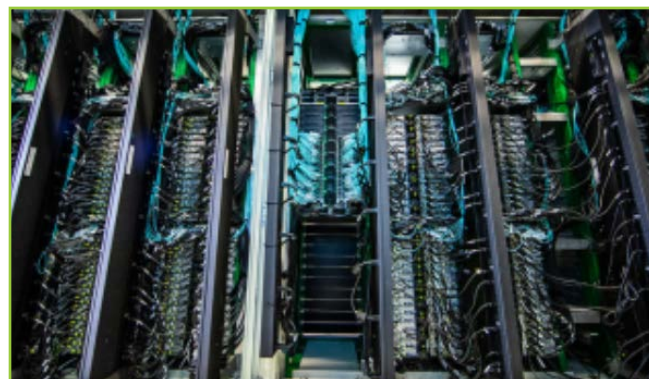
U.S. DOE Selects 12 Projects to Improve Fossil-Based Hydrogen Production, Transport, Storage, and Utilization

The U.S. DOE selected 12 projects to receive approximately \$16.5M in federal funding for cost-shared cooperative agreements to help recalibrate the nation’s vast fossil-fuel and power infrastructure for decarbonized energy and commodity production. The selected projects will develop technologies for the production, transport, storage, and utilization of fossil-based hydrogen, with progress toward net-zero carbon emissions.



Southeast Regional Carbon Sequestration Partnership Highlights Accomplishments

After nearly two decades of collaboration and research, the Southeast Regional Carbon Sequestration Partnership (SECARB) helped the country come closer to commercial deployment of carbon capture, utilization, and storage technologies. As one of 7 of the Regional Carbon Sequestration Partnerships, SECARB was a \$130M program established in 2003 and managed by the Southern States Energy Board with the primary goals of identifying major sources of carbon emissions, characterizing the geology of a 13-state region, determining the most promising options for commercial deployment of CO₂ storage technologies in the South, and validating the technology options. “The projects undertaken during this collaboration were crucial stepping stones in building confidence in large scale CO₂ storage,” said Mary Sullivan, an NETL project manager with the Lab’s Carbon Utilization and Storage Team. “As NETL supports the Administration’s goal to decarbonize the U.S. economy, the contributions of SECARB provides valuable experience upon which to build going forward.”



NETL Supercomputer Among the Most Powerful in the Nation

According to the latest rankings by TOP500, NETL’s Joule 2.0 supercomputer remains among the most powerful in the nation, securing a position of 37th in the United States. Supercomputing is essential in achieving NETL’s mission to drive innovation and deliver solutions for an environmentally sustainable and prosperous energy future by ensuring affordable, abundant and reliable energy that fosters a robust economy and national security while developing technologies to manage carbon across the full life cycle. By expediting technology development through computational science and engineering, Joule 2.0 helps NETL cut costs, save time and spur valuable economic investments with a global impact. Named for the familiar unit of energy, Joule allows researchers to model energy technologies, simulate challenging phenomena and solve complex calculations using computational tools that save time and money to ensure that technology development ultimately proves successful.



NETL-Supported Project Receives \$1M to Accelerate Development of Clean Energy Technology

The United States Research Impact Alliance (USRIA), a technology development incubator based in Morgantown, West Virginia, will receive \$1M to accelerate NETL-supported clean energy and manufacturing projects to market and stimulate the formation of new businesses to help reach the Biden-Harris Administration’s goal of a net-zero carbon economy by 2050. The funding allocation, announced during U.S. Secretary of Energy Jennifer M. Granholm’s recent visit to NETL-Morgantown, will support USRIA and its Identification, Maturation, Productization, Alignment, Collaboration and Transition technology accelerator process, which matures federally funded technologies that have the potential to address climate change and empower underserved communities.

Reports and Resources



Wages, Benefits, and Change

National Association of State Energy Offices & the Energy Futures Initiative

The *National Association of State Energy Officials*, the *Energy Futures Initiative*, and *BW Research Partnership* are pleased to release *Wages, Benefits, and Change, A Supplemental Report to the Annual U.S. Energy & Employment Report (Wage Report)*. The Wage Report adds new data and analysis to the portfolio of annual U.S. Energy & Employment Reports and the 5-Year Energy & Employment Report. This supplemental report focuses on wages and benefits for U.S. energy jobs, as well as the impacts of COVID-19 on energy sector employment.

LinkedIn June 2021 Workforce Report

The LinkedIn Workforce Report is a monthly report on employment trends in the U.S. workforce. It is divided into two sections: a national section that provides insights into hiring, skills gaps, and migration trends across the country and a city section that provides insights into localized employment trends in 20 of the largest U.S. metro areas.

Key Insights

- June hiring is up but gains smaller than May. Across all industries, national hiring in the United States was 3.7% higher in June 2021 compared to last month. This is certainly a step in the right direction, but slower than May's 7.7% gain. National hiring this June was 67.8% higher compared to June 2020.
- Hiring up from pre-pandemic levels: Hiring in June was also 9.0% above pre-COVID levels from February 2020. This is highly consistent with the ongoing "great reshuffle" hypothesis that people are switching and leaving jobs at an increased rate. While a promising sign, this does not equate to a full recovery in the labor market because millions of Americans remain unemployed. The good news is that the nation is gradually adding people back into the workforce.
- Largest industry gains seen in Construction, Finance, Manufacturing. The nation has seen hiring in 17 of 24 industries overall exceed its pre-COVID hiring levels. This is the broadest cross-industry recovery we've seen to date since the pandemic started. The industries with the most notable hiring shifts month-to-month in June were construction (19% higher); finance (16.8% higher); and manufacturing (16.1% higher).

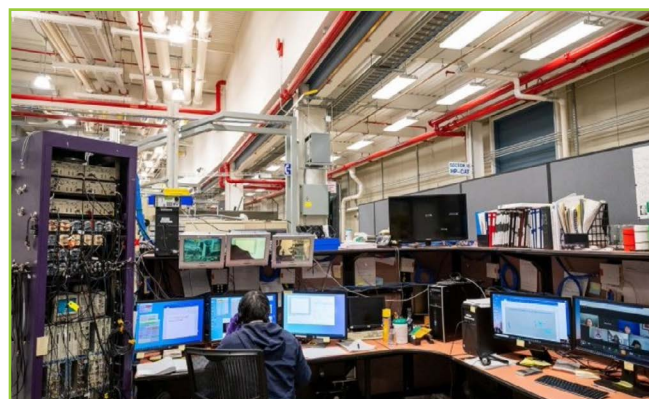
- Largest hiring gains seen in Cleveland, Houston, Austin. On a similarly positive note, hiring in 14 of the 20 metros that LinkedIn tracks regularly has exceeded its pre-COVID levels. The cities with the most notable hiring shifts month-to-month in June were Cleveland-Akron (16.8% higher); Houston (14.4% higher); and Austin (11.9% higher).

DOE STEM Rising



Savannah River Site Hosts Area Teachers at Annual Environmental Justice Workshop

Approximately 30 local middle and high school teachers came together recently at the University of South Carolina Aiken for the Teaching Radiation, Energy and Technology Workshop, an event for local educators held by the DOE Savannah River Operations Office since 1995. Through an environmental justice grant, DOE partners with Savannah State University to develop and carry out these important workshops. The goal is to educate teachers of kindergarten through twelfth grade and local community leaders in the Central Savannah River Area about radiation, sources of radiation, radioactive waste management, effects of radiation on environmental health, and the negative impact of environmental radiation exposure to humans.



Bolingbrook High School students build positive connections with Argonne's collaborative STEM community through the Exemplary Student Research Program (ESRP)

The U.S. DOE's Argonne National Laboratory is a place where great collaboration happens each day — not only between different areas of STEM research, but also with the numerous students involved in the lab's educational programs. For one of these educational programs, the *ESRP*, Bolingbrook High School has actively participated and created long-lasting partnerships between students, their teacher and the lab's STEM research community.



Oak Ridge students, mentors count down to launch of wildfire-studying satellite to space station

The Robertsville Middle School (RMS) NASA *CubeSat Launch Initiative* project, dubbed *RamSat* for the school's mascot, got its official start with the 2015–2016 school year. But the seed had been planted at a Christmas church service in 2014, when RMS STEM teacher Todd Livesay ran into Patrick Hull, an old friend who was in Oak Ridge visiting family for the holidays. Hull, an Oak Ridge native who is now an aerospace engineer at Marshall Space Flight Center in Huntsville, Alabama, wanted to partner with Livesay on a STEM education project.

Battelle Energy Alliance to Sign Memorandum of Understanding with Shoshone-Bannock School District #537

Idaho National Laboratory (INL) is formalizing its partnership with Shoshone-Bannock School District #537, which serves students within the boundaries of the Fort Hall Reservation, to enhance educational and career technical job opportunities for tribal students. Later this month, representatives from the school district and INL's main contractor, Battelle Energy Alliance, will sign a memorandum of understanding to collaborate and facilitate a career technical education and job placement program for students within the district. Both sides will commit to creating workforce pipelines and building a program that leads to employment opportunities after students have completed post-secondary school. The program will also directly create opportunities for scholarships, internships and career pathways for tribal students at INL.

Jefferson Lab Expands STEM Pipeline Support

Offering as many students as possible the opportunity to explore careers in STEM can help broaden diversity in these critically important fields. The U.S. DOE's Thomas Jefferson National Accelerator Facility offers STEM programs for students from elementary school through graduate school, and now, it has expanded its internships to include an option for students who are enrolled in community college.

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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