Financial Assistance
Notice of Funding Opportunity
Part 1

U.S. DEPARTMENT *of* ENERGY

U.S. Department of Energy (DOE)
Hydrocarbons and Geothermal Energy Office (HGEO)
Annual Recurring University Training and Research
Notice of Funding Opportunity Number: DE-FOA-0003215
Application due: October 16, 2026

NOFO Issue Date:	**August 17, 2026**
Modification 000001 Issue Date:	**October 14, 2026** **Revision to SAM Registration Link in Part 2, Section V.A.1**

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Before You Begin

Navigating the Notice of Funding Opportunity

To reduce the burden on applicants in the Notice of Funding Opportunity (NOFO) process and limit the length of the NOFO information requests, we separated the NOFO into two parts.

The NOFO Part 1 describes the DOE program goals and evaluation criteria, eligibility, and other components specific to each funding opportunity. NOFO Part 2 includes the fixed DOE requirements that generally do not change from NOFO to NOFO, including standard information for the application phase, expectations for award negotiations, and post-award requirements. You must review both parts before applying. To assist you in the process, you will find references throughout this document to additional information in Part 2.

You must also take several one-time actions before applying. Some of these actions may take several weeks, so be sure to allow yourself enough time to complete them. If you don't complete all required steps, it could interfere with application and negotiation deadlines or the ability to receive an award if selected. If you already completed these one-time registrations, make sure they are active and up to date. All registrations are free. You can find additional information about registration in NOFO Part 2, *Required Registrations*.

Hyperlinks are provided for the applicant's ease of reference. Links, and the information contained in them, may change over time. It is up to an individual applicant to make sure that they have the current information that is contained in the links.

This announcement is published in conjunction with NOFO Part 2 Version 4.0.

I. Basic Information

A. Key Facts

Issuing Agency	Department of Energy (DOE), the Hydrocarbons and Geothermal Energy Office (HGEO), University Training and Research (UTR)
Funding Opportunity Title	Annual Recurring University Training and Research
Announcement Version	Initial
Funding Opportunity Number	DE-FOA-0003215
Funding Instrument	Grants
Expected Total Available Funding	Up to $10,750,000 from UTR program
Assistance Listing Number and Name	81.089 Fossil Energy Research and Development (R&D)
Announcement Type	Research and Development
Funding Opportunity Description	Annual Recurring University Training and Research Funding Opportunity
Program Goals & Objectives	1. Expand the research capabilities and education of students in science, technology, engineering, and mathematics (STEM); 2. Maintain and enhance the educational, training, and research capabilities of institutions of higher education; and 3. Develop education and training initiatives to support HGEO and DOE-wide priorities for R&D.
Topic Area	Innovative Research and Training for Subsurface Energy Production
Eligible Applicants	Institutions of Higher Education

KEY DATES

NOFO Issue Date:
1. August 17, 2026
2. May 15, 2027
3. May 15, 2028

Letter of Intent Deadline:
1. Oct. 1, 2026
2. July 25, 2027
3. July 25, 2028

Application Submission Deadline:
1. Oct. 16, 2026
2. August 15, 2027
3. August 15, 2028

Anticipated Selection Notification Date:
1. January 2027
2. January 2028
3. January 2029

Anticipated Award Date:
1. April 2027
2. April 2028
3. April 2029

Estimated Period of Performance:
3 years from project start

eXCHANGE URL and Helpdesk	DOE: NETL eXCHANGE: Funding Opportunities netl-exchangesupport@hq.doe.gov
NOFO URL and email	DOE: NETL eXCHANGE: Funding Opportunities DE-FOA-0003215@netl.doe.gov
NOFO Annual Submission Periods	1. Awards issued under this Notice of Funding Opportunity will adapt to the latest Revisions to 2 C.F.R Part 200. 2. The NOFO will remain open for a period of approximately three years. During this open period, applicants may submit Letters of Intent and Full Applications during one of the three (3) Application Submission Periods provided in the table above. 3. Submission periods two and three are subject to the availability of funding. There is no guarantee that the NOFO will remain open for these submission periods. 4. Applicants must submit a Letter of Intent by 5:00 pm E.T. on the due date listed above to be eligible to submit a Full Application for each Application Submission Period. Failure to submit a Letter of Intent by the date and time listed for the submission period automatically disqualifies a potential applicant from being considered for that submission period. Letters of Intent submitted after the deadline will be evaluated for eligibility and, if deemed eligible, the applicant will be invited to submit a Full Application for a subsequent submission period. 5. All materials must be submitted for a Full Application by the date specified for the submission period. Failure to submit a Full Application by the specified deadline will automatically push the Full Application to the subsequent submission period.

1. Funding Details

Single Topic Area

Submission Deadline One (October 16, 2026): Up to $10,750,000 UTR program
Submission Deadline Two (August 2027): TBD
Submission Deadline Three (August 2028): TBD

Topic Area: ***Innovative Research and Training for Subsurface Energy Production***

- Approximate number of awards: 0–15
- Approximate Federal share of individual awards: up to $750,000
- Minimum non-Federal share required: 0% of the total project costs
- Approximate award project period: 36 months
- Anticipated length of budget periods: 36 months

2. Period of Performance

We anticipate making awards under one budget period. Project continuation will depend on several elements, including satisfactory performance throughout the period of performance and our Go/No-Go decision. You can find a complete list of post-award requirements and more information on the Go/No-Go review in NOFO Part 2, *Award Administration Information*.

B. Executive Summary

The UTR program, sponsored by the HGEO and administered by the National Energy Technology Laboratory (NETL), has the following primary mission objectives:

1. Expand the research capabilities and education of students in STEM;
2. Maintain and enhance the educational, training, and research capabilities of institutions of higher education; and
3. Develop education and training initiatives to support HGEO and DOE-wide priorities for R&D.

The UTR program has restricted eligibility. More information can be found under Section II. Eligibility.

The UTR program supports a broad portfolio of projects. This NOFO specifically seeks applications in a single topic area:

- Innovative Research and Training for Subsurface Energy Production

C. Agency Contact Information

II. Eligibility

To be considered, your submission must meet the criteria set forth below. If your application does not meet these eligibility requirements, it will be removed from consideration for any award. DOE will not determine eligibility for potential applicants before the application due date. The information in this document is specific to this NOFO. You can find the eligibility requirements that apply to all NOFOs in NOFO Part 2, *Eligibility*.

A. Eligible Applicants

The scope of work to be performed by subrecipients may not be more significant than the scope of work to be performed by the applicant.

1. Restricted Eligibility

DOE restricted eligibility for this NOFO per 2 CFR § 910.126, Competition, including writing a Determination for Restricted Eligibility

Eligibility for this NOFO is restricted because the financial assistance awards under the UTR program's topic areas are intended to maintain and upgrade the educational, training, and research capabilities of institutions of higher education (IHEs) in the fields of science, environment, energy, and technology related to coal, oil, natural gas, and geothermal energy. DOE is restricting eligibility to the entities identified below.

This NOFO was developed using funding appropriated for the UTR program; therefore, soliciting proposals on a restricted eligibility basis is necessary and appropriate. This determination is valid for five (5) years.

Eligibility as prime recipient will be restricted to United States (U.S.) IHEs. Other entities may partner with prime institutions. Although Federally Funded Research and Development Center (FFRDC[1]) contractors are not eligible for an award as a prime, they may be proposed as a team member as long as, in aggregate, their effort does not exceed 25% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort. NETL may not participate as a project team member or subrecipient.

A portion of appropriated funds may be allocated further to Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), and Hispanic-Serving Institutions (HSIs).[2] This allocation is in accordance with section 1105 of the Energy Policy Act of 2005, which amended the Department of Energy Science Education Enhancement Act (42 U.S.C. § 7381) and is in alignment with the White House Initiative to Promote Excellence and Innovation at HBCUs (Executive Order 14283) by improving the competitiveness of HBCUs for federal R&D funding.

To ensure the UTR program continues to support the performance of high-quality fundamental research by professors and students at U.S. IHEs, applications must adhere to the following additional criteria:

- The Principal Investigator (PI) or co-PI listed on the application is a professor at the submitting IHE. If this condition is met, other participants, co-PIs, or research staff

[1] FFRDCs are federally funded research and development centers that conduct research for the U.S. government. You can find a list of FFRDCs at https://ncses.nsf.gov/resource/master-gov-lists-ffrdc.

[2] Institution Designations/Classifications, Office of Science, U.S. Department of Energy. Updated Minority Serving Institution designations using a revised version of the Department of Education's 2024 Eligibility Matrix. GRANTS Institution Designations/Classifications by the DOE Office of Science.

that do not hold teaching or student positions may be included as part of the research team.
- At least one student registered at that university is to receive compensation for work performed for the proposed research.
- If the funds are allocated to an HBCU, TCU, or HSI, the PI and the co-PI listed on the application are professors at the respective IHE.
- Proposals from university-affiliated research institutions must be submitted through the college or university with which they are affiliated.

See Section IV of the NOFO for further details on application contents required to qualify under this restricted eligibility.

2. Domestic Entities

Domestic entities are eligible to apply (refer to Section II.A.1 for additional eligibility restrictions). The following types of domestic entities are eligible to participate as part of this NOFO:

As recipients or subrecipients:
- Institutions of higher education (as defined in Title 20 U.S.C. § 1001)

As subrecipients only:
- For-profit organizations
- Nonprofit organizations
- State and local government entities
- Indian Tribes (as defined in section 4 of the Indian Self-Determination and Education Assistance Act, 25 U.S.C. § 5304)[3]

To qualify as a domestic entity, the entity must be legally formed in the U.S. and have a physical location for business operations in the U.S.

Participant Limitations

Participation of the following entities is limited as follows.
- Provided there is no conflict, DOE FFRDCs[1] are eligible to apply for funding as a subrecipient (except for NETL) but are not eligible to apply as a recipient
- Non-DOE FFRDCs are eligible to participate as a subrecipient but are not eligible to apply as a recipient
- Federal agencies and instrumentalities (other than DOE) are eligible to participate as a subrecipient but are typically not eligible to apply as a recipient

[3] "**Indian Tribe**," as defined in section 4(e) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. § 5304), means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established according to the Alaska Native Claims Settlement Act (85 Stat. 688) [43 U.S.C. § 1601, et seq.], is eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

- NETL is not eligible for award under this announcement and may not be proposed as a subrecipient on another entity's application. An application that includes NETL as a recipient or subrecipient will be considered non-responsive.

3. Foreign Entity Participation

In general, foreign entities are not eligible to apply as either a recipient or subrecipient. In limited circumstances, we may approve a waiver to allow a foreign entity to participate as a recipient or subrecipient.

A foreign entity may apply to this NOFO, but the application must be accompanied by an explicit written waiver request. Likewise, if you want to include a foreign entity as a subrecipient, you must submit a separate explicit written waiver request in your application for each proposed foreign subrecipient. NOFO Part 2, *Application Content Requirements*, explains the requirements for submitting a foreign entity waiver request. DOE's determination of a waiver request is final and you cannot appeal an adverse decision on a waiver request.

4. Performance of Work in the United States

All work for the awards under this NOFO must be performed in the U.S. To request a waiver of this requirement, you must submit an explicit waiver request in the application. Without an approved waiver, such costs will not be allowed under the award. NOFO Part 2, *Application Content Requirements*, lists the requirements for submitting a foreign work waiver request.

5. Ineligible Participants

The following entities are ineligible for this NOFO as a recipient, subrecipient, or subcontractor:

- In accordance with 2 C.F.R § 200.214, entities banned from doing business with the U.S. Government, such as entities debarred, suspended, or otherwise excluded from or ineligible for participating in Federal programs (2 C.F.R § 200.214)
- Entities identified on the Department of the Treasury Office of Foreign Assets Control Treasury's Sanctions Program Specially Designated Nationals list. (OFAC—Sanctions List Service [treas.gov])
- Nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995

Entity of Concern Prohibition

Entities of Concern are prohibited from participating in projects under this NOFO. You can find details and definitions in NOFO Part 2, *Eligibility, Other Eligibility Information, Entity of Concern Prohibition*.

B. Limitation on Applications Eligible for Review

You can submit more than one application to this NOFO, provided that each application describes a unique, scientifically distinct project as determined by DOE.

C. Cost Sharing

You must follow through on the estimated cost share commitments you proposed in your application if selected for award negotiations. You can find more information on cost sharing in NOFO Part 2, *Eligibility*.

1. Cost Share Requirements

Cost sharing is not required under this NOFO for prime or subrecipients. However, applicants can propose voluntary industrial collaboration cost share, which may include the following:

1. Cash cost-sharing received by the university awardee from participant(s)
2. Subcontracting by university awardee with the industrial participant(s) to provide consultation and experimental data and/or equipment not available at the university
3. In-kind collaboration with the industrial participant(s) agreeing to consult with the Principal Investigator and to share non-proprietary information that will assist in improving the experimental plan and/or assist in analyzing data obtained by the Principal Investigator. In-kind use of industrial experimental facilities not available at the university is included in this kind of collaboration

DOE understands that projects selected under this NOFO may require the use of existing data. For purposes of this NOFO, the Contracting Officer will consider the fact that data is available at an established market price when making the cost allowability decision.

To assist applicants in calculating proper cost share amounts, DOE has included additional cost share information and sample cost share calculations in the NOFO Part 2, *Eligibility—Cost Sharing, Cost Share Calculation Examples*.

2. Unallowable Cost Share Sources, NOFO Specific

The recipient or subrecipients may not use the following sources to meet cost share obligations including but not limited to:

- Cost share derived from Federal sources (unless otherwise authorized by law).
- Cost share that does not meet:
  - Requirements set forth in 2 C.F.R. §§ 200.306 and 910.130
  - Cost principles set forth in 2 C.F.R. §§ 200.400-476 and 2 C.F.R. § 910.352
  - For State Energy Programs, requirements set forth in 10 C.F.R. § 420
- Cost share derived from the DOE loan program
- Revenues or royalties from the prospective operation of an activity beyond the project period
- Proceeds from the prospective sale of an asset of an activity
- Federal funding or property (e.g., Federal grants, equipment owned by the Federal Government)
- Expenditures that were reimbursed under a separate Federal program
- Cash or in-kind contributions used to meet cost share requirements for another Federal project or program

- Existing data as an in-kind contribution (e.g., data owned by an entity that is not routinely sold commercially but is instead donated to the project and assigned a value)

D. FFRDC Eligibility Criteria

1. DOE and Non-DOE FFRDCs as a Subrecipient

As long as no conflict exists, DOE (with the exception of NETL) and non-DOE FFRDCs may be proposed as subrecipients on another entity's application subject to the following guidelines.

Authorization for non-DOE FFRDCs

The Federal agency sponsoring the FFRDC must authorize in writing the FFRDC's participation on the proposed project, and you must submit this authorization with the application. The FFRDC's use must be consistent with its authority under its award.

Authorization for DOE FFRDCs

The Cognizant Contracting Officer for the FFRDC must authorize in writing the FFRDC participation on the proposed project, and you must submit this authorization prior to any award. The FFRDC's use must be consistent with the contractor's authority under its award.

Funding, Cost Share, and Sub-award with FFRDCs

The recipient and FFRDC must enter into an appropriate sub-award agreement that will govern, among other things, how the recipient funds the FFRDC portion of the work under its DOE award. This agreement must be fully executed before the FFRDC starts work directly related to the financial assistance award. The DOE funding office will fund the DOE FFRDC or non-DOE FFRDC participating as a sub-awardee under the DOE financial assistance award to the recipient.

The applicant should prepare the budgets using rates appropriate for funding the FFRDCs through sub-awards.

Responsibility

The recipient is the responsible authority for settling and satisfying all contractual and administrative issues, including but not limited to disputes and claims arising out of any agreement between the recipient and the FFRDC.

Limit on FFRDC Effort

The FFRDC effort, in aggregate, must not exceed 25% of the total project cost.[4]

[4] Total project costs are the sum of the Government share, including FFRDC costs if applicable, and the recipient share of project costs.

III. Program Description

A. Program Purpose

The UTR program focuses on introducing students to the variety of research topics pursued in support of the HGEO mission and preparing them for jobs in related fields. The UTR program is HGEO's flagship program for funding workforce development and building research capacity at U.S. colleges and universities.

The UTR program provides resources to:

1. Expand the research capabilities and education of students in STEM;
2. Maintain and enhance the educational, training, and research capabilities of institutions of higher education; and
3. Develop education and training initiatives to support HGEO and DOE-wide priorities for R&D.

Additionally, the UTR program enables PIs at HBCUs, TCUs, and HSIs to competitively apply for funding in a restricted eligibility NOFO and facilitate student training in key R&D areas in preparation to enter the workforce.

This theme is consistent with the DOE Science Education Enhancement Act (42 U.S.C. § 7381) as amended by sections 1102 and 1105 of the Energy Policy Act of 2005, which provides the statutory authority for DOE initiatives. This theme is also consistent with The White House Initiative to Promote Excellence and Innovation at HBCUs (Executive Order 14283) by fostering more and better opportunities in higher education and improving the competitiveness of HBCUs for Federal R&D funding.

B. Program Goals and Objectives

This NOFO is looking for applications to educate and train the next generation of engineers and scientists to fill critical workforce gaps. This aim will be achieved by funding investigations pertinent to advancing the Administration's R&D goals. The funding aims to sustain a national university program of energy research and enable segments of the academic population not typically utilized for educational research opportunities for advancing competitive technology markets.

A technical description of the topic area is provided in the sections that follow.

C. Expected Performance Goals

Topic Area 1—This annual topic area seeks university-led R&D proposals focused on accelerating innovative energy technologies toward commercial viability, while simultaneously developing a skilled workforce for the evolving energy sector. Projects must include a non-academic partner to ensure research relevance and provide critical work experience for students.

D. Topic Area

1. Innovative Research and Training for Subsurface Energy Production

1.1 *Background*

DOE HGEO is dedicated to leveraging America's hydrocarbon and geothermal resources to ensure affordable, reliable, and secure energy.[5,6] This mission is central to strengthening energy independence and leadership through innovation and cost-effective solutions that drive American prosperity.[7] The UTR program is HGEO's primary initiative to cultivate the next generation of America's energy workforce. It achieves this goal by funding novel, early-stage R&D at U.S. IHEs, equipping students with cutting-edge, translatable skillsets.

To execute this mission with focused impact, HGEO has organized its Office of Subsurface Energy to represent three key energy sources: Coal, Oil & Gas, and Geothermal. This structure aims to support integrated research and technology solutions for the energy sector. This topic area is designed to solicit proposals that align directly with the strategic objectives of HGEO, fostering innovation within each research domain while upholding the core principles of the UTR program. Proposals should focus on early-stage, high-impact research that brings opportunities for student training and broader impacts to the technology market and the domestic energy workforce.[8,9] The mandatory partnering organization will help to ensure the research project is guided by real-world market needs and will strengthen the career-readiness of students.

1.2 *Objectives*

This topic area seeks proposals for university-led R&D projects that align with HGEO R&D priority areas. These projects should foster the development of a skilled workforce prepared for careers in the energy sector. Projects must emphasize early-stage research with demonstrable potential for technology market impact within 5–10 years after successful completion of the UTR award. A letter of commitment from a partnering non-academic organization is a mandatory component of each proposal, with the partner actively contributing to the research direction, technology market applicability, student mentorship, and work experience.

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[5] a) The White House, Executive Order 14154, Unleashing American Energy, Jan. 20, 2025. b) The White House, Executive Order 14241, Immediate Measures to Increase American Mineral Production, Mar. 20, 2025. c) The White House, Executive Order 14272, Ensuring National Security and Economic Resilience Through Section 232 Actions on Processed Critical Minerals and Derivative Products, Apr. 15,2025. d) The White House, Executive Order 14285, Unleashing America's Offshore Critical Minerals and Resources, Apr. 24, 2025.

[6] U.S. Department of Commerce (2020), A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals

[7] U.S. Department of Energy, Home: Hydrocarbons and Geothermal Energy Office.

[8] U.S. Department of Energy, *2025 United States Energy & Employment Report*

[9] Department of Energy, 21st Century Energy Workforce Advisory Board. Federal Register. Vol. 90, No. 108, June 6, 2025. Notices. 2025-10329.pdf

Projects under this topic area will:

- Generate novel scientific and engineering breakthroughs that advance the technical readiness of promising energy technologies.
- Develop proof-of-concept demonstrations or laboratory-scale prototypes that validate scientific principles and demonstrate technical feasibility.
- Articulate a pathway for the transition of research outcomes to commercial applications, including potential market opportunities and scalability considerations.
- Address critical workforce skill gaps by integrating student participation directly into the R&D process and developing training modules that will have a lasting impact on student training beyond the awarded project.
- Foster strong collaboration with partnering non-academic organizations to ensure research relevance, facilitate technology transfer, and provide students with exposure to non-academic work environments and career paths.

1.3 *Research Scope and Prioritized R&D Initiatives*

Applicants must align their primary research focus with at least one of the following HGEO Office of Subsurface Energy programs: Coal, Oil & Gas, or Geothermal. Priority initiatives within these offices may be modified in the future. Applicants are encouraged to check for future annual updates to this topic area, especially during a new submission period.

Applications that do not align with a priority initiative listed within one of the following three subtopics will be considered non-responsive and will not be reviewed or considered for selection.

1.3.1. TA 1—Subtopic 1A: Coal

- *Mining and Processing:*
  - Sensors for real-time monitoring or digital twins to enable timely operational changes and pathways for automation and remote operations.
  - Novel and efficient methods for extracting critical minerals and materials (CMM) and rare earth elements (REE), from coal-based byproducts.
- *Power and Capture:*
  - Development of advanced, cost-effective and scalable technologies for the management of water and co-products from existing coal-power plants (including coal combustion residuals, gypsum, zero-liquid discharge, etc.).
  - Development of advanced carbon dioxide (CO_2) capture materials to economically capture waste CO_2 from coal-fired power plants.
- *Conversion and Products:*
  - Exploration of marketable products from coal conversion via technoeconomic analysis.
  - Low-temperature electrochemical conversion of CO_2 to CO or formic acid.

1.3.2. TA 1—Subtopic 1B: Oil & Gas

- *Optimization of Oil & Gas Resources:*
  - Development of advanced characterization techniques for unconventional reservoirs (e.g., shale, tight oil/gas) to improve resource assessment and predict optimal extraction strategies.
  - Exploration of the underlying fluid dynamics, rheology, and geochemical interactions of engineered fracturing fluids, or the physics of rock failure under alternative stimulation approaches that maximize resource extraction.
  - Methods for extracting CMM and REE from produced water and other oil and gas waste streams.

- *Artificial Intelligence (AI) and Machine Learning (ML) for Digital Oilfields:*
  - Application of advanced AI/ML algorithms for predictive modeling of reservoir behavior, optimizing production, and enhancing decision-making.
  - Development of intelligent autonomous systems for remote operations, predictive maintenance, and real-time anomaly detection.

- *AI/ML for Refinery Digital Twins:*
  - Development of digital twins for selected refinery configurations of interest. Application of advanced AI/ML algorithms for process component modeling, predictive modeling of component life, optimizing conversion, and enhancing decision-making.
  - Development of intelligent autonomous systems for predictive maintenance and real-time anomaly detection.

1.3.3. TA 1—Subtopic 1C: Geothermal

- *Extreme Environment Drilling and Production:*
  - Development and testing of next-generation materials for life cycle reductions in well field development cost (e.g., alloys, composites, coatings, seals, smart materials) with enhanced durability for high-pressure, high-temperature geothermal environments.
- *Enhanced Geothermal Systems (EGS) and Reservoir Engineering:*
  - Advanced modeling and characterization of subsurface fracture networks to optimize EGS development and performance.
  - Novel stimulation and operational strategies to create and sustain permeability in geothermal reservoirs.
- *Critical Mineral Extraction from Geothermal Brines:*
  - Development of highly selective and efficient technologies for the direct extraction of lithium and other critical minerals from geothermal fluids.

1.4 *Technical Elements that Must be Included in Applications*

Refer to Section IV.D.3 Technical Volume for a table of technical elements that must be included in the application.

1.5 *Partnering Organization Requirement*

All applications must include a letter of commitment from at least one partnering organization. To meet this requirement at least one partner must:

- Be a domestic entity that is a non-academic institution (e.g., for-profit organization, nonprofit organization, or state and local governmental entities). This organization may not be a single-owner LLC or sole proprietorship.
- Actively collaborate in defining the research scope and objectives, ensuring alignment with industry needs and market relevance.
- Provide expertise and insights throughout the R&D process, potentially including access to proprietary data, equipment, or facilities.
- Offer mentorship or other experiential learning opportunities for students involved in the project, enhancing their practical skills and exposure to industrial practices.
- Contribute to the technology transition plan to commercial applications.
- Provide the percentage effort to be performed in terms of overall budget percentage (including any voluntary cost share) and clearly delineate their roles and responsibilities.

1.6 *Research Scope/Attributes That Are Not of Interest*

Refer to Section III.E *Applications Specifically Not of Interest* for more information.

1.7 *Anticipated Technology Readiness Level*

- Beginning of project: Technology Readiness Level (TRL) 2–4 (e.g., formulation of concept, laboratory validation of concept/component)
- End of project: TRL 3–5 (e.g., analytical and experimental critical function and/or characteristic proof-of-concept, component and/or system validation in laboratory and/or relevant environment)

1.8 *Success Metric(s)*

- Publication of novel research findings in peer-reviewed journals and presentations at scientific conferences.
- Achievement of specified technical milestones, such as successful laboratory-scale demonstrations or prototype development.
- Number of students (undergraduate, graduate, postdoctoral) trained through direct and indirect involvement in the R&D project.
- Evidence of successful student placement in industry, national labs, or further academic pursuits relevant to HGEO's mission areas.
- Development of a preliminary technology transition plan outlining steps toward commercialization.
- Clear documentation of the partnering organization's engagement and contributions to the project and student development. This documentation could include areas of technical expertise, data, hours of mentorship, and facility access provided. It could also include student testimonials on career insights.
- Generation of intellectual property (e.g., patent applications, disclosures).

1.9 *Deliverable(s)*

- **Technology Maturation and Transition Plan:**

The technology will be accompanied by a maturation and transition plan of research outcomes to elucidate potential opportunities and scalability considerations. This plan will be developed collaboratively with the partnering organization, ensuring market relevance and a reasonable path forward. The report should be submitted at the same time as the final report. A template can be found as attachment 5 to this NOFO.

- **Workforce Development Summary Report:**

This deliverable demonstrates the creation of a highly skilled talent pipeline through direct student engagement in the R&D project. The report should be submitted at the same time as the final report. A template can be found as attachment 4 to this NOFO.

E. Applications Specifically Not of Interest

DOE will not review or consider the following types of applications as determined by DOE without appeal (also refer to the Responsiveness Review section below):

- Applications that fall outside the technical parameters specified in the Topic Area
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics)
- Project concepts or approaches not based on established scientific principles
- Submissions for large-scale demonstration projects of existing technologies
- Submissions that are not scientifically distinct from those submitted in response to other currently issued Funding Opportunity Announcements (FOAs) or NOFOs, including within DOE
- Submissions that describe a technology but do not propose a R&D plan that allows DOE to evaluate the submission under the applicable merit review criteria provided in Section VI, "Application Review Information; Review Criteria" of the NOFO
- Applications that do not include at least one non-academic partnering organization
- Applications that do not consider potential for technology commercialization within 5–10 years after the awarded work
- Applications that do not focus on student training
- Applications that do not address at least one of the priority initiatives in the Topic Area

F. Statutory Authority

The programmatic authorizing statutes are Energy Policy Act of 2005, Public Law 109-58, and the Energy Science Education Enhancement Act (42 U.S.C. § 7381) as amended by Sections 1102 and 1105 of the Energy Policy Act of 2005.

Awards made under this announcement are subject to the Office of Management and Budget's (OMB) Guidance for Federal Financial Assistance (e.g., 2 C.F.R. Part 200) as adopted and DOE's Financial Assistance Regulations, 2 C.F.R. Part 910.

IV. Application Content and Form

This section includes application information specific to this NOFO. Refer to NOFO Part 2, *Application Content and Form*, for standard information that applies to all DOE NOFOs such as formatting, content requirements and other requirements. Additional details on files listed in the application requirements table below can be found in NOFO Part 2, *Application Content and Form*. Please note that some sections of NOFO Part 2, *Application Content and Form, Application Content Requirements* are not applicable to this NOFO.

A. Use and Disclosure of Application Information

In addition to the information provided in NOFO Part 2, *Use and Disclosure of Application Information*, for compliance with implementation of Presidential Memorandum Simplifying the Funding of Energy Infrastructure and Critical Mineral and Material Projects, the Department of Energy may share and use within the Government any application information provided by or on behalf of the applicant. Accordingly, in accordance with applicable law and notwithstanding any other provisions herein, by submitting an application or agreeing to a financial assistance arrangement with the Department of Energy under this NOFO, the applicant is providing consent for any properly marked trade secret, confidential, proprietary, privileged or otherwise sensitive application information provided by or on behalf of the applicant to be disclosed to the Executive Office of the President and relevant Agencies offering loans, grants, equity, guarantees or other Federal funding, for the purposes of the Presidential Memorandum on Simplifying the Funding of Energy Infrastructure and Critical Mineral and Material Project.

B. Summary

The application process includes two submission phases: Letter of Intent and Application.

Application Submission Phase	Eligibility for Submission
Letter of Intent	Must be submitted by the specified due date and time to be eligible to submit an application.
Application	Must be submitted by the specified due date and time to be eligible for comprehensive merit review.

C. Letter of Intent

You must provide the following information in your letter of intent.

Letter of Intent Requirements	
Project Title	Be consistent with the project title across all application documents.
Technical Topic or Area	List the HGEO subsurface energy office your application falls under (Coal, Oil & Gas, or Geothermal) and title planned for your application.
Lead Organization	Provide the complete legal name of the lead organization.
Organization Type	Type of Institution for Higher Education (university, college, technical school, professional school, etc.)
Percentage Effort Performed by the Lead Organization	Provide the percentage effort the lead organization will perform in terms of overall budget percentage.
Partnering Organization	Provide the percentage effort to be performed by the partnering organization in terms of overall budget percentage. At least one partnering organization should be a non-academic domestic entity.
Partnering Organization Type	Include your partnering organization type: • Federal Government • FFRDC • Government owned and operated (GOGO) • Indian/Native American Tribal Government • Large business • Non-profit • Small business • State or local government • Etc.
Recipient Technical Point of Contact (POC)	Provide the name and title for the PI or Lead Project Manager (LPM).

The letter of intent must have an abstract, which should be a short explanation of the proposed project. You will enter the abstract in eXCHANGE, so it cannot exceed 6,000 characters. You must include the following information.

Abstract Requirements	
Previous Application Submission	Identify whether or not you have previously submitted the proposed project or application to DOE.
Senior/Key Team Members	List individuals who will contribute in a substantive, measurable way to the proposed project and their proposed roles.
Proposed Subrecipients	List all subrecipients planned for the award and their addresses.
Proposed Contractors Subcontractors	List all contractors or subcontractors planned for the award. If not yet identified, list the role each contractor or subcontractor will have in the project (i.e., engineering firm).
Project Description	Limit to 200 words and include a short explanation of the proposed project.

D. Application Content Requirements

Each application must be limited to a single concept. Applications must conform to the following requirements and must not exceed the stated page limits. NOFO Part 2, *Application Content and Form*, includes a complete list of application requirements. You can find detailed guidance on the content and form of NOFO-specific requirements in the Summary of Application Requirements table below. Please note a Data Management and Sharing Plan (DMSP) is not required with the application, but you will need to submit one after selection or receiving the award.

1. Covered Individual Definition, Designation, and Responsibility

Several of the Application Content Requirements in the table below and in the NOFO Part 2 are required for Covered Individuals.

For this NOFO, *Covered Individual* is an individual who both:

- Contributes in a substantive, meaningful way to develop and execute the scope of work of a project proposed for DOE
- Is designated as a Covered Individual by DOE

Often, these individuals have doctoral or other professional degrees, although the following may be considered Covered Individuals if their involvement meets this definition:

- Individuals at the master's or PhD-candidate level
- Consultants

- Graduate students
- Individuals with a postdoctoral role

DOE designates Covered Individuals as any:

- PI
- Project director (PD)
- Co-principal investigator (Co-PI)
- Co-project director (Co-PD)
- Project manager
- Any individual functionally performing as a PI, PD, Co-PI, Co-PD, or project manager

You must assess how DOE's definition of a Covered Individual applies to each person listed on your application. You are also responsible for identifying any individual to DOE who should be designated as a Covered Individual if DOE does not already designate them as described above.

When you submit a current and pending support disclosure and biographical sketch (biosketch) or resume for a person, you are acknowledging that DOE designates that person as a Covered Individual.

We may further designate Covered Individuals during award negotiations or the award period of performance.

Throughout the life of the award, you have an ongoing responsibility to submit:

- Current and pending support disclosure statements and resumes or biosketches for any new Covered Individuals
- Updated disclosures if a current and pending support disclosure statement, resume, or biosketch previously submitted to DOE changes

2. Summary of Application Requirements

Component[a]	File Format	Page Limit	File Name
Application for Federal Assistance (SF-424)	PDF	n/a	ControlNumber_LeadOrganization_424
Technical Volume (see chart below for further instructions)	PDF	15	ControlNumber_LeadOrganization_TechnicalVolume
Letters of Commitment [b]	PDF	1 page each	ControlNumber_LeadOrganization_LOCs
Impacted Indian Tribes Documentation, if applicable[c]	PDF	n/a	ControlNumber_LeadOrganization_ImpactedTribes
Statement of Project Objectives[d]	MS Word	5	ControlNumber_LeadOrganization_SOPO
Project Management Plan[d]	PDF	10	ControlNumber_LeadOrganization_PMP

Budget Information Non-Construction Programs (SF-424A)	PDF	n/a	ControlNumber_LeadOrganization_SF-424A
Budget Justification Workbook	MS Excel	n/a	ControlNumber_LeadOrganization_Budget_Justification
Subrecipient Budget Justification, if applicable	MS Excel	n/a	ControlNumber_LeadOrganization_Subrecipient_Budget_Justification
Work Proposal for FFRDC, (see DOE O 412.1A), if applicable	PDF	n/a	ControlNumber_LeadOrganization_WP
Authorization for Non-DOE or DOE FFRDCs, if applicable	PDF	n/a	ControlNumber_LeadOrganization_FFRDCAuth
Waiver for Foreign Entity Participation	PDF	n/a	ControlNumber_LeadOrganization_FEW
Performance of Work in the United States (Foreign Work Waiver), if applicable	PDF	n/a	ControlNumber_LeadOrganization_FWW
Biosketch (for each Covered Individual)	PDF	n/a	ControlNumber_LeadOrganization_Biosketch
Current and Pending Support (for each Covered Individual)	PDF	n/a	ControlNumber_LeadOrganization_CPS
Digital Persistent Identifier (for each Covered Individual)	n/a	n/a	Include in Current & Pending Support
Research Security Training Requirement (for each Covered Individual)	n/a	n/a	Include in Current & Pending Support
Transparency of Foreign Connections	PDF	n/a	BusinessSensitive_ControlNumber_LeadOrganization_TFC
Potentially Duplicative Funding Notice	PDF	n/a	ControlNumber_LeadOrganization_PDFN
Locations of Work	Excel	n/a	ControlNumber_LeadOrganization_LOW
Environmental Questionnaire	PDF	n/a	ControlNumber_LeadOrganization_ENV
Disclosure of Lobbying Activities, if applicable (SF-LLL)	PDF	n/a	ControlNumber_LeadOrganization_SF-LLL
Certification Regarding Lobbying (OMB 4040-0013)	PDF	n/a	ControlNumber_LeadOrganization_Cert Lobbying
Summary for Public Release	PDF	1	ControlNumber_LeadOrganization_Summary
HBCU, TCU, or HSI Documentation, if applicable	PDF	n/a	ControlNumber_LeadOrganization_Eligibility Cert.pdf

[a] For more information on each component in this table please refer to NOFO Part 2, *Application Content Requirements.*

[b] Letters of commitment are a part of this NOFO. Please see this topic area for more details on requirements. Please refer to NOFO Part 2, *Application Content Requirements*, for more information on this item.

[c] "If applicable" means your application may not require these items. Please refer to NOFO Part 2, *Application Content Requirements,* for more information on these items.

[d] Additional information can be found in the templates, which are available as separate attachments to this funding announcement.

3. Impacted Indian Tribes Documentation

For any application that potentially impacts Indian Tribes,[10] including when the potentially impacted Indian Tribe is the applicant, you must submit additional documentation:

- For projects sited on Tribal lands [11] or intersecting with Tribal subsurface rights:
  - You must submit documentation of support from the relevant Indian Tribes with the application. See below for Requirements for Documentation of Tribal Support.
- For applications potentially impacting Indian Tribes' resources and reserved rights in other ways:
  - We encourage you to submit documentation of support from the relevant Indian Tribes. You must, at a minimum, provide documentation confirming that an authorized representative from each potentially impacted Indian Tribe is aware of the application's nature and its potential impacts to the Indian Tribe. See below for helpful resources for evaluating potential impacts and requirements for documenting Tribal awareness.

We encourage you to reach out to Indian Tribes as early as possible to give them ample time to evaluate and respond. Documentation will not be scored; however, if you do not submit documentation of an Indian Tribe's awareness or a letter of support, it may result in determining your application ineligible, non-responsive to the NOFO, not subject to further review, or not otherwise subject to selection or award.

Documentation of Tribal Support	
Item	**Criteria**
Letter of Support from Tribal Leadership	The letter must be signed by an authorized representative[12] of the Indian Tribe and express support for the project. The signers must be holding their positions while the NOFO is open for applications or when subsequently submitted.

[10] Indian Tribe as defined in 25 U.S.C. § 5304 and includes Alaska Native Villages and Alaska Native Corporations.

[11] Tribal land is as defined in 25 U.S.C. §§ 3501(2), (3), (4)(A) and (13).

[12] An authorized representative must be an elected official or designated leader according to the traditions, constitution, or charter of the Indian Tribe, or someone with relevant delegated

Tribal Council Resolution, Board Resolution, or similar act passed by the legislative body of the Tribal government or Board of Directors of an Alaska Native Corporation	Must express support for the project.

Documentation of Tribal Awareness	
Item	**Criteria**
Any Documentation of Tribal Support (see above)	See above
An email reply or documentation of certified mail delivery	Must demonstrate that an authorized representative[12] of the Indian Tribe is the one who was notified and made aware of the nature of the project and its potential impacts to the Indian Tribe.

The following resources and guidance may be useful to help determine if a project may impact Indian Tribe resources or reserved rights and to find the appropriate contacts. These resources are not exhaustive, and many Indian Tribes have resources or reserved rights that extend beyond their Tribal lands or are covered within treaties, statutes, or case-law. You should do additional research, while respecting Tribal privacy over sacred sites. Any outreach, impact assessment, and mitigation plans must be documented and made available to DOE on request after award selection or during award negotiation. If the applicant is an Indian Tribe, we recommend these resources and guidance be used to ascertain impacts to other Indian Tribes.

Resources for Evaluating a Project's Potential Impact on an Indian Tribe	
Item	**Location**
Map of Indian Lands	https://bia-geospatial-internal.geoplatform.gov/indianlands/
Tribal Directory Assessment Tool (TDAT)	https://egis.hud.gov/TDAT/
Tribal Treaties Database	https://treaties.okstate.edu/
Directory of Federally Recognized Tribes and Tribal leaders	https://www.bia.gov/service/tribal-leaders-directory
Best Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and Other Similar Rights in Federal Regulatory Actions	Best Practices For Identifying And Protecting Tribal Treaty Rights, Reserved Rights, And Other Similar Rights In Federal Regulatory Actions And Federal Decision-Making

authority within the Tribal government. Examples include Chief, Chairman, Chairwoman, Governor, Nation Representative, President, Chief Executive Officer, Chief Financial Officer, Speaker of the Council, Speaker of the Congress, Tribal Administrator.

Guidance on Assessing Potential Impacts to Indian Tribe Resource or Reserved Rights		
Type of Action	**Assessment**	**Mitigation**
R&D	• Identify any resources you will quantify or model on or near Tribal land, traditional homelands, Tribal historic sites, sacred sites, or in areas where an Indian Tribe maintains rights to these resources • Identify which Indian Tribes may be impacted • Explain any instances of uncertainty or need for confidentiality	Explain any actions you took to mitigate or address any potential impacts identified, including engaging with the potentially impacted Indian Tribes, in the application.

Other Actions Not Categorized Above	• Identify any other proposed actions that may impact an Indian Tribe's resources or reserved rights. Tribal resources and reserved rights include, and are not limited to:
	  ○ An Indian reservation or land (as defined in 25 U.S.C. § 3501)
	  ○ Intersecting Tribal sub-surface rights
	  ○ Historic homelands they were removed from
	  ○ Cultural sites
	  ○ Sacred sites
	  ○ Water rights
	  ○ Mineral and other subsurface rights
	  ○ Fishing rights
	  ○ Hunting rights.
	• Identify the Tribes potentially impacted and any sources of uncertainty or confidentiality	

We may share any application that could impact Indian Tribes with those Indian Tribes, subject to any proper Proprietary Information markings on the submission. Accordingly, you should include a "Notice of Restriction on Use and Disclosure of Information" to identify any Proprietary Information (NOFO Part 1, *Use and Disclosure of Application Information*). After selection, you may be asked to include a "Notice of Restriction on Disclosure and Use of Data" to identify any Proprietary Information. Properly marked application information will only be used or disclosed for evaluation purposes when we must determine if the proposed project impacts an Indian Tribe, and we will only share that information with the potentially impacted Tribes.

Data you submit once under award that could impact Indian Tribes may be shared with the potentially impacted Indian Tribes, subject to any restrictions included on properly marked data per the award terms.

If you or DOE determines an Indian Tribe will be impacted, you must provide information on the project location, potential impacts, and how you will engage with Indian

Tribes during the performance period of the agreement and, if necessary, after the end of the agreement. In addition to your engagement, we will determine if formal government-to-government consultation could be appropriate, and we will conduct that consultation accordingly.

3. Technical Volume

The Technical Volume must conform to the following content and form requirements and address the technical review criteria in Technical Review Criteria.

You must provide sufficient citations and references to the primary research literature to justify the claims and approaches made in the Technical Volume. However, DOE and reviewers are under no obligation to review cited sources.

The Technical Volume to the application may not be more than **15 pages**, including the cover page; table of contents; all citations, charts, graphs, maps, photos, or other graphics and all information below. You should consider the weight of each technical review criteria (see Technical Review Criteria) when preparing the Technical Volume.

The Technical Volume should clearly describe and expand on information provided in the letter of intent.

The Statement of Project Objectives (SOPO) should be submitted as a separate standalone document and should not introduce any new technical or scientific information that cannot be found in the technical volume.

EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES INDICATED.

Summary of Technical Volume Elements:

SECTION	MAXIMUM PAGE LIMIT* (if applicable)	DESCRIPTION
Cover Page	Included in the page limitation (1-page maximum)	**The cover page must include all the following:** • The project title • Specific NOFO subtopic and technical area • Technical and business POCs (email addresses and telephone numbers) • Senior/key personnel and other covered individuals • The project team, including recipient name, entity type, and names of all team member organizations • The project location(s) • The proposed total federal funding level, cost share (optional), and period of performance

SECTION	MAXIMUM PAGE LIMIT* (if applicable)	DESCRIPTION
		• The proposed federal funding level and cost share for each project participant • Statements regarding confidentiality A sample cover page is included as an attachment to this announcement.
Table of Contents	Included in the page limitation	Applicant to capture, at a minimum, all the required sections identified in this table.
Project Objectives	Included in the page limitation	A detailed description of the proposed R&D project, including clear objectives, scientific hypothesis, methodology, and expected outcomes.
Merit Review Criteria Discussion The section should be formatted to address each of the merit review criterion and sub-criterion listed in "Technical Review Criteria." Please refer to VI.C.2 for more information.		
Merit Review Criterion 1	Included in the page limitation	Scientific and Technological Merit
Merit Review Criterion 2	Included in the page limitation	Technical Approach and Understanding
Merit Review Criterion 3	Included in the page limitation	Strengthening the Energy Workforce
Merit Review Criterion 4	Included in the page limitation	Technical and Management Capabilities
Multiple Principal Investigators	Included in the page limitation	The applicant, whether a single organization or team/partnership/consortium, must indicate if the project will include multiple PIs. This decision is solely the responsibility of the applicant. If multiple PIs will be designated, the application must identify the Contact PI/Project Coordinator and provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:

SECTION	MAXIMUM PAGE LIMIT* (if applicable)	DESCRIPTION
		• Process for making decisions on scientific/technical direction • Publications • Intellectual property issues • Communication plans • Procedures for resolving conflicts • PIs' roles and administrative, technical, and scientific responsibilities for the project
Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers	**Not included in the page limitation**	Provide the following information in this section: Collaborators and Co-editors: List in alphabetical order all persons, including their current organizational affiliation, who are, or who have been, collaborators or co-authors with you on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of this application. Also, list any individuals who are currently, or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding the submission of this application. If there are no collaborators or co-editors to report, state "None." Graduate and Postdoctoral Advisors and Advisees: List the names and current organizational affiliations of your graduate advisor(s) and principal postdoctoral sponsor(s) during the last five years. Also, list the names and current organizational affiliations of your graduate students and postdoctoral associates.

4. Biographical Sketch

Every Covered Individual at the applicant and subrecipient levels must submit a biosketch. Use SciENcv (Science Experts Network Curriculum Vitae) to produce a DOE-compliant PDF version of the biosketch. The biosketch does not have page limits, though some fields in SciENcv have character limitations for consistency.

Use the NOFO-Specific Biosketch Instructions and the NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support[13] to develop the biosketch.

Instructions for First-Time SciENcv Users:

[13] This table supersedes in its entirety Table 2a and Paragraph 7 of the Disclosure Requirements and Standardization Section of the NSPM-33 Implementation Guidance.

1. Navigate to SciENcv (Science Experts Network Curriculum Vitae)
2. To log in, click More Options, Login.gov, then sign in
3. From the dashboard, click Manage SciENcv, then click Create New Document
4. Select DOE Biographical Sketch
5. Add education and work history
6. When ready, click Download PDF, which will prompt the user to certify their responses, then the document will download and can be added to the NOFO application

The biosketch and CPS Common Forms must together include a list of all sponsored activities, awards, and appointments, whether:

- Paid or unpaid
- Full-time, part-time, or voluntary
- Faculty, visiting, adjunct, or honorary
- Cash or in-kind
- Foreign or domestic
- Governmental or private-sector
- Directly supporting your research
- Indirectly supporting your research by supporting students, research staff, space, equipment, or other research expenses.

Every covered individual must also identify all connections with malign foreign talent recruitment programs.

Please note the following:

- All definitions in the biosketch except Covered Individual (which is defined in the NOFO Part 1, *Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility)* are available at: NSPM-33, Definitions.
- If the NOFO-Specific Biosketch Instructions conflict with the NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support, follow the DOE NOFO-Specific Biosketch Instructions.

DOE/NNSA NOFO-Specific Biosketch Instructions	
Persistent Identifier (PID) of the Covered Individual	The PID field is required for all NOFOs and awards for R&D activities or technical assistance to support R&D activities. For NOFOs and awards that do not meet the criteria above, the PID field is optional.
Appointments and Positions Reporting Timeframe	Identify all domestic and foreign professional appointments and positions, both inside and outside the primary organization. There should be no lapses in time over the past 10 years or since age 18, whichever is shorter.

Products: Limitation on Number Provided	List up to 10 products most closely related to the proposed project.

5. Current and Pending (Other) Support

Current and pending (other) support (CPS Common Form) helps us identify potential duplication, overcommitment, potential conflicts of interest or commitment, and all other sources of support.

Every Covered Individual at the applicant and subrecipient levels must submit a CPS Common Form. Use SciENcv (Science Experts Network Curriculum Vitae) to produce a DOE-compliant PDF version of the CPS Common Form. The *CPS* Common Form does not have page limits, though some fields in SciENcv have character limitations for consistency.

Use the NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support[14] and the DOE NOFO-Specific CPS Instructions below to develop the CPS Common Form. The *CPS Common Form* and *Biosketch Common Form* must together include a list of all sponsored activities, awards, and appointments, whether:

- Paid or unpaid
- Provided as a gift with terms or conditions
- Full-time, part-time, or voluntary
- Faculty, visiting, adjunct, or honorary
- Cash or in-kind
- Foreign or domestic
- Governmental or private-sector
- Directly supporting your research
- Indirectly supporting your research by supporting students, research staff, space, equipment, or other research expenses.

Every covered individual must identify all connections with malign foreign talent recruitment programs in current and pending support.

Please note:

- All definitions in the CPS Common Form, except Covered Individual (which is defined in the NOFO Part 1, *Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility)* are available at: NSPM-33, Definitions.
- If the DOE NOFO-Specific CPS Instructions conflict with NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support, follow the DOE NOFO-Specific CPS Instructions.

[14] This table supersedes in its entirety Table 2a and Paragraph 7 of the Disclosure Requirements and Standardization Section of the NSPM-33 Implementation Guidance.

DOE/NNSA NOFO-Specific CPS Instructions	
Persistent Identifier (PID) of the Covered Individual	The PID field is required for all NOFOs and awards for R&D activities or technical assistance to support R&D activities. For NOFOs and awards that do not meet the criteria above, the PID field is optional.
Reporting Timeframe for Proposals, Projects, and In-Kind Contributions	Disclose only **current** and **pending** support, as defined in the "Status of Support" field of the SciENcv CPS Common Form.
Types of Proposals and Active Projects to Disclose	In addition to the guidance listed above, consulting activities must be disclosed under the proposals and active projects section of the form when any of the following scenarios apply: • The consulting activity will require the Covered Individual to perform research as part of the consulting activity • The consulting activity does not involve performing research but is related to the Covered Individual's research portfolio and may have the ability to impact funding, alter time or effort commitments, or otherwise impact scientific integrity • The consulting entity has provided a contract that requires the Covered Individual to conceal or withhold confidential financial or other ties between the Covered Individual and the entity, irrespective of the duration of the engagement
Disclosure Instructions for In-Kind Travel	Follow the disclosure instructions for travel in NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support.
Current and Pending (Other) Support Addendum	The Current and Pending (Other) Support Addendum is **not** required for this NOFO.

6. HBCU Eligibility Document, if Applicable

As stated in II. Eligibility, a portion of UTR funding may be allocated further to HBCUs[15] and in accordance with section 1105 of the Energy Policy Act of 2005.

[15] Institution Designations/Classifications, Office of Science, U.S. Department of Energy. Updated Minority Serving Institution designations using a revised version of the Department of Education's 2024 Eligibility Matrix. GRANTS Institution Designations/Classifications by the DOE Office of Science.

Prime Applicants must meet certain requirements by the closing date of the Announcement. In this document, please state how your educational entity claims eligibility and provide a copy of that certification. This "copy of the certification" may be a screenshot from the entities listed by DOE's Office of Science institution designation/classification or a copy of the certification from their institution's administration.

Save this certification in a single file named: "ControlNumber_LeadOrganization_Eligibility Cert.pdf " and click on "Add Optional Other Attachment" to attach.

E. Additional Requirements

Program-specific requirements that apply to awards funded under this NOFO are identified below. Standard requirements are described in NOFO Part 2, *Additional Requirements*.

Funding Restrictions		
Title	**Location**	**Additional Information**
Allowable Costs	NOFO Part 2	Applies to awards made under this NOFO
Pre-Award Costs	NOFO Part 2	Applies to awards made under this NOFO
Performance of Work in the United States (Foreign Work Waiver Requirement)	NOFO Part 2	Applies to awards made under this NOFO
Foreign Travel	NOFO Part 2	Foreign Travel is allowed for awards made under this NOFO
Equipment and Supplies	NOFO Part 2	Purchasing American-made equipment and supplies applies to this award.
Davis-Bacon Act Requirements	NOFO Part 2	Applies to awards made under this NOFO

V. Submission Requirements and Deadlines

You **must** take several one-time actions before applying to this NOFO. Some of these tasks may take several weeks, so it is vital applicants allow enough time to complete all actions. These requirements are outlined in detail in the NOFO Part 2, *Required Registrations*.

Failure to complete these actions could interfere with application or negotiation deadlines or the ability to receive an award if selected.

F. Submission Date and Times

You must submit all required submissions to the eXCHANGE site identified in the Key Facts section of this NOFO no later than 5 p.m. E.T. on the dates provided in the Key Facts section. Letters of intent and the application each have a different deadline.

Applicants are strongly encouraged to submit all required application documents at least 48 hours before the submission deadline. Under normal conditions (i.e., at least 48 hours before the submission deadline), set aside at least one hour to submit application documents. Once you submit the application documents, you can revise or update your submission before the deadline passes. If you change any of your documents, you must resubmit them before the deadline. We will not extend the submission deadline for server or connection congestion.

G. Intergovernmental Review

This NOFO is not subject to Executive Order 12372, Intergovernmental Review of Federal Programs.

VI. Application Review Information

A. Standards for Application Evaluation

Eligible applications will be evaluated based on this NOFO and the guidance in the "DOE Merit Review Guide for Financial Assistance," effective October 1, 2020.

B. Responsiveness Review

- Project concepts or approaches identified as NOT of interest (see the Applications Specifically Not of Interest section above)
- Applicants and applications that do NOT meet the Eligibility Criteria in NOFO Parts 1 and 2

C. Review Criteria

1. Compliance Criteria

All submissions for applications must:

- Comply with the content and form requirements listed in *NOFO Parts 1 and 2, Application Content Requirements and Submission Requirements and Deadlines of the NOFO*
- Include all required documents
- Be uploaded successfully submitted in the eXCHANGE site indicated in the Key Facts section at the beginning of this NOFO
- Meet the submission deadlines stated in Key Facts no later than 5 p.m. E.T.

DOE will not review or consider submissions submitted that:

- Are not submitted through the correct eXCHANGE site for this NOFO
- Are submitted after the due date and time
- Are incomplete

You must submit a letter of intent by 5:00 p.m. E.T. on the due date listed in the Key Facts section to be eligible to submit an application.

2. Technical Review Criteria

Applications

Applications will be evaluated against the technical review criteria shown below. All sub-criteria are of equal weight.

The Technical Evaluation Committee and Federal Merit Review Panel members will use the following evaluation criteria in conducting their evaluations of applications subjected to comprehensive merit review.

Review Criterion Overview	
Criterion	**Weight**
Criterion 1: Scientific and Technological Merit	25%
Criterion 2: Technical Approach and Understanding	25%
Criterion 3: Strengthening the Energy Workforce	30%
Criterion 4: Technical and Management Capabilities	20%

Merit Review Criterion 1: Scientific and Technological Merit (25%)

1. Thoroughness of the description of the proposed technology and degree to which the proposed technology or methodology meets the stated objectives of the topic area.
2. Degree to which the applicant comprehensively advances arguments and provides details that clearly distinguish the proposed R&D and why it is needed now relative to prior work.
3. Feasibility of the proposed concept; the degree to which the proposed work is based on sound scientific and engineering principles.
4. Degree to which the proposed technology is likely to demonstrate potential for technology market impact within 5 to 10 years after successful completion of the UTR award.

Merit Review Criterion 2: Technical Approach and Understanding (25%)

1. Adequacy and feasibility of the applicant's approach to achieving the objectives of the topic area and aligning with HGEO funding priorities.
2. Feasibility, appropriateness, rationale, and completeness of the proposed Statement of Project Objectives, such that there is a logical progression of work.
3. Demonstrated partnership with an applicable non-academic organization capable of advancing the technology with a strong commercialization pathway.
4. The adequacy and completeness of the Project Management Plan (PMP) in establishing baselines (technical scope, budget, schedule) and in managing project performance relative to those baselines; defining the actions that will be taken when these baselines must be revised; and identification of project risks and strategies for mitigation.

Merit Review Criterion 3: Strengthening the Energy Workforce (30%)

1. Degree to which students will be integrated into the project and how their R&D capabilities and work experience will be enhanced.
2. Demonstrated partnership with an applicable non-academic organization capable of leveraging the maturation and transition pathway of the developed technology to provide students with career growth and facilitate their entry into the workforce.
3. Likelihood of lasting impact or scalability of partnership for workforce development and/or student involvement.

Merit Review Criterion 4: Technical and Management Capabilities (20%)

1. Demonstrated experience of the applicant and partnering organizations in the technology areas addressed in the application and in managing projects of similar size, scope, and complexity.
2. Credentials, capabilities, and experience of key personnel and partnering organizations.
3. Clarity and likely effectiveness of the project organization, including subrecipients or partners, to successfully complete the project.
4. Adequacy and availability of proposed personnel, facilities, and equipment to perform project tasks.
5. Clarity and strength of commitment between proposed partners.

D. Other Selection Factors

- The degree to which the proposed project exhibits technological diversity when compared with the existing DOE project portfolio and other projects selected from the subject NOFO
- The degree to which the proposed project, including proposed cost share, optimizes the use of available DOE funding to achieve programmatic objectives
- The level of industry involvement and demonstrated ability to accelerate demonstration and commercialization and overcome key market barriers
- The degree to which the proposed project is likely to lead to increased high-quality employment and manufacturing in the United States
- The degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications)
- The degree to which the proposed project will procure U.S. iron, steel, manufactured products, and construction materials
- The degree to which the proposed project demonstrably advances the President's policy priorities
- All else being equal, the degree to which preference will be given to institutions with lower indirect cost rates
- The degree to which the applicant contributes to a broad range of recipients likely to produce immediately demonstrable results and recipients with the potential for longer-term, breakthrough results, consistent with the objectives of the NOFO
- The degree to which the proposed project or group of projects represent a desired distribution among different types of institutions of higher education (considering past awards and current applications)

- The degree to which the proposed project represents complementary efforts among selected projects
- The degree to which the proposed project minimizes risks in terms of schedule, budget, technical approach, and/or environmental impact

VII. Selection and Award Notices

NOFO Part 2, *Selection and Award Notices*

VIII. Award Administration Information

A. Post-Award Requirements and Administration

Standard Award Terms and Conditions
sample Federal Assistance Reporting Checklist,
Intellectual Property (IP) Provisions

Post-award requirements and administration that apply to awards funded under this NOFO are identified below. Detailed descriptions of standard requirements are provided in NOFO Part 2, *Post-Award Requirements and Administration*. Detailed descriptions of NOFO-specific requirements are provided below the table.

Post Award Requirements and Administration		
Title	**Location**	**Additional Information**
Government Rights in Data	NOFO Part 1	Applies to awards made under this NOFO
Real Property and Equipment Continued Use	NOFO Part 2	Applies to awards made under this NOFO
Energy Data eXchange	NOFO Part 2	Applies to awards made under this NOFO
U.S. Manufacturing Commitments	NOFO Part 2	Applies to awards made under this NOFO

Subject Invention Utilization Reporting	NOFO Part 2	Applies to awards made under this NOFO
Data Management and Sharing Plan (DMSP)	NOFO Part 2	Applies to awards made under this NOFO

1. Government Rights in Data

You can find the U.S. Government rights to application information in the *Use and Disclosure of Application Information* section. The U.S. Government rights to data produced under an award or used in the performance of the award varies according to the following classifications.

Limited Rights Data:

Limited-Rights Data are data (other than computer software) developed at private expense that embody trade secrets or are commercial or financial and confidential or privileged. For limited-rights data used in the performance of an award, the U.S. Government may inspect such data to verify the limited-rights data and restricted rights assertion or to evaluate work performance. However, award recipients are not normally required to deliver such data. For awards that require an award recipient to deliver limited-rights data and to ensure the protection of such data, you must properly mark these data as described in the award's intellectual property terms and conditions.

Unlimited Rights:

Unlimited-Rights Data are data first produced under an award or are unmarked data delivered to the U.S. Government as part of an award. *Unlimited rights* mean the U.S. Government has the right to (in any manner and for any purpose whatsoever and to have or permit others to) take the following actions with these data:

- Use
- Disclose
- Reproduce
- Prepare derivative works
- Distribute copies to the public
- Perform publicly and display publicly

Patentable Information:

In addition to any other protection allowed under the award, invention disclosures and other patentable information may be protectable from public disclosure for a reasonable time to allow you to file a patent application.

Protected Data:

Despite the unlimited rights the U.S. Government normally obtains in data first produced under an award, under special statutory authority and with DOE concurrence, certain categories of data first produced under awards resulting from this NOFO may be marked as protected data. Protected data are technical data or commercial or financial data first produced under the award that, if obtained from and first produced by a nonfederal party, would be privileged or

confidential. These data are protected from public disclosure for up to five years after the data were first produced. To qualify as protected data, we must agree with the classification, and you must properly mark the data as set forth in the award's intellectual property terms and conditions.

IX. Other Information

Please see the NOFO Part 2, *Other Information*, for additional information and requirements that apply to all DOE NOFOs.

A. Acronyms

Acronym	Spelled Out	Acronym	Spelled Out
AI	Artificial Intelligence	**NOFO**	Notice of Funding Opportunity
CFR	Code of Federal Regulations	**NSPM**	National Security Policy Memorandum
CO/CS	Contracting Officer/Specialist	**OMB**	Office of Management and Budget
CFR	Code of Federal Regulations	**OSTI**	DOE's Office of Scientific and Technical Information
CMM	Critical Mineral and Materials	**PD**	Project Director
DOE	United States Department of Energy	**PI**	Principal Investigator
DMSP	Data Management and Sharing Plan	**PMP**	Project Management Plan
EDX	Energy Data eXchange	**R&D**	Research and Development
E.T.	Eastern Time	**REE**	Rare Earth Elements
FFRDC	Federally Funded Research and Development Center	**SAM**	System for Award Management
FOIA	Freedom of Information Act	**SMART**	Specific, Measurable, Achievable, Relevant, and Timely
GOGO	Government Owned and Operated	**SOPO**	Statement of Project Objectives
HBCU	Historically Black Colleges and Universities	**STEM**	Science, Technology, Engineering and Math
HGEO	Hydrocarbons and Geothermal Energy Office	**TCUs**	Tribal Colleges and Universities
HSIs	Hispanic-Serving Institutions	**TEA**	Techno-Economic Analysis
IHE	Institution of Higher Education	**TRL**	Technology Readiness Level
ML	Machine Learning	**UEI**	Unique Entity Identifier
NETL	National Energy Technology Laboratory		