

Good Afternoon

The Webinar is scheduled to start at 12:00PM ET



Solutions for Today | Options for Tomorrow

Agenda



- 1. Welcome and Introductions**
Omer Bakshi, Federal Project Manager,
Integrated Carbon Management Team
- 2. Overview of FECM and NETL's University Training & Research Program**
 - *Caleb Woodall*, Program Manager (FECM HQ)
 - *Sydni Credle*, Technology Manager (NETL)
- 3. Review of FY22 Funded Topics**
 - *Caleb Woodall*, Program Manager (FECM HQ)
- 4. Doing Business with the Federal Government and Funding Opportunity Announcements (FOAs)**
 - Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
- 5. Responding to the Areas of Interest (or Topics)**
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
- 6. DOE and FECM Student Programs**
 - Sandra Penaherrera, Program Manager, Mickey Leland Energy Fellowship Program
- 7. NETL Internship Opportunities**
 - Patricia Adkins-Coliane, Graduate Education Program Manager, S&T Career Management

Welcome to the Webinar

NETL Webinar on FECM's University Training and Research Program



Omer Bakshi
Federal Project Manager



April 17, 2023
UTR FECM Webinar

Welcome and Introductions



- The objective of this Webinar is to assist university officials by:
 - Increasing awareness of NETL's **University Training and Research (UTR) Program** and its available opportunities
 - Presenting the context for these opportunities: NETL's Mission and Priorities in general and of Integrated Carbon Management in particular
 - Reviewing NETL's engagement with Minority-Serving Institutions (MSIs) and its purpose
 - Briefing participants on the intricacies of doing business with the Federal Government and how to effectively respond to NETL Funding Opportunity Announcements (FOAs)

Welcome and Introductions



- This **Webinar presentation will be archived** on NETL Website: www.netl.doe.gov. Go to the “News and Events” tab on the upper right-hand side and click “Conference Proceedings”
- If you are using computer audio, you may experience audio issues depending on your internet connection speed. To avoid this, **we recommend the phone call option**
- There will **not** be a Q&A session during this webinar. Please forward all questions and comments to **UTR-Program@netl.doe.gov**

Goals of NETL's UTR Program



- **Educate and train the next generation of engineers and scientists** to help develop and contribute to a highly-skilled, inclusive, and competitive U.S. workforce and economy
- **Support novel, early-stage research** at U.S. colleges and universities that advances the FECM mission of delivering integrated solutions related to fossil energy and carbon management and **enable transformation to a sustainable, net-zero greenhouse gas future**
- **Increase R&D opportunities for underrepresented and structurally marginalized communities** within the U.S. and tap into the innovative and diverse thinking of student researchers at minority serving institutions of higher learning

Agenda



1. Welcome and Introductions
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
2. **Overview of FECM and NETL's University Training & Research Program**
 - **Caleb Woodall, Program Manager (FECM HQ)**
 - **Sydni Credle, Technology Manager (NETL)**
3. Review of FY22 Funded Topics
 - *Caleb Woodall, Program Manager (FECM HQ)*
4. Doing Business with the Federal Government and Funding Opportunity Announcements (FOAs)
 - *Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team*
5. Responding to the Areas of Interest (or Topics)
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
6. DOE and FECM Student Programs
 - *Sandra Penaherrera, Program Manager, Mickey Leland Energy Fellowship Program*
7. NETL Internship Opportunities
 - *Patricia Adkins-Coliane, Graduate Education Program Manager, S&T Career Management*

University Training and Research

2023 Spring Webinar



April 17, 2023



U.S. DEPARTMENT OF
ENERGY



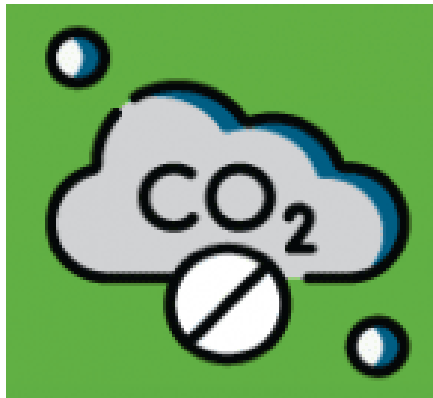
NATIONAL
ENERGY
TECHNOLOGY
LABORATORY

Office of Fossil Energy and Carbon Management



FECM Mission

Minimize the environmental impacts of fossil fuels while working towards net-zero emissions.



Decarbonization Goals

- 50% reduction in U.S. GHG pollution by 2030
- Carbon-neutral power sector by 2035
- Carbon-neutral economy by 2050

FECM Strategic Vision

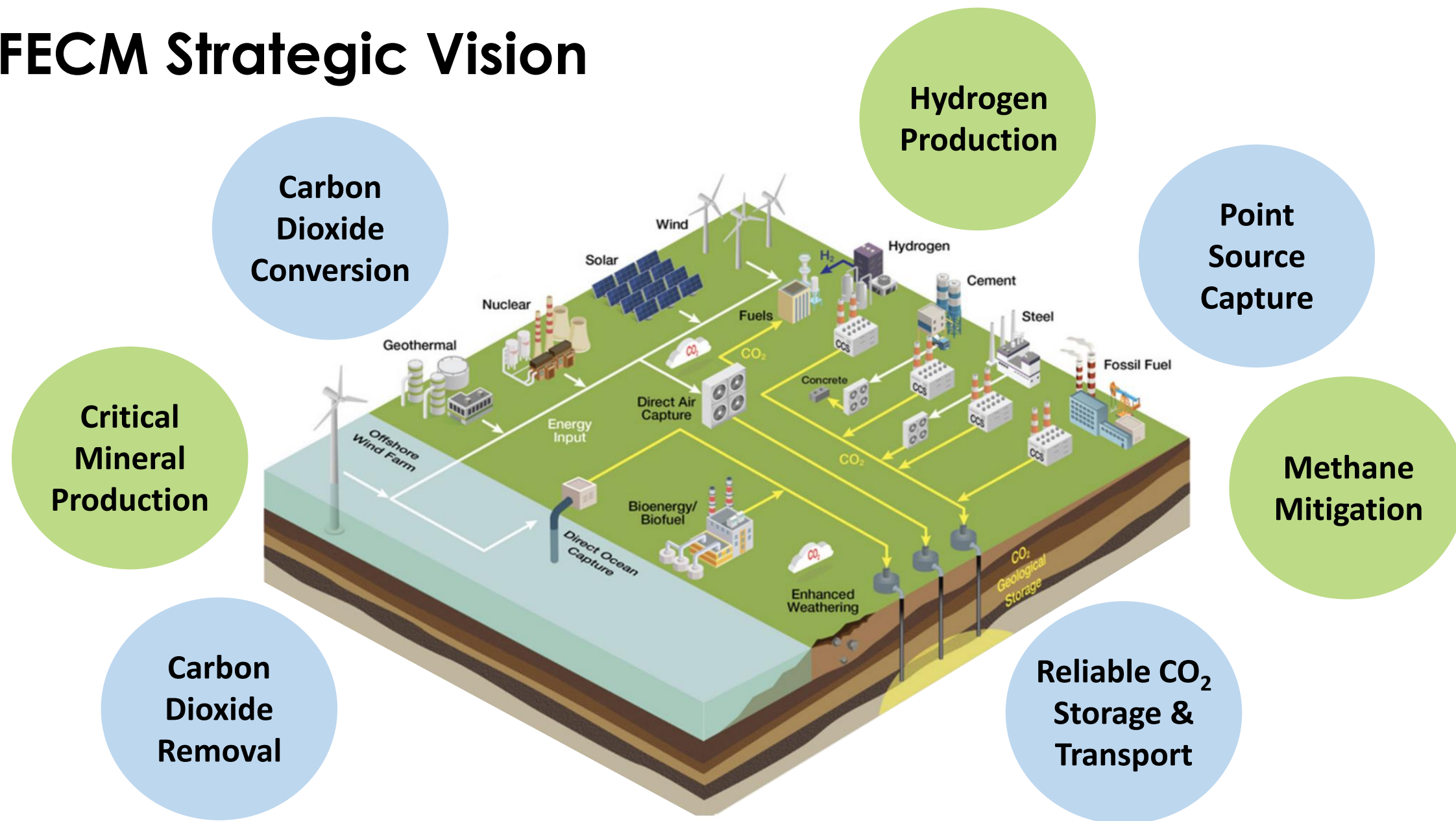
To “lead a clean energy revolution that achieves a carbon pollution-free power sector by 2035 and puts the United States on an irreversible path to a net-zero economy by 2050”.

Strategic directions and related priorities:

- Advancing Justice, Labor, and Engagement
- Advancing Carbon Management Approaches toward Deep Decarbonization
- Advancing Technologies that lead to Sustainable Energy Resources



FECM Strategic Vision



MISSION

Driving innovation and delivering solutions for an environmentally sustainable and prosperous energy future:

- Ensuring affordable, abundant and reliable energy that drives a robust economy and national security, while
- Developing technologies to manage carbon across the full life cycle, and
- Enabling environmental sustainability for all Americans

VISION

To be the nation's premier energy technology laboratory, delivering integrated solutions to enable transformation to a sustainable energy future.



U.S. DEPARTMENT OF
ENERGY

April 17, 2023

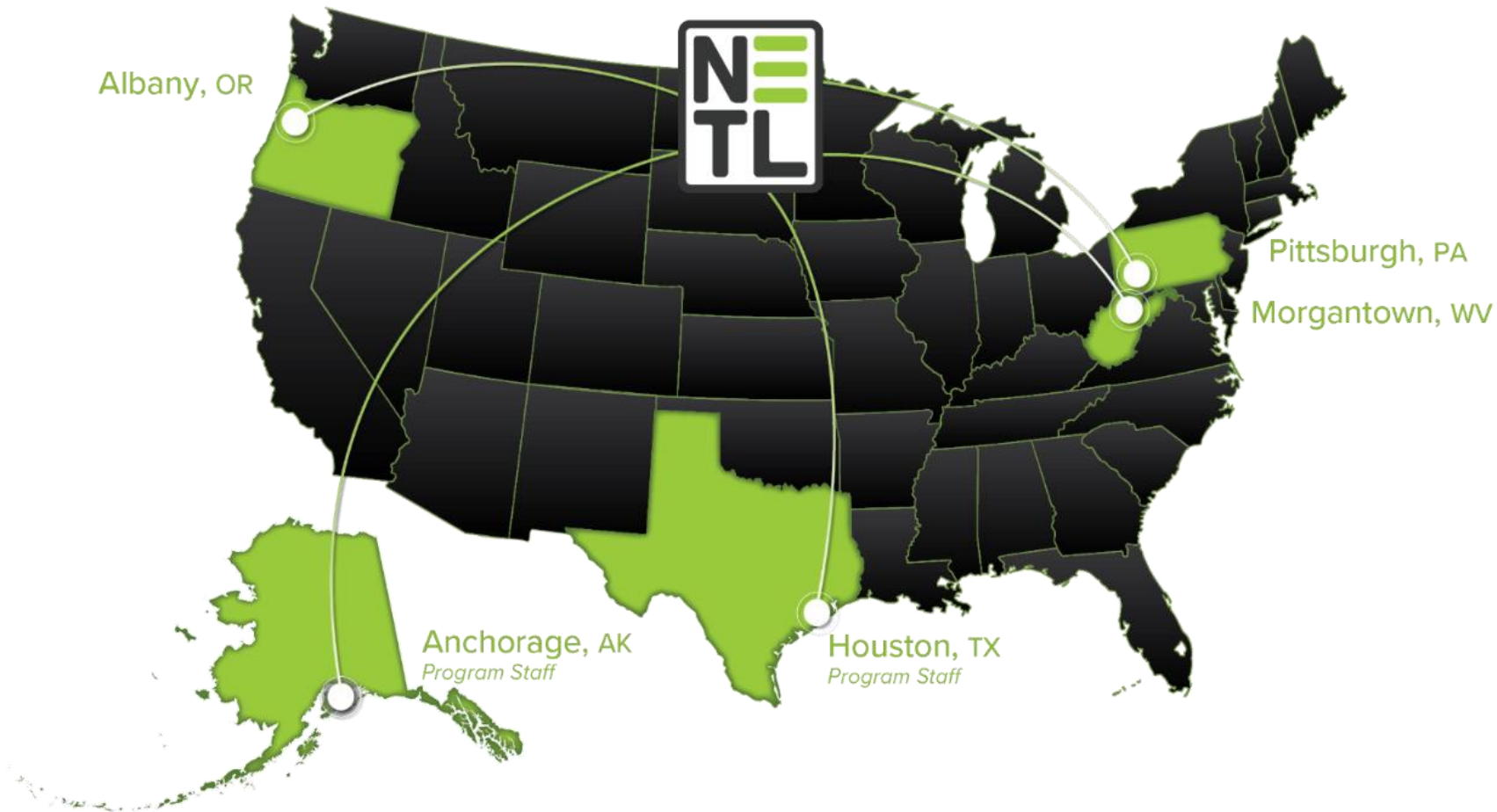


NATIONAL
ENERGY
TECHNOLOGY
LABORATORY

National Energy Technology Laboratory (NETL)



One of 17 U.S. Department of Energy (DOE) national laboratories;
producing technological solutions to America's energy challenges.



- NETL has **three** research laboratories
- **Two** strategic office locations
- **One of three** applied research national labs
- Government owned & operated
- Leader in cutting-edge research in conversion to higher value products
- Only National Lab dedicated to carbon management research

NETL Snapshot

By the Numbers

3 labs across U.S.

1000+ R&D projects in **50** states

\$5.0B total award value

\$1.3B FY23 budget

Workforce

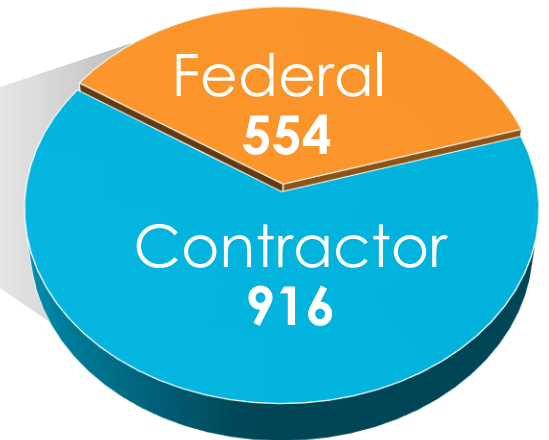
1,470 Full Time Equivalent
Employees (FTEs)

31 Joint Faculty

7 Postdoctoral Researchers

12 Graduate Students

2 Undergraduate Students



*Breakdown includes both NETL base
and BIL positions.*

NETL manages & implements an array of activities for multifaceted R&D programs

- Program planning, development, and execution
- Legal, financial, procurement and Head of Contracting Activity (HCA)
- Project management expertise

NETL Budget



FY2023 Budget \$1.3B

Carbon Management

Carbon Capture	\$135M
Carbon Dioxide Removal	\$ 70M
Carbon Utilization	\$ 50M
Carbon Storage	\$110M
Hydrogen with Carbon Management	\$ 95M

Resource Sustainability

Resource Tech. and Sustainability	\$195M
-----------------------------------	--------

Collaborative Research and Engagement

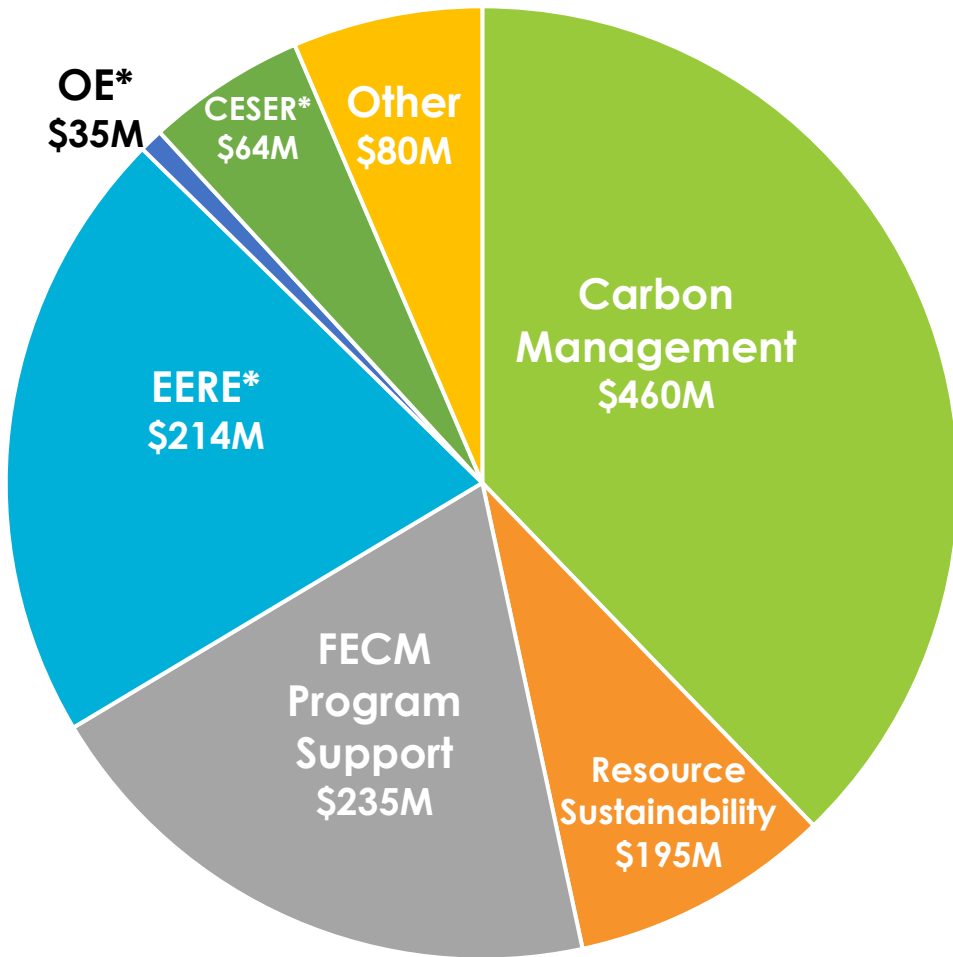
Other	\$ 80M
-------	--------

FECM Program Support

Energy Asset Transformation	\$ 6M
Program Direction	\$ 70M
Special Recruitment Programs	\$ 1M
University Training & Research	\$ 13M
NETL Research and Ops	\$ 87M
NETL Infrastructure	\$ 55M
Interagency Working Group	\$ 3M

Non-Fossil Programs*

EERE	\$214M
OE	\$ 35M
CESER	\$ 64M



*estimated and subject to change

University Training and Research Program



(HBCU/MSI)
Inclusion for
Underrepresented
Communities

Highly skilled
& well-qualified
workforce

Expanded
research
capabilities and
facilities

U.S.
Competitiveness

Early-stage R&D
in fossil energy
and carbon
management



Historically Black Colleges & Universities and
Other Minority-Serving Institutions (HBCU-MSI)

University Carbon Research (UCR)

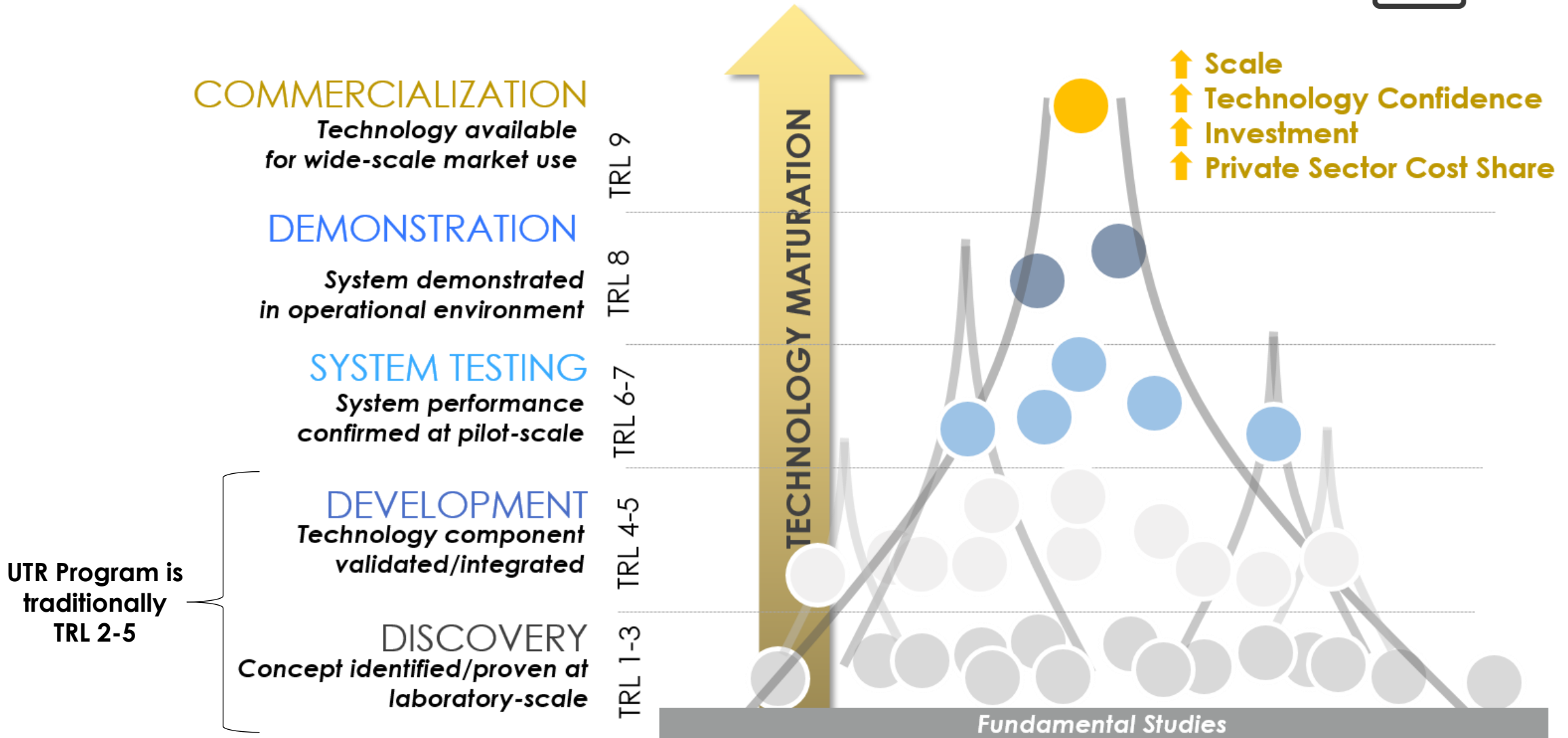
Education and Training Program for Next Generation of Engineers and Scientists

UTR Program – Goals and Objectives

- **Educate and train** the next generation of engineers and scientists
- To support **novel, early-stage research** at U.S. colleges and universities
- To increase research & development opportunities for **underrepresented and structurally marginalized communities** within the U.S.
- Ensure that students are being equipped with **cutting-edge, translatable skillsets**



University Training and Research Program



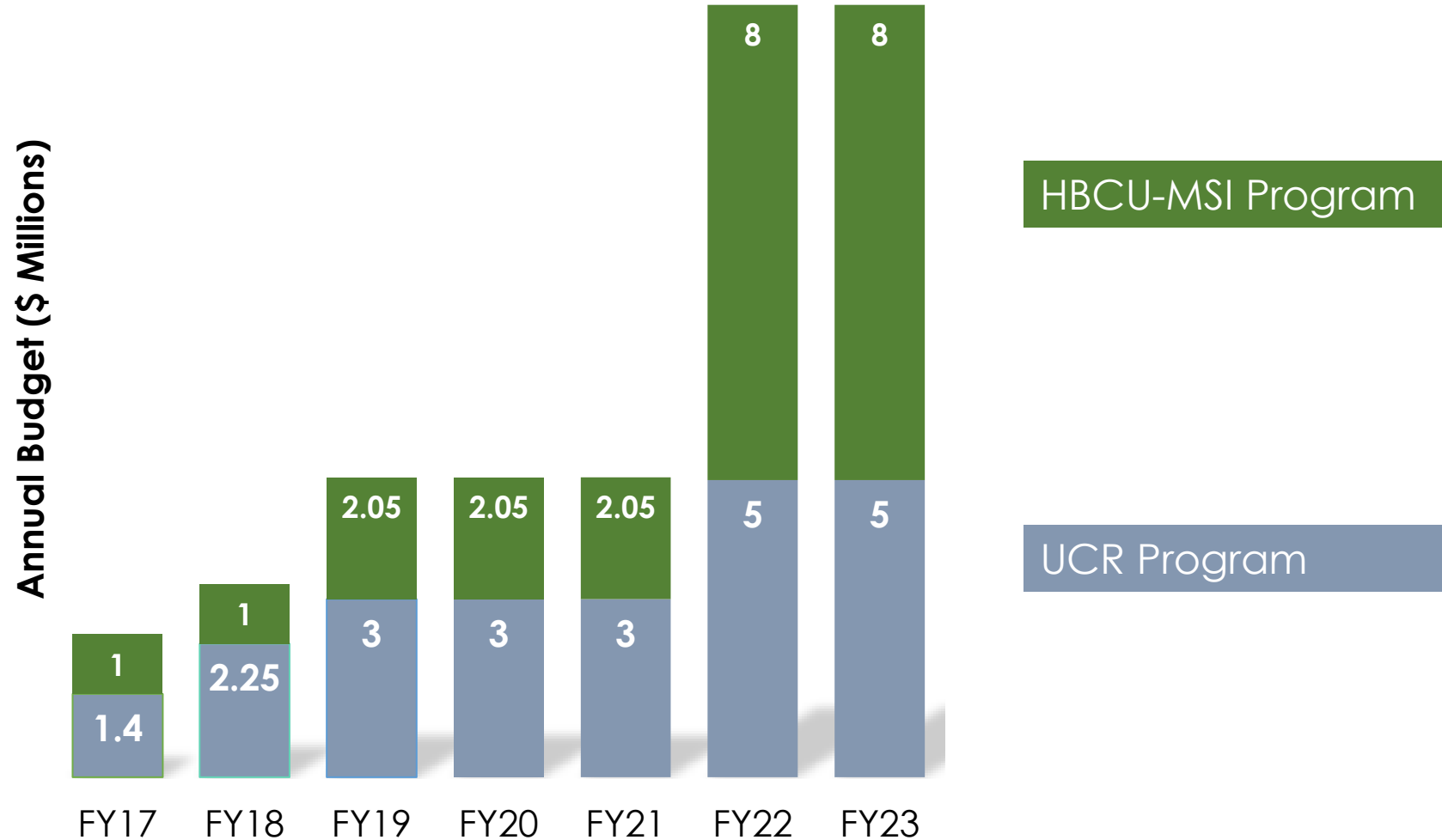
University Training and Research Program



Education and Training Program for Next Generation of Engineers and Scientists

- Multi-year Funding Opportunity Announcements (FOAs)
- Nationwide, competitive solicitation
- Research and development (R&D) projects awarded as Grants
- Typical duration of 2-3 years
- Typical award size: \$400-500K; Varies based on AOI
- Resources: <https://netl.doe.gov/business/solicitations>
<https://www.fedconnect.net/>
<https://www.grants.gov/>

UTR Program Budget History



UTR Program – Project Summary

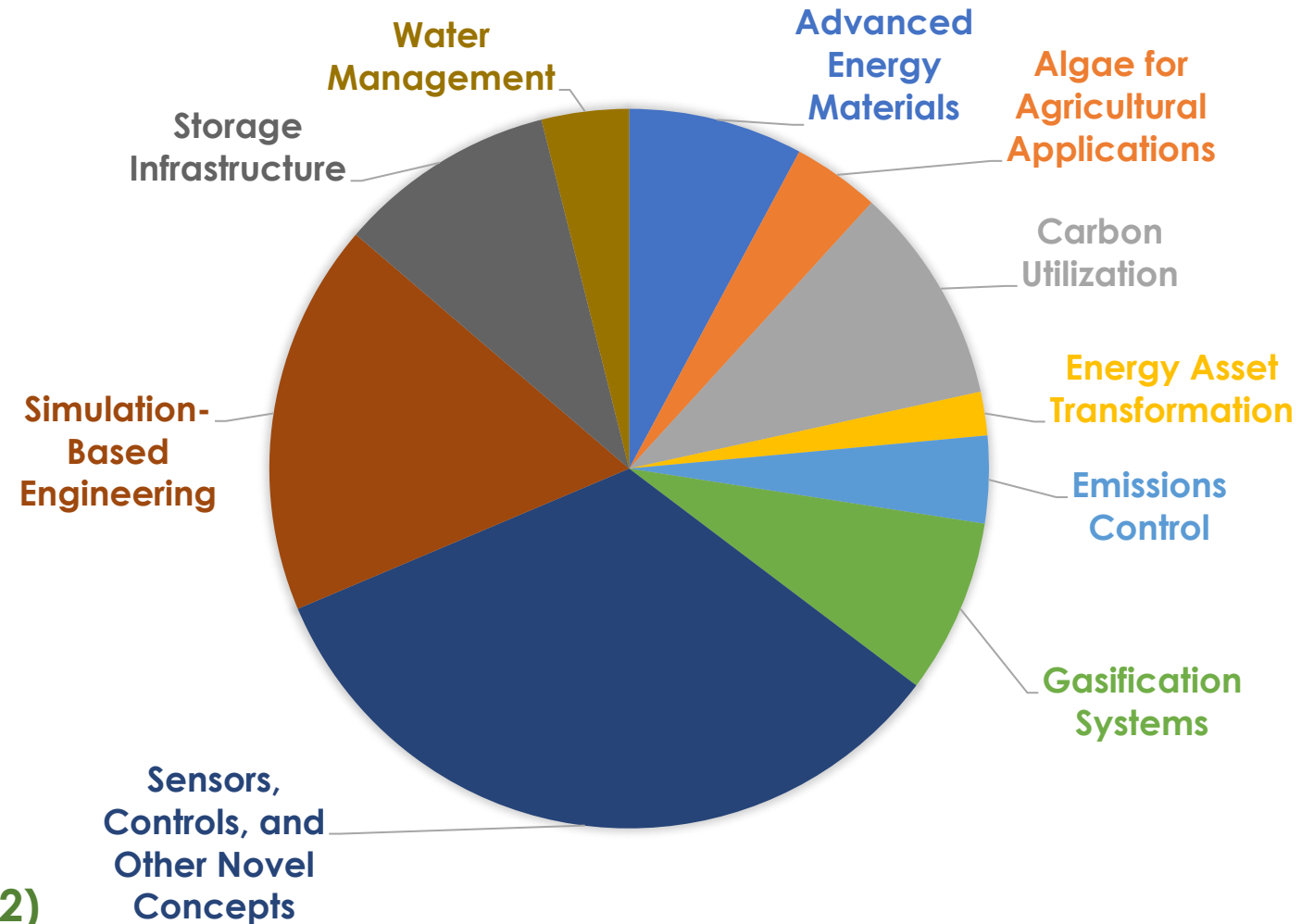


51 TOTAL PROJECTS (ACTIVE)

28 UNIVERSITY CARBON RESEARCH (UCR)

23 HISTORICALLY BLACK COLLEGES AND UNIVERSITIES, AND MINORITY SERVING INSTITUTIONS (HBCU-MSI)

\$20.8M TOTAL AWARD VALUE
(ACTIVE as of Oct 1, 2022)



UTR Program – Project Summary



23 HBCU-MSI
ACTIVE PROJECTS

28 UCR
ACTIVE PROJECTS

63 CURRENT STUDENTS AFFILIATED
W/PROGRAM (as of Oct 1, 2022)

58 CURRENT STUDENTS AFFILIATED
W/PROGRAM (as of Oct 1, 2022)

\$8.7M TOTAL AWARD VALUE
(ACTIVE)

\$12.1M TOTAL AWARD VALUE
(ACTIVE)

UTR Program – University Partners



- Carnegie Mellon University**
- California State University – Long Beach
- California State University – Los Angeles
- Colorado School of Mines
- Duke University
- Florida A&M University**
- Florida International University**
- Georgia Tech Research Corporation**
- Howard University
- Johns Hopkins University
- Kansas State University
- Kentucky State University
- Michigan State University
- Michigan Technological University**
- Morgan State University
- New Mexico State University
- North Carolina A&T University
- Ohio State University
- Ohio University
- Old Dominion University
- Pennsylvania State University
- Prairie View A&M University**
- Texas State University
- University of California – Riverside**
- University of Central Florida
- University of Maryland
- University of Massachusetts
- University of Missouri
- University of New Mexico
- University of North Carolina Charlotte
- University of North Dakota
- University of North Dakota Energy and Environmental Research Center (UNDEERC)**
- University of Texas at Arlington
- University of Texas at El Paso**
- University of Texas at San Antonio
- West Virginia University Research Corporation**

UTR Program – University Partners (HBCU-MSI)

Historically Black Colleges and Universities, and Minority Serving Institutions Program

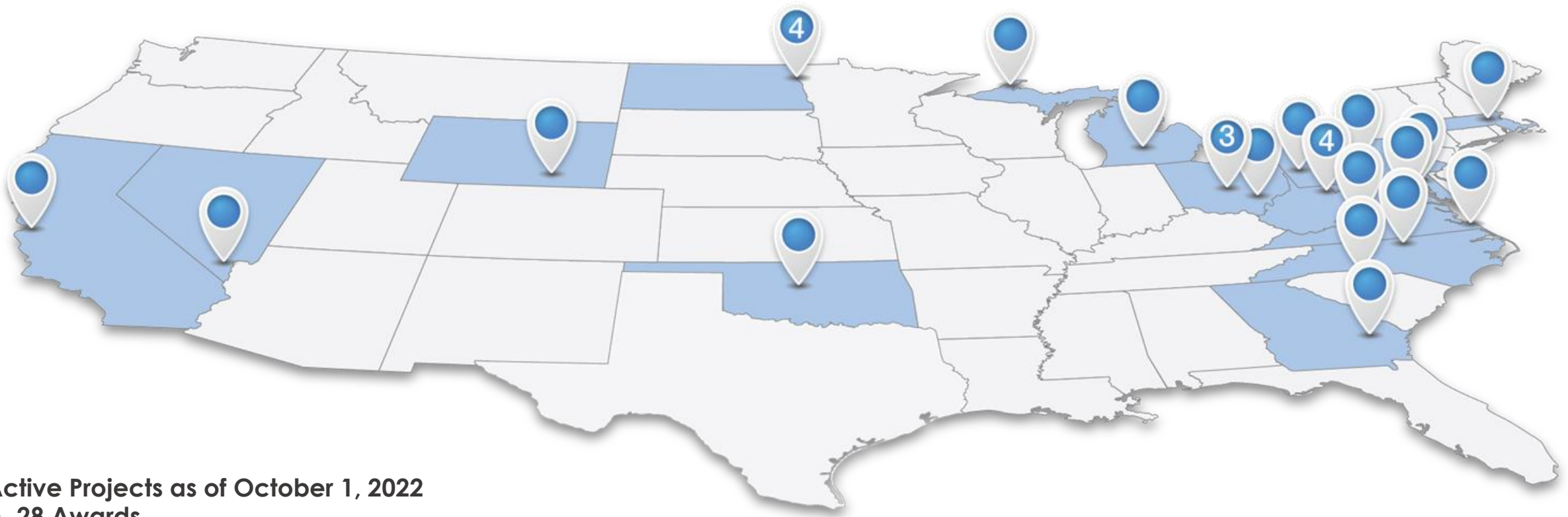


Active Projects as of October 1, 2022

- 23 Awards
- \$8.67M
- 63 Students

UTR Program – University Partners (UCR)

University Carbon Research Program



Active Projects as of October 1, 2022

- 28 Awards
- \$12.1M
- 58 Students

Agenda



1. Welcome and Introductions
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
2. Overview of FECM and NETL's University Training & Research Program
 - *Caleb Woodall, Program Manager (FECM HQ)*
 - *Sydni Credle, Technology Manager (NETL)*
3. **Review of FY22 Funded Topics**
 - ***Caleb Woodall, Program Manager (FECM HQ)***
4. Doing Business with the Federal Government and Funding Opportunity Announcements (FOAs)
 - *Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team*
5. Responding to the Areas of Interest (or Topics)
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
6. DOE and FECM Student Programs
 - *Sandra Penaherrera, Program Manager, Mickey Leland Energy Fellowship Program*
7. NETL Internship Opportunities
 - *Patricia Adkins-Coliane, Graduate Education Program Manager, S&T Career Management*

Recently Funded UTR Topics

Caleb Woodall

Program Manager, University Training and Research, FECM



April 17, 2023
UTR FECM Webinar

FOA Summary (Recent UTR Topics)



FY20

- **Quantum** for Energy Systems and Technologies
- Novel **Sensors and Controls** for Flexible Generation
- **Machine Learning** for Computational Fluid Dynamics (CFD)
- Fast, Efficient, And Reliable Fossil Power with Integrated **Energy Storage**

FY21

- **Energy-water nexus** implications and opportunities of a hydrogen economy
- Electromagnetic energy-assisted approaches to **convert fossil fuels to low-cost hydrogen**
- **Process and materials co-optimization** for the production of blue hydrogen
- Addressing high-temperature **materials supply chain** challenges
- **5G wireless** technologies for power generation

FY22

- **TEA/LCA** Screening of CCS-Enabled, Waste Coal and Biomass Power Production
- **Phytotechnology** Development for Identification/Remediation of Sites Exhibiting Soil Contamination
- **Infrastructure Self-Assessment** of FECM Research Capabilities
- Biological **Uptake of CO₂ via Algae** for Agricultural Applications
- **Hydrogen storage** materials
- **PGM-free catalysts and electrodes** for fuel cells and electrolyzers
- Value-added **natural gas conversion**
- **Humanities-driven STEM** to enhance FECM R&D priorities

FOA Summary (Recent UTR Topics)

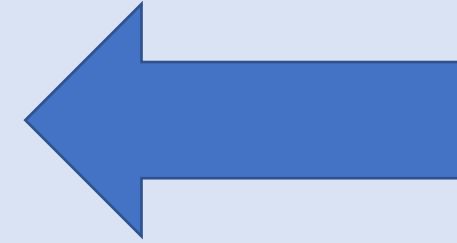
FY20

- **Quantum** for Energy Systems and Technologies
- Novel **Sensors and Controls** for Flexible Generation
- **Machine Learning** for Computational Fluid Dynamics (CFD)
- Fast, Efficient, And Reliable Fossil Power with Integrated **Energy Storage**

FY21

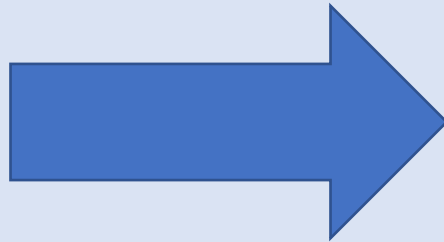
- **Energy-water nexus** implications and opportunities of a hydrogen economy
- Electromagnetic energy-assisted approaches to **convert fossil fuels to low-cost hydrogen**
- **Process and materials co-optimization** for the production of blue hydrogen
- Addressing high-temperature **materials supply chain** challenges
- **5G wireless** technologies for power generation

“Cross-cutting Research” Topics





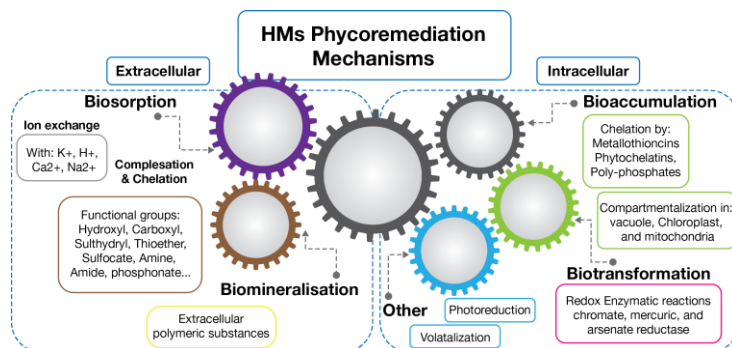
Topics aligned with new FECM Strategic Vision



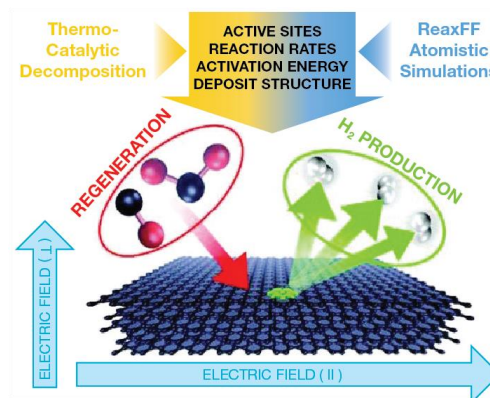
- **TEA/LCA** Screening of CCS-Enabled, Waste Coal and Biomass Power Production
- **Phytotechnology** Development for Identification/Remediation of Sites Exhibiting Soil Contamination
- **Infrastructure Self-Assessment** of FECM Research Capabilities
- Biological **Uptake of CO₂ via Algae** for Agricultural Applications
- **Hydrogen storage** materials
- **PGM-free catalysts and electrodes** for fuel cells and electrolyzers
- Value-added **natural gas conversion**
- **Humanities-driven STEM** to enhance FECM R&D priorities

UTR Portfolio Highlights

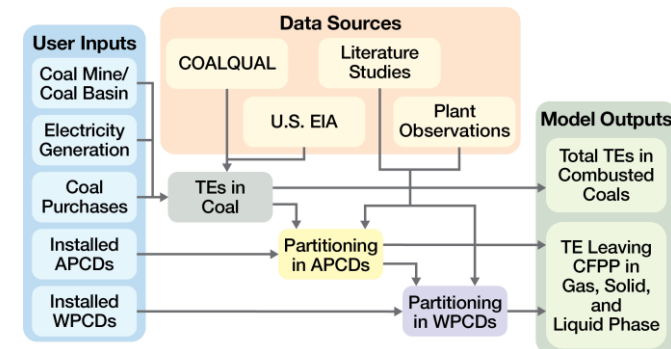
REMEDIATION OF HEAVY METALS USING PHYTOTECHNOLOGIES



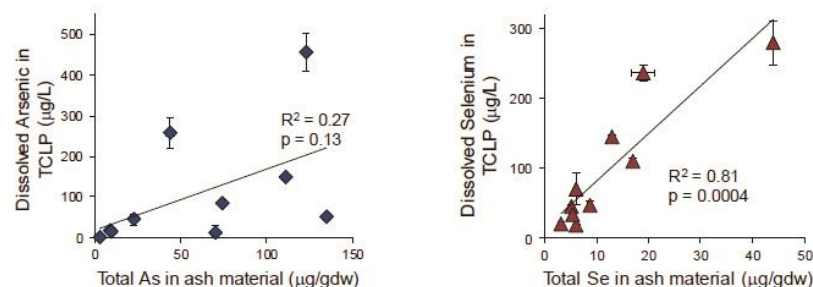
HYDROGEN PRODUCTION



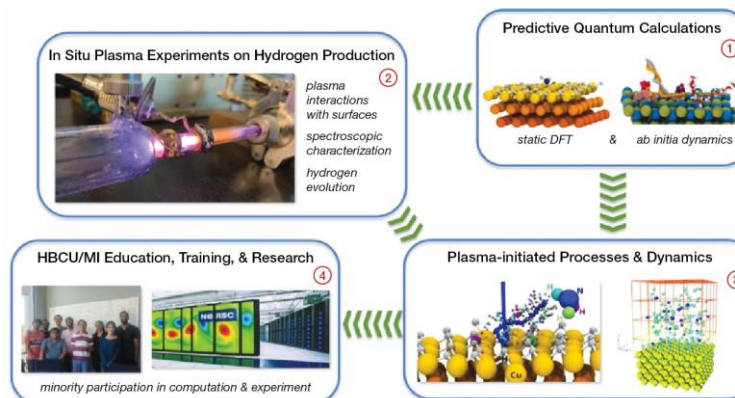
WATER TREATMENT



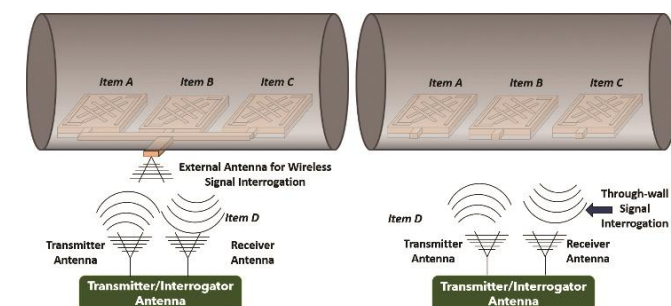
COAL FLY ASH BENEFICIATION



QUANTUM INFORMATION SCIENCES



PASSIVE WIRELESS SENSORS



Research Sought in FY22 FOA

Projects that feature:

1. Technology concepts, enhanced by an interdisciplinary HDSTEM program, and
2. Align with one or more FECM strategic priority areas

Listed Focus Areas

Social Science

- Policy
- Entrepreneurship
- Urban planning
- Energy equity
- Other sociological topics

Humanities

- Ethnic
- Art & design
- Equity
- Other considerations

Motivation of Humanities-Driven STEM Topic

- Equipping students with a diverse skillset
- Support research that addresses societal contexts of FECM priorities

Notes from FECM's Strategic Vision:

Hydrogen with Carbon Management

Improving living and economic conditions for communities hurt by carbon-based fuels

Carbon Dioxide Removal

Use place-based lens and system-scale analysis to understand diverse sociotechnical contexts

Reliable Carbon Transport

Engaging communities early in modeling process rather than after routes have been identified or chosen

Critical Minerals

Consideration of non-technical factors that may impact environmental justice and workforce communities

UTR Portfolio Highlight: HDSTEM



FY22 Awarded Projects

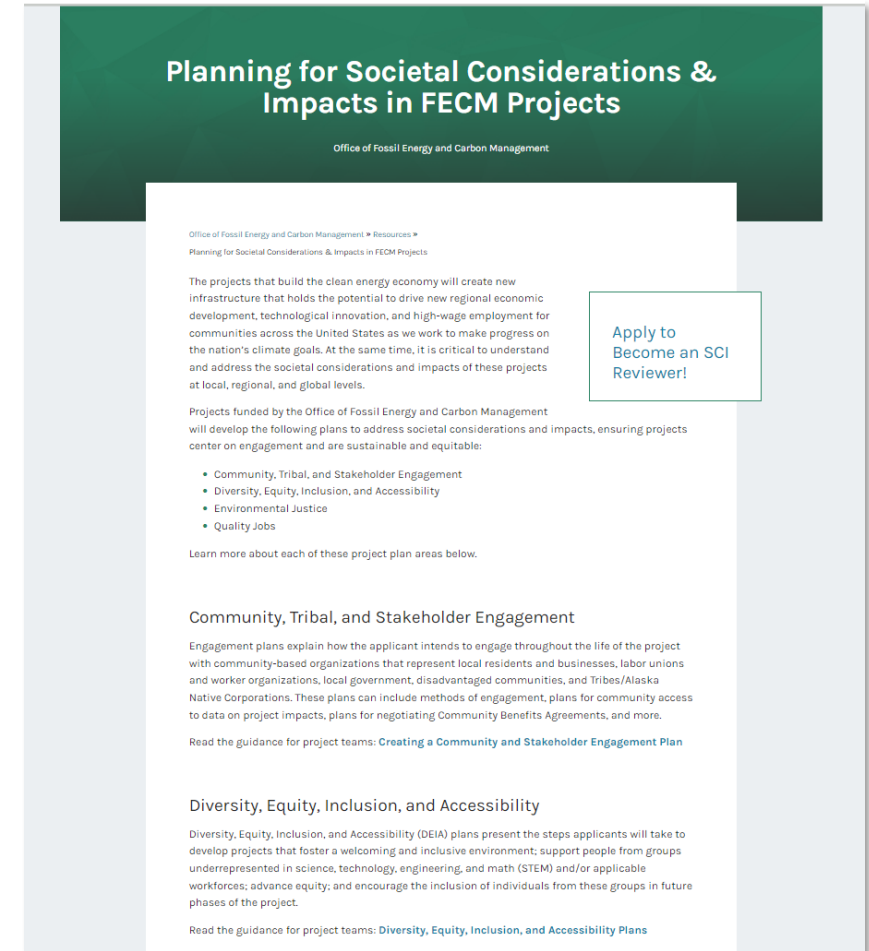
University of Texas at El Paso

Michigan Technological University

HBCU-MSI Program	UTR Program	UCR Program
Improving operation of a co-gasifier to produce hydrogen and syngas	Summary	Investigating site selection of landfill mining operation for aluminum recovery
Assessing community barriers to technology adoption	Humanities Component	Social science analysis of the landfill history and nearby community
Hydrogen production	FECM Priority Area	Critical minerals

Societal Considerations and Impact (SCI)

- Address societal considerations and impacts, ensuring projects center on engagement and are sustainable and equitable
- Four elements, designed to work together:
 1. Diversity, Equity, Inclusion, and Accessibility
 2. Justice40 Initiative
 3. Community, Labor, and Stakeholder Engagement
 4. Quality Jobs
- [New] UTR Program will begin to explicitly incorporate SCI elements where applicable



Agenda



1. Welcome and Introductions
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
2. Overview of FECM and NETL's University Training & Research Program
 - *Caleb Woodall, Program Manager (FECM HQ)*
 - *Sydni Credle, Technology Manager (NETL)*
3. Review of FY22 Funded Topics
 - *Caleb Woodall, Program Manager (FECM HQ)*
4. **Doing Business with the Federal Government and Funding Opportunity Announcements (FOAs)**
 - **Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team**
5. Responding to the Areas of Interest (or Topics)
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
6. DOE and FECM Student Programs
 - Sandra Penaherrera, Program Manager, Mickey Leland Energy Fellowship Program
7. NETL Internship Opportunities
 - Patricia Adkins-Coliane, Graduate Education Program Manager, S&T Career Management

Doing Business with the Federal Government - *FOA and Requirements*

Omer Bakshi

Federal Project Manager, Integrated Carbon Management Team



April 17 2023
UTR FECM Webinar

Steps to Apply for an NETL Grant




- Identify opportunity of interest through **Funding Opportunity Announcement (FOA)**
 - Discussed in detail later in presentation
- Meet registration requirements
- Prepare and submit application

The Funding Opportunity Announcement (FOA)

- A publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds
- May be known as **program announcements, requests for applications, notices of funding availability, solicitations, or other names** depending on the agency and type of program
- See recent DE-FOA-0002596
 - **FUNDING IS CLOSED; FOR EXAMPLE USE ONLY**
 - https://www.fedconnect.net/FedConnect/PublicPages/PublicSearch/Public_OpportunitySummary.aspx

version: July 13, 2020

FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT



Department of Energy (DOE)
Office of Fossil Energy (FE)

UNIVERSITY TRAINING AND RESEARCH FOR FOSSIL ENERGY APPLICATIONS
Funding Opportunity Announcement (FOA) Number: DE-FOA-0002398
FOA Type: Initial
CFDA Number: 81.057 University Coal Research

FOA Issue Date:	12/11/2020
Submission Deadline for Full Applications:	02/15/2021/ 8:00 PM ET
Expected Date for Selection Notifications:	April 2021
Expected Date for Award:	June 2021

Registration/Submission Requirements

- Obtain a **Unique Entity Identifier (UEI)** (<https://fedgov.dnb.com/webform/>)
 - This has replaced the DUNS number previously used.
- Register with the **System for Award Management (SAM)** (sam.gov/SAM)
- Register with grants.gov
- Register with fedconnect.net

Registration Requirements: Grants.gov



- Register with Grants.gov
 - **There are 3 steps to this process:**
 1. The **Authorized Organizational Representative (AOR)** must register
 2. An email is sent to the **E-Business (E-Biz) POC listed in SAM**. The E-Biz POC must approve the AOR registration using their MPIN from their SAM registration
 3. **AOR verifies that registration was completed** at [Grants.gov](https://www.grants.gov)
- [Grants.gov](https://www.grants.gov) is where you will submit your application package

Registration Requirements: Fedconnect.net



- Applicants must register with FedConnect (fedconnect.net)
- FedConnect is used for:
 - Submitting questions
 - Viewing and downloading announcement documents or amendments
 - Communicating with Federal representatives managing the announcement
- **Allow at least 44 days to complete entire registration process**

Questions

- Questions related to the registration process, system requirements or how an application form works must be directed to grants.gov; 1-800-518-4726; or support@grants.gov
- Questions related to the content of the announcement must be submitted to the FedConnect portal
- Must be registered with FedConnect to submit questions and view responses

Application Preparation and Submission



- Applicants must download application package, forms and instructions at grants.gov
- Applications must be submitted through grants.gov only(this will be indicated in the solicitation document)
 - **Must register at Grants.gov!**
 - Update SAM annually
- Applications must be submitted through grants.gov by a **qualified authorized representative**

Accessing NETL FOAs in FedConnect

- In an internet browser, enter the FedConnect URL fedconnect.net
- On the Main Page, click on **Search Public Opportunities Only**



FedConnect®
The Government Acquisition & Grants Portal

ALERT: SAM.gov will be down for scheduled maintenance Saturday, 11/09/2019, from 8:00 AM to 3:00 PM. This outage may impact the registration process in FedConnect.

Do you want the US federal government to buy your products or services? Or, are you seeking grants or assistance funding?

FedConnect can help. Every day, FedConnect helps over 100,000 vendors and grant applicants, find, respond to and win opportunities for contracts, grants, and other types of assistance funding. To learn more about how FedConnect works, click here to review the tutorial.

Do you work for a federal agency?

FedConnect is the perfect complement to FedBizOpps and Grants.gov. FedConnect goes beyond the basic features of those systems to provide full lifecycle support including the ability to post opportunities, receive responses, deliver awards, and communicate throughout the pre-award, award, and post-award phases using FedConnect's secure 2-way messaging. Click here to learn more.

Sign In - Full Access →

Search Public Opportunities Only →

Register for Free Account →

Internet Explorer Compatibility Notice: If you are using Internet Explorer 9 (IE9) or above, Compatibility View must be on. Contact support with additional questions.

Need help?

- FedConnect: Ready, Set, Go! Tutorial
- **Updated!** Reverse Auction Vendor Tip Sheet
- Check Registration Status
- Password Reset
- Contact Your Organization's FedConnect Administrator
- Contact FedConnect Support

Want to learn more?

- Participating Government Agencies
- Accessibility Features

Accessing NETL FOAs in FedConnect (cont.)



- Under **Search Criteria**, select **Issuing Office**, type “**National Energy Technology Lab**”, and click on **Search**

public opportunities

This is a list of publicly posted opportunities. To view a particular opportunity, click the hyperlink under the title. For more details on using this page, click Help.

Search Criteria | Advanced Options

Issuing Office

National Energy Technology Lab

Search

Title	Type	Agency	Issuing Office	Issue Date	Response Due Date	PSC / FSC	NAICS	Reference Number
Vacuum Induction Melting (VIM) and Casting Furnace	Solicitation	DOE - DOE	National Energy Technology Lab	11/9/2020	12/01/2020 04:00 PM US/Eastern	4430	333994	89243321QFE000206
Notice of Intent to Sole Source to FEI Houston Company for FEI PerGeos 1.0 soft	Special Notice	DOE - DOE	National Energy Technology Lab	11/24/2020 1:27:09 PM	11/30/2020 12:00 PM US/Eastern	7A20	511210	89243321QFE000209
Notice of Intent to Sole Source to EPRI Technology	Special Notice	DOE - DOE	National Energy Technology Lab	11/20/2020 1:17:28 PM		R415	541690	89243321RFE000048
Emerging CO2 Storage Technologies: Optimizing Performance Through Minimization of Seismicity Risks and Monitoring Caprock Integrity	Funding Opportunity	DOE - DOE	National Energy Technology Lab	11/16/2020	12/11/2020 08:00 PM US/Eastern			DE-FOA-0002401
Notice of Intent to issue DE-FOA-0002438 titled Design, R&D, Validation, and Fabrication of a Prototype Carbon-Based Building	Funding Opportunity	DOE - DOE	National Energy Technology Lab	11/12/2020	12/07/2020 08:00 PM US/Eastern			DE-FOA-0002442
Broughton Volunteer Fire Department (BVFD) Services	Special Notice	DOE - DOE	National Energy Technology Lab	11/10/2020 11:56:01 AM	11/25/2020 05:00 PM US/Eastern	J012	922160	89243321QFE000207
Notice of Intent to issue a Funding Opportunity Announcement (FOA) on behalf of DOE's Office of Fossil Energy (FE) entitled "Water Management For Thermal Power Generation".	Funding Opportunity	DOE - DOE	National Energy Technology Lab	10/30/2020	12/15/2020 08:00 PM US/Eastern			DE-FOA-0002430
Enabling Gasification of Blended Coal, Biomass and Plastic Wastes to Produce Hydrogen with Potential for Net Negative Carbon Dioxide Emissions.	Funding Opportunity	DOE - DOE	National Energy Technology Lab	10/23/2020	11/19/2020 11:59 AM US/Eastern			DE-FOA-0002376
Bottled Water and Dispenser Service for NETL	Solicitation	DOE - DOE	National Energy Technology Lab	10/9/2020	10/23/2020 02:00 PM US/Eastern	S299	454390	89243320QFE000205
Research Needs Related to Enhanced Weathering as a Mechanism for Carbon Dioxide Removal	Funding Opportunity	DOE - DOE	National Energy Technology Lab	10/14/2020	11/06/2020 08:00 PM US/Eastern			DE-FOA-0002427

1 2 3 4 5 6 7 8 9 10 ...

Accessing NETL FOAs in FedConnect (cont.)

- Click the [hyperlink](#) under the title to view

FedConnect.

Help

public opportunities

This is a list of publicly posted opportunities. To view a particular opportunity, click the hyperlink under the title. For more details on using this page, click Help.

<input type="checkbox"/> Search Criteria Advanced Options								
Issuing Office			National Energy Technology Lab				<input type="button" value="Search"/>	
Title	Type	Agency	Issuing Office	Issue Date	Response Due Date	PSC / FSC	NAICS	Reference Number
Purchase of M15-400 Assy. RP Consistometer M15-40	Special Notice	DOE - DOE	National Energy Technology Lab	11/7/2019 10:05:42 AM		6635	811310	89243320RFE000029
Notice of Intent to Sole Source to FEI Houston Com	Special Notice	DOE - DOE	National Energy Technology Lab	11/4/2019 11:02:25 AM	11/15/2019 12:00 PM US/Eastern	7030	334516	89243320QFE000146
RFI: Energy Storage for Fossil Fuel Energy Systems	Funding Opportunity	DOE - DOE	National Energy Technology Lab	10/30/2019	12/16/2019 08:00 PM US/Eastern			DE-FOA-0002209
Security Support Services for the Office of the As	Sources Sought	DOE - DOE	National Energy Technology Lab	10/25/2019 8:20:52 AM	11/22/2019 08:00 PM US/Eastern	R430	561612	89243320NAU000002
Revised Sources Sought Critical Minerals Market An	Pre-solicitation Notice	DOE - DOE	National Energy Technology Lab	10/18/2019 2:45:14 PM	11/15/2019 02:00 PM US/Eastern	R425	541720	89243320NFE000030

Accessing NETL FOAs in FedConnect (cont.)

- Click on the **FOA Reference Number** under **Funding Opportunity** to view the FOA instructions
- To view Amendments to the FOA, click on the **FOA Reference Number** under **Amendment 1**

FedConnect.

Videos | Help

Opportunity: Crosscutting Research for Coal-Fueled Power Plants

Description

The purpose of Amendment 000001 is to re-open the FOA to receive applications in response to the second closing date, to change the second application closing due date to 12/12/2019, and to incorporate revisions. Please read the FOA document carefully when preparing your application.

Overview

Reference number: DE-FOA-0002001
Issue date: 09/23/2019
Response due: 12/12/2019 11:59 PM US/Eastern

Set Aside:
NAICS:
PSC / FSC:

Agency: DOE

Contracting office:

National Energy Technology Lab
U.S. Department of Energy
Morgantown Campus
3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880

Place of Performance:

What do I do now?

This is the opportunity summary page. To the left you will see a description and an overview of this opportunity. To the right you will see a list of the attached documentation. To view any of the attachments, simply click the attachment name.

Registered Users

To register interest in this opportunity or to electronically respond, you must first sign in. Click the Sign In button below.

[Sign In](#)

Non Registered Users

You can view this or any other public opportunity. However, registered users have numerous added benefits including the ability to submit questions to the agency, receive emails concerning updates and amendments, create and manage a response team and submit responses directly through this site.

Becoming a registered user is fast, free and takes only a few minutes. To get started, click the Register Now button below.

[Register Now](#)

Documentation

- DE-FOA-0002001
 - Funding Opportunity
 - Overview
 - DE-FOA-0002001
 - Budget Justification File
 - Amendment 1
 - Overview
 - DE-FOA-0002001 - Amendment 000001

Accessing NETL FOAs in FedConnect (cont.)

- The **Help** button is available on each page to assist with navigating FedConnect
- To submit questions about this FOA, Registered Users click on **Sign In**
- Click on **Register Now** to receive notifications and agency alerts, and view the message center

FedConnect.

Videos → Help

Opportunity: Crosscutting Research for Coal-Fueled Power Plants

Description

The purpose of Amendment 000001 is to re-open the FOA to receive applications in response to the second closing date, to change the second application closing due date to 12/12/2019, and to incorporate revisions. Please read the FOA document carefully when preparing your application.

Overview

Reference number: DE-FOA-0002001
Issue date: 09/23/2019
Response due: 12/12/2019 11:59 PM US/Eastern

Set Aside:
NAICS:
PSC / FSC:

Agency: DOE

Contracting office:

National Energy Technology Lab
U.S. Department of Energy
Morgantown Campus
3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880

Place of Performance:

What do I do now?

This is the opportunity summary page. To the left you will see a description and an overview of this opportunity. To the right you will see a list of the attached documentation. To view any of the attachments, simply click the attachment name.

Registered Users

To register interest in this opportunity or to electronically respond, you must first sign in. Click the Sign In button below.

[Sign In](#)

Non Registered Users

You can view this or any other public opportunity. However, registered users have numerous added benefits including the ability to submit questions to the agency, receive emails concerning updates and amendments, create and manage a response team and submit responses directly through this site.

Becoming a registered user is fast, free and takes only a few minutes. To get started, click the Register Now button below.

[Register Now](#)

Documentation

- DE-FOA-0002001
 - Funding Opportunity
 - Overview
 - DE-FOA-0002001
 - Budget Justification File
 - Amendment 1
 - Overview
 - DE-FOA-0002001 - Amendment 000001

Opportunities for Work with NETL



- NETL Research Programs use the websites below to post solicitations/funding opportunity announcements, receive proposals/applications, and disseminate other information for competitive awards. **Entities wishing to participate in these solicitations must register at these websites.**
 - Fedconnect <https://www.fedconnect.net/>
 - Grants.gov <https://grants.gov/>
- **Proposals will only be accepted through [Grants.gov](https://grants.gov/) only** (this will be indicated in the solicitation document).
- Additional information can also be found at NETL Business website: <https://netl.doe.gov/business/solicitations>
- An email listserv of FECM announcements can be signed up for: <https://public.govdelivery.com/accounts/USDOE/FE/subscriber/new>

University Training and Research (UTR) Announcement- *The FOA and Application*



Omer Bakshi

Federal Project Manager, Integrated Carbon Management Team



April 17, 2023
UTR FECM Webinar

General Information

Where to start?

- A typical Funding Opportunity Announcement (FOA) follows a standard format.
- **The Funding Opportunity contains 8 main sections** (with multiple sub-sections) laid out in the table of contents focusing on the complete life cycle of the opportunity.
- It is important to familiarize yourself with the entire FOA and **pay close attention to this section to avoid submitting a “technically” non-responsive application.**

TABLE OF CONTENTS MAIN SECTIONS

- I. FUNDING OPPORTUNITY DESCRIPTION
- II. AWARD INFORMATION
- III. ELIGIBILITY INFORMATION
- IV. APPLICATION AND SUBMISSION INFORMATION
- V. APPLICATION REVIEW INFORMATION
- VI. AWARD ADMINISTRATION INFORMATION
- VII. QUESTIONS/AGENCY CONTACTS
- VIII. OTHER INFORMATION
- IX. APPENDICES

I. Funding Opportunity Description

Where to start?

TABLE OF CONTENTS

- I. FUNDING OPPORTUNITY DESCRIPTION
 - i. AUTHORIZING STATUES
 - ii. BACKGROUND/DESCRIPTION
 - iii. OBJECTIVES/AREAS OF INTEREST
 - iv. APPLICATIONS SPECIFICALLY NOT OF INTEREST

Noteworthy Items

- **ii. Background/Description**
 - Provides information on what technology programs are funding the solicitation and introduction to the purpose of the announcement.
- **iii. Objectives/Area of Interests**
 - Provides important information on the technological objectives and research being sought, as well as the description of the Areas of Interest (AOIs).
 - You will be applying to a specific AOI and understanding the FOA requirements for that AOI is critical to crafting a responsive application.
(Will be discussed in detail in upcoming presentation)
- **iv. Applications Specifically Not of Interest**
 - Pay close attention to this section to avoid submitting a non-responsive application.

II. Award Information

Where to start?

TABLE OF CONTENTS

A. TYPE OF APPLICATION

B. TYPE OF AWARD INSTRUMENT

C. AWARD OVERVIEW

- i. ESTIMATED FUNDING, NUMBER OF AWARDS, ANTICIPATED AWARD SIZE, AND MAXIMUM DOE SHARE
- ii. ESTIMATED PERIOD OF PERFORMANCE PER AREA OF INTEREST

Noteworthy Items

- C. Award Overview

- I. Estimated Funding, Number of Awards, Anticipated Award Size, and Maximum DOE Share
 - Details on anticipated number of awards, anticipated size (in funding) of each award, **and maximum amount in funding that DOE will contribute for any one award.**
- II. Estimated Period of Performance per Area of Interest
 - Includes the anticipated period of performance for projects awarded under each Area of Interest of the FOA.

III. Eligibility Information

Where to start?

TABLE OF CONTENTS

A. GENERAL

B. ELIGIBLE APPLICANTS

- i. RESTRICTED ELIGIBILITY
- ii. DOMESTIC ENTITIES
- iii. DOMESTIC PUBLIC ENTITIES (EXCLUDING FEDERAL ENTITIES)
- iv. FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS AND NATIONAL LABS

C. COST SHARING

- i. COST SHARE REQUIREMENTS
- ii. LEGAL RESPONSIBILITY
- iii. COST SHARE ALLOCATION
- iv. COST SHARE TYPES AND ALLOWABILITY
- v. COST SHARE VERIFICATION
- vi. COST SHARE CONTRIBUTIONS BY FFRDCs

D. COMPLIANCE CRITERIA

E. RESPONSIVENESS CRITERIA

F. NUMBER OF SUBMITTALS ELIGIBLE FOR REVIEW

G. FELONY CONVICTIONS AND TAX LIABILITIES

H. QUESTIONS REGARDING ELIGIBILITY

Noteworthy Items

• B. Eligible Applicants

- Will specify whether HBCU-MSI eligible applicants will be funded under awards
 - Other types of sub-recipients are typically permitted
- FFRDC & National Labs are typically permitted to apply as subrecipients but not as a prime
 - National Labs are typically fully funded at project start. Please keep this in mind when creating budgets for the full project period.

• C. Cost Sharing

I. Cost Share Requirements

- Will detail the required cost share for Applicants. Typically, HBCU-MSI FOAs do **not require cost share**, but it is allowable

• D&E. Compliance Criteria, and Responsiveness Criteria

- These sections will detail **what is considered compliant, and responsive**, to the FOA. Only compliant and responsive applicants will be eligible to review.

Make sure to read EACH section for compliance purposes.



IV. Application and Submission Information

Where to start?

TABLE OF CONTENTS

- A. FORM AND CONTENT REQUIREMENTS
- B. FULL APPLICATIONS
 - i. APPLICATION PACKAGE
 - ii. CONTENT AND FORM OF FULL APPLICATION
- C. POST-SELECTION INFORMATION REQUESTS
- D. SUBMISSION DATES AND TIMES
- E. INTERGOVERNMENTAL REVIEW
- F. OTHER SUBMISSION AND REGISTRATION REQUIREMENT
 - i. REGISTRATION PROCESS
 - ii. WHERE TO SUBMIT
 - iii. FULL APPLICATION PROOF OF TIMELY SUBMISSIONS
- G. FUNDING RESTRICTIONS
- H. PRE-AWARD COSTS
- I. PRE-AWARD COSTS RELATED TO NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REQUIREMENT
- J. PERFORMANCE OF WORK IN THE UNITED STATES
- K. FOREIGN TRAVEL
- L. EQUIPMENT AND SUPPLIES
- M. LOBBYING
- N. ADDITIONAL APPLICATION AND SUBMISSION REQUIREMENTS

Noteworthy Items

- **A. Form and Content Requirements**
 - Applicants will have to meet each of the specified form requirements under this section
- **B. Full Applications**
 - ii. Content and Form of Full Application
 - Will detail the documents required in the Application.

IV. Application and Submission Information

Application Files

SF-424

PROJECT /
PERFORMANCE
SITE
LOCATION(S)

PROJECT
NARRATIVE

SUMMARY
FOR PUBLIC
RELEASE

PROJECT
MANAGEMENT
PLAN

RESUME

SF424A
BUDGET
JUSTIFICATION

BUDGET
JUSTIFICATION

ENVIRONMENTAL
QUESTIONNAIRE

HBCU/MSI-
ELIGIBLE
DOCUMENT, IF
APPLICABLE

- The SF 424 online form is the principal form for submitting an application.
- This form contains **all of the basic information regarding your organization and your proposed project** (project title, costs, etc.).
- Please make sure this form is filled out as completely as possible.
- Some areas of the form may not apply to your organization.

- Form to indicate the primary site where the work will be performed.
- If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided
- Note that the Project/Performance Site Congressional District is entered using a 2-digit state code followed by a dash and a 3-digit Congressional district code. For example "VA-001"

- In this document, please state how your educational entity claims HBCU/MSI eligibility and provide a copy of that certification.

IV. Application and Submission Information

Project Narrative

SF-424

PROJECT /
PERFORMANCE
SITE
LOCATION(S)

PROJECT
NARRATIVE

SUMMARY
FOR PUBLIC
RELEASE

PROJECT
MANAGEMENT
PLAN

RESUME

SF424A
BUDGET
JUSTIFICATION

BUDGET
JUSTIFICATION

ENVIRONMENTAL
QUESTIONNAIRE

HBCU/OMI-
ELIGIBLE
DOCUMENT, IF
APPLICABLE

- The project narrative is the core item in the application package, where the concept, technology background, research plan, and potential improvement to the state of the art are presented.

Project Narratives Can Include:

- Project Objectives
- Merit Review Criterion Discussion
- Relevance and Outcomes/Impacts
- Roles & Responsibilities of Participants
- Decision-making and Communication Strategy
- Management Capabilities
- Multiple Principal Investigators
- Facilities And Other Resources
- Equipment
- Bibliography And References
- Statement of Project Objectives (SOPO)

Pay close attention to formatting requirements:

- The Project Narrative File must be submitted in **Adobe PDF format**.
- For example: the project narrative **must typically not exceed twenty-five (25) pages**, including footnotes/endnotes, charts, graphs, maps, photographs, and other pictorial presentations, **when printed using standard 8.5" by 11" paper with 1-inch margins (top, bottom, left, and right) double spaced**.
- Cover Page, Table of Contents, Bibliography and References, Current and Pending Support, and Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers sections **are NOT included in the Project Narrative page limitation**. The font **must be Times New Roman typeface, a black font color, and a font size of 11-point or larger (except in figures or tables, which may generally be 10-point font)**.
- **Applicants tend to repeat themselves within an application. Please note that each file is a stand-alone document. Do not refer to another document within the current one.**

IV. Application and Submission Information



Project Narrative Sections

SF-424	PROJECT / PERFORMANCE SITE LOCATION(S)	PROJECT NARRATIVE	SUMMARY FOR PUBLIC RELEASE	PROJECT MANAGEMENT PLAN	RESUME	SF424A BUDGET JUSTIFICATION	BUDGET JUSTIFICATION	ENVIRONMENTAL QUESTIONNAIRE	HBCU/OMI- ELIGIBLE DOCUMENT, IF APPLICABLE
--------	---	------------------------------	----------------------------------	-------------------------------	--------	-----------------------------------	-------------------------	--------------------------------	---

Narrative Section	Intent/Helpful Information
PROJECT OBJECTIVES	Should provide a clear, concise statement of the specific objectives/aims of the proposed project
MRC DISCUSSION	Applications are evaluated and scored in accordance with the merit review criteria and weights provided in the FOA
RELEVANCE & OUTCOMES/IMPACTS	Justification for the proposed project should include a clear statement of the importance in terms of the utility of the outcomes and the target community of beneficiaries
ROLES & RESPONSIBILITIES OF PARTICIPANTS	Describe the roles and the work to be performed by each participant/investigator, business agreements between the applicant and participants, and how the various efforts will be integrated and managed
DECISION-MAKING AND COMMUNICATION STRATEGY	Emphasis on scientific/technical direction and mechanisms for controlling project scope, cost, and schedule.
MANAGEMENT CAPABILITIES	Provide information relevant to the capabilities and experience of the PI and project team in managing technical projects of similar nature and complexity.
FACILITIES & OTHER RESOURCES	If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project
EQUIPMENT	If you are proposing to acquire equipment, describe comparable equipment, if any, already at your organization and explain why it cannot be used
BIBLIOGRAPHY & REFERENCES	This section is not typically included in the page limitation of the project narrative
STATEMENT OF PROJECT OBJECTIVES (SOPO)	The SOPO should contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below

IV. Application and Submission Information

Application Files

SF-424

PROJECT /
PERFORMANCE
SITE
LOCATION(S)

PROJECT
NARRATIVE

SUMMARY
FOR PUBLIC
RELEASE

PROJECT
MANAGEMENT
PLAN

RESUME

SF424A
BUDGET
JUSTIFICATION

BUDGET
JUSTIFICATION

ENVIRONMENTAL
QUESTIONNAIRE

HBCU/OMI-
ELIGIBLE
DOCUMENT, IF
APPLICABLE

- A key item to remember with the Project Summary file is that it can be publicly distributed, do not include ANY proprietary or business sensitive information.
- Self-contained, one (1) page document
- Identifies: name of the applicant; project director/principal investigator(s); project title; objectives of the project; description of the project; methods to be employed; potential impact (i.e., benefits, outcomes); major participants

- This plan typically includes the following sections:

- Executive Summary
- Risk Management
- Milestone Log
- Funding and Costing Profile
- Project Timeline
- Success Criteria at Decision Points

PMP is generally 6-8 pages when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) single-spaced with font no smaller than 11- point.

- Environmental questionnaire for each geographic site where project activities will take place must be completed
- The form is located at https://www.netl.doe.gov/sites/default/files/2018-02/451_1-1-3_0.pdf

IV. Application and Submission Information



Application Files

SF-424

PROJECT /
PERFORMANCE
SITE
LOCATION(S)

PROJECT
NARRATIVE

SUMMARY
FOR PUBLIC
RELEASE

PROJECT
MANAGEMENT
PLAN

RESUME

SF424A
BUDGET
JUSTIFICATION

BUDGET
JUSTIFICATION

ENVIRONMENTAL
QUESTIONNAIRE

HBCU/OMI-
ELIGIBLE
DOCUMENT, IF
APPLICABLE

- Each key person proposed on the project, including sub-awardees and consultants, typically need to submit a 2-page resume with the application.
- A key person is any individual **who contributes in a substantive, measurable way to the execution of the project.**
- This document should highlight education and training, professional experiences, publications (**you may list up to 10 and they should be those that are most closely related to the proposed project**), patents/copyrights/software systems developed, and synergistic activities (**no more than 5**). All resumes should be compiled into a single file.
- Each resume should not exceed 2 pages including (if applicable):
 - **Education and Training:** provide institution, major/area, degree, and year (Undergraduate, graduate, and postdoctoral training)
 - **Professional Experience:** Beginning with the current position, list in chronological order, include brief description of professional/academic positions
 - **Publications:** Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address (if available).
 - Patents, copyrights, and software systems developed may be provided in addition to or substituted for publications
 - **Synergistic Activities:** List no more than 5 professional and scholarly activities related to the effort proposed

IV. Application and Submission Information

Application Files

SF-424

PROJECT /
PERFORMANCE
SITE
LOCATION(S)

PROJECT
NARRATIVE

SUMMARY
FOR PUBLIC
RELEASE

PROJECT
MANAGEMENT
PLAN

RESUME

SF424A
BUDGET
JUSTIFICATION

BUDGET
JUSTIFICATION

ENVIRONMENTAL
QUESTIONNAIRE

HBCU/OMI-
ELIGIBLE
DOCUMENT, IF
APPLICABLE

- A separate budget for each year of support requested and a cumulative budget for the total project period are usually required
- **Use the SF 424A Excel, "Budget Information - Non-Construction Programs" form on the DOE Financial Assistance Forms Page at <https://www.energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms> under DOE budget forms**

- Justify the costs proposed in each Object Class Category/Cost Classification category.
- **For example:**
 - Identify key persons and personnel categories and the estimated costs for each person or category
 - Provide a list and cost of equipment
 - Identify proposed subaward/consultant work and cost of each subaward/consultant
 - Describe purpose of proposed travel, number of travelers, and number of travel days
 - List general categories of supplies and cost for each category

Please note that if you are selected for award, you may be asked to break down these sections into more specific charges.

V. Application Review Information

Where to start?

TABLE OF CONTENTS

A. REVIEW CRITERIA

- i. COMPLIANCE/RESPONSIVENESS REVIEW
- ii. FULL APPLICATION MERIT REVIEW CRITERIA

B. OTHER SELECTION FACTORS

- i. PROGRAM POLICY FACTORS

C. OTHER REVIEW REQUIREMENTS

- i. RISK ASSESSMENT
- ii. REPORTING MATTERS RELATED TO RECIPIENT INTEGRITY AND PERFORMANCE

D. REVIEW AND SELECTION PROCESS

- i. MERIT REVIEW
- ii. SELECTION
- iii. DISCUSSIONS AND AWARD

Noteworthy Items

- A. Review Criteria

- ii. Full Application Merit Review Criteria

- This section will detail the merit review criteria that the application will be judged by. Each merit review criteria should be addressed via information within the application

Additional Sections (VI, VII, VIII, & IX)

- **VI Award Administration Notice-** Provides information on DOE's award administration processes
- **VII Questions/Agency Contacts** – Provides information on where to submit questions and lists appropriate agency contacts
- **VIII Other Information** – Provides information on additional requirements and templates
- **IX Appendices** – Provides important templates to follow while developing your application

Agenda



1. Welcome and Introductions
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
2. Overview of FECM and NETL's University Training & Research Program
 - *Caleb Woodall, Program Manager (FECM HQ)*
 - *Sydni Credle, Technology Manager (NETL)*
3. Review of FY22 Funded Topics
 - *Caleb Woodall, Program Manager (FECM HQ)*
4. Doing Business with the Federal Government and Funding Opportunity Announcements (FOAs)
 - *Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team*
5. **Responding to the Areas of Interest (or Topics)**
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
6. DOE and FECM Student Programs
 - *Sandra Penaherrera, Program Manager, Mickey Leland Energy Fellowship Program*
7. NETL Internship Opportunities
 - *Patricia Adkins-Coliane, Graduate Education Program Manager, S&T Career Management*

Responding to Areas of Interest (AOIs)



Omer Bakshi

Project Manager, Integrated Carbon Management Team



April 12, 2022
UTR FECM Webinar

The FOA provides background materials regarding the topics often called “Areas of Interest” (AOIs)

Areas of Interest

Describe in detail each area of research where NETL is seeking proposals

Should be carefully considered as a potential topic for research proposals

Number/types of areas of interest are dependent on funding in particular areas, DOE mission goals, and technology maturity

Areas of Interest change annually

May also include descriptions of research that are NOT being sought in the FOA

Read the FOA Carefully

- Understand the Background/Description
- Understand the specific Objectives
- Understand the topics NETL is interested in funding

Read AOI Language Closely

- Understand where your research strengths best fit with NETL AOs
- Look for specific thresholds or requirements
- Determine items that are not of interest within that topic area/area of interest

Recycling Applications is Generally NOT a Successful Approach

Example Area of Interest

FY 2021 AOI 1B: Electromagnetic Energy-Assisted Approaches to Convert Fossil Fuels to Low Cost Hydrogen (DE-FOA-0002398)

Not an Active Area of Interest

DOE seeks innovation in the use of alternative energy processes including microwave, radio frequency (RF), plasma, and other electromagnetic inputs for low cost hydrogen production from fossil fuels. Projects can be experimental, computational, or, a combination of the two. Experimental based studies should be focused on the development of an efficient catalyst material that interacts with electromagnetic fields with high single pass conversion of hydrocarbons with high selectivity to hydrogen. Studies can include combining reactions and separations steps within the same alternative energy system. The experimental projects should also include energy efficiency calculations of their process and comparison to traditional thermal methods. Economic advantages of an alternative energy are not exclusive to the chemical reaction, but can also include downstream energy gains and process simplifications from higher reaction selectivity.

Success metrics are (1) supporting technology transfer by publishing project work within a journal or conference proceeding, (2) demonstrating quantum chemistry techniques for hydrogen generation using an alternative energy source, and (3) demonstrating use of alternative energy for hydrogen generation with projected low costs.

Get Organized Early

- Create a Proposal Team
- Identify key research team members
- Consider teaming with other institutions
 - Provide letters of support
 - Financial investment if applicable
 - Be as specific as possible
- Develop an Application Preparation Schedule and Key Submittal Dates

Ask Questions

- Use FedConnect to ask questions while FOA is open
 - **Can be used for technical, administrative, or FOA clarification** (differences between milestones, success criteria, deliverables, etc.)
- See if your questions have already been asked/answered on the server

Identify Required Submittals

- SF-424, Narrative, Abstract, Project Management Plan, Budget Justifications etc.
- Address **ALL** Areas
 - Follow the review criteria and ensure that all aspects are clearly addressed by your application

 Address the “Cake” prior to the “Icing” 

Submit All Documentation

- Ensure that all required documentation is submitted
- **Failure to do so can result in a non-responsive application**
- Ensure Page limits, margins, spacing, font size (all specified within the FOA)
- Ensure cohesiveness and consistency between documentation (budgets, narrative, SOPO, PMP, etc.)

Verify that the final application complies with ALL FOA requirements

Agenda



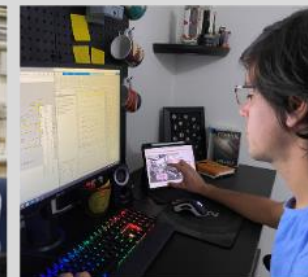
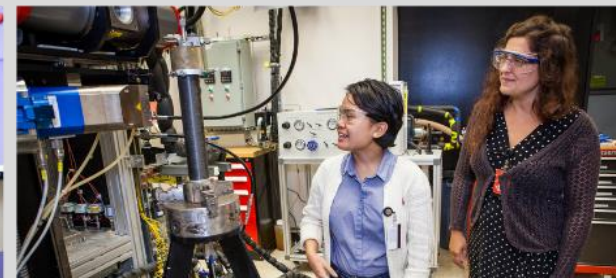
1. Welcome and Introductions
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
2. Overview of FECM and NETL's University Training & Research Program
 - *Caleb Woodall, Program Manager (FECM HQ)*
 - *Sydni Credle, Technology Manager (NETL)*
3. Review of FY22 Funded Topics
 - *Caleb Woodall, Program Manager (FECM HQ)*
4. Doing Business with the Federal Government and Funding Opportunity Announcements (FOAs)
 - *Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team*
5. Responding to the Areas of Interest (or Topics)
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
6. **DOE and FECM Student Programs**
 - **Sandra Penaherrera, Program Manager, Mickey Leland Energy Fellowship Program**
7. NETL Internship Opportunities
 - *Patricia Adkins-Coliane, Graduate Education Program Manager, S&T Career Management*



MICKEY LE LAND

ENERGY FELLOWSHIP PROGRAM

U.S. DEPARTMENT OF ENERGY • OFFICE OF FOSSIL ENERGY AND CARBON MANAGEMENT



MICKEY LELAND ENERGY FELLOWSHIP (MLEF)



A **10-week** summer research program for Science, Technology, Engineering, and Math (STEM) students

- Receive **mentorship** from DOE scientists and engineers
- Provide **hands-on experience** complementing course of study and connect **theory to practice**
- Increase **confidence**, enhance **communications skills**, and promote **critical thinking** and **problem solving**

STIPEND*

Undergraduate students: \$7,500 for 10-weeks

Master's students : \$8,500 for 10-weeks

*Some participants may be eligible to receive a housing and travel allowance.



U.S. DEPARTMENT OF
ENERGY

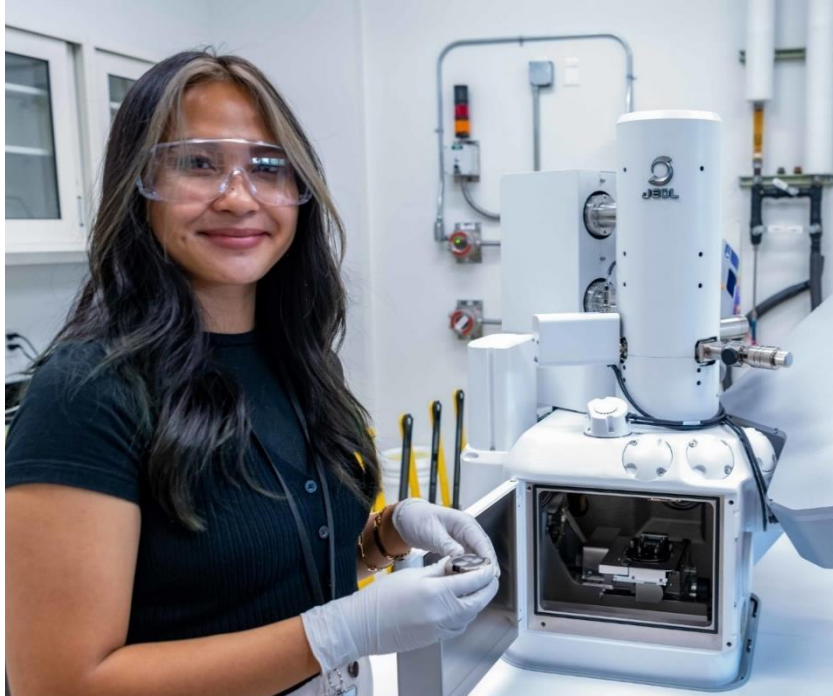
Fossil Energy and
Carbon Management

energy.gov/fecm

MICKEY LELAND ENERGY FELLOWSHIP (MLEF)



The 2024 program application opens September 2023



Program Dates
June 3 to August 9, 2024

ELIGIBILITY

- Be at least age 18
- Be a U.S. Citizen
- Have a minimum 2.8 GPA
- Be enrolled full-time in a STEM degree program at the Associate, Bachelor's or Master's level at the time of application.
- Must be a college sophomore or higher

REQUIREMENTS

- Commit for the full 10-week program
- Attend the kick-off event
- Attend Technical Forum to present research



U.S. DEPARTMENT OF
ENERGY

Fossil Energy and
Carbon Management

energy.gov/fecm

MICKEY LELAND ENERGY FELLOWSHIP (MLEF)



Topics Researched

- Orphaned Well Assessment
- Wastewater Analysis
- Subsurface Injection of H₂ or CO₂
- Carbon Capture, Conversion, and Transport
- Extracting Rare Earth Elements and Critical minerals
- Sensors and Controls

Skills Developed

- Literature review
- Tool development
- Computational material design/ fluid mechanics
- Project Finance
- Machine Learning
- Artificial Intelligence



U.S. DEPARTMENT OF
ENERGY

Fossil Energy and
Carbon Management

energy.gov/fecm

DOE SCIENCE, TECHNOLOGY AND POLICY (STP) PROGRAM



Projects are at the forefront of the clean energy transition, helping to address the climate crisis through a one-year fellowship with FECM.

The STP Program provides an opportunity for candidate to participate in technical and policy-related FECM projects.

PARTICIPANTS MUST FALL INTO ONE OF THE FOLLOWING CATEGORIES:

- **Student:** Currently enrolled undergraduate or graduate student in an accredited U.S. college, university, technical institute, or must be in an institution approved by FECM. Part-time students may be considered with sponsor approval.
- **Postgraduate:** Candidate must have received an associate's, bachelor's, master's or doctorate degree.

<https://www.zintellect.com/Opportunity/Details/DOE-STP-FECM-2023-01>

RESEARCH EXPERIENCE IN CARBON SEQUESTRATION (RECS) PROGRAM



Premier CCUS education and training experience and career network for graduate students and early career professionals in the U.S.

- **Schedule:** Occurs annually, typically lasts 7-10 days.
- **Faculty:** Pioneering CCUS experts from national labs, industry, and academia are part of the RECS faculty and network.
- **Funding:** Covers full tuition for students.
- **Eligibility:** Applicants must be U.S.-based. Early career professionals and PhD or graduate students. Required to commit to the full program.

<http://www.recs-ccus.org/>



CONTACT US



Sandra Peñaherrera
Cristina Cordero

MLEF@hq.doe.gov

www.energy.gov/fe/mlef



U.S. DEPARTMENT OF
ENERGY

Fossil Energy and
Carbon Management

energy.gov/fecm

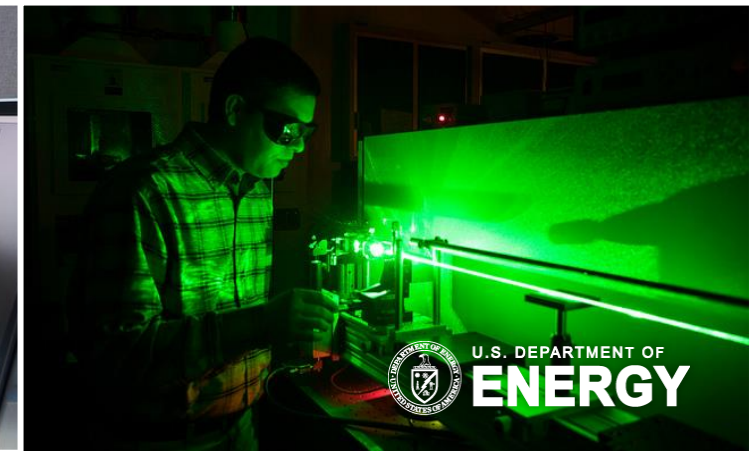
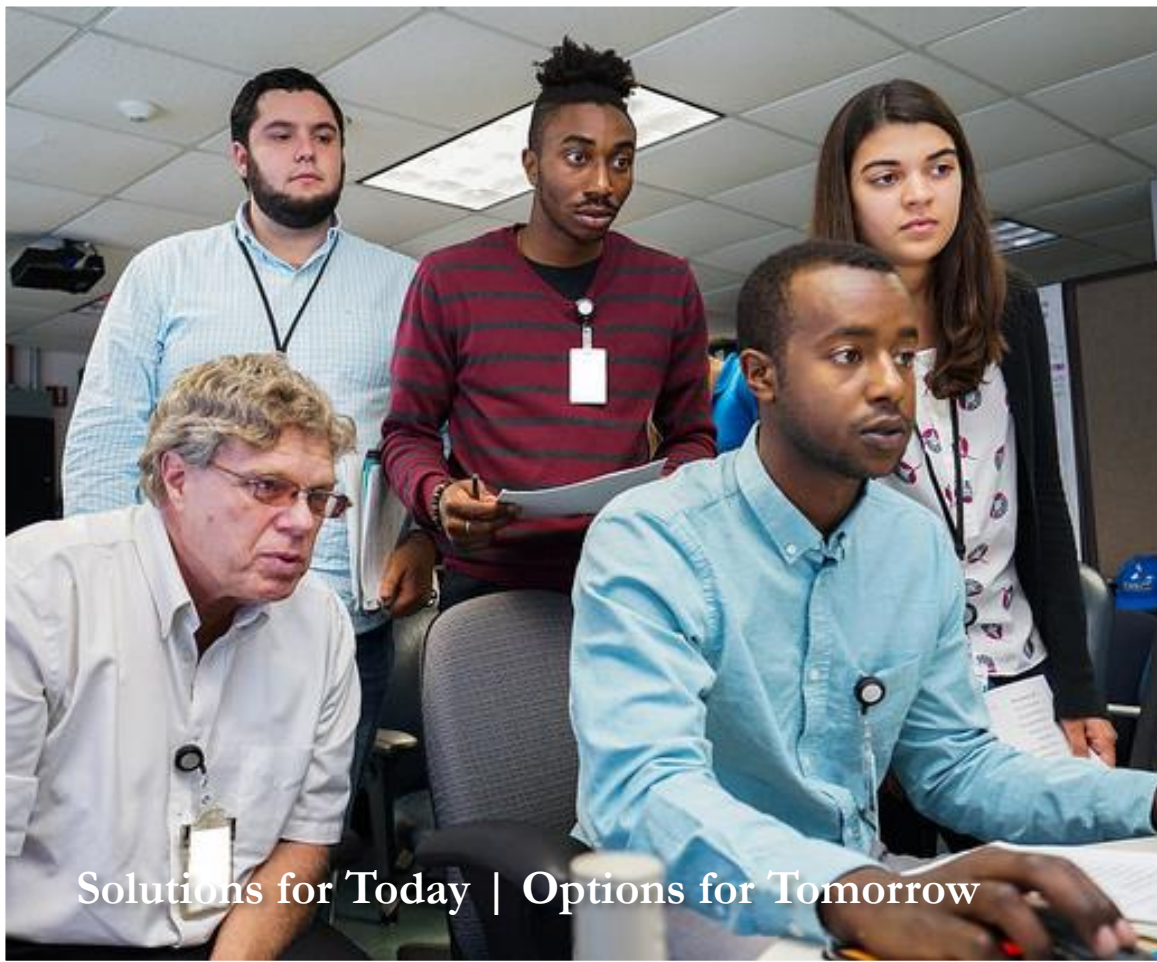
Agenda



1. Welcome and Introductions
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
2. Overview of FECM and NETL's University Training & Research Program
 - *Caleb Woodall, Program Manager (FECM HQ)*
 - *Sydni Credle, Technology Manager (NETL)*
3. Review of FY22 Funded Topics
 - *Caleb Woodall, Program Manager (FECM HQ)*
4. Doing Business with the Federal Government and Funding Opportunity Announcements (FOAs)
 - *Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team*
5. Responding to the Areas of Interest (or Topics)
Omer Bakshi, Federal Project Manager, Integrated Carbon Management Team
6. DOE and FECM Student Programs
 - *Sandra Penaherrera, Program Manager, Mickey Leland Energy Fellowship Program*
7. **NETL Internship Opportunities**
 - ***Patricia Adkins-Coliane, Graduate Education Program Manager, S&T Career Management***

NETL Internship Opportunities

www.netl.doe.gov/education/internships



Solutions for Today | Options for Tomorrow

NETL Internship Opportunities

Why choose NETL?

- Collaborate with world class researchers, scientists, and subject matter experts
- Use one-of-a-kind equipment & facilities
- Author/co-author papers, presentations & other publication materials
- Attend/present at conferences & workshops
- Connect with other professionals in your field

Where?

- Albany, Oregon
- Morgantown, West Virginia
- Pittsburgh, Pennsylvania

When?

- Applications are always accepted, and awards are made on a continuing basis
- For best results apply by February 15 for summer appointments
- One-year appointments are renewable
- Full-time and part-time opportunities are available



[Internship Opportunities | netl.doe.gov](https://netl.doe.gov)

NETL Internship Programs

Administered by Oak Ridge Institute for Science and Education (ORISE)



Professional Internship Program (PIP)

- Current undergraduate or graduate student in good standing at a regionally accredited college/university or a post-baccalaureate within 2 years of graduation
- Minimum GPA of 2.5/4.0
- At least 18 years of age at the time of the appointment

Postgraduate Research Program (PGRP)

- Have earned/about to receive master's or doctoral degree
- Graduate who received master's degree within the last 3 years or doctorate within the last 5 years

Faculty Research Program (FRP)

- Full-time/part-time regular permanent faculty member at an accredited college/university with a research interest in NETL's core R&D areas



[NETL Internship Programs | netl.doe.gov](https://netl.doe.gov)

Multiple Internship Options



U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy
ADVANCED MANUFACTURING OFFICE



SCGSR
Office of Science Graduate Student Research

NNSA
National Nuclear Security Administration
Minority Serving Institutions
Internship Program (NNSA-MSIIP)

*The National
Academies of* | SCIENCES
ENGINEERING
MEDICINE

[Internship Opportunities | netl.doe.gov](https://netl.doe.gov)

Connecting With NETL



Check Out the Websites

- For NETL, Visit - www.netl.doe.gov and www.netl.doe.gov/education/internships
- Search databases like Scholar.Google.com, Web of Science, and others for recent NETL publications.
- Visit <https://orise.orau.gov/netl/> for programs including PIP, PGRP, and FRP

Apply to Opportunities in Zintellect Catalog (Important!)

- <https://zintellect.com/Catalog> Select “National Energy Technology Laboratory” in the *Organizations* filter to see active NETL opportunities. Select multiple opportunities if interested.
- Recent [ORISE information session on how to apply in Zintellect](#).

Direct Email

- Email internship.program@netl.doe.gov your resume and provide the specifics as to what research you’re most interested in learning more about.
- Email authors affiliated with NETL on recent publications in your area(s) of interest to introduce yourself and express interest in their research. (Let them know that you’ve applied in Zintellect)

[Internship Opportunities | netl.doe.gov](http://netl.doe.gov)

In the Next Several Months...



NETL is Planning on Adding Numerous Interns at All Levels, Especially Post Docs

Faculty Members, University Career Centers / Staff:

- Email internship.program@netl.doe.gov your contact information and we will keep you updated (you can opt out at any time).
- Recommend NETL opportunities and ask those interested to email internship.program@netl.doe.gov – We will help make connections!

[Internship Opportunities | netl.doe.gov](https://netl.doe.gov/internship-opportunities)

Questions?

VISIT US AT: www.NETL.DOE.gov



@NETL_DOE



@NETL_DOE



@NationalEnergyTechnologyLaboratory

CONTACT:

University Training and Research Program

UTR-Program@netl.doe.gov

[University Training and Research |
netl.doe.gov](http://UniversityTrainingandResearch_|netl.doe.gov)

Sydni Credle, Ph.D., P.E.

Technology Manager, University Training
and Research

304-285-5255

sydni.credle@netl.doe.gov

Caleb Woodall, Ph.D.

Program Manager, Fossil Energy and
Carbon Management HQ

301-366-6495

caleb.woodall@hq.doe.gov

Alan Perry

Supervisory Management Analyst

202-586-4484

alan.perry@hq.doe.gov



Thank you for attending the 2023 Spring UTR Webinar



Solutions for Today | Options for Tomorrow

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.



Solutions for Today | Options for Tomorrow