



Department of Energy (DOE) Office of Manufacturing & Energy Supply Chains

Bipartisan Infrastructure Law Industrial Assessment Centers Program – Centers of Excellence

Funding Opportunity Announcement (FOA) Number: DE-FOA-0002866

FOA Type: Initial

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FOA Issue Date:	12/6/22 5:00pm ET
Informational Webinar:	12/14/22 2:00pm ET
Submission Deadline for Optional Letter of Intent:	1/20/23 5:00pm ET
Submission Deadline for Full Applications:	2/17/23 5:00pm ET
Expected Submission Deadline for Replies to Reviewer Comments:	3/6/23 5:00pm ET
Expected Date for DOE Selection Notifications:	4/10/23 5:00pm ET
Expected Timeframe for Award Negotiations:	4/10/23 – 6/23

- To apply to this FOA, applicants must register with and submit application materials through EERE Exchange at <https://EERE-Exchange.energy.gov/>, an online application portal used by the Office of Manufacturing and Energy Supply Chains (MESC).
- Applicants must designate primary and backup points-of-contact in EERE Exchange with whom MESC will communicate to conduct award negotiations. If an application is selected for award negotiations, it is not a commitment to issue an award. It is imperative that the applicant/selectee be responsive during award negotiations and meet negotiation deadlines. Failure to do so may result in cancelation of further award negotiations and rescission of the selection.
- **Unique Entity Identifier (UEI) and System for Award Management (SAM)** - Each applicant (unless the applicant is excepted from those requirements under 2 CFR 25.110) is required to: (1) Be registered in the SAM at <https://www.sam.gov> before submitting its application; (2) provide a valid UEI number in its application; and (3) continue to maintain an active SAM registration with current information at all times during which it has an active federal award or an application or plan under consideration by a federal awarding agency. DOE may not make a federal award to an

applicant until the applicant has complied with all applicable UEI and SAM requirements and, if an applicant has not fully complied with the requirements by the time DOE is ready to make a federal award, the DOE will determine that the applicant is not qualified to receive a federal award and use that determination as a basis for making a federal award to another applicant.

NOTE: Due to the high demand of UEI requests and SAM registrations, entity legal business name and address validations are taking longer than expected to process. Entities should start the UEI and SAM registration process as soon as possible. If entities have technical difficulties with the UEI validation or SAM registration process they should utilize the HELP feature on SAM.gov. SAM.gov will work entity service tickets in the order in which they are received and asks that entities not create multiple service tickets for the same request or technical issue. Additional entity validation resources can be found here: [GSAFSD Tier 0 Knowledge Base - Validating your Entity](#).



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I. Funding Opportunity Description

A. Background and Context

The Office of Manufacturing and Energy Supply Chains (MESC) is issuing this restricted eligibility Funding Opportunity Announcement (FOA) to establish up to five regional Centers of Excellence at existing Industrial Assessment Centers (IACs) to coordinate with and advise IACs located in the region of the Center of Excellence. Awards made under this FOA will be funded, in whole or in part, with funds appropriated by the Infrastructure Investment and Jobs Act,¹ more commonly known as the Bipartisan Infrastructure Law (BIL).

The BIL is a once-in-a-generation investment in infrastructure, designed to modernize and upgrade American infrastructure to enhance United States competitiveness, drive the creation of good-paying union jobs, tackle the climate crisis, and ensure stronger access to economic, environmental, and other benefits for disadvantaged communities.² The BIL appropriates more than \$62 billion to the Department of Energy (DOE)³ to invest in American manufacturing and workers; expand access to energy efficiency and clean energy; deliver reliable, clean and affordable power to more Americans; and demonstrate and deploy the technologies of tomorrow through clean energy demonstrations.

As part of and in addition to upgrading and modernizing infrastructure, DOE's BIL investments will support efforts to build a clean and equitable energy economy that achieves a zero-carbon electricity system by 2035, and to put the United States on a path to achieve net-zero emissions economy-wide by no later than 2050⁴ to benefit all Americans.

¹ Infrastructure Investment and Jobs Act, Public Law 117-58 (November 15, 2021).

<https://www.congress.gov/bill/117th-congress/house-bill/3684>. This FOA uses the more common name "Bipartisan Infrastructure Law".

² Pursuant to E.O. 14008 and the Office of Management and Budget's Interim Justice40 Implementation Guidance M-21-28, DOE has developed a definition and tools to locate and identify disadvantaged communities. These resources can be located at <https://energyjustice.egs.anl.gov/>. DOE will also recognize disadvantaged communities as defined and identified by the White House Council of Environmental Quality's Climate and Economic Justice Screening Tool (CEJST), which can be located at <https://screeningtool.geoplatform.gov/>. DOE's Justice40 Implementation Guidance is located at <https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf>.

³ U.S. Department of Energy. November 2021. "DOE Fact Sheet: The Bipartisan Infrastructure Deal Will Deliver For American Workers, Families and Usher in the Clean Energy Future." <https://www.energy.gov/articles/doe-fact-sheet-bipartisan-infrastructure-deal-will-deliver-american-workers-families-and-0>.

⁴ [Executive Order \(EO\) 14008](#), "Tackling the Climate Crisis at Home and Abroad," January 27, 2021.

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The BIL will invest appropriations of up to \$150 million to expand DOE’s Industrial Assessment Center (IAC) Program for the five (5) year period encompassing Fiscal Years (FYs) 2022 through 2026. Through this FOA, DOE makes available \$18.75 million to support up to five regional Centers of Excellence for the IAC Program. These regional Centers of Excellence will be selected from among the highest-performing existing Industrial Assessment Centers (IACs) to serve as regional hubs for the IAC Program and to coordinate with and advise IACs located in their regions.

The activities to be funded under this FOA support BIL section 40521(b), which amended the Energy Independence and Security Act of 2007 (EISA 2007) by adding a new section 457, and the broader government-wide approach to strengthening domestic manufacturing, reducing industrial emissions, and developing the clean energy workforce as the nation works to curb the climate crisis, empower workers, and advance environmental justice. EISA 2007 section 457(e), as added by BIL section 40521(b), is focused on establishing regional Centers of Excellence to support the IAC Program’s broader efforts to:

- Optimize performance in the small- and medium-sized manufacturing sector;
- Deploy new technologies, tools, and practices to enhance performance, increase energy efficiency, and reduce industrial emissions in the small- and medium-sized manufacturing sector; and
- Support inclusive workforce development efforts to strengthen America’s competitive advantage in the clean energy economy.

This funding opportunity is restricted to institutions of higher education that are currently serving as IACs (either as the primary Center or a designated satellite) pursuant to selection under DOE FOA Number: DE-FOA-0002452, issued on March 8, 2021.

i. Program Purpose

This FOA will support up to five regional Centers of Excellence that will serve as regional hubs for the IAC Program and will coordinate with and advise IACs located in their regions.

The Federal Government has been funding the IAC Program since 1976.⁵ Currently, DOE funds IACs at 37 institutions of higher education across the nation. These IACs serve two purposes: first, they bolster U.S. manufacturing competitiveness by providing small- and medium-sized manufacturers with assessments and recommendations to improve energy efficiency and

⁵ The IAC Program, formerly called the Energy Analysis and Diagnostic Center Program, is authorized under section 457 of the Energy Independence and Security Act of 2007, as codified at 42 U.S.C. § 17116.



productivity; and second, they train the next generation of energy-savvy engineers through on-site involvement in these assessments. The IAC Program has long been characterized by its ability to adapt to changing needs of manufacturers and to incorporate advancing technologies.

The BIL provides \$550 million for the IAC Program over five (5) fiscal years. In accordance with the BIL, \$150 million of funding is dedicated to extending the scope and reach of the IAC Program through the following expansions:

1. Establishment of up to five regional Centers of Excellence, as set forth in this FOA.⁶
2. Creation of a clearinghouse of available expertise, tools, and resources to support IACs and assist small- and medium-sized manufacturers.⁷
3. Increased coordination with and outreach to:
 - a. Federal offices and partnerships, including but not limited to DOE's Advanced Manufacturing Office in the Office of Energy Efficiency & Renewable Energy (EERE); DOE's Building Technologies Offices in EERE; the National Laboratories; the Manufacturing USA Network; and the Department of Commerce, National Institute of Standards and Technology Manufacturing Extension Partnership (NIST MEPs);
 - b. State, Tribal, and local entities, including state energy offices; State, regional, and local energy efficiency programs; and state, regional and local economic development entities;
 - c. Utilities and energy service providers; and
 - d. Industry, including but not limited to small- and medium manufacturers, as well as entities developing and deploying energy efficiency and industrial decarbonization technologies.⁸
4. Establishment of IACs at community colleges, trade schools, and union training programs.⁹
5. Federal support (at 50% cost share) for students to work as interns or apprentices with or for industries, manufacturers, and energy service providers to implement the recommendations of IACs.¹⁰
6. Federal support (at 50% cost share) for employees of facilities that have received IAC assessments to work with or for IACs to gain knowledge on

⁶ EISA 2007 Sec. 457(e).

⁷ EISA 2007 Sec. 457(b)(2)(F), (e)(2)(C).

⁸ EISA 2007 Sec. 457(b)(2)(E), (b)(2)(G), (c), (d), (e)(2)(D)-(F).

⁹ EISA 2007 Sec. 457(f).

¹⁰ EISA 2007 Sec. 457(g)(1), (g)(2)(A).

engineering practices and processes to improve productivity and energy savings.¹¹

In accordance with the BIL, \$400 million over Fiscal Years 2022 through 2026 is dedicated to providing federal grants of no more than \$300,000 each to small- and medium-sized manufacturers to implement recommendations set forth in assessments made by IACs, Combined Heat and Power Technical Assistance Partnerships (CHP TAPs) working jointly with IACs, or third-parties whose assessments are deemed equivalent by the Department of Energy.¹²

This FOA supports the goals laid out above by seeking to establish up to five regional Centers of Excellence to serve as regional hubs for the expanded IAC Program. As described below, these regional Centers of Excellence will sit at the center of the IAC Program and be critical to its success.

As part of the whole-of-government approach to advance equity and encourage worker organizing and collective bargaining,^{13,14,15} and in alignment with EISA 2007 section 457, as added by BIL section 40521(b), this FOA and any related activities will seek to encourage meaningful engagement and participation of workforce organizations, including labor unions, as well as underserved communities and underrepresented groups, including consultation with Tribal Nations.¹⁶ Consistent with Executive Order 14008,¹⁷ this FOA is designed to help meet the goal that 40% of the overall benefits of certain federal investments in clean energy and climate solutions flow to disadvantaged communities, as defined by the Department pursuant to the Executive Order and to drive the creation of good-paying jobs with the free and fair chance for workers to join a union.

ii. Strategic Goals

DOE seeks to support up to five regional Centers of Excellence under this FOA to serve as regional hubs for the IAC Program and to coordinate with and advise IACs located in their regions. In doing so, these regional Centers of Excellence

¹¹ EISA 2007 Sec. 457(g)(2)(B).

¹² EISA 2007 Sec. 457(i).

¹³ EO 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" (January 20, 2021).

¹⁴ EO 14025, "Worker Organizing and Empowerment," April 26, 2021.

¹⁵ EO 14052, "Implementation of the Infrastructure Investment and Jobs Act," November 18, 2021.

¹⁶ EO 13175, November 6, 2000 "Consultation and Coordination With Indian Tribal Governments", charges all executive departments and agencies with engaging in regular, meaningful, and robust consultation with Tribal officials in the development of federal policies that have Tribal implications. See also Presidential Memorandum, January 26, 2021, "Tribal Consultation and Strengthening Nation-to-Nation Relationships."

¹⁷ EO 14008, "Tackling the Climate Crisis at Home and Abroad," January 27, 2021.



will advance DOE's strategic goals of (a) enhancing performance, increasing energy efficiency, and reducing industrial emissions at small- and medium-sized manufacturing facilities; (b) implementing the expanded IAC Program in a manner that leverages resources from across the Federal Government, as well as from State, Tribal, local, private sector and nongovernmental entities, to bolster the American manufacturing base; and (c) equitably developing the clean energy workforce of the future.

a. Enhancing Industrial Performance

The industrial sector is the backbone of America's economy, producing chemicals, electronics, machinery, steel, metals, textiles, and many other products that are critical to our society. In 2020, manufacturing contributed \$2,269.2 billion to the U.S. gross domestic product (GDP), amounting to 10.8% of total GDP and contributing an estimated 24% of GDP when direct and indirect value added (including purchases from other industries) are included. Domestic manufacturing capacity is essential to the development and maintenance of resilient, diverse, and secure supply chains that ensure our economic prosperity and national security, bolster America's competitive edge in research and development, support our nation's small businesses, create good-paying jobs, and encourage economic growth in communities of color and economically distressed areas. Investing in the nation's industrial base positions U.S. businesses and the 11.4 million manufacturing workers at its heart to compete and lead globally in the 21st century. Manufacturing is also a jobs multiplier, with each manufacturing job creating more than five additional induced or indirect jobs.¹⁸

Through this FOA, DOE seeks to establish up to five regional Centers of Excellence capable of coordinating regional efforts in the IAC Program to support small- and medium-sized manufacturers in enhancing performance, increasing energy efficiency, and reducing industrial emissions.

The industrial sector is often characterized as a "difficult-to-decarbonize" sector of the energy economy,¹⁹ in part because of the diversity of energy inputs and applications that are part of industrial processes and operations. In 2020, the

¹⁸ Josh Bivens, Updated Employment Multipliers for the U.S. Economy, Economic Policy Institute, (Jan 23, 2019), at Table 1, available at <https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/>.

¹⁹ National Academies of Sciences, Engineering, and Medicine, Accelerating Decarbonization in the United States Energy Sector, February 2021, <https://www.nap.edu/catalog/25932/accelerating-decarbonization-of-the-us-energy-system>.

industrial sector accounted for 33% of the nation’s primary energy use and 30% of energy-related carbon dioxide (CO₂) emissions.²⁰

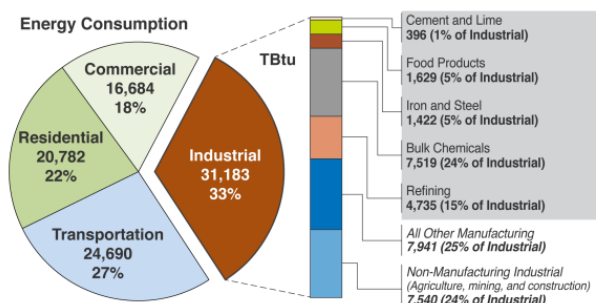


FIGURE 1. U.S. PRIMARY ENERGY CONSUMPTION BY END USE SECTOR (LEFT PIE CHART) AND A BREAKOUT BY INDUSTRIAL SUBSECTOR (RIGHT STACKED CHART) IN 2020. OFFSITE ELECTRICITY LOSSES (FOR THE POWER GENERATION SECTOR) ARE ALLOCATED TO END USE INDUSTRIES. FIGURE DERIVED FROM 2020 DATA FROM EIA 2021.²¹

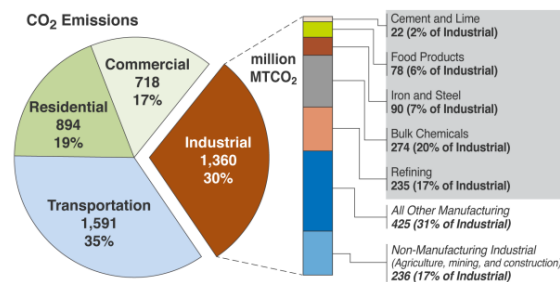


FIGURE 2. U.S. PRIMARY ENERGY-RELATED CO₂ EMISSIONS BY END USE SECTOR (LEFT PIE CHART) AND A BREAKOUT BY INDUSTRIAL SUBSECTOR (RIGHT STACKED CHART) IN 2020. FIGURE DERIVED FROM 2020 DATA FROM AEO 2021.²²

In September 2022, DOE published the “[Industrial Decarbonization Roadmap](#),” a comprehensive report identifying four key pathways to reduce industrial emissions in American manufacturing. The roadmap presents an agenda for government, industry, and other stakeholders to work together to accelerate emissions reductions and position the U.S. industrial sector as a global leader in innovation; and it incorporates DOE’s commitment to decarbonizing the nation’s industrial sector to create good-paying jobs for American workers, spur economic growth, and create a cleaner, more equitable future for all Americans.

As set forth in the Industrial Decarbonization Roadmap, industrial emissions reductions will require approaches that are transformational rather than incremental; but the potential exists for the manufacturing sector to improve productivity and cost competitiveness at the global scale, develop innovative products, and meet expanding societal needs, while reducing its carbon dependence.²³

The DOE Industrial Decarbonization Roadmap sets forth four “pillars” of decarbonization: energy efficiency; industrial electrification; low-carbon fuels, feedstocks, and energy sources (LCFFES); and carbon capture, utilization, and storage (CCUS).

²⁰ “Annual Energy Outlook 2021 with Projections to 2050,” U.S. Energy Information Administration, February 3, 2021, <https://www.eia.gov/outlooks/archive/aeo21/>.

²¹ *Id.* See Table 2. Energy Consumption by Sector and Source and Tables 24 – 34.

²² *Id.* See Table 19. Energy-Related Carbon Dioxide Emissions by End Use.

²³ International Energy Agency, Clean Energy Innovation, July 2020, <https://www.iea.org/reports/clean-energy-innovation>.



The IAC Program is poised to play a pivotal role in deploying technologies, tools, and practices identified in the first three pillars of the Industrial Decarbonization Roadmap, and applicants under this FOA are strongly encouraged to review the Roadmap in full. Consistent with the Roadmap and the historic successes of the IAC Program, DOE seeks regional Centers of Excellence with superior technical expertise in identifying opportunities for small- and medium-sized manufacturers to implement technologies, tools, and practices that accelerate progress toward a net zero emissions economy in the following areas:

Energy Efficiency

Energy efficiency saves costs for manufacturers and is the most cost-effective option for reducing GHG emissions in the near term. Energy efficiency advancements minimize industrial energy demand, directly reducing the GHG emissions associated with fossil fuel combustion.

Priority areas for small- and medium-sized manufacturers include:

- Strategic energy management approaches to optimize performance of industrial processes at the system-level;
- Systems management and optimization of thermal heat from manufacturing process heating, boiler, and combined heat and power sources that can or could be retrofitted to use clean fuels; and
- Smart manufacturing and advanced data analytics to increase energy productivity in manufacturing processes.

Industrial Electrification

Industrial process technologies that utilize electricity for energy, rather than combusting fossil fuels directly, enable the sector to leverage advancements in low-carbon electricity from both grid and onsite generation sources.

Priority areas for small- and medium-sized manufacturers include:

- Electrification of process heat using induction, radiative heating, or advanced heat pumps;
- Electrification of high-temperature range processes such as those found in iron, steel, and cement making;
- Electrification of hydrogen production for industrial process use; and
- **Replacing thermally-driven processes with electrochemical ones.**

Low-Carbon Fuels, Feedstocks, and Energy Sources (LCFFES)

Substitution of low- and no-carbon fuels and feedstocks for fossil fuels can further reduce combustion-associated emissions for industrial processes.

Priority areas for small- and medium-sized manufacturers include:

- Fuel-flexible processes;
- Integration of clean hydrogen fuels and feedstocks into industrial applications;
- The use of biofuels and biofeedstocks; and
- On-site renewable energy generation, especially solar power.

In all of the above areas, net-zero aligned improvements will be strongly favored over incremental efficiency improvements.

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Specific performance metrics to be developed by the Department of Energy in partnership with selected regional Centers of Excellence may include the following for each region:

- Assessments performed;
- Assessment recommendations implemented;
- Greenhouse gas emissions abated as a result of assessments implemented; and
- New assessment tools developed or assessments updated to incorporate priority technologies, tools, or practices.

b. Facilitating Collaboration and Coordination

Expansion of the IAC Program under EISA 2007 section 457, as added by BIL section 40521(b), provides an historic opportunity to develop a network of DOE-supported IACs across the country that not only provide energy-saving and production-enhancing assessments to small- and medium-sized manufacturers but also ensure that these critical contributors to American supply chains have ready access to a wealth of information and training regarding new technologies, tools, and practices available to reduce costs, enhance productivity and resiliency, improve energy efficiency, and reduce emissions. The Centers of Excellence will serve as key players in this expanded network, acting as regional hubs and coordinating with and advising IACs located in their regions.

DOE seeks regional Centers of Excellence that will serve as partners to MESC in assisting small- and medium-manufacturers in identifying and implementing opportunities to enhance operations; leveraging available resources from DOE, the National Laboratories, the Manufacturing USA Network, NIST MEPs,²⁴ utilities and energy service providers, and a wide variety of other governmental and nongovernmental entities; expanding the geographic breadth of delivery of IAC assessments and resources in partnership with new IACs at community colleges, trade schools, and union training programs; scaling delivery and implementation of new technologies, tools, and practices in cooperation with utilities, energy service providers, and private sector entities; and effectively

²⁴ As just one example of essential coordination, DOE recognizes the critical importance of enhancing cybersecurity tools in the small- and medium-sized manufacturing space and seeks Centers of Excellence prepared to leverage the extensive expertise of NIST and its MEPs to incorporate cybersecurity best practices into IAC assessments and training and education materials.



facilitating two-way communication between MESC and the manufacturing sector regarding new opportunities for manufacturers.

Specific performance metrics to be developed by the Department of Energy in partnership with selected Centers of Excellence may include the following for each region:

- Direct engagements with small- and medium-sized manufacturing firms, including in-person and virtual engagements;
- Geographic coverage of assessments and engagements with small- and medium-sized manufacturing firms; and
- Outside financing leveraged to assist in implementation of DOE assessment recommendations.

c. Teaching, Training, and Workforce Development

Strengthening prosperity – by expanding good, safe union jobs and supporting job growth through investments in domestic manufacturing – are key goals set by President Biden, discussed in depth in his Executive Orders on Ensuring the Future Is Made in All of America by All of America's Workers (EO 14005), Tackling the Climate Crisis at Home and Abroad (EO 14008), Worker Organizing and Empowerment (EO 14025), Boosting Quality of Federal Construction Contracts (EO 14063), Promoting Competition in the American Economy (EO 14036), and Implementing the Infrastructure Investment and Jobs Act (EO 14052).

In keeping with the Administration's goals, and as an agency whose mission includes strengthening our country's energy prosperity, DOE strongly supports investments that expand good-paying jobs that offer workers the free and fair choice to form, join, or assist a union, improve job quality through the adoption of strong labor standards and labor-management partnerships, and support responsible employers. The DOE also supports opportunities that foster safe, healthy, and inclusive workplaces and communities and strategies that develop a diverse workforce well-qualified to build and maintain the country's energy infrastructure and grow domestic manufacturing.

The IAC Program has had decades of success training energy-savvy engineers at four-year universities. The BIL expands upon this success by authorizing and appropriating funds to support the establishment of IACs at community colleges, trade schools, and union training programs, as well as to integrate internship and apprenticeship opportunities into the broader IAC Program. These expansions



solidify the role of the IAC Program as a cornerstone of DOE's efforts to train the energy workforce of the future.

DOE seeks regional Centers of Excellence with exceptional teaching, educational, and workforce development abilities capable of mentoring IAC directors in their teaching and training responsibilities; working together with IACs and other stakeholders to develop and distribute high-quality teaching and training materials relevant to the expanded group of IAC trainees (including engineers in training at four-year institutions, students at community colleges and trade schools, and manufacturing workers taking advantage of apprenticeships and other opportunities to build skills and expand knowledge); and supporting regional clean energy workforce development with the goal of creating domestic energy and supply chain jobs with good pay, benefits, predictable schedules, safe and healthy workplaces, and assurances that workers will have a free and fair chance to join or form a union, through, for example, (a) identifying opportunities to engage workers in learning opportunities associated with IACs, resulting in credits or credentials, (b) working with small- and medium-sized manufacturers and other stakeholders to support workforce education and training leading to upskilling opportunities for incumbent workers to learn and earn credentials, resulting in promotions or raises in the workplace, (c) entering articulation agreements²⁵ with registered apprenticeship, joint apprenticeship training committees (JATCs), and other labor-management training partnerships, and (d) entering partnership agreements with registered apprenticeship programs around curriculum, training offerings, on-the-job opportunities, and credentials for participating students.

These efforts are in support of DOE's broader goals of expanding union jobs, improving job quality through the adoption of strong labor standards, supporting responsible employers, improving job access, fostering safe, healthy, and inclusive workplaces and communities, and developing a diverse workforce well-

²⁵ An articulation agreement is a formal partnership between two or more institutions of higher education. Typically, this type of agreement is formed between a community college and a four-year institution with the goal of creating a seamless transfer process for students.



qualified to build and maintain the country's energy infrastructure and grow domestic manufacturing.

Specific performance metrics to be developed by the Department of Energy in partnership with regional Centers of Excellence may include the following for each region:

- Placement rates and wages of students / workers trained pursuant to existing and newly developed curricular materials;
- Engagement with industry stakeholders related to workforce development needs in the region;
- Development and promotion of new degree, credential, or certification programs;
- Percent of students and workers enrolled in registered apprenticeship programs or labor-management training partnerships; and
- Number of workers participating in registered apprenticeship programs that come from underrepresented backgrounds and disadvantaged communities.

B. Topic Area

Consistent with EISA 2007 section 457(e), as added by BIL section 40521(b), the objective of the single Topic Area under this FOA is to support up to five regional Centers of Excellence for activities including:

- Identifying new technologies, tools, and practices of particular importance to regional IAC clients and supporting development of new or expansion of existing assessment tools to incorporate these new technologies, tools, and practices;
- Coordinating with national and regional stakeholders, including, for example, DOE Offices; the National Laboratories; the Manufacturing USA Network; NIST MEPS; State, Tribal, regional, and local offices and entities; utilities and energy service providers; education, and economic development, workforce development stakeholders; and private industry;
- Supporting the development of materials and resources for the National Clearinghouse, with a focus on developing materials and resources of regional importance;
- Coordinating regional outreach to small- and medium-sized manufacturers, and particularly manufacturers in disadvantaged communities, to share information about IAC Program resources and opportunities; promote regional adoption of priority technologies,

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- practices, and tools; and ensure that the IAC Program remains apprised of regional manufacturers' changing needs and capabilities;
- Mentoring IAC directors and staff regionally, including providing training to IAC directors, staff, and students regarding best practices for carrying out assessments and supporting unusually complex or lengthy IAC assessments within the region;
 - Supporting development of and training on new methods of delivering IAC assessments, including both traditional and virtual assessments that expand the reach of the IAC Program by reducing or eliminating the need for IAC staff and students to travel to work on-site with small- or medium-manufacturers;
 - Supporting student-focused activities, including facilitating connections between graduates and private industry, supporting student research competitions, hosting regional events, recognizing student and alumni achievements, supporting interaction among students and alumni;
 - Forging new relationships and articulation agreements with labor unions, registered apprenticeship programs, and other joint labor-management training partnerships; and
 - Supporting regional and national clean-energy workforce development activities, including but not limited to development and implementation of new degree programs, credentials, and certifications.

All work for projects selected under this FOA must be performed in the United States. See Section IV.j.iii.

C. Applications Specifically Not of Interest

The following types of applications will be deemed nonresponsive and will not be reviewed or considered (See Section III.D. of the FOA):

- Applications that fall outside the technical parameters specified in Sections I.A. and I.B. of the FOA.
- Applications from entities other than institutions of higher education that are currently serving as IACs (either as the primary Center or a designated satellite) pursuant to selection under DOE FOA Number: DE-FOA-0002452, issued on March 8, 2021.

D. Community Benefits Plan

To support the goal of building a clean and equitable energy economy, BIL-funded projects are expected to (1) support meaningful community and labor engagement; (2) invest in America's workforce; (3) advance diversity, equity, inclusion, and accessibility; and (4) contribute to the President's goal that 40% of

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the overall benefits of certain federal investments flow to disadvantaged communities (the Justice40 Initiative). To ensure these goals are met, applications must include a Community Benefits Plan that describes how the proposed project would incorporate the four objectives stated above. See Section IV.D.xvi. for the Community Benefits Plan content requirements.

E. Authorizing Statutes

The IAC Program is authorized under section 457 of the Energy Independence and Security Act of 2007, added by section 40521(b) of the BIL, as codified in 42 U.S.C. § 17116.

Awards made under this announcement will fall under the purview of 2 CFR Part 200 as amended by 2 CFR Part 910.

F. Notice of Bipartisan Infrastructure Law-Specific Requirements

Be advised that special terms and conditions apply to projects funded by the BIL relating to:

- Reporting, tracking and segregation of incurred costs;
- Reporting on job creation and preservation;
- Publication of information on the Internet;
- Access to records by Inspectors General and the Government Accountability Office;
- Requiring all of the iron, steel, manufactured goods, and construction materials used in the infrastructure activities of applicable projects are produced in the United States;
- Ensuring laborers and mechanics employed by contractors or subcontractors on BIL-funded projects are paid wages equivalent to prevailing wages on similar projects in the area;
- Protecting whistleblowers and requiring prompt referral of evidence of a false claim to an appropriate inspector general; and
- Certification and Registration.

Recipients of funding appropriated by the BIL must comply with requirements of all applicable federal, state, and local laws, regulations, DOE policy and guidance, and instructions in this FOA. Recipients must flow down the requirements to subrecipients to ensure the recipient's compliance with the requirements.



II. Award Information

A. Award Overview

iii. Estimated Funding

DOE expects to make a total of up to \$18,750,000 of federal funding available for new awards under this FOA, subject to the availability of appropriated funds. DOE anticipates making three to five awards under this FOA. However, DOE may issue one, multiple, or no awards. Individual awards are anticipated to be for \$2,500,000 to \$3,750,000 each over a five-year performance period.

DOE may issue awards in the following topic area:

Topic Area Number	Topic Area Title	Anticipated Number of Awards	Anticipated Minimum Individual Award Size (Fed Share)	Anticipated Maximum Award Size for Any One Individual Award (Fed Share)	Approximate Total Federal Funding Available for All Awards	Anticipated Period of Performance (months)
1	Centers of Excellence	3-5	\$2,500,000	\$3,750,000	\$12,500,000 - \$18,750,000	60

iv. Period of Performance

DOE anticipates making awards that will run approximately 60 months in length, comprising one or more budget periods. Project continuation will be contingent upon several elements, including satisfactory performance and DOE’s Go/No-Go decision. For a complete list and more information on the Go/No-Go review, see Section VI.B.xi.

v. New Applications Only

DOE will accept only new applications under this FOA. DOE will not consider applications for renewals of existing DOE-funded awards through this FOA.

B. DOE Funding Agreements

Through cooperative agreements and other similar agreements, DOE provides financial and other support to projects that have the potential to realize the FOA objectives. DOE does not use such agreements to acquire property or services for the direct benefit or use of the United States government.

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i. Cooperative Agreements

DOE generally uses cooperative agreements to provide financial and other support to prime recipients.

Through cooperative agreements, DOE provides financial or other support to accomplish a public purpose of support or stimulation authorized by federal statute. Under cooperative agreements, the government and prime recipients share responsibility for the direction of projects.

DOE has substantial involvement in all projects funded via cooperative agreement. See Section VI.B.ix. of the FOA for more information on what substantial involvement may involve.

ii. Funding Agreements with Federally Funded Research and Development Center (FFRDCs)²⁶

In most cases, FFRDCs are funded independently of the remainder of the project team. The FFRDC then executes an agreement with any non-FFRDC project team members to arrange work structure, project execution, and any other matters. Regardless of these arrangements, the entity that applied as the prime recipient for the project will remain the prime recipient for the project. See Section III.E.ii.

²⁶ Federally Funded Research and Development Centers (FFRDC) — FFRDCs are public-private partnerships which conduct research for the United States government. A listing of FFRDCs can be found at <http://www.nsf.gov/statistics/ffrdclist/>.



III. Eligibility Information

To be considered for substantive evaluation, an applicant's submission must meet the criteria set forth below. If the application does not meet these eligibility requirements, it will be considered ineligible and removed from further evaluation.

A. Eligible Applicants

Consistent with EISA 2007 section 457(e)(1), as added by BIL section 40521(b), the regional Centers of Excellence are to be established at the highest performing IACs. The responsibilities of the regional Centers of Excellence include advising other IACs within their respective regions; mentoring new IACs; and sharing best practices with other IACs. Accordingly, to carry out the statutory direction and to assess whether an applicant has the appropriate qualifications to serve as a Center of Excellence, it is necessary to limit the eligibility to existing IACs.

Accordingly, only the following entities are eligible to apply under this FOA:

U.S. institutions of higher education that are currently serving as IACs (either as a primary IAC or a designated satellite) pursuant to selections made pursuant to DOE FOA Number: DE-FOA-0002452, issued on March 8, 2021.

Entities banned from doing business with the United States government, such as entities debarred, suspended, or otherwise excluded from or ineligible for participating in Federal programs, are **not** eligible.

Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are **not** eligible to apply for funding.

B. Cost Sharing

Cost sharing is encouraged as it may amplify the overall impact of the regional Centers of Excellence and IAC Program, but is not required under this FOA.

In the event an applicant intends to propose voluntary committed cost share, DOE has included a cost share information sheet as Appendix A this FOA to assist applicants in calculating proper cost share amounts.



i. Legal Responsibility

Although the cost share requirement applies to the project as a whole, including work performed by members of the project team other than the prime recipient, the prime recipient is legally responsible for paying the entire cost share should it propose voluntary committed cost share. If the funding agreement is terminated prior to the end of the project period, the prime recipient is required to contribute at least the cost share percentage of total expenditures incurred through the date of termination.

The prime recipient is solely responsible for managing cost share contributions by the project team and enforcing cost share obligation assumed by project team members in subawards or related agreements.

ii. Cost Share Allocation

Each project team is free to determine how best to allocate the cost share requirement among the team members. The amount contributed by individual project team members may vary, as long as the cost share requirement for the project as a whole is met.

iii. Cost Share Types and Allowability

Every cost share contribution must be allowable under the applicable federal cost principles, as described in Section IV.j.i. of the FOA. In addition, cost share must be verifiable upon submission of the Full Application.

Project teams may provide cost share in the form of cash or in-kind contributions. Cost share may be provided by the prime recipient, subrecipients, or third parties (entities that do not have a role in performing the scope of work). Vendors/contractors may not provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

Cash contributions include, but are not limited to: personnel costs, fringe costs, supply and equipment costs, indirect costs, and other direct costs.

In-kind contributions are those where a value of the contribution can be readily determined, verified and justified but where no actual cash is transacted in securing the good or service comprising the contribution. Allowable in-kind contributions include, but are not limited to: the donation of volunteer time or the donation of space or use of equipment.

Project teams may use funding or property received from state or local governments to meet the cost share requirement, so long as the funding was not provided to the state or local government by the federal government.

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

- 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); or
- Expenditures that were reimbursed under a separate federal program.

Project teams may not use the same cash or in-kind contributions to meet cost share requirements for more than one project or program.

Cost share contributions must be specified in the project budget, verifiable from the prime recipient's records, and necessary and reasonable for proper and efficient accomplishment of the project. As all sources of cost share are considered part of total project cost, the cost share dollars will be scrutinized under the same federal regulations as federal dollars to the project. Every cost share contribution must be reviewed and approved in advance by the Contracting Officer and incorporated into the project budget before the expenditures are incurred.

Applicants are encouraged to refer to 2 CFR 200.306 and 2 CFR 910.130 for additional cost sharing requirements.

iv. Cost Share Contributions by FFRDCs

Because FFRDCs are funded by the federal government, costs incurred by FFRDCs generally may not be used to meet the cost share requirement. FFRDCs may contribute cost share only if the contributions are paid directly from the contractor's Management Fee or another non-federal source.

v. Cost Share Verification

Applicants are required to provide written assurance of their proposed cost share contributions in their Full Applications.

Upon selection for award negotiations, applicants are required to provide additional information and documentation regarding their cost share contributions. Please refer to Appendix A of the FOA.



vi. Cost Share Payment

DOE requires prime recipients to contribute the cost share amount incrementally over the life of the award. Specifically, the prime recipient's cost share for each billing period must always reflect the overall cost share ratio negotiated by the parties (i.e., the total amount of cost sharing on each invoice when considered cumulatively with previous invoices must reflect, at a minimum, the cost sharing percentage negotiated). As FFRDC funding will be provided directly to the FFRDC(s) by DOE, prime recipients will be required to provide project cost share at a percentage commensurate with the FFRDC costs, on a budget period basis, resulting in a higher interim invoicing cost share ratio than the total award ratio.

In limited circumstances, and where it is in the government's interest, the DOE Contracting Officer may approve a request by the prime recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. Regardless of the interval requested, the prime recipient must be up-to-date on cost share at each interval. Such requests must be sent to the Contracting Officer during award negotiations and include the following information: (1) a detailed justification for the request; (2) a proposed schedule of payments, including amounts and dates; (3) a written commitment to meet that schedule; and (4) such evidence as necessary to demonstrate that the prime recipient has complied with its cost share obligations to date. The Contracting Officer must approve all such requests before they go into effect.

C. Compliance Criteria

All applicant submissions must:

- comply with the applicable content and form requirements listed in Section IV. of the FOA;
- include all required documents;
- be successfully uploaded in EERE Exchange Exchange <https://eere-exchange.energy.gov>, including clicking the "Submit" button; and
- be submitted by the deadline stated in the FOA.

DOE will not review or consider submissions submitted through means other than EERE Exchange, submissions submitted after the applicable deadline, or incomplete submissions.

Applicants are strongly encouraged to submit their Letters of Intent, Full Applications, and Replies to Reviewer Comments at least 48 hours in advance of the submission deadline. Under normal conditions (i.e., at least 48 hours in advance of the submission deadline), applicants should allow at least 1 hour to submit a Letter of Intent, Full Application, or Reply to Reviewer Comments.

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Once the Letter of Intent, Full Application, or Reply to Reviewer Comments is submitted in EERE Exchange, applicants may revise or update that submission until the expiration of the applicable deadline. If changes are made to any of these documents, the applicant must resubmit the Letter of Intent, Full Application, or Reply to Reviewer Comments before the applicable deadline. DOE will not extend the submission deadline for applicants that fail to submit required information by the applicable deadline due to server/connection congestion.

D. Responsiveness Criteria

All “Applications Specifically Not of Interest,” as described in Section I.C. of the FOA, are deemed nonresponsive and are not reviewed or considered.

E. Other Eligibility Requirements

vii. Requirements for DOE/NNSA and non-DOE/NNSA FFRDCs Included as a Subrecipient

DOE/NNSA and non-DOE/NNSA FFRDCs may be proposed as a subrecipient on another entity’s application subject to the following guidelines:

a. Authorization for non-DOE/NNSA FFRDCs

The federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The use of a FFRDC must be consistent with its authority under its award.

b. Authorization for DOE/NNSA FFRDCs

The cognizant Contracting Officer for the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization:

Authorization is granted for the Laboratory to participate in the proposed project. The work proposed for the Laboratory is consistent with or complementary to the missions of the Laboratory, and will not adversely impact execution of the DOE assigned programs at the Laboratory.

c. Value/Funding

The value of and funding for the FFRDC portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE/NNSA FFRDC through the DOE field work proposal (WP) system and

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non-DOE/NNSA FFRDC through an interagency agreement with the sponsoring agency.

d. Cost Share

Although the FFRDC portion of the work is usually excluded from the award to a successful applicant, the applicant's cost share requirement will be based on the total cost of the project, including the applicant's, the subrecipient's, and the FFRDC's portions of the project.

e. Responsibility

The prime recipient will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues including, but not limited to disputes and claims arising out of any agreement between the prime recipient and the FFRDC.

f. Limit on FFRDC effort.

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

viii. Agreement Requirements for DOE/NNSA FFRDCs Participating as a Subrecipient

DOE/NNSA FFRDCs participating as a subrecipient on a project and funded directly through the DOE WP System are strongly encouraged to establish a Cooperative Research and Development Agreement²⁷ (CRADA) or, if the role of the DOE/NNSA FFRDC is limited to technical assistance and intellectual property is not anticipated to be generated from the DOE/NNSA FFRDC's work, a Technical Assistance Agreement (TAA), with at least the prime recipient before any project work begins. Any questions regarding the use of a CRADA or TAA should be directed to the cognizant DOE field intellectual property (IP) counsel.

The CRADA or TAA is used to ensure accountability for project work and provide the appropriate management of intellectual property (IP), e.g., data protection and background IP.

²⁷ A cooperative research and development agreement is a contractual agreement between a national laboratory contractor and a private company or university to work together on research and development. For more information, see <https://www.energy.gov/gc/downloads/doe-cooperative-research-and-development-agreements>



F. Limitation on Number of Full Applications Eligible for Review

An entity may only submit one Letter of Intent and one Full Application to this FOA. The Letter of Intent and Full Application must address the topic area identified in Section I.B. of the FOA. If an entity submits more than one Full Application, DOE will request a determination from the applicant's authorizing representative as to which application should be reviewed. Any other submissions received listing the same entity as the applicant will not be eligible for further consideration. This limitation does not prohibit an applicant from collaborating on other applications (e.g., as a potential subrecipient or partner) so long as the entity is only listed as the applicant on one Full Application submitted under this FOA.

G. Questions Regarding Eligibility

DOE will not make eligibility determinations for potential applicants prior to the date on which applications to this FOA must be submitted. The decision whether to submit an application in response to this FOA lies solely with the applicant.

IV. Application and Submission Information

A. Application Process

The application process includes multiple phases: a voluntary Letter of Intent phase and a Full Application phase.

All submissions must conform to the form and content requirements described below, including maximum page lengths.

- Each must be submitted in Adobe PDF format unless stated otherwise;
- Each must be written in English;
- All pages must be formatted to fit on 8.5 x 11 inch paper with margins not less than one inch on every side. Use Calibri typeface, a black font color, and a font size of 12 point or larger (except in figures or tables, which may be 10 point font). A symbol font may be used to insert Greek letters or special characters, but the font size requirement still applies. References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and endnotes are counted toward the maximum page requirement;
- A **control number** will be issued when an applicant begins the EERE Exchange application process. The control number must be included with all application documents. Specifically, the control number must be prominently displayed on the upper right corner of the header of every page

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and included in the file name (i.e., *Control Number_Applicant Name_Full Application*);

- Page numbers must be included in the footer of every page; and
- Each submission must not exceed the specified maximum page limit, including cover page, charts, graphs, maps, and photographs when printed using the formatting requirements set forth above and single spaced. If applicants exceed the maximum page lengths indicated below, DOE will review only the authorized number of pages and disregard any additional pages.

i. Additional Information on EERE Exchange

EERE Exchange is designed to enforce the deadlines specified in this FOA. The “Apply” and “Submit” buttons will automatically disable at the defined submission deadlines. Should applicants experience problems with EERE Exchange, the following information may be helpful.

Applicants that experience issues with submission PRIOR to the FOA deadline: In the event that an applicant experiences technical difficulties with a submission, the applicant should contact the EERE Exchange helpdesk for assistance (EERE-ExchangeSupport@hq.doe.gov). The EERE Exchange helpdesk and/or the EERE Exchange system administrators will assist applicants in resolving issues.

B. Application Forms

The application forms and instructions are available on EERE Exchange. To access these materials, go to <https://eere-eXCHANGE.energy.gov> and select the appropriate funding opportunity number.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 50MB. Files in excess of 50MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 50MB but is still within the maximum page limit specified in the FOA, it must be broken into parts and denoted to that effect. For example:

TechnicalVolume_Part_1

TechnicalVolume_Part_2

DOE will not accept late submissions that resulted from technical difficulties due to uploading files that exceed 50MB.

C. Content and Form of the Letter of Intent

Applicants may submit a Letter of Intent by the specified due date and time. Letters of Intent will be used by DOE to plan for the merit review process. The

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letters should not contain any proprietary or sensitive business information. A Letter of Intent does not commit an applicant to submit an application.

Each applicant may provide the following information as part of a Letter of Intent:

- Project Title;
- Lead Organization;
- Whether the application has been previously submitted to DOE;
- % of effort contributed by the Lead Organization;
- The Project Team, including:
 - The Project Manager for the prime recipient;
 - Team Members (i.e., subrecipients); and
 - Senior/Key Personnel (i.e., individuals who contribute in a substantive, measurable way to the execution of the proposed project); and
- Abstract – The abstract provided should be not more than 200 words in length, and should provide a truncated explanation of the proposed project.

D. Content and Form of the Full Application

Applicants must complete the following application forms found on the EERE Exchange website at <https://EERE-Exchange.energy.gov/>.

All Full Application documents must be marked with the control number issued to the applicant.

i. Full Application Content Requirements

Each Full Application must be limited to a single concept. Full Applications must conform to the following requirements, and must not exceed the stated page limits.

Component	File Format	Page Limit	File Name
Technical Volume	PDF	30	ControlNumber_LeadOrganization_TechnicalVolume
Resumes	PDF	2 pages each	ControlNumber_LeadOrganization_Resumes
Letters of Commitment	PDF	1 page each	ControlNumber_LeadOrganization_LOCs
Community Partnership Documentation	PDF	10	ControlNumber_LeadOrganization_PartnerDocs
Statement of Project Objectives	MS Word	5	ControlNumber_LeadOrganization_SOPO
SF-424	PDF	n/a	ControlNumber_LeadOrganization_App424

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Budget Justification Workbook	MS Excel	n/a	ControlNumber_LeadOrganization_Budget_Justification
Summary/Abstract for Public Release	PDF	1	ControlNumber_LeadOrganization_Summary
Summary Slide	MS PowerPoint	1	ControlNumber_LeadOrganization_Slide
Subrecipient Budget Justification	MS Excel	n/a	ControlNumber_LeadOrganization_Subrecipient_Budget_Justification
DOE Work Proposal for FFRDC, if applicable (see DOE O 412.1A, Attachment 3)	PDF	n/a	ControlNumber_LeadOrganization_WP
Authorization from cognizant Contracting Officer for FFRDC	PDF	n/a	ControlNumber_LeadOrganization_FFRDCAuth
SF-LLL Disclosure of Lobbying Activities	PDF	n/a	ControlNumber_LeadOrganization_SF-LLL
Community Benefits Plan	PDF	6	ControlNumber_LeadOrganization_CBenefits
Current and Pending Support	PDF	n/a	ControlNumber_LeadOrganization_CPS
Location of Work	MS Excel	n/a	ControlNumber_LeadOrganization_LOW

Note: The maximum file size that can be uploaded to the EERE Exchange website is 50MB. See Section IV.B.

DOE provides detailed guidance on the content and form of each component below.

ii. Technical Volume

The Technical Volume must conform to the following content and form requirements. This volume must address the technical review criteria as discussed in Section V. of the FOA. Save the Technical Volume in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_TechnicalVolume”.

Applicants 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 Full Application may not be more than 30 pages, including the cover page, table of contents, and all citations, charts, graphs, maps, photos, or other graphics, and must include all of the information in the table below. The applicant should consider the weighting of each of the technical review criterion (see Section V. of the FOA) when preparing the Technical Volume.

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The Technical Volume should clearly describe and expand upon information provided in the Concept Paper.

Technical Volume Content Requirements	
SECTION/PAGE LIMIT	DESCRIPTION
Cover Page	The cover page should include the applicant’s name, project title, technical and business points of contact, project managers’ and senior/key personnel’s names, and any statements regarding confidentiality. Any satellite, community college / trade school or other supporting or partnering institutions should be identified.
Project Overview	<p>The Project Overview should:</p> <ul style="list-style-type: none"> • Discuss the applicant’s background and current activities as an IAC, as well as related strengths, capabilities, and successes. • Discuss the applicant’s region, with focus (a) on the needs and capabilities of small- and medium-sized manufacturers in the region and (b) clean energy and manufacturing workforce development needs, assets, activities, and challenges. Additional relevant information regarding economic and energy transition, projected climate change impacts, and/or impacts of the industrial sector on disadvantaged communities may also be discussed. • Provide an overview of the regional Center of Excellence project proposal, including intended impacts and how Program goals, objectives, and responsibilities (see I.A.i., I.A.ii, and I.B.), as well as how the Community Benefits Plan will contribute to overall success of the project. • Explain how the regional Center of Excellence project proposal will expand upon current IAC activities and why DOE funding is needed to achieve Program goals, objectives, and responsibilities.
Project Management Approach	<p>The Project Management Approach should:</p> <ul style="list-style-type: none"> • Discuss the proposed organizational model and operational plan, as well as how this model and plan will enable fulfillment of the Program goals, objectives, and responsibilities. • Provide a detailed Statement of Project Objectives (SOPO). • Discuss plans and tools for tracking costs, measuring performance, and analyzing data to evaluate and improve regional IAC Program performance, including with respect to technical and community benefits plan criteria.

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	<ul style="list-style-type: none">• Identify risks, including labor and community opposition or disputes, as well as timely and appropriate strategies to mitigate and resolve those risks.
Enhancing Industrial Performance	<p>The Enhancing Industrial Performance discussion should:</p> <ul style="list-style-type: none">• Describe the applicant’s expertise and ability to take a lead role in specialized and/or multi-day IAC assessments across the region.• Describe how the applicant will use technical expertise to facilitate deployment of new and priority technologies, tools, and practices to small- and medium-sized manufacturers regionally. This may include, for example, using expertise and resources to (i) identify opportunities for adoption, (ii) identify and resolve barriers to adoption, (iii) develop new or expand existing assessment tools to encourage adoption, (iv) or facilitate regional demonstrations.• Describe how the applicant will support the development, collection, and review of resources of regional importance for inclusion in the IAC National Clearinghouse.• Describe how the applicant will support development and use of new assessment methods, including, for example, (i) assessments that include students, workers, instructional staff, and IAC directors from community colleges, trade schools, and union training programs, and (ii) assessments that expand the reach of the IAC Program by reducing or eliminating the need in some assessments for IAC staff and students to travel to work on-site with small- or medium-manufacturers.
Regional Coordination and Collaboration	<p>The Regional Coordination and Collaboration discussion should:</p> <ul style="list-style-type: none">• Provide a proposed plan for engaging in broad regional outreach to small- and medium-sized manufacturers and particularly manufacturers in disadvantaged communities;• Provide a proposed plan for coordinating and collaborating with key regional stakeholders including:<ul style="list-style-type: none">○ IACs at institutions of higher education, community colleges, trade schools, and union training programs;○ National Laboratories, Manufacturing USA institutes, and/or NIST MEPs;○ State, Tribal, regional, and local offices and entities; utilities and energy service providers; education, economic development,

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	<p>and workforce development stakeholders; and private industry; and</p> <ul style="list-style-type: none"> ○ Regional workforce development organizations and networks including labor unions, registered apprenticeship programs, joint apprenticeship training committees (JATCs), and other labor-management training partnerships. ● Identify opportunities to work with governmental and nongovernmental stakeholders to leverage diverse financing tools to support implementation of recommendations made in IAC assessments.
<p>Teaching, Training, and Workforce Development</p>	<p>The Teaching, Training, and Workforce Development discussion should:</p> <ul style="list-style-type: none"> ● Describe how the applicant will support development and delivery of effective technical resources and solutions to regional small- and medium-sized manufacturers and their workers in a variety of formats. ● Describe how the applicant will support development and delivery of effective mentoring, training, and curricular resources to regional IACs their directors, their staff, and their students or trainees. ● Describe how the applicant will support regional student-focused activities, including connecting graduates and private industry, supporting student research competitions, hosting regional events, recognizing achievements, and maintaining alumni involvement. ● Identify opportunities to work with small- and medium-sized manufacturers to support workforce education and training, including through learning opportunities associated with IACs, leading to upskilling opportunities for incumbent workers to learn and earn credentials, resulting in promotions or raises in the workplace. ● Propose a plan to support partnerships with registered apprenticeships, joint apprenticeship training committees (JATCs), and labor-management training partnerships to ensure quality earn-as-you-learn training resulting in nationally recognized credentials. ● Propose a plan to leverage national and regional relationships, including through the entering of articulation agreements with community colleges, trade schools, and union training programs, to support development of clean energy workforce pathways offering equitable access for all Americans to high quality clean energy jobs.
<p>Project Team and Resources</p>	<p>The Project Team and Resources discussion should:</p> <ul style="list-style-type: none"> ● Describe the project team’s unique qualifications and expertise as they relate to the IAC Program and its expansion, including past experience assessing industrial facilities, training students and workers in energy-

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	<p>related matters, integrating new material into curricula, and collaborating and coordinating with external stakeholders.</p> <ul style="list-style-type: none">• Describe any relevant, previous projects or efforts that demonstrate the Project Team’s ability to innovate and achieve project goals and objectives.• Describe the project team’s existing equipment, facilities, and resources that will be used to accommodate the regional Center of Excellence.• Provide a reasonable budget and spend plan for the proposed project.
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iii. Resumes

A resume provides information that can be used by reviewers to evaluate the skills and experience of key project personnel. Applicants must submit a two-page resume for the Project Director and up to five additional senior/key personnel. The resumes should include the following:

1. Contact Information;
2. Education and training: Provide institution, major/area, degree, and year for undergraduate, graduate, and postdoctoral training;
3. Education and training: Provide institution, major/area, degree, and year for undergraduate, graduate, and postdoctoral training;
4. Research and Professional Experience: Beginning with the current position, list professional/academic positions in chronological order with a brief description. List all current academic, professional, or institutional appointments, foreign or domestic, at the applicant institution or elsewhere, whether or not remuneration is received, and, whether full-time, part-time, or voluntary;
5. Awards and honors;
6. 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 electronically. Patents, copyrights, and software systems developed may be provided in addition to or substituted for publications. An abbreviated style such as the Physical Review Letters (PRL) convention for citations (list only the first author) may be used for publications with more than 10 authors;
7. Synergistic Activities: List up to five professional and scholarly activities related to the proposed effort; and
8. There should be no lapses in time over the past ten years or since age 18, whichever time period is shorter.

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As an alternative to a resume, it is acceptable to use the biographical sketch format approved by the National Science Foundation (NSF). The biographical sketch format may be generated by the Science Experts Network Curriculum Vita (SciENCv), a cooperative venture maintained at <https://www.ncbi.nlm.nih.gov/sciencv/>, and is also available at <https://nsf.gov/bfa/dias/policy/nsfapprovedformats/biosketch.pdf>. The use of a format required by another agency is intended to reduce the administrative burden to researchers by promoting the use of common formats.

Save the resumes in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_Resumes”.

iv. Letters of Commitment

Submit letters of commitment from the proposing college or university and the host department.

Submit letters of commitment from all subrecipient and third party cost share providers. If applicable, the letter must state that the third party is committed to providing a specific minimum dollar amount or value of in-kind contributions allocated to cost sharing. The following information for each third party contributing to cost sharing should be identified: (1) the name of the organization; (2) the proposed dollar amount to be provided; and (3) the proposed cost sharing type (cash-or in-kind contributions).

Each letter must not exceed 1 page. Save the letters of commitment in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_LOCs”.

Letters of support or endorsement for the project from entities that do not have a substantive role in the project are not accepted.

v. Community Partnership Documentation

In support of the Community Benefits Plan, applicants may submit documentation to demonstrate existing or planned partnerships with community entities, such as, organizations that work with local stakeholders such residents and businesses, organizations that carry out workforce development programs, trade associations, worker organizations including labor unions, and community-based organizations that work with disadvantaged communities. The Community Partnership Documentation could be in the form of a letter on the partner’s letterhead outlining the planned partnership signed by an officer of the entity, a Memorandum of Understanding, or other similar

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agreement. Such letters must state the specific nature of the partnership and must not be general letters of support. Each letter must not exceed 1 page. In total, the Community Partnership Documentation must not exceed 10 pages. Save the Community Partnership Documentation in a single PDF file using the following convention for the title
“ControlNumber_LeadOrganization_PartnerDoc”.

vi. Statement of Project Objectives (SOPO)

Applicants are required to complete a SOPO. A SOPO template is available on EERE Exchange at <https://EERE-Exchange.energy.gov/>. The SOPO, including the Milestone Table, must not exceed 5 pages when printed using standard 8.5 x 11 paper with 1” margins (top, bottom, left, and right) with font not smaller than 12 point (except in figures or tables, which may be 10 point font). Save the SOPO in a single Microsoft Word file using the following convention for the title
“ControlNumber_LeadOrganization_SOPO”.

vii. SF-424: Application for Federal Assistance

Complete all required fields in accordance with the instructions on the form. The list of certifications and assurances in Field 21 can be found at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>, under Certifications and Assurances. Note: The dates and dollar amounts on the SF-424 are for the complete project period and not just the first project year, first phase or other subset of the project period. Save the SF-424 in a single PDF file using the following convention for the title
“ControlNumber_LeadOrganization_424”.

viii. Budget Justification Workbook

Applicants must complete the Budget Justification Workbook, which is available on EERE Exchange at <https://EERE-Exchange.energy.gov/>. Applicants must complete each tab of the Budget Justification Workbook for the project as a whole, including all work to be performed by the prime recipient and its subrecipients and contractors. Applicants should include costs associated with implementing the Community Benefits Plan and with required annual audits and incurred cost proposals in their proposed budget documents. The “Instructions and Summary” included with the Budget Justification Workbook will auto-populate as the applicant enters information into the Workbook. Applicants must carefully read the “Instructions and Summary” tab provided within the Budget Justification Workbook. Save the Budget Justification Workbook in a



single Microsoft Excel file using the following convention for the title “ControlNumber_LeadOrganization_Budget_Justification”.

ix. Summary for Public Release

Applicants must submit a one-page summary of their project that is suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director, the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (e.g., benefits, outcomes), major participants (for collaborative projects), and the project’s commitments and goals described in the Community Benefits Plan. This document must not include any proprietary or sensitive business information as DOE may make it available to the public after selections are made. The summary must not exceed 1 page when printed using standard 8.5 x 11 paper with 1” margins (top, bottom, left, and right) with font not smaller than 12 point. Save the Summary for Public Release in a single PDF file using the following naming convention “ControlNumber_LeadOrganization_Summary”.

x. Summary Slide

Applicants must provide a single slide summarizing the proposed project. The Summary Slide template must include the following information:

- A project summary;
- Proposed technical assistance goals;
- A summary of technical expertise;
- A summary of intended regional impacts;
- Any key graphics (illustrations, charts, and/or tables);
- Topline community benefits information;
- Project title, prime recipient, Project Director, and senior/key personnel information; and
- Requested DOE funds and proposed applicant cost share.

Save the Summary Slide in a single Microsoft PowerPoint file using the following convention for the title “ControlNumber_LeadOrganization_Slide”.

xi. Subrecipient Budget Justification (if applicable)

Applicants must provide a separate budget justification for each subrecipient that is expected to perform work estimated to be more than \$250,000 or 25 percent of the total work effort (whichever is less). The budget justification must include the same justification information described in the “Budget Justification” section above. Save each subrecipient budget justification in a Microsoft Excel



file using the following convention for the title
“ControlNumber_LeadOrganization_Subrecipient_Budget_Justification”.

xii. Budget for DOE/NNSA FFRDC (if applicable)

If a DOE/NNSA FFRDC is to perform a portion of the work, the applicant must provide a DOE WP in accordance with the requirements in DOE Order 412.1A, Work Authorization System, Attachment 3, available at:

<https://www.directives.doe.gov/directives-documents/400-series/0412.1-BOrder-a-chg1-AdmChg>. Save the WP in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_WP”.

xiii. Authorization for non-DOE/NNSA or DOE/NNSA FFRDCs (if applicable)

The federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The use of a FFRDC must be consistent with the contractor’s authority under its award. Save the Authorization in a single PDF file using the following convention for the title
“ControlNumber_LeadOrganization_FFRDCAuth”.

xiv. SF-LLL: Disclosure of Lobbying Activities (required)

Recipients and subrecipients may not use any federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.

Recipients and subrecipients are required to complete and submit SF-LLL, “Disclosure of Lobbying Activities”

(<https://www.grants.gov/web/grants/forms/sf-424-individual-family.html>) to ensure that non-federal funds have not been paid and will not be paid to any person for influencing or attempting to influence any of the following in connection with the application:

- An officer or employee of any federal agency;
- A member of Congress;
- An officer or employee of Congress; or
- An employee of a member of Congress.

Save the SF-LLL in a single PDF file using the following convention for the title
“ControlNumber_LeadOrganization_SF-LLL”.



xv. Community Benefits Plan

The Community Benefits Plan (Community Benefits Plan or Plan) must set forth the applicant’s approach to ensuring that Federal investments advance the following four goals: 1) community and labor engagement; 2) investing in the American workforce; 3) advancing diversity, equity, inclusion, and accessibility (DEIA); and 4) contributing to the Justice40 Initiative. The below sections set forth the Plan requirements for each of the foregoing goals. At this stage of the application process, the Community Benefits Plan should indicate the applicant’s intention to engage meaningfully with community stakeholders on these goals.

The applicant’s Community Benefits Plan must include at least one Specific, Measurable, Achievable, Relevant and Timely (SMART) milestone per budget period in order to measure progress on the proposed actions. The Community Benefits Plan will be evaluated as part of the technical review process. If the project is selected, DOE will incorporate the Community Benefits Plan into the award and the recipient will be required to meet the Community Benefits Plan it proposed. During the life of the DOE award, DOE will evaluate the recipient’s progress, including as part of the Go/No-Go review process.

The Community Benefits Plan must not exceed six pages. It must be submitted in PDF format using the following convention name for the title: “Control Number_LeadOrganization_CBenefits.” This Plan must address the technical review criterion titled, “Community Benefits Plan.” See Section V. of the FOA.

1. Community and Labor Engagement: The Community Benefits Plan must describe the applicant’s actions to date and future plans to engage with community stakeholders – such as labor unions, local governments, Tribal governments, and community-based organizations that support or work with underserved communities, including Disadvantaged Communities as defined for purposes of the Justice40 Initiative. By facilitating community input, social buy-in, and accountability, such engagement can substantially reduce or eliminate stalls or slowdowns, litigation, and other risks associated with project implementation.

Applicants may also provide Community and Labor Partnership Documentation from representative organizations reflecting substantive engagement and feedback on applicant’s approach to community benefits including the American workforce; diversity, equity, inclusion, and accessibility; and the Justice40 Initiative detailed below.

2. Investing in the American Workforce: The Plan must describe the applicant’s approach to investing in workforce education and training of both new and

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incumbent workers. The Plan should consider opportunities to support regional clean energy workforce development with the goal of creating domestic energy and supply chain jobs with good pay, benefits, predictable schedules, safe and healthy workplaces, and assurances that workers will have a free and fair chance to join or form a union through, for example: (a) engaging workers in learning opportunities associated with IACs, resulting in credits or credentials, (b) working with small- and medium-sized manufacturers and other stakeholders to support workforce education and training leading to upskilling opportunities for incumbent workers to learn and earn credentials, resulting in promotions or raises in the workplace, (c) entering articulation agreements with registered apprenticeship, joint apprenticeship training committees (JATCs), and other labor-management training partnerships, and (d) entering partnership agreements with registered apprenticeship programs around curriculum, training offerings, on-the-job opportunities, and credentials for participating students.

3. DEIA: The Community Benefits Plan must include a section describing how diversity, equity, inclusion, and accessibility (DEIA) objectives will be incorporated into the project.

DOE strongly encourages applicants to involve individuals underrepresented in STEM, including racial and ethnic minorities, women, people with disabilities, and individuals from disadvantaged backgrounds. However, equity goes beyond such diversity and the equal treatment and access to opportunity for members of the project team is paramount.

In the execution of their project plan, applicants are asked to advance diversity, equity, inclusion, and accessibility defined as: 1) the practice of including the many communities, identities, races, ethnicities, backgrounds, abilities, cultures, and beliefs of the American people, 2) the consistent and systematic fair, just, and impartial treatment of all individuals, including protecting workers rights and adhering to Equal Employment Opportunity laws, 3) the recognition, appreciation, and use of the talents and skills of employees of all backgrounds, and 4) the provision of accommodations so that all people, including people with disabilities, can fully and independently access facilities, information and communication technology, programs, and services. The applicant's Community Benefits Plan could include, and will be evaluated on, statement of goals and description of intended outcomes across one or more of the four preceding areas.

DOE encourages DEIA activities that (1) are integrated with the project's technical elements, (2) include metrics that will allow the DOE to evaluate the



plan's effectiveness, and (3) are implemented with transparency. Applicants are strongly encouraged to include milestones that are Specific, Measurable, Achievable, Relevant and Timely (SMART), so that DOE can track progress towards DEIA goals.

DOE strongly encourages applicants to consider partnerships as a means of promoting diversity, equity, inclusion, accessibility, justice, and workforce participation. Minority Serving Institutions, Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Native American-owned Businesses, Veteran Owned Businesses, or entities located in an underserved community that meet the eligibility requirements are encouraged to lead these partnerships as the prime applicant or participate on an application as a proposed partner to the prime applicant.

The following is a non-exhaustive list of potential DEIA actions that could be included in a Plan. This list is offered to provide guidance to applicants and is not intended to be comprehensive or mandatory.

- A) Include faculty or students from Minority Serving Institutions as senior personnel, and/or student researchers, as applicable;
- B) Collaborate with students, researchers, and staff in Minority Serving Institutions;
- C) Disseminate results of research and development in Minority Serving Institutions or other appropriate institutions serving underserved communities;
- D) Enhance or collaborate with existing diversity programs at home organization and/or nearby organizations;
- E) Implement evidence-based, diversity-focused education programs (such as implicit bias training for staff) in the organization;
- F) Commit to encourage and support regional partnership with underrepresented businesses, educational institutions, and training organizations that serve workers who face barriers to accessing quality jobs, and/or other project partners to help address DEIA; and
- G) Commit to partner with Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, and Veteran Owned Businesses for contractor support needs.

4. Justice40 Initiative: Applicants must provide an overview of benefits to disadvantaged communities that the project can deliver, supported by measurable milestones.

Specifically, the Justice40 Initiative section must include:

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- A. Examples of disadvantaged communities which the Center of Excellence would anticipate serving regionally and to which IAC Program benefits would flow.
- B. Applicable benefits that are quantifiable, measurable, and trackable, including, at a minimum, a discussion of the relevance of each of the DOE Justice40 Initiative benefits outlined below.

Benefits include (but are not limited to) measurable direct or indirect investments or positive outcomes that achieve or contribute to the following in disadvantaged communities: (1) a decrease in environmental exposure and burdens; (2) an increase in access to low-cost capital; (3) an increase in job creation, the clean energy job pipeline, and job training for individuals; (4) increases in clean energy enterprise creation and contracting (e.g., minority-owned or disadvantaged business enterprises); (5) increases in energy democracy, including community ownership; (6) increased parity in clean energy technology access and adoption; and (7) an increase in energy resilience. In addition, applicants should also discuss how the project will maximize all of the benefits listed in #4.

A description of how and when anticipated benefits are expected to flow to disadvantaged communities. A description of how the applicant proposes tracking benefits delivered.

For projects funded under this FOA, DOE will provide specific reporting guidance for the benefits described above.

xvi. Current and Pending Support

Current and pending support is intended to allow the identification of potential duplication, overcommitment, potential conflicts of interest or commitment, and all other sources of support. As part of the application, the project director and all senior/key personnel at the applicant and subrecipient level must provide a list of all sponsored activities, awards, and appointments, whether paid or unpaid; provided as a gift with terms or conditions or provided as a gift without 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 the individual's research or indirectly supporting the individual by supporting students, research staff, space, equipment, or other



research expenses. All connections with foreign government-sponsored talent recruitment programs must be identified in current and pending support.

For every activity, list the following items:

- The sponsor of the activity or the source of funding;
- The award or other identifying number;
- The title of the award or activity. If the title of the award or activity is not descriptive, add a brief description of the research being performed that would identify any overlaps or synergies with the proposed research;
- The total cost or value of the award or activity, including direct and indirect costs and cost share. For pending proposals, provide the total amount of requested funding;
- The award period (start date – end date); and
- The person-months of effort per year being dedicated to the award or activity.

To identify overlap, duplication of effort, or synergistic efforts, append a description of the other award or activity to the current and pending support.

Details of any obligations, contractual or otherwise, to any program, entity, or organization sponsored by a foreign government must be provided on request to either the applicant institution or DOE. Supporting documents of any identified source of support must be provided to DOE on request, including certified translations of any document.

Project directors and senior/key personnel must provide a separate disclosure statement listing the required information above regarding current and pending support. Each individual must sign and date their respective disclosure statement and include the following certification statement:

I, [Full Name and Title], certify to the best of my knowledge and belief that the information contained in this Current and Pending Support Disclosure Statement is true, complete, and accurate. I understand that any false, fictitious, or fraudulent information, misrepresentations, half-truths, or omissions of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (18 U.S.C. §§ 1001 and 287, and 31 U.S.C. §§ 3729-3733 and 3801-3812). I further understand and agree that (1) the statements and representations made herein are material to DOE's funding decision, and (2) I have a

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responsibility to update the disclosures during the period of performance of the award should circumstances change which impact the responses provided above.

The information may be provided in the format approved by the National Science Foundation (NSF), which may be generated by the Science Experts Network Curriculum Vita (SciENCv), a cooperative venture maintained at <https://www.ncbi.nlm.nih.gov/sciencv/>, and is also available at <https://www.nsf.gov/bfa/dias/policy/nsfapprovedformats/cps.pdf>. The use of a format required by another agency is intended to reduce the administrative burden to researchers by promoting the use of common formats. If the NSF format is used, the individual must still include a signature, date, and a certification statement using the language included in the paragraph above.

Save the Current and Pending Support in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_CPS".

Definitions:

Current and pending support – (a) All resources made available, or expected to be made available, to an individual in support of the individual's RD&D efforts, regardless of (i) whether the source is foreign or domestic; (ii) whether the resource is made available through the entity applying for an award or directly to the individual; or (iii) whether the resource has monetary value; and (b) includes in-kind contributions requiring a commitment of time and directly supporting the individual's RD&D efforts, such as the provision of office or laboratory space, equipment, supplies, employees, or students. This term has the same meaning as the term Other Support as applied to researchers in NSPM-33: For researchers, Other Support includes all resources made available to a researcher in support of and/or related to all of their professional RD&D efforts, including resources provided directly to the individual or through the organization, and regardless of whether or not they have monetary value (e.g., even if the support received is only in-kind, such as office/laboratory space, equipment, supplies, or employees). This includes resource and/or financial support from all foreign and domestic entities, including but not limited to, gifts provided with terms or conditions, financial support for laboratory personnel, and participation of student and visiting researchers supported by other sources of funding.

Foreign Government-Sponsored Talent Recruitment Program – An effort directly or indirectly organized, managed, or funded by a foreign government, or a foreign government instrumentality or entity, to recruit science and technology professionals or students (regardless of citizenship or national origin, or whether



having a full-time or part-time position). Some foreign government-sponsored talent recruitment programs operate with the intent to import or otherwise acquire from abroad, sometimes through illicit means, proprietary technology or software, unpublished data and methods, and intellectual property to further the military modernization goals and/or economic goals of a foreign government. Many, but not all, programs aim to incentivize the targeted individual to relocate physically to the foreign state for the above purpose. Some programs allow for or encourage continued employment at United States research facilities or receipt of federal research funds while concurrently working at and/or receiving compensation from a foreign institution, and some direct participants not to disclose their participation to United States entities. Compensation could take many forms including cash, research funding, complimentary foreign travel, honorific titles, career advancement opportunities, promised future compensation, or other types of remuneration or consideration, including in-kind compensation.

Senior/key personnel – an individual who contributes in a substantive, meaningful way to the scientific development or execution of a research, development and demonstration (RD&D) project proposed to be carried out with DOE award.²⁸

xvii. Locations of Work

The applicant must complete the supplied template by listing the city, state, and zip code + 4 and State for each location where project work will be performed by the prime recipient or subrecipient(s). Save the completed template as a MS Excel file using the following convention for the title “Control Number_LeadOrganization_LOW.”

E. Content and Form of Replies to Reviewers Comments (Optional Submission)

DOE will provide applicants with reviewer comments following the evaluation of all eligible Full Applications. Applicants have a brief opportunity to prepare a short Reply to Reviewer Comments (Reply). The Reply must not exceed three (3) pages. If a Reply is more than three (3) pages in length, DOE will review only the first three (3) pages and disregard any additional pages. Applicants may use the Reply to respond to one or more comments or to supplement their Full Application. The Reply may include text, graphs, charts, or data.

²⁸ Typically, these individuals have doctoral or other professional degrees, although individuals at the masters or baccalaureate level may be considered senior/key personnel if their involvement meets this definition. Consultants, graduate students, and those with a postdoctoral role also may be considered senior/key personnel if they meet this definition.



DOE will post the reviewer comments in EERE Exchange. The expected submission deadline is on the cover page of the FOA; however, it is the applicant's responsibility to monitor EERE Exchange in the event that the expected date changes. The deadline will not be extended for applicants who are unable to timely submit their Reply due to failure to check EERE Exchange or relying on the expected date alone. Applicants should anticipate having approximately three (3) business days to submit a Reply.

Applicants are not required to submit a Reply to Reviewer Comments. DOE will review and consider each eligible Full Application, even if no Reply is submitted or if the Reply is found to be ineligible.

F. Post Selection Information Requests

If selected for award, DOE reserves the right to request additional or clarifying information regarding the following (non-exhaustive list):

- Personnel proposed to work on the project and collaborating organizations (See Section VI.B.xv. Participants and Collaborating Organizations);
- Current and Pending Support (See Sections IV.D.xvii. and VI.B.xvi. Current and Pending Support);
- Indirect cost information;
- Other budget information;
- Letters of Commitment from third parties contributing to cost share, if applicable;
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5);
- Information for the DOE Office of Civil Rights to process assurance reviews under 10 CFR 1040;
- Representation of Limited Rights Data and Restricted Software, if applicable;
- Information related to Davis-Bacon Act Requirements;
- and
- Environmental Questionnaire.

G. Unique Entity Identifier (UEI) and System for Award Management (SAM)

Each applicant (unless the applicant is an individual or federal awarding agency that is excepted from those requirements under 2 CFR 25.110(b) or (c), or has an exception approved by the federal awarding agency under 2 CFR 25.110(d)) is required to: (1) Be registered in the SAM at <https://www.sam.gov> before

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submitting its application; (2) provide a valid UEI number in its application; and (3) continue to maintain an active SAM registration with current information at all times during which it has an active federal award or an application or plan under consideration by a federal awarding agency. DOE may not make a federal award to an applicant until the applicant has complied with all applicable UEI and SAM requirements and, if an applicant has not fully complied with the requirements by the time DOE is ready to make a federal award, the DOE will determine that the applicant is not qualified to receive a federal award and use that determination as a basis for making a federal award to another applicant.

NOTE: Due to the high demand of UEI requests and SAM registrations, entity legal business name and address validations are taking longer than expected to process. Entities should start the UEI and SAM registration process as soon as possible. If entities have technical difficulties with the UEI validation or SAM registration process they should utilize the [HELP](#) feature on [SAM.gov](#). SAM.gov will work entity service tickets in the order in which they are received and asks that entities not create multiple service tickets for the same request or technical issue. Additional entity validation resources can be found here: [GSAFSD Tier 0 Knowledge Base - Validating your Entity](#).

H. Submission Dates and Times

All required submissions must be submitted in EERE Exchange no later than 5 p.m. ET on the dates provided on the cover page of this FOA.

I. Intergovernmental Review

This FOA is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

J. Funding Restrictions

i. Allowable Costs

All expenditures must be allowable, allocable, and reasonable in accordance with the applicable federal cost principles. Pursuant to 2 CFR 910.352, the cost principles in the Federal Acquisition Regulations (48 CFR 31.2) apply to for-profit entities. The cost principles contained in 2 CFR Part 200, Subpart E apply to all entities other than for-profits.

ii. Pre-Award Costs

Applicants selected for award negotiations (selectee) must request prior written approval to charge pre-award costs. Pre-award costs are those incurred prior to the effective date of the federal award directly pursuant to the negotiation and

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in anticipation of the federal award where such costs are necessary for efficient and timely performance of the scope of work. Such costs are allowable only to the extent that they would have been allowable if incurred after the date of the federal award and **only** with the written approval of the federal awarding agency, through the DOE Contracting Officer.

Pre-award costs cannot be incurred prior to the Selection Official signing the Selection Statement and Analysis.

Pre-award expenditures are made at the selectee's risk. EERE is not obligated to reimburse costs: (1) in the absence of appropriations; (2) if an award is not made; or (3) if an award is made for a lesser amount than the selectee anticipated.

1. National Environmental Policy Act (NEPA) Requirements Related to Pre-Award Costs

DOE's decision whether and how to distribute federal funds under this FOA is subject to NEPA. Applicants should carefully consider and should seek legal counsel or other expert advice before taking any action related to the proposed project that would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to DOE completing the NEPA review process.

DOE does not guarantee or assume any obligation to reimburse pre-award costs incurred prior to receiving written authorization from the Contracting Officer. If the applicant elects to undertake activities that DOE determines may have an adverse effect on the environment or limit the choice of reasonable alternatives prior to receiving such written authorization from the Contracting Officer, the applicant is doing so at risk of not receiving federal funding for their project and such costs may not be recognized as allowable cost share. Nothing contained in the pre-award cost reimbursement regulations or any pre-award costs approval letter from the Contracting Officer override the requirement to obtain the written authorization from the Contracting Officer prior to taking any action that may have an adverse effect on the environment or limit the choice of reasonable alternatives. Likewise, if an application is selected for negotiation of award, and the prime recipient elects to undertake activities that are not authorized for federal funding by the Contracting Officer in advance of DOE completing a NEPA review, the prime recipient is doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.



iii. Performance of Work in the United States (Foreign Work Waiver)

1. Requirement

All work performed under awards issued under this FOA must be performed in the United States. The prime recipient must flow down this requirement to its subrecipients.

2. Failure to Comply

If the prime recipient fails to comply with the Performance of Work in the United States requirement, DOE may deny reimbursement for the work conducted outside the United States and such costs may not be recognized as allowable recipient cost share. The prime recipient is responsible should any work under this award be performed outside the United States, absent a waiver, regardless of whether the work is performed by the prime recipient, subrecipients, contractors or other project partners.

iv. Construction

Construction costs are not allowed under this FOA.

v. Foreign Travel

Foreign travel costs are not allowable under this FOA.

vi. Equipment and Supplies

Property disposition may be required at the end of a project if the current fair market value of property exceeds \$5,000. For-profit entity disposition requirements are set forth at 2 CFR 910.360. Property disposition requirements for other non-federal entities are set forth in 2 CFR 200.310 – 200.316.

vii. Davis-Bacon Act Requirements

Projects awarded under this FOA will be funded under Division D of the Bipartisan Infrastructure Law. Accordingly, per Section 41101 of that law, all laborers and mechanics employed by the recipient, subrecipients, contractors or subcontractors in the performance of construction, alteration, or repair work funded in whole or in part under this FOA shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code commonly referred to as the “Davis-Bacon Act” (DBA).

Applicants shall provide written assurance acknowledging the DBA requirements above, and confirming that the laborers and mechanics performing construction, alteration, or repair work on projects funded in whole or in part by awards made



as a result of this FOA are paid or will be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by subchapter IV of Chapter 31 of Title 40, United States Code (Davis-Bacon Act).

Applicants acknowledge that they will comply with all of the Davis-Bacon Act requirements, including but not limited to:

(1) ensuring that the wage determination(s) and appropriate Davis-Bacon clauses and requirements are flowed down to and incorporated into any applicable subcontracts or subrecipient awards.

(2) ensuring that if wage determination(s) and appropriate Davis-Bacon clauses and requirements are improperly omitted from contracts and subrecipient awards, the applicable wage determination(s) and clauses are retroactively incorporated to the start of performance.

(3) being responsible for compliance by any subcontractor or subrecipient with the Davis-Bacon labor standards.

(4) receiving and reviewing certified weekly payrolls submitted by all subcontractors and subrecipients for accuracy and to identify potential compliance issues.

(5) maintaining original certified weekly payrolls for 3 years after the completion of the project and must make those payrolls available to the DOE or the United States Department of Labor (“DOL”) upon request, as required by 29 CFR 5.6(a)(2).

(6) conducting payroll and job-site reviews for construction work, including interviews with employees, with such frequency as may be necessary to assure compliance by its subcontractors and subrecipients and as requested or directed by the DOE.

(7) cooperating with any authorized representative of the DOL in their inspection of records, interviews with employees, and other actions undertaken as part of a DOL investigation.

(8) posting in a prominent and accessible place the wage determination(s) and DOL Publication: WH-1321, Notice to Employees Working on Federal or Federally Assisted Construction Projects.



(9) notifying the Contracting Officer of all labor standards issues, including all complaints regarding incorrect payment of prevailing wages and/or fringe benefits, received from the recipient, subrecipient, contractor, or subcontractor employees; significant labor standards violations, as defined in 29 CFR 5.7; disputes concerning labor standards pursuant to 29 CFR Parts 4, 6, and 8 and as defined in FAR 52.222-14; disputed labor standards determinations; DOL investigations; or legal or judicial proceedings related to the labor standards under this Contract, a subcontract, or subrecipient award.

(10) preparing and submitting to the Contracting Officer, the Office of Management and Budget Control Number 1910-5165, Davis Bacon Semi-Annual Labor Compliance Report, by April 21 and October 21 of each year. Form submittal will be administered through the iBenefits system (<https://doeibenefits2.energy.gov>), its successor system, or other manner of compliance as directed by the Contracting Officer.

Recipients of funding under this FOA will also be required to undergo Davis-Bacon Act compliance training and to maintain competency in Davis-Bacon Act compliance. The Contracting Officer will notify the recipient of any DOE sponsored Davis-Bacon Act compliance trainings. The DOL offers free Prevailing Wage Seminars several times a year that meet this requirement, at <https://www.dol.gov/agencies/whd/government-contracts/construction/seminars/events>.

For additional guidance on how to comply with the Davis-Bacon provisions and clauses, see <https://www.dol.gov/agencies/whd/government-contracts/construction> and <https://www.dol.gov/agencies/whd/government-contracts/protections-for-workers-in-construction>.

viii. Lobbying

Recipients and subrecipients may not use any federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.

Recipients and subrecipients are required to complete and submit SF-LLL, “Disclosure of Lobbying Activities” (<https://www.grants.gov/web/grants/forms/sf-424-individual-family.html>) to ensure that non-federal funds have not been paid and will not be paid to any person for influencing or attempting to influence any of the following in connection with the application:

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- An officer or employee of any federal agency;
- A Member of Congress;
- An officer or employee of Congress; or
- An employee of a Member of Congress.

ix. Risk Assessment

Pursuant to 2 CFR 200.206, DOE will conduct an additional review of the risk posed by applications submitted under this FOA. Such risk assessment will consider:

1. Financial stability;
2. Quality of management systems and ability to meet the management standards prescribed in 2 CFR 200 as amended and adopted by 2 CFR 910;
3. History of performance;
4. Audit reports and findings; and
5. The applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-federal entities.

DOE may make use of other publicly available information and the history of an applicant's performance under DOE or other federal agency awards.

Depending on the severity of the findings and whether the findings were resolved, DOE may elect not to fund the applicant.

In addition to this review, DOE must comply with the guidelines on government-wide suspension and debarment in 2 CFR Part 180, and must require non-federal entities to comply with these provisions. These provisions restrict federal awards, subawards and contracts with certain parties that are debarred, suspended or otherwise excluded from or ineligible for participation in federal programs or activities.

Further, as DOE invests in critical infrastructure and funds critical and emerging technology areas, DOE also considers possible vectors of undue foreign influence in evaluating risk. If high risks are identified and cannot be sufficiently mitigated, DOE may elect to not fund the applicant.

x. Invoice Review and Approval

DOE employs a risk-based approach to determine the level of supporting documentation required for approving invoice payments. Recipients may be required to provide some or all of the following items with their requests for reimbursement:

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- Summary of costs by cost categories;
- Timesheets or personnel hours report;
- Proof of compliance with Davis-Bacon and electronic submittals of certified payroll reports;
- Invoices/receipts for all travel, equipment, supplies, contractual, and other costs;
- UCC filing proof for equipment acquired with project funds by for-profit recipients and subrecipients;
- Explanation of cost share for invoicing period;
- Analogous information for some subrecipients; and
- Other items as required by DOE.

xi. Prohibition related to Foreign Government-Sponsored Talent Recruitment Programs

a. Prohibition

Persons participating in a *Foreign Government-Sponsored Talent Recruitment Program of a Foreign Country of Risk* are prohibited from participating in projects selected for federal funding under this FOA. Should an award result from this FOA, the recipient must exercise ongoing due diligence to reasonably ensure that no individuals participating on the DOE-funded project are participating in a *Foreign Government-Sponsored Talent Recruitment Program of a Foreign Country of Risk*. Consequences for violations of this prohibition will be determined according to applicable law, regulations, and policy. Further, the recipient must notify DOE within five (5) business days upon learning that an individual on the project team is or is believed to be participating in a foreign government talent recruitment program of a foreign country of risk. DOE may modify and add requirements related to this prohibition to the extent required by law.

b. Definitions

- 1. Foreign Government-Sponsored Talent Recruitment Program.** An effort directly or indirectly organized, managed, or funded by a foreign government, or a foreign government instrumentality or entity, to recruit science and technology professionals or students (regardless of citizenship or national origin, or whether having a full-time or part-time position). Some foreign government-sponsored talent recruitment programs operate with the intent to import or otherwise acquire from abroad, sometimes through illicit means, proprietary technology or

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software, unpublished data and methods, and intellectual property to further the military modernization goals and/or economic goals of a foreign government. Many, but not all, programs aim to incentivize the targeted individual to relocate physically to the foreign state for the above purpose. Some programs allow for or encourage continued employment at United States research facilities or receipt of federal research funds while concurrently working at and/or receiving compensation from a foreign institution, and some direct participants not to disclose their participation to U.S. entities. Compensation could take many forms including cash, research funding, complimentary foreign travel, honorific titles, career advancement opportunities, promised future compensation, or other types of remuneration or consideration, including in-kind compensation.

2. **Foreign Country of Risk.** DOE has designated the following countries as foreign countries of risk: Iran, North Korea, Russia, and China. This list is subject to change.

xii. **Affirmative Action and Pay Transparency Requirements**

All federally assisted construction contracts exceeding \$10,000 annually will be subject to the requirements of Executive Order 11246:

(1) Recipients, subrecipients, and contractors are prohibited from discriminating in employment decisions on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin.

(2) Recipients and Contractors are required to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. This includes flowing down the appropriate language to all subrecipients, contractors, and subcontractors.

(3) Recipients, subrecipients, contractors, and subcontractors are prohibited from taking adverse employment actions against applicants and employees for asking about, discussing, or sharing information about their pay or, under certain circumstances, the pay of their co-workers.

The Department of Labor's (DOL) Office of Federal Contractor Compliance Programs (OFCCP) uses a neutral process to schedule contractors for compliance evaluations. OFCCP's Technical Assistance Guide²⁹ should be consulted to gain

²⁹ See OFCCP's Technical Assistance Guide at:

<https://www.dol.gov/sites/dolgov/files/ofccp/Construction/files/ConstructionTAG.pdf?msclkid=9e397d68c4b111ec9d8e6fecb6c710ec>. Also see the National Policy Assurances <http://www.nsf.gov/awards/managing/rtc.jsp>.

an understanding of the requirements and possible actions the recipients, subrecipients, contractors and subcontractors must take.

xiii. Foreign Collaboration Considerations

- a. Consideration of new collaborations with international organizations and foreign governments. The recipient will be required to provide DOE with advanced written notification of any potential collaboration with international organizations or foreign governments in connection with its DOE-funded award scope. The recipient will then be required to await further guidance from DOE prior to contacting the proposed international organization or foreign government regarding the potential collaboration or negotiating the terms of any potential agreement.
- b. Existing collaborations with international organizations and foreign governments. The recipient will be required to provide DOE with a written list of all existing foreign collaborations in which has entered in connection with its DOE-funded award scope.
- c. Description of collaborations that should be reported: In general, a collaboration will involve some provision of a thing of value to, or from, the recipient. A thing of value includes but may not be limited to all resources made available to, or from, the recipient in support of and/or related to the DOE award, regardless of whether or not they have monetary value. Things of value also may include in-kind contributions (such as office/laboratory space, data, equipment, supplies, employees, students). In-kind contributions not intended for direct use on the DOE award but resulting in provision of a thing of value from or to the DOE award must also be reported. Collaborations do not include routine workshops, conferences, use of the recipient's services and facilities by foreign investigators resulting from its standard published process for evaluating requests for access, or the routine use of foreign facilities by awardee staff in accordance with the recipient's standard policies and procedures.

V. Application Review Information

A. Technical Review Criteria

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i. Full Applications

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

Criterion 1: Project Management Approach (15%)

This criterion involves consideration of the following factors:

- Demonstrated understanding of Program goals, objectives, and responsibilities (as set forth in I.A.i., I.A.ii., and I.B).
- Effectiveness of proposed organizational model for achieving Program goals, objectives, and responsibilities.
- Demonstrated ability to use technology and data tools to support achievement of Program goals, objectives, and responsibilities.
- Completeness and reasonableness of proposed Statement of Project Objectives (SOPO).
- Adequacy of proposed project management practices.
- Adequacy of identification of risks, including labor and community opposition or disputes, and timely and appropriate strategies for mitigation and resolution.

Criterion 2: Enhancing Industrial Performance (20%)

This criterion involves consideration of the following factors:

- Technical expertise and experience working with small- and medium-sized manufacturers to (i) improve energy efficiency, material efficiency, productivity, cybersecurity, and resilience, and (ii) reduce waste, emissions, and pollution.
- Technical expertise in priority fields of industrial decarbonization – energy efficiency (including energy management and smart manufacturing); industrial electrification; and low-carbon feedstock, fuel, and energy sources (LCFFES).
- Demonstrated ability to utilize technical expertise to support development of new assessments or updating of existing assessments;
- Demonstrated ability to provide or facilitate high-quality training and education to IACs and small- and medium-sized manufacturers regarding new and priority technologies, tools, and practices.
- Demonstrated ability to lead specialized assessments and enhanced implementation activities in the region.
- Track record of superior performance in providing assessments as an IAC.

Criterion 3: Regional Coordination and Collaboration (15%)

This criterion involves consideration of the following factors:

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- Well-developed understanding of region as it relates to project goals, objectives, and responsibilities.
- Demonstrated ability to work effectively with governmental and nongovernmental stakeholders, including community colleges, trade schools, and union training programs, to advance IAC Program goals and objectives.
- Quality of proposed plan for engaging in broad regional outreach to small- and medium-sized manufacturers and particularly manufacturers in disadvantaged communities.
- Quality of proposed plan for coordinating and collaborating with stakeholders to develop and deploy technical resources to benefit small- and medium-sized manufacturers regionally.
- Quality of proposed plan to work with governmental and nongovernmental stakeholders to leverage an array of financing tools to support manufacturers' implementation of recommendations made in assessments.

Criterion 4: Teaching, Training, and Workforce Development (15%)

This criterion involves consideration of the following factors:

- Quality of plan to support development and delivery of effective technical resources and solutions to regional small- and medium-sized manufacturers and their workers in a variety of formats.
- Quality of plan to support development and delivery of effective mentoring, training, and curricular resources to regional IACs their directors, their staff, and their students or trainees.
- Quality of plan to support regional student-focused activities, including connecting graduates and private industry, supporting student research competitions, hosting regional events, recognizing achievements, and maintaining alumni involvement.
- Quality of plan to work with small- and medium-sized manufacturers to support workforce education and training, including through learning opportunities associated with IACs, leading to upskilling opportunities for incumbent workers to learn and earn credentials, resulting in promotions or raises in the workplace.
- Quality of plan to support partnerships with registered apprenticeships, joint apprenticeship training committees (JATCs), and labor-management training partnerships to ensure quality earn-as-you-learn training resulting in nationally recognized credentials.
- Quality of plan to leverage national and regional relationships, including through the entering of articulation agreements with community colleges, trade schools, and union training programs, to support

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development of clean energy workforce pathways offering equitable access for all Americans to high quality clean energy jobs.

- Track record of effective performance training engineers as an IAC.

Criterion 5: Project Team and Resources (15%)

This criterion involves consideration of the following factors:

- Qualifications of proposed professors of professional practice and staff, including past experience assessing industrial facilities, providing student training in energy related matters, and active integration with university curriculum.
- Adequacy of facilities, equipment, and other resources to accommodate the proposed Center of Excellence.
- Level of commitment from the proposing college or university and the host department, such as commitment letters, that a Center will have strong administrative support as well as support from other departments, potentially including business, marketing, communications, IT, and other areas.
- Reasonableness of budget and spend plan for proposed project and objectives.

Criterion 6: Community Benefits Plan (20%)

This criterion involves consideration of the following factors:

Community and Labor Engagement

- Extent to which the applicant demonstrates community and labor engagement to date and/or a clear and appropriately robust plan to engage labor unions as partners and local stakeholders, including community-based organizations that support or work with disadvantaged communities.

Investing in the American Workforce

- Extent to which Community Benefits Plan demonstrates that the project will support quality jobs through actionable plan to support regional clean energy workforce development with the goal of creating access to and pathways of access to jobs with good pay, benefits, predictable schedules, safe and healthy workplaces, and assurances that workers will have a free and fair chance to join or form a union.

Diversity, Equity, Inclusion, and Accessibility

- Extent to which the Community Benefits Plan includes specific and high-quality actions to meet DEIA goals, which may include DEIA recruitment procedures;

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- Extent to which applicant demonstrates an actionable plan to use partnerships – including partnerships with Minority Serving Institutions, Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Native American-owned Businesses, Veteran Owned Businesses, or entities located in underserved communities – to promote and meet DEIA goals.
- Extent to which applicant demonstrates an actionable plan for facilitating training and/or mentoring opportunities for students from backgrounds that are underrepresented in STEM or the IAC Program, including the provision of supportive services for students facing barriers to higher education and employment.

Justice40 Initiative

- Extent to which applicant demonstrates plan for ensuring that benefits of Center of Excellence and IAC Program activities flow to disadvantaged communities.
- Extent to which applicant identifies specific, measurable benefits for disadvantaged communities, how the benefits of the Center of Excellence activities and IAC Program regionally will flow to disadvantaged communities, and how activities will serve to mitigate negative environmental impacts affecting disadvantaged communities regionally.
- Extent to which applicant demonstrates actionable plan for contributing to meeting the objective that 40% of the overall benefits of climate and clean energy investments flow to disadvantaged communities.

ii. Criteria for Replies to Reviewer Comments

DOE has not established separate criteria to evaluate Replies to Reviewer Comments. Instead, Replies to Reviewer Comments are attached to the original applications and evaluated as an extension of the Full Application.

B. Standards for Application Evaluation

Applications that are determined to be eligible will be evaluated in accordance with this FOA, by the standards set forth in EERE’s Notice of Objective Merit Review Procedure (76 Fed. Reg. 17846, March 31, 2011) and the guidance provided in the “DOE Merit Review Guide for Financial Assistance,” effective October 2021, which is available at: [DEPARTMENT OF ENERGY GUIDE TO FINANCIAL ASSISTANCE October 2021](#)



C. Other Selection Factors

i. Program Policy Factors

In addition to the above criteria, the Selection Official may consider the following program policy factors in determining which Full Applications to select for award negotiations:

- The degree to which the proposed project will draw and expand upon the prior success and impact of the IAC program and the applicant as an IAC;
- The degree to which the proposed project exhibits technological diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA;
- 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, or group of projects, represent a desired geographic distribution;
- The degree to which the proposed project incorporates applicant or team members from Minority Serving Institutions (e.g., Historically Black Colleges and Universities (HBCUs)/Other Minority Serving Institutions); and partnerships with Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or tribal nations; and
- The degree to which the proposed project, when compared to the existing DOE project portfolio and other projects to be selected from the subject FOA, contributes to the total portfolio meeting the goals reflected in the Community Benefits Plan criteria.

D. Evaluation and Selection Process

i. Overview

The evaluation process consists of multiple phases; each includes an initial eligibility review and a thorough technical review. Rigorous technical reviews of eligible submissions are conducted by reviewers that are experts in the subject matter of the FOA. Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, in determining which applications to select.

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ii. Pre-Selection Clarification

DOE may determine that pre-selection clarifications are necessary from one or more applicants. Pre-selection clarifications are distinct from and less formal than pre-selection interviews. These pre-selection clarifications will solely be for the purposes of clarifying the application. The pre-selection clarifications may occur before, during, or after the merit review evaluation process. Information provided by an applicant that is not necessary to address the pre-selection clarification question will not be reviewed or considered. Typically, a pre-selection clarification will be carried out through either written responses to DOE's written clarification questions or video or conference calls with DOE representatives.

The information provided by applicants to DOE through pre-selection clarifications is incorporated in their applications and contributes to the merit review evaluation and DOE's selection decisions. If DOE contacts an applicant for pre-selection clarification purposes, it does not signify that the applicant has been selected for negotiation of award or that the applicant is among the top ranked applications.

DOE will not reimburse applicants for expenses relating to the pre-selection clarifications, nor will these costs be eligible for reimbursement as pre-award costs.

iii. Recipient Integrity and Performance Matters

DOE, prior to making a federal award with a total amount of federal share greater than the simplified acquisition threshold, is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS) (see 41 U.S.C. § 2313).

The applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a federal awarding agency previously entered and is currently in the designated integrity and performance system accessible through SAM.

DOE will consider any written comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under federal awards when completing the review of risk posed by applicants as described in 2 CFR 200.206.



iv. Selection

The Selection Official may consider the technical merit, the Federal Consensus Board's recommendations, program policy factors, and the amount of funds available in arriving at selections for this FOA.

E. Anticipated Notice of Selection and Award Negotiation Dates

MESC anticipates notifying applicants selected for negotiation of award and negotiating awards by the dates provided on the cover page of this FOA.

VI. Award Administration Information

A. Award Notices

i. Ineligible Submissions

Ineligible Full Applications will not be further reviewed or considered for award. The Contracting Officer will send a notification letter by email to the technical and administrative points of contact designated by the applicant in EERE Exchange. The notification letter will state the basis upon which the Full Application is ineligible and not considered for further review.

ii. Full Application Notifications

DOE will notify applicants of its determination via a notification letter by email to the technical and administrative points of contact designated by the applicant in EERE Exchange. The notification letter will inform the applicant whether or not its Full Application was selected for award negotiations. Alternatively, DOE may notify one or more applicants that a final selection determination on particular Full Applications will be made at a later date, subject to the availability of funds or other factors.

iii. Successful Applicants

Receipt of a notification letter selecting a Full Application for award negotiations does not authorize the applicant to commence performance of the project. If an application is selected for award negotiations, it is not a commitment by DOE to issue an award. Applicants do not receive an award until award negotiations are complete and the Contracting Officer executes the funding agreement, accessible by the prime recipient in FedConnect.

The award negotiation process will take approximately 60 days. Applicants must designate a primary and a backup point-of-contact in EERE Exchange with whom

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DOE will communicate to conduct award negotiations. The applicant must be responsive during award negotiations (i.e., provide requested documentation) and meet the negotiation deadlines. If the applicant fails to do so or if award negotiations are otherwise unsuccessful, DOE will cancel the award negotiations and rescind the Selection. DOE reserves the right to terminate award negotiations at any time for any reason.

Please refer to Section IV.j.ii. of the FOA for guidance on pre-award costs.

iv. Alternate Selection Determinations

In some instances, an applicant may receive a notification that its application was not selected for award and DOE designated the application to be an alternate. As an alternate, DOE may consider the Full Application for federal funding in the future. A notification letter stating the Full Application is designated as an alternate does not authorize the applicant to commence performance of the project. DOE may ultimately determine to select or not select the Full Application for award negotiations.

v. Unsuccessful Applicants

DOE shall promptly notify in writing each applicant whose application has not been selected for award or whose application cannot be funded because of the unavailability of appropriated funds.

B. Administrative and National Policy Requirements

i. Registration Requirements

There are several one-time actions before submitting an application in response to this FOA, and it is vital that applicants address these items as soon as possible. Some may take several weeks, and failure to complete them could interfere with an applicant's ability to apply to this FOA, or to meet the negotiation deadlines and receive an award if the application is selected. These requirements are as follows:

EERE Exchange Register and create an account on EERE Exchange at <https://eere-eXCHANGE.energy.gov>. This account will then allow the user to register for any open MESC FOAs that are currently in EERE Exchange.

Beginning on July 29, 2022, Exchange will be updated to integrate with Login.gov. As of September 30, 2022, potential applicants will be required to have a Login.gov account to access EERE Exchange. As part of the Exchange registration process, new users will be directed to create an account in Login.gov. Please note that the email address associated with Login.gov must

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match the email address associated with the Exchange account. For more information, refer to the EERE ExchangeLogin Guide in the Manuals section of Exchange at <https://EERE-Exchange.energy.gov/Manuals.aspx>.

It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission. Applicants should also designate backup points of contact so they may be easily contacted if deemed necessary. **This step is required to apply to this FOA.** The EERE Exchangeregistration does not have a delay; however, **the remaining registration requirements below could take several weeks to process and are necessary for a potential applicant to receive an award under this FOA.**

1. System for Award Management

Register with the SAM at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called a Marketing Partner ID Number (MPIN) are important steps in SAM registration. Please update your SAM registration annually.

2. FedConnect

Register in FedConnect at <https://www.fedconnect.net>. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at <https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect Ready Set Go.pdf>.

3. Grants.gov

Register in Grants.gov (<http://www.grants.gov>) to receive automatic updates when Amendments to this FOA are posted. However, please note that Letters of Intent, Concept Papers, and Full Applications will not be accepted through Grants.gov.

4. Electronic Authorization of Applications and Award Documents

Submission of an application and supplemental information under this FOA through electronic systems used by the DOE, including EERE Exchange and FedConnect.net, constitutes the authorized representative's approval and electronic signature.



ii. Award Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR Part 200 as amended by 2 CFR Part 910.

iii. Foreign National Participation

All applicants selected for an award under this FOA and project participants (including subrecipients and contractors) who anticipate involving foreign nationals in the performance of an award, may be required to provide DOE with specific information about each foreign national to satisfy requirements for foreign national participation. A “foreign national” is defined as any person who is not a United States citizen by birth or naturalization. The volume and type of information collected may depend on various factors associated with the award. DOE concurrence may be required before a foreign national can participate in the performance of any work under an award.

DOE may elect to deny foreign national’s participation in the award. Likewise, DOE may elect to deny a foreign national’s access to a DOE sites, information, technologies, equipment, programs or personnel.

iv. Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR Part 170. Prime recipients must register with the new FFATA Subaward Reporting System database and report the required data on their first tier subrecipients. Prime recipients must report the executive compensation for their own executives as part of their registration profile in SAM.

v. National Policy Requirements

The National Policy Assurances that are incorporated as a term and condition of award are located at: <http://www.nsf.gov/awards/managing/rtc.jsp>.

vi. Environmental Review in Accordance with National Environmental Policy Act (NEPA)

DOE’s decision whether and how to distribute federal funds under this FOA is subject to NEPA (42 U.S.C. § 4321, *et seq.*). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE’s NEPA website, at <https://www.energy.gov/nepa>.

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While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all recipients selected for an award will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their proposed project. If DOE determines certain records must be prepared to complete the NEPA review process (e.g., biological evaluations or environmental assessments), the recipient may be required to prepare the records and the costs to prepare the necessary records may be included as part of the project costs.

vii. Applicant Representations and Certifications

1. Lobbying Restrictions

By accepting funds under this award, the prime recipient agrees that none of the funds obligated on the award shall be expended, directly or indirectly, to influence Congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. § 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

2. Corporate Felony Conviction and Federal Tax Liability Representations

In submitting an application in response to this FOA, the applicant represents that:

- a.** It is **not** a corporation that has been convicted of a felony criminal violation under any federal law within the preceding 24 months; and
- b.** It is **not** a corporation that has any unpaid federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

For purposes of these representations the following definitions apply:

A Corporation includes any entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States [but not foreign corporations]. It includes both for-profit and non-profit organizations.

3. Nondisclosure and Confidentiality Agreements Representations

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In submitting an application in response to this FOA the applicant represents that:

- a. It **does not and will not** require its employees or contractors to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting its employees or contractors from lawfully reporting waste, fraud, or abuse to a designated investigative or law enforcement representative of a federal department or agency authorized to receive such information.

- b. It **does not and will not** use any federal funds to implement or enforce any nondisclosure and/or confidentiality policy, form, or agreement it uses unless it contains the following provisions:
 - (1) *“These provisions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights, or liabilities created by existing statute or Executive Order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive Orders and statutory provisions are incorporated into this agreement and are controlling.”*

 - (2) The limitation above shall not contravene requirements applicable to Standard Form 312 Classified Information Nondisclosure Agreement (<https://fas.org/sgp/othergov/sf312.pdf>), Form 4414 Sensitive Compartmented Information Disclosure Agreement (<https://fas.org/sgp/othergov/intel/sf4414.pdf>), or any other form issued by a federal department or agency governing the nondisclosure of classified information.

 - (3) Notwithstanding the provision listed in paragraph (a), a nondisclosure or confidentiality policy form or agreement that is to be executed by a person connected with the conduct of an intelligence or intelligence-related activity, other than an employee or officer of the United States government, may contain provisions appropriate to the particular activity for which such document is to be used. Such form or agreement shall, at a minimum, require that the person will not disclose any classified information received in the course of such

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activity unless specifically authorized to do so by the United States government. Such nondisclosure or confidentiality forms shall also make it clear that they do not bar disclosures to Congress, or to an authorized official of an executive agency or the Department of Justice, that are essential to reporting a substantial violation of law.

viii. Statement of Federal Stewardship

DOE will exercise normal federal stewardship in overseeing the project activities performed under DOE awards. Stewardship Activities include, but are not limited to, conducting site visits; reviewing performance and financial reports; providing assistance and/or temporary intervention in unusual circumstances to correct deficiencies that develop during the project; assuring compliance with terms and conditions; and reviewing technical performance after project completion to ensure that the project objectives have been accomplished.

ix. Statement of Substantial Involvement

DOE has substantial involvement in work performed under awards made as a result of this FOA. DOE does not limit its involvement to the administrative requirements of the award. Instead, DOE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following:

1. DOE shares responsibility with the recipient for the management, control, direction, and performance of the project.
2. DOE may intervene in the conduct or performance of work under this award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
3. DOE may redirect or discontinue funding the project based on the outcome of DOE's evaluation of the project at the Go/No-Go decision point(s).
4. DOE participates in major project decision-making processes.

x. Reporting

Reporting requirements are identified on the Federal Assistance Reporting Checklist, attached to the award agreement.

Additional reporting requirements apply to projects funded by BIL. As part of tracking progress toward key departmental goals—ensuring justice and equity, investing in the American workforce, boosting domestic manufacturing, reducing

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greenhouse gas emissions, and advancing a pathway to private sector deployment—DOE may require specific data collection. Examples of data that may be collected include:

- New manufacturing production, or recycling capacity
- Number of trainings completed, trainees placed in full-time employment, and trainings with workforce partnerships involving employers, community-based organizations, or labor unions.
- Justice and Equity data, including:
 - Minority Business Enterprises, Minority-Owned Businesses, Woman-Owned Businesses, and Veteran-Owned Businesses acting as vendors and sub-contractors for bids on supplies, services and equipment.
 - Value, number, and type of partnerships with MSIs
 - Stakeholder engagement events, consent-based siting activities
 - Other relevant indicators from the Community Benefits Plan
- Number and type of energy efficient and clean energy equipment installed
- Non-DOE investment, follow-on-funding, Intellectual Property (IP) Generation and IP Utilization

xi. Go/No-Go Review

Each project selected under this FOA will be subject to a periodic project evaluation referred to as a Go/No-Go Review. A Go/No-Go Review is a risk management tool and a project management best practice to ensure that, for the current phase or period of performance, technical success is definitively achieved and potential for success in future phases or periods of performance is evaluated, prior to actually beginning the execution of future phases. At the Go/No-Go decision points, DOE will evaluate project performance, project schedule adherence, the extent milestone objectives are met, compliance with reporting requirements, and overall contribution to the program goals and objectives. Federal funding beyond the Go/No-Go decision point (continuation funding) is contingent upon (1) availability of federal funds appropriated by Congress for the purpose of this program; (2) the availability of future-year budget authority; (3) recipient's technical progress compared to the Milestone Summary Table stated in Attachment 1 of the award; (4) recipient's submittal of required reports; (5) recipient's compliance with the terms and conditions of the award; (6) DOE's Go/No-Go decision; (7) the recipient's submission of a



continuation application³⁰; and (8) written approval of the continuation application by the Contracting Officer.

As a result of the Go/No-Go Review, DOE may, at its discretion, authorize the following actions: (1) continue to fund the project, contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority; (2) recommend redirection of work under the project; (3) place a hold on federal funding for the project, pending further supporting data or funding; or (4) discontinue funding the project because of insufficient progress, change in strategic direction, or lack of funding.

The Go/No-Go decision is distinct from a non-compliance determination. In the event a recipient fails to comply with the requirements of an award, DOE may take appropriate action, including but not limited to, redirecting, suspending or terminating the award.

xii. Conference Spending

The recipient shall not expend any funds on a conference not directly and programmatically related to the purpose for which the grant or cooperative agreement was awarded that would defray the cost to the United States government of a conference held by any Executive branch department, agency, board, commission, or office for which the cost to the United States government would otherwise exceed \$20,000, thereby circumventing the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General (or senior ethics official for

³⁰ A continuation application is a non-competitive application for an additional budget period within a previously approved project period. At least ninety (90) days before the end of each budget period, the recipient must submit its continuation application, which includes the following information:

- i. A progress report on the project objectives, including significant findings, conclusions, or developments, and an estimate of any unobligated balances remaining at the end of the budget period. If the remaining unobligated balance is estimated to exceed 20 percent of the funds available for the budget period, explain why the excess funds have not been obligated and how they will be used in the next budget period.
- ii. A detailed budget and supporting justification if there are changes to the negotiated budget, or a budget for the upcoming budget period was not approved at the time of award.
- iii. A description of any planned changes from the SOPO and/or Milestone Summary Table.



any entity without an Inspector General), of the date, location, and number of employees attending such conference.

xiii. Uniform Commercial Code (UCC) Financing Statements

Per 2 CFR 910.360 (Real Property and Equipment) when a piece of equipment is purchased by a for-profit recipient or subrecipient with federal funds, and when the federal share of the financial assistance agreement is more than \$1,000,000, the recipient or subrecipient must:

Properly record, and consent to the Department's ability to properly record if the recipient fails to do so, UCC financing statement(s) for all equipment in excess of \$5,000 purchased with project funds. These financing statement(s) must be approved in writing by the Contracting Officer prior to the recording, and they shall provide notice that the recipient's title to all equipment (not real property) purchased with federal funds under the financial assistance agreement is conditional pursuant to the terms of this section, and that the government retains an undivided reversionary interest in the equipment. The UCC financing statement(s) must be filed before the Contracting Officer may reimburse the recipient for the federal share of the equipment unless otherwise provided for in the relevant financial assistance agreement. The recipient shall further make any amendments to the financing statements or additional recordings, including appropriate continuation statements, as necessary or as the Contracting Officer may direct.

xiv. Implementation of Executive Order 13798, Promoting Free Speech and Religious Liberty

States, local governments, or other public entities may not condition sub-awards in a manner that would discriminate, or disadvantage sub-recipients based on their religious character.

xv. Participants and Collaborating Organizations

If selected for award negotiations, the selected applicant must submit a list of personnel who are proposed to work on the project, both at the recipient and subrecipient level and a list of proposed collaborating organizations prior to award. Recipients will have an ongoing responsibility to notify DOE of changes to the personnel and collaborating organizations, and submit updated information during the life of the award.

xvi. Current and Pending Support

If selected for award negotiations, within 30 days of the selection notice, the selectee must submit 1) current and pending support disclosures and resumes



for any new PIs or senior/key personnel, and 2) updated disclosures if there have been any changes to the current and pending support submitted with the application. Throughout the life of the award, the recipient has an ongoing responsibility to submit 1) current and pending support disclosure statements and resumes for any new PI and senior/key personnel, and 2) updated disclosures if there are changes to the current and pending support previously submitted to DOE. See also Section IV.D.xvii.

xvii. U.S. Manufacturing Commitments

A primary objective of DOE's multi-billion dollar research, development, and demonstration investments is to cultivate new research and development ecosystems, manufacturing capabilities, and supply chains for and by United States industry and labor. Therefore, in exchange for receiving taxpayer dollars to support an applicant's project, the applicant must agree to a U.S. Competitiveness provision requiring that any products embodying any subject invention or produced through the use of any subject invention will be manufactured substantially in the United States unless the Recipient can show to the satisfaction of DOE that it is not commercially feasible. Award terms, including the specific U.S. Competitiveness Provision applicable to the various types of Recipients and projects, are available at <https://www.energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>.

Please note that a subject invention is any invention conceived or first actually reduced to practice in performance of work under an award. An invention is any invention or discovery which is or may be patentable. The recipient includes any awardee, recipient, sub-awardee, or sub-recipient.

As noted in the U.S. Competitiveness Provision, if an entity cannot meet the requirements of the U.S. Competitiveness Provision, the entity may request a modification or waiver of the U.S. Competitiveness Provision. For example, the entity may propose modifying the language of the U.S. Competitiveness Provision in order to change the scope of the requirements or to provide more specifics on the application of the requirements for a particular technology. As another example, the entity may request that the U.S. Competitiveness Provision be waived in lieu of a net benefits statement or United States manufacturing plan. The statement or plan would contain specific and enforceable commitments that would be beneficial to the United States economy and competitiveness. Examples of such commitments could include manufacturing specific products in the United States, making a specific investment in a new or existing United States manufacturing facility, keeping certain activities based in the United States or supporting a certain number of jobs in the United States



related to the technology. DOE may, in its sole discretion, determine that the proposed modification or waiver promotes commercialization and provides substantial United States economic benefits, and grant the request. If granted, DOE will modify the award terms and conditions for the requesting entity accordingly.

More information and guidance on the waiver and modification request process can be found in the DOE Financial Assistance Letter on this topic, available at <https://www.energy.gov/management/pf-2022-09-fal-2022-01-implementation-doe-determination-exceptional-circumstances-under>. Additional information on DOE's Commitment to Domestic Manufacturing for DOE-funded R&D is available at <https://www.energy.gov/gc/us-manufacturing>.

The U.S. Competitiveness Provision is implemented by DOE pursuant to a Determination of Exceptional Circumstances (DEC) under the Bayh-Dole Act and DOE Patent Waivers. See Section VIII.J. Title to Subject Inventions of this FOA for more information on the DEC and DOE Patent Waivers.

xviii. Interim Conflict of Interest Policy for Financial Assistance

The DOE interim Conflict of Interest Policy for Financial Assistance (COI Policy)³¹ is applicable to all non-Federal entities applying for, or that receive, DOE funding by means of a financial assistance award (e.g., a grant, cooperative agreement, or technology investment agreement) and, through the implementation of this policy by the entity, to each Investigator who is planning to participate in, or is participating in, the project funded wholly or in part under the DOE financial assistance award. The term "Investigator" means the PI and any other person, regardless of title or position, who is responsible for the purpose, design, conduct, or reporting of a project funded by DOE or proposed for funding by DOE. Recipients must flow down the requirements of the interim COI Policy to any subrecipient non-federal entities. Further, for DOE funded projects, the recipient must include all financial conflicts of interest (FCOI) (i.e., managed and unmanaged/ unmanageable) in their initial and ongoing FCOI reports.

It is understood that non-federal entities and individuals receiving DOE financial assistance awards will need sufficient time to come into full compliance with DOE's interim COI Policy. To provide some flexibility, DOE allows for a staggered implementation. Specifically, prior to award, applicants selected for award negotiations must: ensure all Investigators complete their significant financial disclosures; review the disclosures; determine whether a FCOI exists; develop and implement a management plan for FCOIs; and provide DOE with an initial

³¹ DOE's interim COI Policy can be found at [PF 2022-17 FAL 2022-02 Department of Energy Interim Conflict of Interest Policy Requirements for Financial Assistance](#).



FCOI report that includes all FCOIs (i.e., managed and unmanaged/unmanageable). Recipients will have 180 days from the date of the award to come into full compliance with the other requirements set forth in DOE's interim COI Policy. Prior to award, the applicant must certify that it is, or will be within 180 days of the award, compliant with all requirements in the COI Policy.

xix. Fraud, Waste, and Abuse

The mission of the DOE Office of Inspector General (OIG) is to strengthen the integrity, economy and efficiency of the Department's programs and operations including deterring and detecting fraud, waste, abuse, and mismanagement. The OIG accomplishes this mission primarily through investigations, audits, and inspections of DOE activities to include grants, cooperative agreements, loans, and contracts.

The OIG maintains a Hotline for reporting allegations of fraud, waste, abuse, or mismanagement. To report such allegations, please visit <https://www.energy.gov/ig/ig-hotline>.

Additionally, recipients of DOE awards must be cognizant of the requirements of [2 CFR 200.113 Mandatory disclosures](#), which states:

The non-Federal entity or applicant for a Federal award must disclose, in a timely manner, in writing to the Federal awarding agency or pass-through entity all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Non-Federal entities that have received a Federal award including the term and condition outlined in appendix XII of 2 CFR Part 200 are required to report certain civil, criminal, or administrative proceedings to SAM (currently FAPIIS). Failure to make required disclosures can result in any of the remedies described in [2 CFR 200.339](#). (See also [2 CFR part 180](#), [31 U.S.C. § 3321](#), and [41 U.S.C. § 2313](#).) [[85 FR 49539](#), Aug. 13, 2020]

Applicants and subrecipients (if applicable) are encouraged to allocate sufficient costs in the project budget to cover the costs associated for personnel and data infrastructure needs to support performance management and program evaluation needs including but not limited to independent program and project audits to mitigate risks for fraud, waste, and abuse.



xx. Human Subjects Research

Research involving human subjects, biospecimens, or identifiable private information conducted with DOE funding is subject to the requirements of DOE Order 443.1C, Protection of Human Research Subjects, 45 CFR Part 46, Protection of Human Subjects (subpart A which is referred to as the “Common Rule”), and 10 CFR Part 745, Protection of Human Subjects. Additional information on the DOE Human Subjects Research Program can be found at: [HUMAN SUBJECTS Human Subjects Pr... | U.S. DOE Office of Science \(SC\) \(osti.gov\)](#).

xxi. Cybersecurity Plan

Be advised that under Section 40126 of the BIL, the Secretary of Energy has determined that this FOA requires an applicant to submit a Cybersecurity Plan to the DOE prior to the issuance of an award.

Each applicant whose Full Application is selected for award negotiations must submit a Cybersecurity Plan during the award negotiations phase. A Cybersecurity Plan explains how basic cybersecurity practices throughout the life of the proposed the project will be maintained.

VII. Questions/Agency Contacts

Upon the issuance of a FOA, DOE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the FOA except through the established question and answer process as described below. Specifically, questions regarding this FOA must be submitted to: IACProgram@doe.gov. Questions must be submitted not later than 3 business days prior to the application due date and time. Please note, feedback on individual concepts will not be provided through Q&A.

All questions and answers related to this FOA will be posted on EERE Exchange at: <https://eere-eXCHANGE.energy.gov>. **You must first select this specific FOA Number to view the questions and answers specific to this FOA.** MESC will attempt to respond to a question within 3 business days, unless a similar question and answer has already been posted on the website.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: EERE-ExchangeSupport@hq.doe.gov.



VIII. Other Information

A. FOA Modifications

Amendments to this FOA will be posted on the EERE Exchange website and the Grants.gov system. However, you will only receive an email when an amendment or a FOA is posted on these sites if you register for email notifications for this FOA in Grants.gov. MESC recommends that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any amendments or other FOAs.

B. Government Right to Reject or Negotiate

DOE reserves the right, without qualification, to reject any or all applications received in response to this FOA and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. Commitment of Public Funds

The Contracting Officer is the only individual who can make awards or commit the government to the expenditure of public funds. A commitment by anyone other than the Contracting Officer, either express or implied, is invalid.

D. Treatment of Application Information

Applicants should not include business sensitive (e.g., commercial or financial information that is privileged or confidential), trade secrets, proprietary, or otherwise confidential information in their application unless such information is necessary to convey an understanding of the proposed project or to comply with a requirement in the FOA. Applicants are advised to not include any critically sensitive proprietary detail.

If an application includes business sensitive, trade secrets, proprietary, or otherwise confidential information, it is furnished to the federal government (government) in confidence with the understanding that the information shall be used or disclosed only for evaluation of the application. Such information will be withheld from public disclosure to the extent permitted by law, including the Freedom of Information Act. Without assuming any liability for inadvertent disclosure, DOE will seek to limit disclosure of such information to its employees and to outside reviewers when necessary for merit review of the application or as otherwise authorized by law. This restriction does not limit the government's right to use the information if it is obtained from another source.

If an applicant chooses to submit business sensitive, trade secrets, proprietary, or otherwise confidential information, the applicant must provide **two copies** of the submission (e.g., Concept Paper, Full Application). The first copy should be

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marked, “non-confidential” with the information believed to be confidential deleted. The second copy should be marked “confidential” and must clearly and conspicuously identify the business sensitive, trade secrets, proprietary, or otherwise confidential information and must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose as authorized by law.

The cover sheet of the Full Application, and other applicant submission must be marked as follows and identify the specific pages business sensitive, trade secrets, proprietary, or otherwise confidential information:

Notice of Restriction on Disclosure and Use of Data:

Pages [list applicable pages] of this document may contain business sensitive, trade secrets, proprietary, or otherwise confidential information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance between the submitter and the government. The government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. [End of Notice]

In addition, (1) the header and footer of every page that contains business sensitive, trade secrets, proprietary, or otherwise confidential information must be marked as follows: “Contains Business Sensitive, Trade Secrets, Proprietary, or Otherwise Confidential Information Exempt from Public Disclosure,” and (2) every line or paragraph containing such information must be clearly marked with double brackets or highlighting. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

E. Evaluation and Administration by Non-Federal Personnel

In conducting the merit review evaluation, the Go/No-Go Reviews and Peer Reviews, the government may seek the advice of qualified non-federal personnel as reviewers. The government may also use non-federal personnel to conduct routine, nondiscretionary administrative activities, including DOE contractors. The applicant, by submitting its application, consents to the use of non-federal reviewers/administrators. Non-federal reviewers must sign conflict of interest (COI) and non-disclosure acknowledgements (NDA) prior to reviewing an application. Non-federal personnel conducting administrative activities must sign an NDA.

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F. Notice Regarding Eligible/Ineligible Activities

Eligible activities under this FOA include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

G. Notice of Right to Conduct a Review of Financial Capability

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

H. Requirement for Full and Complete Disclosure

Applicants are required to make a full and complete disclosure of all information requested. Any failure to make a full and complete disclosure of the requested information may result in:

- The termination of award negotiations;
- The modification, suspension, and/or termination of a funding agreement;
- The initiation of debarment proceedings, debarment, and/or a declaration of ineligibility for receipt of federal contracts, subcontracts, and financial assistance and benefits; and
- Civil and/or criminal penalties.

I. Retention of Submissions

DOE expects to retain copies of all Full Applications and other submissions. No submissions will be returned. By applying to DOE for funding, applicants consent to DOE's retention of their submissions.

J. Title to Subject Inventions

Ownership of subject inventions is governed pursuant to the authorities listed below:

- Domestic Small Businesses, Educational Institutions, and Nonprofits: Under the Bayh-Dole Act (35 U.S.C. § 200 et seq.), domestic small businesses, educational institutions, and nonprofits may elect to retain title to their subject inventions;



- All other parties: The Federal Non-Nuclear Energy Act of 1974, 42 U.S.C. § 5908, provides that the government obtains title to new inventions unless a waiver is granted (see below);
- Class Patent Waiver:

Under 42 U.S.C. § 5908, title to subject inventions vests in the United States government and large businesses and foreign entities do not have the automatic right to elect to retain title to subject inventions. However, DOE may issue “class patent waivers” under which large businesses and foreign entities that meet certain stated requirements may elect to retain title to their subject inventions.

- Advance and Identified Waivers: For an applicant not covered by a Class Patent Waiver or the Bayh-Dole Act, the applicant may request a patent waiver that will cover subject inventions that may be invented under the award, in advance of or within 30 days after the effective date of the award. Even if an advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver for identified inventions, i.e., individual subject inventions that are disclosed to DOE within the timeframes set forth in the award’s intellectual property dataterms and conditions. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.
- DEC: On June 07, 2021, DOE approved a DETERMINATION OF EXCEPTIONAL CIRCUMSTANCES (DEC) UNDER THE BAYH-DOLE ACT TO FURTHER PROMOTE DOMESTIC MANUFACTURE OF DOE SCIENCE AND ENERGY TECHNOLOGIES. In accordance with this DEC, all awards, including sub-awards, under this FOA shall include the U.S. Competitiveness Provision in accordance with Section VI.B.xvii. U.S. Manufacturing Commitments of this FOA. A copy of the DEC can be found at <https://www.energy.gov/gc/determination-exceptional-circumstances-decs>. Pursuant to 37 CFR 401.4, any nonprofit organization or small business firm as defined by 35 U.S.C. § 201 affected by any DEC has the right to appeal it by providing written notice to DOE within 30 working days from the time it receives a copy of the determination.
- DOE may issue and publish on the website above further DEC’s prior to the issuance of awards under this FOA. DOE may require additional submissions or requirements as authorized by any applicable DEC.

K. Government Rights in Subject Inventions

Where prime recipients and subrecipients retain title to subject inventions, the United States government retains certain rights.

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Government Use License

The United States government retains a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world. This license extends to contractors doing work on behalf of the government.

March-In Rights

The United States government retains march-in rights with respect to all subject inventions. Through “march-in rights,” the government may require a prime recipient or subrecipient who has elected to retain title to a subject invention (or their assignees or exclusive licensees), to grant a license for use of the invention to a third party. In addition, the government may grant licenses for use of the subject invention when a prime recipient, subrecipient, or their assignees and exclusive licensees refuse to do so.

DOE may exercise its march-in rights only if it determines that such action is necessary under any of the four following conditions:

- The owner or licensee has not taken or is not expected to take effective steps to achieve practical application of the invention within a reasonable time;
- The owner or licensee has not taken action to alleviate health or safety needs in a reasonably satisfied manner;
- The owner has not met public use requirements specified by federal statutes in a reasonably satisfied manner; or
- The United States manufacturing requirement has not been met.

Any determination that march-in rights are warranted must follow a fact-finding process in which the recipient has certain rights to present evidence and witnesses, confront witnesses and appear with counsel and appeal any adverse decision. To date, DOE has never exercised its march-in rights to any subject inventions.

L. Rights in Technical Data

Data rights differ based on whether data is first produced under an award or instead was developed at private expense outside the award.

“Limited Rights Data”: The United States government will not normally require delivery of confidential or trade secret-type technical data developed solely at private expense prior to issuance of an award, except as necessary to monitor technical progress and evaluate the potential of proposed technologies to reach specific technical and cost metrics.

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Government Rights in Technical Data Produced Under Awards: The United States government retains unlimited rights in technical data produced under government financial assistance awards, including the right to distribute to the public. One exception to the foregoing is that invention disclosures may be protected from public disclosure for a reasonable time in order to allow for filing a patent application.

M. Copyright

The prime recipient and subrecipients may assert copyright in copyrightable works, such as software, first produced under the award without DOE approval. When copyright is asserted, the government retains a paid-up nonexclusive, irrevocable worldwide license to reproduce, prepare derivative works, distribute copies to the public, and to perform publicly and display publicly the copyrighted work. This license extends to contractors and others doing work on behalf of the government.

N. Export Control

The United States government regulates the transfer of information, commodities, technology, and software considered to be strategically important to the United States to protect national security, foreign policy, and economic interests without imposing undue regulatory burdens on legitimate international trade. There is a network of federal agencies and regulations that govern exports that are collectively referred to as “Export Controls”. All recipients and subrecipients are responsible for ensuring compliance with all applicable United States Export Control laws and regulations relating to any work performed under a resulting award.

The recipient must immediately report to DOE any export control violations related to the project funded under the DOE award, at the recipient or subrecipient level, and provide the corrective action(s) to prevent future violations.

O. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

As set forth in 2 CFR 200.216, recipients and subrecipients are prohibited from obligating or expending project funds (federal funds and recipient cost share) to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses *covered telecommunications equipment or services* as a substantial or essential component of any system, or as critical technology as part of any system. As described in Section 889 of Public Law 115-232, *covered telecommunications equipment* is telecommunications equipment

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produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

See Public Law 115-232, Section 889, 2 CFR 200.216, and 2 CFR 200.471 for additional information.

P. Personally Identifiable Information (PII)

All information provided by the applicant must to the greatest extent possible exclude PII. The term “PII” refers to information which can be used to distinguish or trace an individual's identity, such as their name, social security number, biometric records, alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual, such as date and place of birth, mother’s maiden name. (See OMB Memorandum M-07-16 dated May 22, 2007, found at:

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2007/m07-16.pdf>

By way of example, applicants must screen resumes to ensure that they do not contain PII such as personal addresses, personal landline/cell phone numbers, and personal emails. **Under no circumstances should Social Security Numbers (SSNs) be included in the application.** Federal agencies are prohibited from the collecting, using, and displaying unnecessary SSNs. (See, the Federal Information Security Modernization Act of 2014 (Pub. L. No. 113-283, Dec 18, 2014; 44 U.S.C. § 3551).

Q. Annual Independent Audits

If a for-profit entity is a prime recipient and has expended \$750,000 or more of DOE awards during the entity's fiscal year, an annual compliance audit performed by an independent auditor is required. For additional information, please refer to 2 CFR 910.501 and Subpart F.

If an educational institution, non-profit organization, or state/local government is a prime recipient or subrecipient and has expended \$750,000 or more of federal awards during the non-federal entity's fiscal year, then a Single or Program-Specific Audit is required. For additional information, please refer to 2 CFR 200.501 and Subpart F.

Applicants and subrecipients (if applicable) should propose sufficient costs in the project budget to cover the costs associated with the audit. DOE will share in the cost of the audit at its applicable cost share ratio.



R. Informational Webinar

DOE will conduct one informational webinar during the FOA process. It will be held after the initial FOA.

Attendance is not mandatory and will not positively or negatively impact the overall review of any applicant submissions. As the webinar will be open to all applicants who wish to participate, applicants should refrain from asking questions or communicating information that would reveal confidential and/or proprietary information specific to their project. Specific dates for the webinar can be found on the cover page of the FOA.

Please use this [link](#) to join the webinar.



APPENDIX A – COST SHARE INFORMATION

Cost Sharing or Cost Matching

The terms “cost sharing” and “cost matching” are often used synonymously. Even the DOE Financial Assistance Regulations, 2 CFR 200.306, use both of the terms in the titles specific to regulations applicable to cost sharing. DOE almost always uses the term “cost sharing,” as it conveys the concept that non-federal share is calculated as a percentage of the Total Project Cost. An exception is the State Energy Program Regulation, 10 CFR 420.12, State Matching Contribution. Here “cost matching” for the non-federal share is calculated as a percentage of the federal funds only, rather than the Total Project Cost.

How Cost Sharing Is Calculated

As stated above, cost sharing is calculated as a percentage of the Total Project Cost. FFRDC costs must be included in Total Project Costs. The following is an example of how to calculate cost sharing amounts for a project with \$1,000,000 in federal funds with a minimum 20% non-federal cost sharing requirement:

- Formula: Federal share (\$) divided by federal share (%) = Total Project Cost
Example: \$1,000,000 divided by 80% = \$1,250,000
- Formula: Total Project Cost (\$) minus federal share (\$) = Non-federal share (\$)
Example: \$1,250,000 minus \$1,000,000 = \$250,000
- Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)
Example: \$250,000 divided by \$1,250,000 = 20%

What Qualifies For Cost Sharing

While it is not possible to explain what specifically qualifies for cost sharing in one or even a couple of sentences, in general, if a cost is allowable under the cost principles applicable to the organization incurring the cost and is eligible for reimbursement under a DOE grant or cooperative agreement, then it is allowable as cost share. Conversely, if the cost is not allowable under the cost principles and not eligible for reimbursement, then it is not allowable as cost share. In addition, costs may not be counted as cost share if they are paid by the federal government under another award unless authorized by federal statute to be used for cost sharing.



The rules associated with what is allowable as cost share are specific to the type of organization that is receiving funds under the grant or cooperative agreement, though are generally the same for all types of entities. The specific rules applicable to:

- FAR Part 31 for For-Profit entities, (48 CFR Part 31); and
- 2 CFR Part 200 Subpart E - Cost Principles for all other non-federal entities.

In addition to the regulations referenced above, other factors may also come into play such as timing of donations and length of the project period. For example, the value of ten years of donated maintenance on a project that has a project period of five years would not be fully allowable as cost share. Only the value for the five years of donated maintenance that corresponds to the project period is allowable and may be counted as cost share.

Additionally, DOE generally does not allow pre-award costs for either cost share or reimbursement when these costs precede the signing of the appropriation bill that funds the award. In the case of a competitive award, DOE generally does not allow pre-award costs prior to the signing of the Selection Statement by the DOE Selection Official.

General Cost Sharing Rules on a DOE Award

- 1. Cash Cost Share** – encompasses all contributions to the project made by the recipient or subrecipient(s), for costs incurred and paid for during the project. This includes when an organization pays for personnel, supplies, equipment for their own company with organizational resources. If the item or service is reimbursed for, it is cash cost share. All cost share items must be necessary to the performance of the project.
- 2. In-Kind Cost Share** – encompasses all contributions to the project made by the recipient or subrecipient(s) that do not involve a payment or reimbursement and represent donated items or services. In-Kind cost share items include volunteer personnel hours, donated existing equipment, donated existing supplies. The cash value and calculations thereof for all In-Kind cost share items must be justified and explained in the Cost Share section of the project Budget Justification. All cost share items must be necessary to the performance of the project. If questions exist, consult your DOE contact before filling out the In-Kind cost share section of the Budget Justification.
- 3. Funds from other federal sources MAY NOT be counted as cost share.** This prohibition includes FFRDC subrecipients. Non-federal sources include any source not originally derived from federal funds. Cost sharing commitment letters from subrecipients must be provided with the original application.
- 4. Fee or profit, including foregone fee or profit, are not allowable as project costs (including cost share) under any resulting award.** The project may only incur those costs that are

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allowable and allocable to the project (including cost share) as determined in accordance with the applicable cost principles prescribed in FAR Part 31 for For-Profit entities and 2 CFR Part 200 Subpart E - Cost Principles for all other non-federal entities.

DOE Financial Assistance Rules 2 CFR Part 200 as amended by 2 CFR Part 910

As stated above, the rules associated with what is allowable cost share are generally the same for all types of organizations. Following are the rules found to be common, but again, the specifics are contained in the regulations and cost principles specific to the type of entity:

(A) Acceptable contributions. All contributions, including cash contributions and third party in-kind contributions, must be accepted as part of the prime recipient's cost sharing if such contributions meet all of the following criteria:

- (1)** They are verifiable from the recipient's records.
- (2)** They are not included as contributions for any other federally-assisted project or program.
- (3)** They are necessary and reasonable for the proper and efficient accomplishment of project or program objectives.
- (4)** They are allowable under the cost principles applicable to the type of entity incurring the cost as follows:
 - a.** For-profit organizations. Allowability of costs incurred by for-profit organizations and those nonprofit organizations listed in Attachment C to OMB Circular A-122 is determined in accordance with the for-profit cost principles in 48 CFR Part 31 in the FAR, except that patent prosecution costs are not allowable unless specifically authorized in the award document. (v) Commercial Organizations. FAR Subpart 31.2—Contracts with Commercial Organizations; and
 - b.** Other types of organizations. For all other non-federal entities, allowability of costs is determined in accordance with 2 CFR Part 200 Subpart E.
- (5)** They are not paid by the federal government under another award unless authorized by federal statute to be used for cost sharing or matching.
- (6)** They are provided for in the approved budget.

(B) Valuing and documenting contributions



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- (1)** Valuing recipient's property or services of recipient's employees. Values are established in accordance with the applicable cost principles, which mean that amounts chargeable to the project are determined on the basis of costs incurred. For real property or equipment used on the project, the cost principles authorize depreciation or use charges. The full value of the item may be applied when the item will be consumed in the performance of the award or fully depreciated by the end of the award. In cases where the full value of a donated capital asset is to be applied as cost sharing or matching, that full value must be the lesser or the following:

 - a.** The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation; or
 - b.** The current fair market value. If there is sufficient justification, the Contracting Officer may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project. The Contracting Officer may accept the use of any reasonable basis for determining the fair market value of the property.

 - (2)** Valuing services of others' employees. If an employer other than the recipient furnishes the services of an employee, those services are valued at the employee's regular rate of pay, provided these services are for the same skill level for which the employee is normally paid.

 - (3)** Valuing volunteer services. Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services must be consistent with those paid for similar work in the recipient's organization. In those markets in which the required skills are not found in the recipient organization, rates must be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.

 - (4)** Valuing property donated by third parties.

 - a.** Donated supplies may include such items as office supplies or laboratory supplies. Value assessed to donated supplies included in the cost sharing or matching share must be reasonable and must not exceed the fair market value of the property at the time of the donation.

 - b.** Normally only depreciation or use charges for equipment and buildings may be applied. However, the fair rental charges for land and the full value of equipment or other capital assets may be allowed, when they will be consumed in the



performance of the award or fully depreciated by the end of the award, provided that the Contracting Officer has approved the charges. When use charges are applied, values must be determined in accordance with the usual accounting policies of the recipient, with the following qualifications:

- i. The value of donated space must not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.
- ii. The value of loaned equipment must not exceed its fair rental value.

(5) Documentation. The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties:

- a. Volunteer services must be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.
- b. The basis for determining the valuation for personal services and property must be documented.



APPENDIX B – LIST OF ACRONYMS

BIL	Bipartisan Infrastructure Law
CCUS	Carbon Capture Utilization and Storage
CHP TAP	Combined Heat and Power Technical Assistance Partnership
COI	Conflict of Interest
DEC	Determination of Exceptional Circumstances
DEIA	Diversity, Equity, Inclusion, and Accessibility
DOE	Department of Energy
EERE	Energy Efficiency and Renewable Energy
EISA 2007	Energy Independence and Security Act of 2007
FAR	Federal Acquisition Regulation
FFATA	Federal Funding and Transparency Act of 2006
FOA	Funding Opportunity Announcement
FOIA	Freedom of Information Act
FFRDC	Federally Funded Research and Development Center
IAC	Industrial Assessment Center
LCFFES	Low Carbon Fuels, Feedstocks & Energy Sources
MEP	Manufacturing Extension Partnership
MESC	Office of Manufacturing and Energy Supply Chains
M&O	Management and Operating
MPIN	Marketing Partner ID Number
MSI	Minority-Serving institution
NDA	Non-Disclosure Acknowledgement
NEPA	National Environmental Policy Act
NIST	National Institute of Standards and Technology
NNSA	National Nuclear Security Administration
OMB	Office of Management and Budget
PII	Personal Identifiable Information
R&D	Research and Development
SAM	System for Award Management
SOPO	Statement of Project Objectives
STEM	Science, Technology, Engineering, and Mathematics
UCC	Uniform Commercial Code
UEI	Unique Entity Identifier

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