Department of Energy (DOE)
Office of Energy Efficiency and Renewable Energy (EERE)
Office of Manufacturing and Energy Supply Chains (MESC)

Bipartisan Infrastructure Law (BIL) Consumer Electronics Battery Recycling, Reprocessing, and Battery Collection

Funding Opportunity Announcement (FOA) Number: DE-FOA-0002897
FOA Type: ~~Initial~~ Amendment 000004
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FOA Issue Date:	06/12/23
FOA Round 2 Issue Date:	02/20/24
Submission Deadline for Round 2 Full Applications:	04/09/24
Expected Date for DOE Round 2 Selection Notifications:	May/June 2024
Expected Timeframe for Round 2 Award Negotiations:	June/July 2024

- **Round 2: This FOA is being reopened to solicit Full Applications for Topic Area 4 only. The submittal of Concept Papers is not required for Round 2 submittals to Topic Area 4.**

- To apply to this FOA, applicants must register with and submit application materials through EERE Exchange at https://eere-exchange.energy.gov/, EERE's online application portal.

- Applicants must designate primary and backup points-of-contact in EERE Exchange with whom EERE/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.

AMENDMENTS

All changes to the Funding Opportunity Announcement as a result of this amendment are shown in highlighted text.

Amendment No.	Date	Description of Amendment
000001	07/17/2023	The purpose of this amendment is to clarify Eligibility requirements in accordance with BIL Sections 40207 (f)(2)(3) and (4).
000002	07/31/2023	The purpose of this amendment is to incorporate a statement of project eligibility as an additional required application document. See Section IV.D.xxii. and Appendix G.
000003	09/28/2023	The purpose of this Amendment is to incorporate information about EPA webinars and training materials with guidance on how to effectively encourage behavior change for recycling education. See Section I.B. Topic Area 1.
000004	02/20/2024	The purpose of this Amendment is to reopen the FOA to solicit Full Applications for Topic Area 4 (only), remove the requirement to submit a Concept Paper, and incorporate Pre-Selection Interviews. Topic Areas 1-3 are now closed.

Registration Requirements

There are several one-time actions that must be completed before submitting an application in response to this Funding Opportunity Announcement (FOA) (e.g., register with the System for Award Management (SAM), obtain a Unique Entity Identifier (UEI) number, register with Grants.gov, and register with FedConnect.net to submit questions). 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.

- **SAM** – Applicants must register with SAM at https://www.sam.gov/ prior to submitting an application in response to this FOA. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Failure to register with SAM will prevent your organization from applying through Grants.gov. The applicant must maintain an active SAM registration with current information at all times during which it has an active Federal award or application under consideration. More information about SAM registration for applicants is found at: https://www.fsd.gov/gsafsd_sp?id=gsafsd_kb_articles&sys_id=650d493e1bab7c105465eaccac4bcbcb .
  NOTE: If clicking the SAM links do not work, please copy and paste the link into your browser.

  Due to the high demand of SAM registrations and UEI requests, entity legal business name and address validations are taking longer than expected to process. Entities should start the SAM and UEI registration process as soon as possible. If entities have technical difficulties with the SAM registration or UEI validation 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.

- **UEI** – Applicants must obtain an UEI from the SAM to uniquely identify the entity. The UEI is available in the SAM entity registration record.
  NOTE: Subawardees/subrecipients at all tiers must also obtain an UEI from the SAM and provide the UEI to the Prime Recipient before the subaward can be issued. Full registration in SAM is not required to obtain an UEI for subaward reporting.

- **FedConnect.net** – Applicants must register with FedConnect to submit questions. FedConnect website: https://www.fedconnect.net/

  See Section IV for Application and Submission Information (including how to create a WorkSpace).

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SUMMARY OVERVIEW OF KEY INFORMATION	
Issuing Agency	Department of Energy, Office of Energy Efficiency and Renewable Energy (EERE), on behalf of the Vehicle Technologies Office (VTO), and Office of Manufacturing & Energy Supply Chains (MESC)
Program Overview	This program will provide funding to support the recycling of consumer electronics batteries and battery-containing devices to help build a robust domestic critical material supply chain for EV batteries in the United States.
Objective	1) Increase participation by consumers in recycling programs; 2) Improve the economics of consumer battery recycling to create a market for recycling, including battery recycling research, development, and demonstration activities to create innovative and practical approaches to increase the reuse and recycling of batteries; and 3) Increase the number of these programs, including state and local programs to assist in the establishment or enhancement of state consumer electronics battery collection, recycling, and reprocessing programs and to establish collection points at retailers.
Topic Areas	• ~~Topic Area 1: Expanding Consumer Participation in Consumer Electronics Battery Recycling Programs~~ **Closed** • ~~Topic Area 2: Improving the Economics of Recycling Consumer Electronics Batteries~~ **Closed** • ~~Topic Area 3: State and Local Programs for Consumer Electronics Battery Collection, Recycling and Reprocessing~~ **Closed** • Topic Area 4: Retailer Programs for Consumer Electronics Battery Collection
Eligible Applicants	• See Section III • ~~Individuals~~ • ~~Domestic Entities (Institutions of higher education; for-profit entities; non-profit entities; state and local governmental entities and Tribal Nations)~~ • ~~DOE/NNSA FFRDC's and non-DOE/NNSA FFRDCs and Federal Research Agencies (prime for topic areas 1 and 2; subrecipient only for topic areas 3 and 4)~~
Funding	It is anticipated that this FOA will provide Federal funding of $15 million over five years. • ~~Topic Area 1: approximately $20,000,000 Federal funding; no cost share requirement~~ • ~~Topic Area 2: approximately $40,000,000 Federal funding; 20% cost share~~ • ~~Topic Area 3: approximately $50,000,000 Federal funding; 50% cost share~~ • Topic Area 4: approximately $15,000,000 Federal funding; 50% cost share
Deadlines	See cover page

I. Funding Opportunity Description

A. Background and Context

The Office of Energy Efficiency and Renewable Energy (EERE) Vehicle Technologies Office (VTO) is issuing, on behalf of the Office of Manufacturing & Energy Supply Chains (MESC), this Funding Opportunity Announcement (FOA). Awards 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 2050[4] to benefit all Americans.

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[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 on 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.

The BIL will invest more than $7 billion in the batteries supply chain over the five year period encompassing fiscal years 2022 through 2026. This includes sustainable sourcing of critical minerals from secondary and unconventional sources, reducing the need for new extraction and mining; sustainable processing of critical minerals; and, the end-of-life battery collection and recycling.

This FOA is targeted solely at consumer electronics battery recycling, as required in section 40207 of the BIL. DOE has separate funds targeted at electric vehicle (EV) battery recycling funded under section 40208 of the BIL. There is a substantial volume of batteries from consumer electronics that exist today whose batteries typically have very high percentages of critical materials. This FOA targets developing recycling programs for these batteries that can help immediately support a domestic battery supply chain.

An application submitted under this FOA is required to focus on activities that align with the following definitions of rechargeable and primary batteries:

- A rechargeable battery is defined as a battery that:
  - contains 1 or more voltaic or galvanic cells that are electrically connected to produce electric energy;
  - is designed to be recharged;
  - weighs not more than 11 pounds;
  - has a watt-hour rating of not more than 300-watt-hours; and
  - does **not** include a battery that contains electrolyte as a free liquid; or employs lead-acid technology, unless that battery is sealed and does not contain electrolyte as a free liquid.
- A primary battery is defined as a non-rechargeable battery that weighs not more than 4.4 pounds, including an alkaline, carbon-zinc, and lithium metal battery.

This FOA and any related activities support BIL section 40207 (f)(2)(3) and (4) to include Battery and Critical Mineral Recycling, which includes funding to:

- increase participation by consumers in recycling programs
- improve the economics of consumer battery recycling to create a market for recycling them, including:
  - battery recycling research, development, and demonstration activities to create innovative and practical approaches to increase the reuse and recycling of batteries.
- increase the number of these programs, including:

- state and local programs to assist in the establishment or enhancement of state battery collection, recycling, and reprocessing programs.
- establishing collection points at retailers.

It is critical that the projects not only contribute to the energy technology and climate goals, but also (1) support the BIL objectives to invest in America's workforce by including specific elements to accelerate job growth and job quality; and (2) advance DOE's equity, environmental and energy justice priorities, including DOE's commitment to the Justice40 Initiative. The Justice40[5] Initiative establishes a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities.

i. Background and Purpose

The Biden Administration has laid out a bold agenda to upgrade and modernize infrastructure, address the climate crisis and build a clean and equitable energy economy that achieves carbon pollution free electricity by 2035, and puts the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050[6] to the benefit of all Americans. The DOE is committed to pushing the frontiers of science and engineering, catalyzing clean energy jobs through research, development, demonstration, and deployment (RDD&D), and ensuring environmental justice and inclusion of underserved communities.

As part of the whole-of-government approach to advance equity and encourage worker organizing and collective bargaining[7] [8] [9] [10], and in alignment with BIL section 40207, 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[11,12]. Consistent with Executive Order

[5] The Justice40 initiative, created by E.O. 14008, establishes a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities. https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf
[6] Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," January 27, 2021.
[7] EO 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" (January 20, 2021).
[8] EO 14025, "Worker Organizing and Empowerment," April 26, 2021.
[9] EO 14052, "Implementation of the Infrastructure Investment and Jobs Act," November 18, 2021.
[10] EO 14091, "Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" (February 23, 2023)
[11] 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.
[12] Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships | The White House

14008[13], this FOA is designed to help meet the goal that 40% of the overall benefits of the Administration's 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 accessible good-paying jobs with the free and fair chance for workers to join a union.

Batteries are a critical element of the ongoing transition to an energy economy that is decarbonizing and lowering energy costs to American families and businesses, and also critical to national competitiveness–for grid storage, for the resilience of homes and businesses, and for electrification of the transportation sector. President Biden's Executive Order on America's Supply Chains directed the DOE to produce a report identifying the risks in the current and forecasted battery supply chain landscape and policy recommendations to address them. The Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth 100-Day Reviews under Executive Order 14017 report assesses vulnerabilities and opportunities across four key products including high-capacity batteries. Subsequently, DOE published America's Strategy to Secure the Supply Chain for a Robust Clean Energy Transition, including a Supply Chain Deep Dive Assessment of Grid Energy Storage that described actions to address vulnerabilities in the battery storage supply chain. The National Blueprint for Lithium Batteries, a report developed by the Federal Consortium for Advanced Batteries[14], lays out five critical goals and key actions to guide federal agency collaboration to secure the nation's long-term economic competitiveness and create good-paying jobs for American workers, while supporting the Biden Administration's decarbonization goals.

With the demand for EVs and stationary storage alone projected to increase the size of the lithium battery market five- to ten-fold by the end of the decade, it is essential that the United States invests in projects that encourage consumers to recycle batteries and battery-containing devices, develop methods to reduce the cost of recycling batteries, and accelerate the establishment of new collection, reprocessing, and recycling programs in states, localities, and at retailers. The recycling of batteries and battery-containing devices is paramount for the establishment of a robust domestic critical material supply chain for EV batteries. For instance, a recent analysis shows that the majority of cobalt entering the

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

[14] The Federal Consortium for Advanced Batteries (FCAB) provides a framework for cooperation and coordination among federal agencies having a stake in developing advanced battery technology and establishing a domestic supply of lithium batteries. The FCAB is led by the Departments of Energy, Defense, Commerce, and State and includes many organizations across the government.

recycled material supply chain for EVs will come from consumer electronics batteries until nearly 2040 (Figure 1).[15]

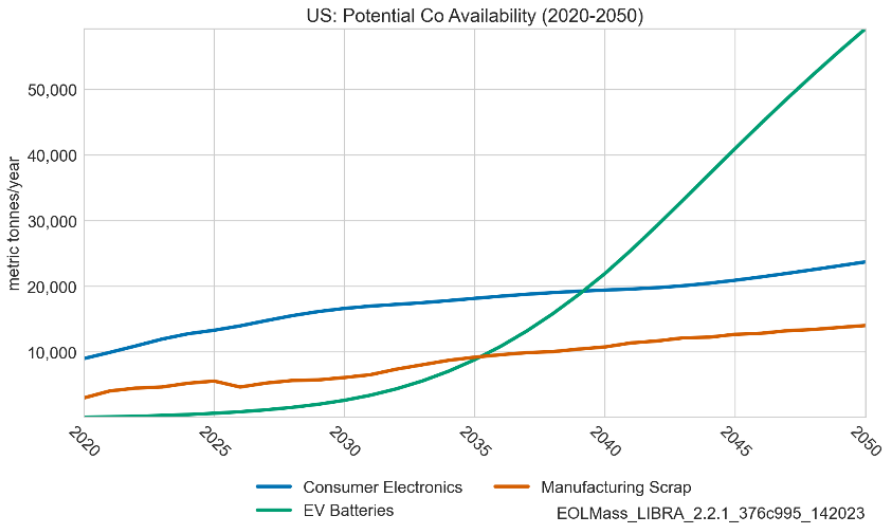
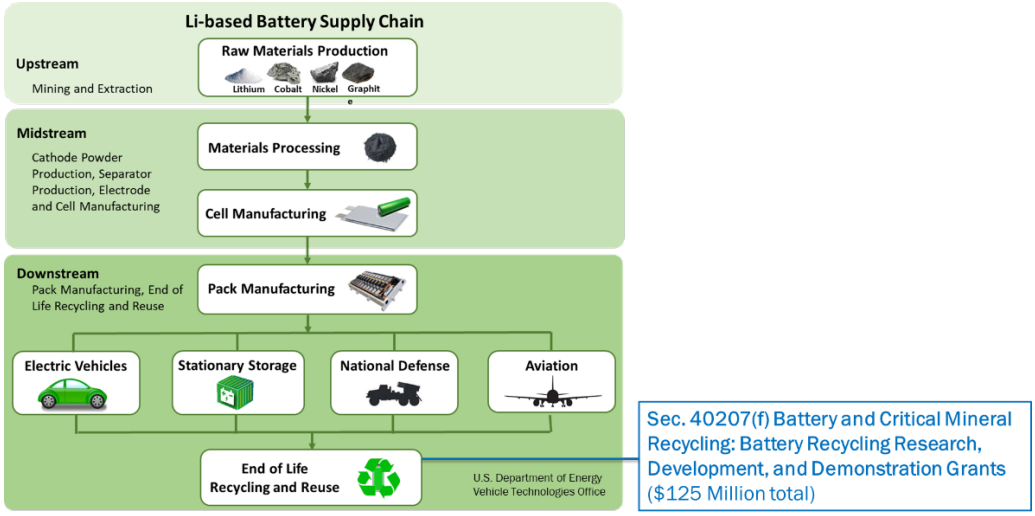


Figure 1. Availability of cobalt from domestic sources between 2020 and 2050.

The high-capacity battery supply chain consists of five main steps including: (1) raw material production, (2) materials processing including material refinement and processing, (3) battery cell manufacturing, (4) battery pack and end use product manufacturing, and (5) battery end-of-life and recycling. The graphic below shows how investments under BIL section 40207(f) relate to the battery supply chain.



[15] NREL Analysis. Cahya Winofa, Weigl, 2023

This FOA provides approximately $125 million to fund research, development, and demonstration for the recycling of standalone batteries and battery-containing devices. This FOA supports innovative recycling processing to achieve scale-up and profitability.

i. Technology Space and Strategic Goals

The objectives of this FOA build on previous and ongoing work funded by VTO and MESC. Funded under BIL section 40207(e), teams working on The Lithium-Ion Battery Recycling Prize have focused on identifying innovative solutions for collecting, sorting, storing, and transporting spent and discarded lithium-ion batteries — from EV, consumer electronics, industrial, and stationary applications — for eventual recycling and materials recovery. In addition, a previous funding opportunity pursuant BIL section 40208 focused on Electric Drive Vehicle Battery Recycling and Second-Life Programs which included second-life applications for electric drive vehicle batteries that have been used to power electric drive vehicles, and technologies and processes for final recycling and disposal of the electric drive vehicle batteries and EV battery manufacturing scrap material. Lastly, work funded under BIL section 40207(c) supported construction of battery recycling facilities.

This FOA seeks applications to address the recycling of consumer electronics batteries and battery-containing devices to support the establishment of a robust domestic critical material supply chain for EV batteries. The activities funded under this FOA include projects that encourage consumers to recycle batteries and battery-containing devices, develop methods to reduce the cost of recycling batteries, and accelerate the establishment of new collection, reprocessing, and recycling programs in states, localities, and at retailers. These Topic Areas will support the development of a domestic critical material supply chain by providing feedstock materials for recyclers and battery cell manufacturers in the United States. Detailed technical descriptions of the specific Topic Areas are provided in the sections that follow.

ii. Related Programs by the Environmental Protection Agency (EPA)

In parallel with recycling work managed by DOE, the BIL allocates funding for EPA to develop best practices for recycling batteries, create programs to promote battery recycling through the development of voluntary labeling guidelines, and establish opportunities for recycling infrastructure and outreach. The following section describes these planned and ongoing programs in more detail to provide context for applicants about the related EPA funding opportunities that will be run concurrently with DOE BIL programs. The subsequent section also provides an overview of the regulatory landscape for these materials within the Resource Conservation and Recovery Act (RCRA) hazardous waste requirements.

The BIL requires EPA to develop battery recycling best practices and battery labeling guidelines. Congress allocated $10 million and $15 million respectively to the Agency to complete these tasks by September 30, 2026. EPA will develop best practices that may be implemented by State, Tribal, and local governments with respect to the collection of batteries to be recycled that is—technically and economically feasible; environmentally sound and safe for waste management workers; and optimize the value and use of material derived from recycling of batteries.

EPA will establish a program to promote battery recycling through the development of voluntary labeling guidelines for batteries and other forms of communication materials for battery producers and consumers about the reuse and recycling of critical materials from batteries. The purpose of the program is to improve battery collection and reduce battery waste by—identifying battery collection locations and increasing accessibility to those locations; promoting consumer education about battery collection and recycling; and reducing safety concerns relating to the improper disposal of batteries.

The BIL also established funding opportunities for recycling infrastructure and outreach. Specifically, the BIL provides $275 million total from Fiscal Year 2022 to Fiscal Year 2026 for grants authorized under the Save Our Seas 2.0 Act. Projects funded through this program will: implement the building a circular economy for all strategy series, improve local post-consumer materials management programs, including municipal recycling, and make improvements to local waste management systems. There are grants available for political subdivisions, states and territories, and Tribes and intertribal consortia. The Bipartisan Infrastructure Law also provides $75 million total from Fiscal Year 2022 to Fiscal Year 2026 for grants to fund a new Recycling Education and Outreach Grant Program. Projects funded through this grant program will: inform the public about residential or community recycling or composting programs, provide information about the materials that are accepted as part of residential or community recycling or composting programs, and increase collection rates and decrease contamination across the nation.

i. EPA Battery Regulations

The U.S. Environmental Protection Agency regulates batteries to ensure safe management and disposal of the batteries protecting workers and communities. Many lithium-ion batteries would be classified as hazardous waste when they are disposed, and therefore EPA recommends that anyone handling them consider managing Li-ion batteries under the federal

"universal waste" regulations in Title 40 of the Code of Federal Regulations (CFR) part 273.

The universal waste regulations provide a streamlined set of requirements for generators of specific types of common hazardous wastes (e.g., fluorescent lamps containing mercury, batteries) from a wide variety of commercial settings. Requirements differ depending on whether the handler accumulates less or more than 5,000 kg of total universal wastes on site at one time, but they include instructions on how to manage the waste, how to label containers, how long the waste can be accumulated on site, and where the waste can be sent, among others. Universal waste regulations do not require shipment using a hazardous waste manifest but do require that the waste be sent to a permitted hazardous waste disposal facility or a recycler. International shipments of Li-ion batteries managed as universal waste must also comply with RCRA requirements for export and import of universal waste. Some states also allow electronics or e-waste to be managed as universal waste. EPA recommends that handlers consult their state solid and hazardous waste agencies for additional information on applicable universal waste regulations.

B. Topic Areas

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

Topic Area Number	Title
~~1~~	~~Expanding Consumer Participation in Consumer Electronics Battery Recycling Programs~~ **TOPIC AREA 1 IS NOW CLOSED**
~~2~~	~~Improving the Economics of Recycling Consumer Electronics Batteries~~ **TOPIC AREA 2 IS NOW CLOSED**
~~3~~	~~State and Local Programs for Consumer Electronics Battery Collection, Recycling, and Reprocessing~~ **TOPIC AREA 3 IS NOW CLOSED**
4	Retailer Programs for Consumer Electronics Battery Collection and Transport

Topic Area 1: Expanding Consumer Participation in Consumer Electronics Battery Recycling Programs TOPIC AREA 1 is now closed

~~**Introduction**~~

~~Recycling of battery-containing consumer electronics and standalone batteries not only mitigates materials scarcity and enhances environmental sustainability, but also supports a more secure and resilient domestic materials supply chain that is circular in nature. Programs that collect spent or end-of-life (EOL) battery-containing consumer electronics and standalone batteries are key elements in sustaining domestic sources of battery-grade materials. As an example, there is enough cobalt in 166 cell phone batteries to produce an EV battery, and consumer electronics are expected to be the primary source of recycled cobalt until 2035.~~

~~However, while there exist drop-off locations/collection points for EOL battery-containing consumer electronics and standalone batteries, and some programs run by computer and phone manufacturers to return old devices, there are barriers to participation in such programs that result in a loss of prospective recyclable devices, including:~~

- ~~Lack of awareness of:~~
  - ~~existing recycling drop-off locations~~
  - ~~computer and cell phone return programs run by manufacturers~~
  - ~~best practices on how to prepare battery-containing devices and standalone batteries prior to recycling~~
  - ~~what devices are powered by batteries~~
- ~~Storing older and/or obsolete battery-containing consumer electronic devices such as computers and mobile phones (for instance, due to an intent to sell them in the future).~~
- ~~Lack of understanding the value or importance of recycling old batteries.~~
- ~~Fears relating to data privacy and security (i.e., identity theft from residual data left on a phone, computer or other battery-containing device that is sent to be recycled).~~
- ~~Insufficient incentive or too much time/effort required to either mail or bring an old device in for recycling.~~

~~These barriers can result in many consumers accumulating old battery-containing electronics in their households or placing such electronics in the general waste stream. The improper disposal and handling of these devices in the general municipal waste stream can result in fires or explosions that pose a hazard to workers and communities and that can interrupt waste management services.~~

~~Objective~~

~~The objective of this topic area is to develop and implement an education and/or behavior change campaign to increase participation by consumers in existing battery recycling programs. This objective aims to support the Federal Consortium for Advanced Batteries (FCAB) National Blueprint for Lithium Batteries goal of achieving 90% recycling of consumer electronics batteries by 2030.~~

~~The EPA has previously developed webinars and training materials (https://www.epa.gov/circulareconomy/creating-messages-drive-behavior-change for recycling education grantees that provide guidance on how to effectively encourage behavior change. These resources are designed to help grantees craft impactful messages, and the trainings include examples of social marketing principles applied to recycling and food waste campaigns.~~

~~The campaign should achieve the following goals:~~

- ~~Ensure all consumers have accurate information from a trusted source;~~
- ~~Provide relevant information through easy to access and user-friendly mediums;~~
- ~~Increase consumer familiarity with why it is important to recycle batteries and/or battery-containing devices;~~
- ~~Increase consumer familiarity with battery chemistries and how to handle spent batteries and battery-containing devices prior to recycling, including data sanitization from devices that contain storage media;~~
- ~~Increase consumer familiarity with common locations where batteries and battery-containing devices can be recycled;~~
- ~~Encourage consumers to participate in the recycling of batteries or battery-containing devices; and~~
- ~~Ensure at least 40% of the consumers reached are residents of Justice40 communities.[16]~~

~~Approaches of Interest Include (but are not limited to)~~

~~The two broad approaches of interest for this topic include (but are not limited to):~~

1) ~~Developing and implementing strategies to increase consumer awareness/acceptance of, and participation in, the recycling of batteries (i.e., encourage behavioral changes informed by existing barriers and motivators), and/or~~
2) ~~Developing and implementing strategies to address the protection of data privacy associated with the collection of battery-containing products.~~

[16] https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf

~~Specific approaches of interest include (but are not limited to):~~

- ~~Consumer awareness/education and behavior change campaigns developed using evidence-based best practices on:~~
  - ~~The importance of recycling batteries and/or battery-containing devices~~
  - ~~Identifying damaged and/or end-of-life batteries and what to do with them.~~
- ~~Inclusion and application of community-informed messaging that emphasizes researching the audience, building trust, and reducing audience barriers to participating in battery recycling programs.~~
- ~~Translating the developed education campaign materials into other languages for those whom English is not their first language.~~
- ~~Creating comprehensive consumer-friendly documentation, guidelines, best practices, and educational walkthrough videos for clearing data from devices prior to drop-off/collection (for instance, based on National Institute of Standards and Technology (NIST) 800-88 Guidelines for Media Sanitization).~~
- ~~Software packages that integrate step-by-step guidelines for how to recycle consumer electronics, or projects that bring awareness to the availability of existing resources. Such software could include information on:~~
  - ~~data sanitization~~
  - ~~databases of up-to-date recycling drop-off locations paired with mapping software~~
  - ~~tracking of certificates of data destruction, and/or~~
  - ~~logistics and best practices for consumers, such as information on how to handle batteries (for example, "EPA best practices are to place each battery in separate plastic bags or place non-conductive tape (e.g., electrical tape) over the battery's terminals")~~
- ~~Educational curricula and resources for primary and secondary schools that teach how to properly recycle batteries.~~

~~Requirements~~

~~Applications must include:~~

- ~~A description of the target audience for each part of the proposed project.~~
- ~~Descriptions of the geographic areas that will be impacted by the project.~~
- ~~A description of the proposed approaches to reach targeted audiences and a justification for the proposed approach.~~
- ~~A description of the consumer education/behavior change campaign content and messaging as well as how that content can be kept up to date as time goes on.~~
- ~~How program success will be measured: planned performance metrics that quantify the anticipated project outputs and outcomes including, but not limited to metrics on the number of consumers reached and the changes in~~

~~their knowledge/behavior with respect to recycling batteries and battery-containing devices through the duration of the project implementation.~~

- ~~The proposed duration of and longevity of the consumer education campaign, and how the project will encourage public participation in battery recycling efforts beyond the period of performance.~~
- ~~The replicability of the program and how it could scale regionally or nationally.~~
- ~~How the project will document and broadly disseminate project approaches and learnings throughout program implementation to enable replication of project successes by other groups (e.g., project website, webinar describing project approach, etc.).~~
- ~~A description of how outreach products developed and/or used in this project will be made available for free for use by other entities.~~
- ~~How the program will fulfill Justice40 goals by benefitting underserved communities.~~
- ~~Clearly documented roles, responsibilities, time commitments and budgets for project team members.~~
- ~~Successful Applicants must participate in the following meetings and all Applicants must include the associated costs in their travel budget:~~
    - ~~The Annual Merit Review in Washington, DC~~
    - ~~The annual USDRIVE meeting (Southfield, MI or Washington, DC)~~

~~Deliverables~~

~~Special deliverables:~~

- ~~Recipients must provide an outreach plan for broadly disseminating the project approach and learnings during the project period and at the conclusion of the project such that other groups can replicate project successes.~~
- ~~Recipients must provide supplemental quarterly reporting data needed to calculate Justice 40 Initiative metrics (DOE will provide reporting template to project awardees).~~

~~Teaming Arrangements~~

~~Applicants are encouraged to propose a team which includes some or all of the following types of entities, each with clearly documented roles, responsibilities, and budgets:~~

- ~~Organizations with experience in developing consumer educational and/or behavior change campaigns.~~
- ~~Organizations with the capability to deliver/implement the proposed educational and/or behavior change campaign to consumers.~~
- ~~Organizations that consumer will see as credible information providers on battery recycling, such as: community-based organizations with expertise in~~

~~identifying and serving the needs and perspectives of underserved communities, battery manufacturers, consumer electronic device manufacturers, relevant government agencies, trade associations, academic institutions, NGOs, nonprofits, and retailers.~~

~~Letters of commitment and support are required to demonstrate the level of participation by relevant stakeholders.~~

Topic Area 2: Improving the Economics of Recycling Consumer Electronics Batteries

TOPIC AREA 2 IS NOW CLOSED

~~**Introduction**~~

~~The Federal Consortium for Advanced Batteries (FCAB), America's Strategy to Secure the Supply Chain for a Robust Clean Energy Transition, and the Administration's 100 Day report identify high-capacity batteries as a key strategic focus area. A robust commercial battery recycling industry is vital for the U.S. to strengthen strategic supply chains for economic development and national security, meet climate change and circular economy goals, and ensure good stewardship of critical materials. Recycling offers the strongest pathway to ensuring the U.S. can capitalize on the domestic market demand for EVs and to ensure the materials are available for the U.S. to reintegrate into the supply chain.~~

~~There are multiple challenges to ensuring the U.S. is successful in tapping into this potential market in the long term. The complex logistics and safety considerations in the collection, transportation, storage, and dismantling of EOL batteries present substantial roadblocks to establishing a robust supply chain. There are still substantial opportunities to reduce the cost of the overall process by addressing these logistical challenges given that battery recycling is a nascent industry. As a result, new and innovative approaches to increase economic viability of battery recycling are needed. Projects in this area are anticipated to improve the competitiveness of the U.S. in the international electric drive vehicle battery manufacturing sector.~~

~~**Objective**~~

~~The objective of this topic area is to improve the economics of recycling consumer electronics batteries sufficiently to generate a greater market demand for recycling these batteries. There are multiple strategies that individually or in combination can help achieve this goal, such as improving the logistics and processes involved with collection, transportation, storage, and dismantling of EOL batteries (including designing for sustainability). In order to complement and support existing DOE programs that focus on the technical aspects of physically and chemically recycling batteries, this topic area is specifically aimed at reducing the costs associated with~~

~~actions and steps taken before the chemical processes of reclaiming value from batteries at a recycling facility.~~

~~**Innovative and Technical Approaches of Interest Include (but are not limited to)**~~

- ~~Novel approaches and processes that reduce the cost of **collecting** EOL life batteries~~
- ~~Unique approaches that reduce the cost of **transporting** EOL batteries to a recycling facility.~~
- ~~'Preprocessing' a battery before it is transported to a recycling facility so that it is no longer classified as hazardous material.~~
- ~~Improving **storage** conditions at collection points or recycling facilities to reduce cost while mitigating or eliminating safety concerns.~~
- ~~New methods to streamline the end-of-life management process.~~
- ~~New methods to promote the design and production of batteries that enable easier **dismantling**, reuse, recovery, and recycling of battery components and materials (e.g., design for sustainability/recycling).~~
- ~~Methods to improve the **safety** of managing damaged EOL batteries before being recycled at a processing facility.~~
- ~~Methods to reduce environmental impact and improve worker safety throughout the recycling process.~~
- ~~Methods to ensure safe disposal of waste materials and components recovered during the recycling process.~~

~~**Requirements**~~

~~In addition to the information provided in the narrative above specific to this topic, applications must specifically address the following aspects:~~

- ~~How the process currently exists today, and the costs associated with this step in the recycling process.~~
- ~~How the proposed project will disrupt the status quo and what this new process will cost comparably.~~
- ~~Propose a tightly structured program which includes technical milestones that demonstrate clear progress, are aggressive but achievable, and are quantitative.~~
- ~~Demonstrate an understanding of the major issues impeding the proposed process and clearly identify the specific issue that will be the target of the research effort and effective and safe solutions.~~
- ~~Demonstrate an understanding of compliance with federal, state and local regulatory requirements for storing, handling, and shipping batteries including Department of Transportation Hazardous Materials Regulations and the Resource Conservation and Recovery Act hazardous waste requirements.~~

- ~~Explicitly and thoroughly differentiate the proposed innovation with respect to existing commercially available products or solutions.~~
- ~~Applications deemed to be duplicative of research that is already in progress or similar to applications already reviewed this year will not be funded; therefore, all submissions should clearly explain how the proposed work differs from other work in the field.~~
- ~~Justify all performance claims with theoretical predictions and/or relevant experimental data.~~
- ~~Successful Applicants must participate in the following meetings and all Applicants must include the associated costs in their travel budget:~~
    - ~~The Annual Merit Review in Washington, DC~~
    - ~~The annual USDRIVE meeting (Southfield, MI or Washington, DC)~~

~~Deliverables~~
~~N/A~~

~~Teaming Arrangements~~
~~Applications that demonstrate partnering commitments from key stakeholder organizations, including relevant government agencies, trade associations, academic institutions, NGOs, labor groups including unions, nonprofits, and retailers are encouraged. Letters of commitment and support are required to demonstrate the level of participation by relevant stakeholders.~~

Topic Area 3: State and Local Programs for Consumer Electronics Battery Collection, Recycling. and Reprocessing TOPIC AREA 3 IS NOW CLOSED

~~Introduction~~
~~To promote domestic battery manufacturing and recycling, there is a need to provide for the general collection, recycling, and reprocessing of batteries. Recent reports such as the Executive Order on America's Supply Chains provided recommendations to support the high-capacity batteries including investments in battery recycling to accelerate the scale-up of recycling, incentivize higher collection rates, and disincentivize landfilling. Recycling was also identified as a key goal in The National Blueprint for Lithium Batteries, a report developed by the Federal Consortium for Advanced Batteries, specifically calling to establish and support U.S. industry to implement a blueprint that will enable a secure domestic lithium battery recycling ecosystem to reduce constraints imposed by materials scarcity, enhance environmental sustainability, and support a U.S.-based circular materials supply chain.~~

~~Objective~~

~~The objective of this topic area is to establish programs that will assist States and units of local government in the establishment or enhancement of battery collection, recycling, and reprocessing. Applications should strive to achieve sustainable investments in establishing state or local recycling processes and infrastructure.~~

~~Programs can focus on any or all of these recycling steps such as collecting, handling, sorting, storing, and transporting spent and discarded batteries and electronics containing batteries. They do not need to address or propose industrial or chemical processes for recycling. Activities should address key challenges such as transportation; collection/storage; and overall communication, training, and public information. Each program must report on the number of battery collection points established or enhanced and the quantity of material collected.~~

~~**Requirements**~~

- ~~Applications must describe a recycling program for batteries with operational elements such as staffing, supplies, equipment, and locations. This program must include elements of battery collection, sorting, storing, transporting, recycling, and/or reprocessing.~~
- ~~Applications must address current issues, challenges, and opportunities for battery recycling, such as, but not limited to:~~
    - ~~Collection: How to increase collection amounts and rates~~
    - ~~Sorting: How to increase sorting accuracy, and reduce contamination in the recycling stream~~
    - ~~Storage: Cost effective solutions compliant with federal, state, and local hazardous waste or universal waste storage requirements, such as 40 CFR parts 262-265 or 40 CFR part 273 (or state equivalents) for batteries, and all applicable fire code and/or other safety requirements~~
    - ~~Transportation: Cost effective solutions compliant with DOT shipping requirements, such as 49 CFR 173.185 for batteries~~
    - ~~Information: Amplification and dissemination of battery recycling resources including training, public information, workforce development/ training resources, and battery information such as identification, handling, safety, proper disposal, and regulations~~
- ~~Applications must structure scope and tasks to provide reporting on the number of battery collection points established or enhanced and the quantity of material collected.~~
- ~~Applications must provide data and documentation to support anticipated collection amounts, rates, and site selection(s).~~

- ~~Applications must provide data and documentation to support anticipated downstream recycling, reprocessing, or material re-processors, users, or industries.~~

~~**Deliverables**~~
~~The number of battery collection points established or enhanced and the quantity of material collected as a result of this grant.~~

~~**Teaming Arrangements**~~
~~Applicant teams are encouraged to include multiple states or localities in teaming arrangements. Any other teaming or partnerships with outside entities, organizations, companies, or universities are welcome. Potential teaming partners include workforce training centers and labor groups such as unions. Applicants may desire to replicate existing successful operations as a model.~~

Topic Area 4: Retailer Programs for Consumer Electronics Battery Collection

Introduction
Similar to state and local programs, retailers can also play a critical role in accelerating the scale-up of recycling, incentivizing higher collection rates, and disincentivize landfilling of batteries.

Objective
The objective of this topic area is to establish and/or implement programs with retailers that will provide battery collection. Programs can focus on any or all of these recycling steps such as collecting, handling, sorting, storing, and transporting spent and discarded batteries and electronics containing batteries. They do not need to address or propose industrial or chemical processes for recycling. Activities should address key challenges such as transportation; collection/storage; and overall communication, training, and public information. Each program must report on the number of battery collection points established or enhanced and the quantity of material collected.

Requirements
- Applications must describe a recycling program for batteries with operational elements such as staffing, supplies, equipment, and locations. This program must:
    - Include elements of battery collection, sorting, storing, transporting, recycling, and/or reprocessing
    - Receive batteries or battery-containing products at no cost to the consumer

    - Receive batteries or battery-containing products on a regular, convenient, and accessible basis
    - Address data privacy concerns for battery-containing products
- Applications must address current issues, challenges, and opportunities for battery recycling, such as, but not limited to:
    - Collection: How to increase collection amounts and rates
    - Sorting: How to increase sorting accuracy, and reduce contamination in the recycling stream
    - Storage: Cost effective solutions compliant with federal, state, and local hazardous waste or universal waste storage requirements, such as 40 CFR parts 262-265 or 40 CFR part 273 (or state equivalents) for batteries, and all applicable fire code and/or other safety requirements
    - Transportation: Cost effective solutions compliant with DOT shipping requirements, such as 49 CFR 173.185 for batteries
    - Information: Amplification and dissemination of battery recycling resources including training, public information, workforce development/ training resources, and battery information such as identification, handling, safety, proper disposal, and regulations
- Applications must structure scope and tasks to provide reporting on the number of battery collection points established or enhanced and the quantity of material collected.
- Applications must provide data and documentation to support anticipated collection amounts, rates, and site selection(s).
- Applications must provide data and documentation to support anticipated downstream recycling, reprocessing, or material re-processors, users, or industries.

Deliverables

The number of battery collection points established or enhanced and the quantity of material collected as a result of this grant.

Teaming Arrangements

Applicant teams are encouraged to include multiple states or localities in teaming arrangements. Any other teaming or partnerships with outside entities, organizations, companies, or universities are welcome. Potential teaming partners include workforce training centers and labor groups such as unions. Applicants may desire to replicate existing successful operations as a model.

i. Teaming Partner List

DOE is compiling a "Teaming Partner List" to facilitate the formation of new project teams for this FOA. The Teaming Partner List allows organizations who

may wish to participate on an application to express their interest to other applicants and to explore potential partnerships.

SUBMISSION INSTRUCTIONS: Any organization that would like to be included on this list should access EERE eXCHANGE and choose the menu item labelled Teaming Partners. From the pulldown menu, select this FOA, DE-FOA-0002897. Enter your organization and contact information and press Register. For further information regarding teaming partner lists, see https://eere-exchange.energy.gov/Manuals.aspx.

DISCLAIMER: By submitting a request to be included on the Teaming Partner List, the requesting organization consents to the publication of the above-referenced information. By facilitating the Teaming Partner List, DOE is not endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that are self-identifying themselves for placement on this Teaming Partner List. DOE will not pay for the provision of any information, nor will it compensate any applicants or requesting organizations for the development of such information.

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 for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics).
- For Topic Area 1: Applications that propose establishing new recycling drop-off locations/collection points.
- For Topic Areas 1 and 2: Applications proposing to specifically recycle and/or reprocess EV batteries.
- For Topic Areas 1, 2, 3, and 4: Applications that do not align with the definitions of primary and rechargeable batteries as described in Section I.A. of the FOA.

D. R&D Community Benefits Plan (Topic Area 2)

DOE is committed to investing in research and development (R&D) innovations that deliver benefits to the American public and leads to commercialization of technologies and products that foster sustainable, resilient, and equitable access to clean energy. Further, DOE is committed to supporting the development of

more diverse, equitable, inclusive, and accessible workplaces to help maintain the nation's leadership in science and technology.

The DOE is committed to pushing the frontiers of science and engineering; catalyzing high-quality domestic clean energy jobs through research, development, demonstration, and deployment; and ensuring energy equity and energy justice[17] for disadvantaged communities. To support the goal of building a clean and equitable energy economy, projects funded under this BIL FOA are expected to (1) advance diversity, equity, inclusion and accessibility (DEIA); (2) contribute to energy equity; and (3) invest in America's workforce. To ensure these objectives are met, applications must include a Research and Development Community Benefits Plan (R&D Community Benefits Plan[18]) that addresses three objectives stated above. See Section IV.D.xvii and Appendix E for the more information on the R&D Community Benefits Plan content requirements.

E. Community Benefits Plan: Job Quality and Equity (Topic Areas 3 and 4)

To support the goal of building a clean and equitable energy economy, the 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 the overall benefits from certain federal investments flow to disadvantaged communities (the Justice40 Initiative[19]).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.

Applicants are encouraged to submit Community and Labor Partnership Documentation from established labor and community-based organizations that demonstrate the applicant's ability to achieve the above goals as outlined in the Community Benefits Plan. Within the Community Benefits Plan, the applicant is encouraged to provide specific detail on how to ensure the delivery of measurable community and jobs benefits, ideally through the use of negotiated

[17] 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". .

[18] Most DOE BIL FOAs focused on demonstration and deployment (D&D) also require a Community Benefits Plan; however, the plan content requirements for R&D-focused FOAs vary from the D&D Community Benefits Plan content requirements.

[19] The Justice40 initiative, established by E.O. 14008, sets a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities. The Justice40 Interim Guidance provides a broad definition of disadvantaged communities (page 2): https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf and https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf..

agreements between the applicant and the community, and/or the applicant and labor unions referred to collectively here as "Workforce and Community Agreements." These include good neighbor agreements, community benefits agreements, community workforce agreements, project labor agreements, and other collective bargaining agreements. See Section IV.D.xviii. for the Community Benefits Plan content requirements.

F. Authorizing Statutes

The programmatic authorizing statutes are Public Law (P.L.) 102-486, Energy Policy Act (EPAct) of 1992, amended by P.L. 109-58, EPAct 2005, Section 911, as amended (codified at 42 U.S.C. § 16191), and P.L. 110-140.

Public Law 117-58, Bipartisan Infrastructure Law of 2021 (BIL), Section 40207 (codified at 42 U.S.C. § 18741.)

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

G. 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

i. Estimated Funding

DOE expects to make a total of approximately $15M of federal funding available for new awards under Round 2 of this FOA, subject to the availability of appropriated funds. DOE anticipates making approximately 2-15 awards under Round 2 of this FOA. DOE may issue one, multiple, or no awards. Individual awards may vary between $1M and $7.5M.

DOE may issue awards in one, multiple, or none of the following topic areas:

Topic Area Number	Topic Area Title	Anticipated Number of Awards	Anticipated Minimum Award Size for Any One Individual Award (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~~	~~Expanding Consumer Participation in Battery Recycling Programs~~	~~4-15~~	~~1.3M~~	~~5M~~	~~$20,000,000~~	~~24-36~~
~~2~~	~~Reducing the Cost of Recycling Consumer Electronics Batteries~~	~~5-10~~	~~4M~~	~~8M~~	~~$40,000,000~~	~~24-36~~
~~3~~	~~State and Local Programs for Consumer Electronics Battery Collection, Recycling and Reprocessing~~	~~20-30~~	~~500K~~	~~10M~~	~~$50,000,000~~	~~36-60~~
4	Retailer Programs for Consumer Electronics Battery Collection and Transport	2-15	1.0M	7.5M	$15,000,000	36-60

DOE may establish more than one budget period for each award and fund only the initial budget period(s). Funding for all budget periods, including the initial budget period, is not guaranteed.

ii. Period of Performance

As described in the table above, DOE anticipates making awards that will run from 24 up to 60 months in length, comprised of 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.xii.

iii. 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. EERE/MESC Funding Agreements

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

i. Funding Agreements with Federally Funded Research and Development Center (FFRDCs)[20]

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. Grants

EERE/MESC will fund projects selected under this FOA through grants.

[20] 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

~~i. Individuals~~

~~U.S. citizens and lawful permanent residents are eligible to apply for funding as a prime recipient or subrecipient.~~

i. Topic Area 1 and Topic Area 2 (Section 40207(f)(2)) Topic Areas 1 and 2 are now closed

The following domestic entities are eligible to apply as prime recipients:

(i) an institution of higher education;
(ii) a National Laboratory;
(iii) a Federal research agency;
(iv) a State research agency;
(v) a nonprofit organization
(vi) an industrial entity;
(vii) a manufacturing entity;
(viii) a private battery-collection entity;
(ix) an entity operating 1 or more battery recycling activities;
(x) a State or municipal government entity;
(xi) a battery producer;
(xii) a battery retailer; or
(xiii) a consortium of 2 or more entities described in clauses (i) through (xii)

ii. Topic Area 3 (Section 40207(f)(3)) Topic Area 3 is now closed

The following domestic entities are eligible to apply as prime recipients:
States and units of local government.

iii. Topic Area 4 (Section 40207(f)(4))

The following domestic entities are eligible to apply as prime recipients:

Retailers that sell covered batteries or covered battery-containing products to establish and implement a system for the acceptance and collection of covered batteries and covered battery-containing products, as applicable, for reuse, recycling, or proper disposal.

iv. Domestic Entities as Subrecipients

~~Domestic entities are eligible to apply as prime recipients and subrecipient(s).~~ The following types of domestic entities are eligible to participate as a ~~prime recipient or~~ subrecipient of this FOA:

- Institutions of higher education;
- For-profit entities;
- Non-profit entities; and
- State and local governmental entities, and Tribal Nations.

To qualify as a domestic entity, the entity must be organized, chartered or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States; have majority domestic ownership and control; and have a physical place of business in the United States.

For Topic Areas 1 and 2: DOE/NNSA FFRDCs, non-DOE/NNSA FFRDCs, and Federal research agencies are eligible to apply for funding as a prime recipient or subrecipient. Other Federal agencies and instrumentalities (other than DOE) are eligible to apply for funding as a subrecipient only.

For Topic Areas 3 and 4: DOE/NNSA FFRDCs, non-DOE/NNSA FFRDCs, and Federal research agencies are eligible to apply for funding as a subrecipient only. Federal agencies and instrumentalities (other than DOE) are eligible to participate as a subrecipient only.

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.

The National Energy Technology Laboratory is ineligible to participate as a prime applicant or as a team member/sub-recipient on any application because of its role in developing the requirements for this announcement.

v. Foreign Entities

In limited circumstances, DOE may approve a waiver to allow a foreign entity to participate as a ~~prime recipient or~~ subrecipient. ~~A foreign entity may submit a Concept Paper and Full Application to this FOA, but the Full Application must be accompanied by an explicit written waiver request. Likewise,~~ If the applicant seeks to include a foreign entity as a subrecipient, the applicant must submit a separate explicit written waiver request in the Full Application for each proposed foreign subrecipient.

Appendix C lists the information that must be included in a foreign entity waiver request. The applicant does not have the right to appeal DOE's decision concerning a waiver request.

vi. Incorporated Consortia

Domestic incorporated consortia are eligible to participate as a prime recipient under Topic Areas 1 and 2 only, or subrecipient. For consortia incorporated (or otherwise formed) under the laws of a state or territory of the United States, please refer to "Domestic Entities" above. For consortia incorporated (or otherwise formed) in a foreign country, please refer to the requirements in "Foreign Entities" above.

Each consortium must have an internal governance structure and a written set of internal rules. Upon request, the consortium must provide a written description of its internal governance structure and its internal rules to the DOE Contracting Officer.

If the consortium includes foreign members, the applicant must submit a separate explicit written waiver request in the Full Application for each foreign member. See Appendix C.

vii. Unincorporated Consortia

Unincorporated Consortia must designate one member of the consortium to serve as the prime recipient/consortium representative under Topic Areas 1 and 2 only. The prime recipient/consortium representative must qualify as a domestic entity.

Upon request, unincorporated consortia must provide the DOE Contracting Officer with a collaboration agreement, commonly referred to as the articles of collaboration, which sets out the rights and responsibilities of each consortium member. This agreement binds the individual consortium members together and should include the consortium's:

- Management structure;
- Method of making payments to consortium members;
- Means of ensuring and overseeing members' efforts on the project;
- Provisions for members' cost sharing contributions; and
- Provisions for ownership and rights in intellectual property developed previously or under the agreement.

If the consortium includes foreign members, the applicant must submit a separate explicit written waiver request in the Full Application for each foreign member. See Appendix C.

B. Cost Sharing

Applicants are bound by the cost share proposed in their Full Applications if selected for award negotiations.

The cost share must come from non-federal sources unless otherwise allowed by law (i.e., the sum of the government share, including FFRDC costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-federal sources unless otherwise allowed by law. (See 2 CFR 200.306 and 2 CFR 910.130 for the applicable cost sharing requirements).[3] Cost share for each topic is listed below:

Topic Area	Cost Share %
~~1~~	~~0%~~
~~2~~	~~20%~~
~~3~~	~~50%~~
4	50%

To assist applicants in calculating proper cost share amounts, DOE has included a cost share information sheet and sample cost share calculation as Appendices A and B to this FOA.

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. If the funding agreement is terminated prior to the end of the project period, the

[3] Energy Policy Act of 2005, Pub.L. 109-58, sec. 988. Also see 2 CFR 200.306 and 2 CFR 910.130 for additional cost sharing requirements.

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.I.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.

DOE understands that projects selected under this FOA may require the use of existing data. For purposes of this FOA, DOE will consider data that is commercially available at an established market price to be an allowable cost under the project (either as DOE share or non-federal cost share) but DOE will not consider in-kind data (e.g., data, owned by an entity, that is not routinely sold commercially but is instead donated to the project and assigned a value) to be an allowable cost under the project, including as Recipient cost share. Estimation methods used by the Recipient to assign a value to in-kind data cannot be objectively verified by DOE and therefore will not be accepted by

DOE as an allowable cost under any project selected from this FOA. Consequently, DOE will not recognize in-kind data costs in any resulting approved DOE budget.

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.

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

EERE and MESC require 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

~~Concept Papers and~~ Full Applications must meet all compliance criteria listed below or they will be considered noncompliant. EERE/MESC will not review or consider noncompliant submissions, including ~~Concept Papers and~~ Full Applications, that were: submitted through means other than EERE Exchange; submitted after the applicable deadline; and/or submitted incomplete. EERE/MESC will not extend the submission deadline for applicants that fail to submit required information by the applicable deadline due to server/connection congestion.

~~*i. Concept Papers*~~

~~Concept Papers are deemed compliant if:~~

- ~~The Concept Paper complies with the content and form requirements in Section IV.C. of the FOA; and~~
- ~~The applicant successfully uploaded all required documents and clicked the "Submit" button in EERE Exchange by the deadline stated in this FOA.~~

ii. Full Applications

Full Applications are deemed compliant if:

- ~~The applicant submitted a Concept Paper;~~
- The Full Application complies with the content and form requirements in Section IV.D. of the FOA; and
- The applicant successfully uploaded all required documents and clicked the "Submit" button in EERE Exchange by the deadline stated in the FOA.

Applicants are strongly encouraged to submit their ~~Concept Papers and~~ Full Applications 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 ~~Concept Paper,~~ Full Application. Once the ~~Concept Paper and~~ Full Application 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 ~~Concept Paper or~~ Full Application 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

i. Requirements for DOE/NNSA FFRDCs, non-DOE/NNSA FFRDCs Listed, and Federal Research Agencies as the Applicant (Topic Areas 1 and 2 only)

DOE/NNSA FFRDCs and non-DOE/NNSA FFRDCs are eligible to apply for funding under this FOA if its cognizant Contracting Officer provides written authorization and this authorization is submitted with the application.

The following wording is acceptable for the 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.

If a DOE/NNSA FFRDC is selected for award negotiation, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's Management and Operating (M&O) contract.

If a non-DOE/NNSA FFRDC or other Federal Research Agency is selected for award negotiations, the proposed work will be funded through an interagency agreement with the sponsoring agency.

ii. 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:

i. 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.

ii. 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.

iii. Funding, Cost Share and Subaward with FFRDCs

The value of and funding for the FFRDC portion of the work will not normally be included in the award. DOE/NNSA FFRDCs participating as a subrecipient

on a project will be funded directly through the DOE field work proposal (WP) process. Non-DOE/NNSA FFRDC participating as a subrecipient will be funded through an interagency agreement with the sponsoring agency.

Although the FFRDC portion of the work is excluded from the award, 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.

Unless instructed otherwise by the DOE Contracting Officer for the DOE award, all FFRDCs are required to enter into a Cooperative Research and Development Agreement[21] (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. The CRADA or TAA must be agreed upon by all parties and submitted to DOE or other sponsoring agency, when applicable, for approval, or submitted to DOE for notice under the Master Scope of Work process, when applicable, using any DOE or other sponsoring agency approved CRADA or TAA template without substantive changes by the time the award is made to the prime recipient.

iv. *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 contractor.

v. *Limit on FFRDC effort*
The FFRDC effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant's and the FFRDC's portions of the effort

[21] 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 ~~Concept Papers and~~ Full Applications Eligible for Review

An entity may submit more than one ~~Concept Paper and~~ Full Application to this FOA, provided that each application describes a unique, scientifically distinct project~~ and provided that an eligible Concept Paper was submitted for each Full Application~~.

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 two phases: a Concept Paper phase and a Full Application phase.~~ ~~**Only applicants who have submitted an eligible Concept Paper will be eligible to submit a Full Application**~~.

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 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.

Applicants are responsible for meeting each submission deadline. **Applicants are strongly encouraged to submit their ~~Concept Papers and~~ Full Applications 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 ~~Concept Paper or~~ Full Application. Once the ~~Concept Paper or~~ Full Application 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 ~~Concept Paper and~~ Full Application before the applicable deadline.

EERE/MESC urges applicants to carefully review their ~~Concept Papers and~~ Full Applications to allow sufficient time for the submission of required information and documents. All Full Applications that pass the initial eligibility review will undergo comprehensive technical merit review according to the criteria identified in Section V. of the FOA.

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 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB 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 Concept Paper Not Required for Round 2

~~Each Concept Paper must be limited to a single concept or technology. The Concept Paper must conform to the requirements listed below, including the stated page limits.~~

~~**Section**~~	~~**Page Limit**~~	~~**Description**~~
~~**Cover Page**~~	~~1 page maximum~~	~~The cover page should include the project title, the specific announcement Topic Area being addressed, both the technical and business points of contact, names of all team member organizations, the project location(s), and any statements regarding confidentiality.~~
~~**Technology/Project Description**~~	~~3 pages maximum~~	~~Applicants are required to describe succinctly **(as applicable per topic area; applicants should also refer to the review criteria for each topic to determine relevance of the bullets below)**:~~ • ~~The proposed approach, including its basic operating principles and how it is unique and innovative;~~ • ~~The proposed technology's target level of performance (applicants should provide technical data or other support to show how the proposed target could be met);~~ • ~~The current state-of-the-art in the relevant field and application, including key shortcomings, limitations, and challenges;~~ • ~~How the proposed approach will overcome the shortcomings, limitations, and challenges in the relevant field and application;~~ • ~~The potential impact that the proposed project would have on the relevant field and application;~~ • ~~How the proposed approach of the project will support technical advancement and/or long-term success of the recycling program;~~ • ~~The risks/issues associated with the proposed project plan;~~ • ~~The impact that DOE funding would have on the proposed project;~~ • ~~Whether the Project Lead and Project Team have the skill and expertise needed to successfully execute the project plan;~~ • ~~Whether the applicant has prior experience which demonstrates an ability to perform tasks of similar risk and complexity;~~ • ~~Whether the applicant has worked together with its teaming partners on prior projects or programs;~~ • ~~Whether the applicant has tools and resources necessary to accomplish the effort and/or clearly explain how it intends to obtain access to the necessary tools and resources; and~~

		• ~~Applicants may provide graphs, charts, or other data to supplement their project description (within the 3 pages maximum).~~
~~**Community Benefits Plan (Topic Areas 2, 3, and 4)**~~	~~1 page maximum~~	~~Applicants are required to describe succinctly the approach to be taken with the Community Benefits Plan, addressing the core elements:~~ • ~~community and labor engagement leading to negotiated agreements; (Topic Areas 3 and 4)~~ • ~~investing in job quality and workforce continuity;~~ • ~~advancing diversity, equity, inclusion, and accessibility; and~~ • ~~contributing to the Justice40 Initiative goal that 40% of the overall benefits from climate and clean energy investments flow to disadvantaged communities. (Topic Areas 3 and 4 only)~~

~~EERE/MESC makes an independent assessment of each Concept Paper based on the criteria in Section V. of the FOA and will encourage a subset of applicants to submit Full Applications. Other applicants will be discouraged from submitting a Full Application. See Section VI.A.~~

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/.

~~Applicants will have approximately 30 days from receipt of the Concept Paper Encourage/Discourage notification on EERE Exchange to prepare and submit a Full Application. Regardless of the date the applicant receives the Encourage/Discourage notification, the submission deadline for the Full Application remains the date and time stated on the FOA cover page.~~

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_Technical Volume

Resumes	PDF	3 pages each	ControlNumber_LeadOrganization_Resumes
Letters of Commitment	PDF	1 page each	ControlNumber_LeadOrganization_LOCs
Community Partnership Documentation (Topic areas 3 and 4)	PDF	10	ControlNumber_LeadOrganization_PartnerDocs
Statement of Project Objectives	MS Word	7	ControlNumber_LeadOrganization_SOPO
SF-424	PDF	n/a	ControlNumber_LeadOrganization_App424
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
Foreign Entity Waiver Requests and Foreign Work Waiver Requests	PDF	n/a	ControlNumber_LeadOrganization_Waiver
Locations of Work	MS Excel	n/a	Control Number_LeadOrganization_LOW
R&D Community Benefits Plan (Topic Area 2)	PDF	5	ControlNumber_LeadOrganization_CBP
Community Benefits Plan: Job Quality and Equity (Topic Areas 3 and 4)	PDF	n/a	ControlNumber_LeadOrganization_CBenefits
Current and Pending Support (Topic Area 2 only)	PDF	n/a	ControlNumber_LeadOrganization_CPS
Transparency of Foreign Connections	PDF	n/a	ControlNumber_LeadOrganization_TFC
Potentially Duplicative Funding Notice (if applicable)	PDF	n/a	ControlNumber_LeadOrganization_PDFN.pdf
Project Eligibility	PDF	n/a	ControlNumber_LeadOrganization_Eligibility

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. 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.

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

Technical Volume Content Requirements	
SECTION/SIZE APPROXIMATION	**DESCRIPTION**
Cover Page	The cover page should include the project title, the specific FOA Topic Area being addressed, both the technical and business points of contact, names of all team member organizations, names of project managers, senior/key personnel and their organizations, the project location(s), and any statements regarding confidentiality.
Project Overview (Approximately 10% of the Technical Volume)	The Project Overview should contain the following information: • Background: The applicant should discuss the background of their organization, including the history, successes, and current status (i.e., the research and development technical baseline) relevant to the topic being addressed in the Full Application. • Project Goal: The applicant should explicitly identify the targeted improvements to the baseline technology/strategy/approach and the critical success factors in achieving that goal.

	• Project goals should include the ways in which the proposed project location and related infrastructure, skilled workforce, community benefits, etc. will contribute to the success of the overall project (Topic Areas 3 and 4 only). • DOE Impact: The applicant should discuss the impact that DOE funding would have on the proposed project. Applicants should specifically explain how DOE funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives. •
Technical/Project Description, Innovation, and Impact (Approximately 30% of the Technical Volume)	The Technical/Project Description should contain the following information **(Applicants should also refer to the review criteria for each topic to determine relevance of the bullets below)**: • Relevance and Outcomes: The applicant should provide a detailed description of the technology or focus area, including the scientific and other principles and objectives that will be pursued during the project. This section should describe the relevance of the proposed project to the goals and objectives of the FOA, including the potential to meet specific DOE technical targets or other relevant performance targets. The applicant should clearly specify the expected outcomes of the project. • Feasibility: The applicant should demonstrate the feasibility of the proposed technology/approach and capability of achieving the anticipated performance targets, including a description of previous work done and prior results. This section should also address the project's access to necessary infrastructure (e.g., transportation, water, electricity transmission), including any use of existing infrastructure, as well as to a skilled workforce. • Innovation and Impacts: The applicant should describe the current state-of-the-art in the applicable field, the specific innovation of the proposed technology or focus area, the advantages of proposed technology over current and emerging technologies, and the overall impact on advancing the state-of-the-art/technical baseline if the project is successful. • Supply Chain: The applicant should describe their current and expected upstream and downstream supplies and impacts. This section should provide data and/or documentation to substantiate cost estimates and calculations, assumptions, quantities, capacities, amounts, and entities involved in this supply chain and the extent of their commitments to the project.
Workplan (Approximately 40% of the Technical Volume)	The Workplan should include a summary of the Project Objectives, Technical Scope, Work Breakdown Structure (WBS), Milestones, Go/No-Go decision

	points, Project Schedule, and Project Management Plan. A detailed SOPO is separately requested. The Workplan should contain the following information: • Project Objectives: The applicant should provide a clear and concise (high-level) statement of the goals and objectives of the project as well as the expected outcomes. • Technical Scope Summary: The applicant should provide a summary description of the overall work scope and approach to achieve the objective(s). The overall work scope is to be divided by performance periods that are separated by discrete, approximately annual decision points (see below for more information on Go/No-Go decision points). The applicant should describe the specific expected end result of each performance period, including milestones in the Community Benefits Plan. • WBS and Task Description Summary: The Workplan should describe the work to be accomplished and how the applicant will achieve the milestones, will accomplish the final project goal(s), and will produce all deliverables. The Workplan is to be structured with a hierarchy of performance period (approximately annual), task and subtasks, which is typical of a standard WBS for any project. The Workplan shall contain a concise description of the specific activities to be conducted over the life of the project. The description shall be a full explanation and disclosure of the project being proposed (i.e., a statement such as "we will then complete a proprietary process" is unacceptable). It is the applicant's responsibility to prepare an adequately detailed task plan to describe the proposed project and the plan for addressing the objectives of this FOA. The summary provided should be consistent with the SOPO. The SOPO will contain a more detailed description of the WBS and tasks. • Milestone Summary: The applicant should provide a summary of appropriate milestones throughout the project to demonstrate success. A milestone may be either a progress measure (which can be activity based) or a SMART technical milestone. SMART milestones should be Specific, Measurable, Achievable, Relevant, and Timely, and must demonstrate a technical achievement rather than simply completing a task. Unless otherwise specified in the FOA, the minimum requirement is that each project must have at least one milestone per quarter for the duration of the project with at least one SMART technical milestone per year (depending on the project, more milestones may be necessary to comprehensively demonstrate progress). The applicant should also provide the means by which the milestone will be verified. The summary provided should be consistent with the Milestone Summary Table in the SOPO. • Go/No-Go Decision Points (See Section VI.B.xii. for more information on the Go/No-Go Review): The applicant should provide a summary of project-wide Go/No-Go decision points at appropriate points in the Workplan. At a minimum, each project must have at least one project-

	wide Go/No-Go decision point for each budget period (12 to 18-month period) of the project. See Section VI.B.xii. The applicant should also provide the specific technical and community benefits plan criteria to be used to evaluate the project at the Go/No-Go decision point. The summary provided should be consistent with the SOPO. Go/No-Go decision points are considered "SMART" and can fulfill the requirement for an annual SMART milestone.
	• End of Project Goal: The applicant should provide a summary of the end of project goal(s). At a minimum, each project must have one SMART end of project goal. The summary provided should be consistent with the SOPO.
	• Project Schedule (Gantt Chart or similar): The applicant should provide a schedule for the entire project, including task and subtask durations, milestones, and Go/No-Go decision points.
	• Buy America Requirements for Infrastructure Projects: Within the first 2 pages of the Workplan, include a short statement on whether the project will involve the construction, alteration, and/or repair of infrastructure in the United States. See Appendix D for applicable definitions and other information to inform this statement.
	• Project Management: The applicant should discuss the team's proposed management plan, including the following:
	  ○ The overall approach to and organization for managing the work.
	  ○ The roles of each project team member.
	  ○ Any critical handoffs/interdependencies among project team members.
	  ○ The technical and management aspects of the management plan, including systems and practices, such as financial and project management practices.
	  ○ The approach to project risk management, including a plan for securing a qualified workforce and mitigating risks to project performance including but not limited to community or labor disputes.
	  ○ A description of how project changes will be handled.
	  ○ If applicable, the approach to Quality Assurance/Control.
	  ○ How communications will be maintained among project team members.

Technical Qualifications and Resources	The Technical Qualifications and Resources should contain the following information:

(Approximately 20% of the Technical Volume)	• Describe the project team's unique qualifications and expertise, including those of key subrecipients.
	• Describe the project team's existing equipment and facilities, or equipment or facilities already in place on the proposed project site, that will facilitate the successful completion of the proposed project; include a justification of any new equipment or facilities requested as part of the project.
	• This section should also include relevant, previous work efforts, demonstrated innovations, and how these enable the applicant to achieve the project objectives.
	• Describe the time commitment of the key team members to support the project.
	• Describe the technical services to be provided by DOE/NNSA FFRDCs, if applicable.
	• Describe the skills, certifications, or other credentials of the construction and ongoing operations workforce.
	• For multi-organizational projects, describe succinctly:
	  ○ The roles and the work to be performed by the Project Manager and senior/key personnel at the prime and sub levels;
	  ○ Business agreements between the applicant and sub;
	  ○ How the various efforts will be integrated and managed;
	  ○ Process for making decisions on technical direction;
	  ○ Publication arrangements;
	  ○ Intellectual Property issues; and
	  ○ Communication plans.

iii. Resumes

For Topic Area 2

A resume provides information that can be used by reviewers to evaluate the individual's skills, experience, and potential for leadership within the scientific community. Applicants must submit a three-page resume for each Principal Investigator or Lead Project Manager and Senior/Key Personnel that include the following:

1. Contact Information;
2. Education and training: Provide institution, major/area, degree, and year for undergraduate, graduate, and postdoctoral training;
3. 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;

4. Awards and honors;
5. 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;
6. Synergistic Activities: List up to five professional and scholarly activities related to the proposed effort; and
7. There should be no lapses in time over the past ten years or since age 18, which ever time period is shorter.

For Topic Areas 1, 3 and 4

A resume provides information that can be used by reviewers to evaluate the individual's relevant skills and experience of the key project personnel. Applicants must submit a three-page resume for each project manager and key personnel that includes the following:

1. Contact Information;
2. Education: Include all academic institutions attended, major/area, degree;
3. Training: (e.g.,) certification or credential from a Registered Apprenticeship or Labor Management Partnership
4. Professional Experience: Beginning with the current position, list professional/academic positions in chronological order with a brief description;
5. 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; and
6. There should be no lapses in time over the past ten years or since age 18, which ever time period is shorter.

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 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 (Required for Topic Areas 3 and 4)

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 most vulnerable to or affected by the project, such as organizations that carry out workforce development programs, labor unions, Tribal organizations, and community-based organizations that work with disadvantaged communities. The 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 agreement. Such letters must state the specific nature of the partnership and must not be general letters of support. If the applicant intends to enter into Workforce and Community Agreements as part of the Community Benefits Plan, please include letters from proposed partners as appropriate. Each letter must not exceed 1 page. In total, the partnership documentation must not exceed 10 pages. Save the 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 7 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

Applicants must complete the SF-424: Application for Federal Assistance, which is available on EERE eXCHANGE at https://eere-eXCHANGE.energy.gov/. 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 various BIL-specific requirements (e.g., Buy America requirements for infrastructure projects, Davis Bacon, Community Benefits Plan, reporting, oversight) and with required annual audits and incurred cost proposals in their proposed budget documents. Such costs may be reimbursed as a direct or indirect cost. All costs associated with the Community Benefits Plan must be clearly identified in the budget justification. 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 lead project manager/principal investigator(s), 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 (for topic areas 2, 3 and 4). 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 technology summary;
- A description of the technology's impact;
- Proposed project goals;
- Any key graphics (illustrations, charts and/or tables);
- The project's key idea/takeaway;
- Topline community benefits;
- Project title, prime recipient, Principal Investigator/Lead Project Manager, 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 including costs associated with the Community Benefits Plan. The Community Benefit Plan costs must be clearly identified in the budget justification. 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. Waiver Requests (if applicable)

Foreign Entity Participation
For projects selected under this FOA, all ~~recipients and~~ subrecipients must qualify as domestic entities. See Section III. To request a waiver of this requirement, the applicant must submit an explicit waiver request in the Full Application. Appendix C lists the information that must be included in a waiver request.

Foreign Work Waiver Request
As set forth in Section IV.I.iii., all work for projects selected under this FOA must be performed in the United States. To request a waiver of this requirement, the applicant must submit an explicit waiver request in the Full Application. Appendix C lists the information that must be included in a foreign work waiver request.

Save the Waivers in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_Waiver".

xvi. Locations of Work

The applicant must complete the supplied template by listing the city, state, and zip code + 4 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."

xvii. R&D Community Benefits Plan (Topic Area 2)

The R&D Community Benefits Plan must set forth the applicant's approach to ensuring the Federal investments advance the following three objectives: (1) advance DEIA; (2) contribute to energy equity; and (3) invest in America's workforce. The below sections set forth the content requirements for the R&D Community Benefits Plan, which addresses each of the foregoing objectives. Applicants must address all three sections.

The applicant's R&D Community Benefits Plan must include at least one Specific, Measurable, Achievable, Relevant, and Timely (SMART) milestone per budget period to measure progress on the proposed actions. The R&D Community Benefits Plan will be evaluated as part of the technical review process. If EERE/MESC selects a project, EERE/MESC will incorporate the R&D Community Benefits Plan into the award and the recipient must implement its R&D Community Benefits Plan as part of carrying out its project. During the life of the EERE/MESC award, EERE/MESC will evaluate the recipient's progress, including as part of the Go/No-Go review process.

The plan should be specific to the proposed project and not a restatement of organizational policies. Applicants should describe the future implications or a milestone-based plan for identifying future implications of their research on energy equity, including, but not limited to, benefits for the U.S. workforce. These impacts may be uncertain, occur over a long period of time, and/or have many factors within and outside the specific proposed research. Applicants are encouraged to describe the influencing factors and the most likely workforce and energy equity implications of the proposed research if the research is successful. While some guidance and example activities are provided in Appendix E applicants are encouraged to leverage promising practices and develop a plan that is tailored for their project.

The R&D Community Benefits Plan must not exceed 5 pages. It must be submitted in PDF format using the following convention name for the title: "Control Number_LeadOrganization_CBP." This Plan must address the technical review criterion titled, "R&D Community Benefits Plan." See Section V. of the FOA.

The applicant's R&D Community Benefits Plan must address the following three sections:

1) **Diversity, Equity, Inclusion, and Accessibility:**
   To build a clean and equitable energy economy, it is important that there are opportunities for people of all racial, ethnic, socioeconomic and geographic backgrounds, sexual orientation, gender identity, persons with disabilities, and those re-entering the workforce from incarceration. This section of the plan must demonstrate how DEIA is incorporated in the technical project objectives. The plan must identify the specific action the applicant would undertake that integrated into the research goals and project teams. Submitting an institutional DEIA plan without specific integration into the project will be deemed insufficient.

2) **Energy Equity:**
   This section must articulate the applicant's consideration of long-term equity implications of the research. It must identify how the specific project integrates equity considerations into the project design to support equitable outcomes should the innovation be successful. Like cost reductions and commercialization plans, the R&D Community Benefits Plan requires description of the equity implications of the innovation if successful.

3) **Workforce Implications:**

This section must articulate the applicant's consideration of long-term workforce impacts and opportunities of the research. It must identify how the project is designed and executed to include an understanding of the future workforce needs should the resulting innovation be successful.

See Appendix E for more guidance.

xviii. Community Benefits Plan: Job Quality and Equity (Topic Areas 3 and 4)

The Community Benefits Plan: Job Quality and Equity (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 job quality and workforce continuity; 3) advancing 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 labor and community stakeholders on these goals, including the potential of entering into formal Workforce and Community Agreements. Given project complexity and sensitivities, applicants should consider pursuing multiple agreements.

For your convenience, a Community Benefits Plan template is available on the EERE Exchange website. Applicants are strongly encouraged to use the template to complete their specific Plan. If the template is not used, the Plan must address all of the elements described below, and as outlined in the template.

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 DOE selects a project, the selectee is responsible for developing a Community Benefits Outcomes and Objectives (CBOO) document. DOE will incorporate the CBOO into the award and the recipient must implement its CBOO when carrying out its project. Public transparency around the plan and SMART commitments ensure accountability. As such, DOE plans to make the content of each CBOO available publicly. In addition, DOE will evaluate the recipient's progress during the award period of performance, including as part of the Go/No-Go review process.

The Community Benefits Plan ~~must not exceed twelve 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: Job Quality & Equity." See Section V. of the FOA.

For additional information, see Community Benefits Plan Frequently Asked Questions (FAQs) | Department of Energy.

i. *Community and Labor Engagement*

The Community Benefits Plan must describe the applicant's actions to date and future plans to engage with labor unions and community stakeholders – such as local governments, Tribal governments, labor unions, 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.

Community and labor engagement should ideally lay the groundwork for the eventual negotiation of Workforce and Community Agreements, which could take the form of one or more kinds of negotiated agreements with communities, labor unions, or, ideally, both. Registered apprenticeship programs, labor-management training partnerships, quality pre-apprenticeship programs, a card check provision, and local and targeted hiring goals are all examples of provisions that Workforce and Community Agreements could cover that would increase the success of a DOE-funded project.

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

ii. *Investing in Job Quality and Workforce Continuity*

A well-qualified, skilled, and trained workforce is necessary to ensure project stability, continuity, and success, and to meet program goals. High-quality jobs are critical to attracting and retaining the qualified workforce required.

The Plan must describe the applicant's approach to investing in workforce education and training of both new and incumbent workers and ensuring jobs are of sufficient quality to attract and retain skilled workers in the industry.

Specific components of the Plan must include:

- A summary of the applicant's plan to attract, train, and retain a skilled and well-qualified workforce for both construction *and* ongoing operations/production activities. A collective bargaining agreement, labor-management partnership, or other similar agreement would provide evidence of such a plan. Alternatively, applicants may describe:
  - wages, benefits, and other worker supports to be provided benchmarking against prevailing wages for construction and local median wages for other occupations;
  - commitments to invest in workforce education and training, including measures to reduce attrition, increase productivity from a committed and engaged workforce, and support the development of a resilient, skilled, and stable workforce for the project; and
  - efforts to engage employees in the design and execution of workplace safety and health plans.

- Given workers' legal rights to organize and the Federal Government's policy to support worker organizing and collective bargaining, Applicants should provide a description of how and if they plan to affirmatively support worker organizing and collective bargaining. This might include a commitment to negotiate pre-hire project labor agreements for construction activity, a pledge to remain neutral during any union organizing campaigns, intention or willingness to permit union recognition through card check (as opposed to requiring union elections), intention or willingness to enter into binding arbitration to settle first contracts, a pledge to allow union organizers access to appropriate onsite non-work places (e.g., lunch rooms), a pledge to refrain from holding captive audience meetings, and other supportive commitments or pledges.

iii. DEIA

The Community Benefits Plan must include a section describing how DEIA objectives will be incorporated into the project. The section should detail how the applicant will partner 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.

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.

- Commitment to partner with Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, and Veteran Owned Businesses for contractor support needs;

- To fill open positions for the DOE-funded project, partner with workforce training organizations serving under-represented communities and those facing systemic barriers to quality employment such as those with disabilities, women, returning citizens, opportunity youth, and veterans; In addition, applicant should consider providing comprehensive support services, such as childcare and transportation, to increase representation and access in project's construction and operations jobs.

iv. 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:

1. *Identification of applicable disadvantaged communities to which the anticipated project benefits will flow*.

2. *Identification of applicable benefits that are quantifiable, measurable, and trackable, including, at a minimum, a discussion of the relevance of each of the eight DOE Justice40 Initiative benefits outlined below.* Benefits include (but are not limited to) measurable direct or indirect investments or positive project outcomes that achieve or contribute to the following in disadvantaged communities: (1) a decrease in energy burden; (2) a decrease in environmental exposure and burdens; (3) an increase in access to low-cost capital; (4) an increase in high-quality job creation, the clean energy job pipeline, and job training for individuals; (5) increases in clean energy enterprise creation and contracting (e.g., minority-owned or disadvantaged business enterprises); (6) increases in energy democracy, including community ownership; (7) increased parity in clean energy technology access and adoption; and (8) an increase in

energy resilience. In addition, applicants should also discuss how the project will maximize all of the benefits listed in #4.

3. *A description of how and when anticipated benefits are expected to flow to disadvantaged communities.* For example, will the benefits be provided directly within disadvantaged communities identified in the Justice40 Initiative section, or are the benefits expected to flow in another way? Further, will the benefits flow during project development or after project completion, and how will applicant track benefits delivered?

4. *A discussion of anticipated negative and cumulative environmental impacts on disadvantaged communities*. Are there anticipated negative or positive environmental impacts associated with the project, and how will the applicant mitigate any negative impacts? Within the context of cumulative impacts created by the project, applicants should use Environmental Protection Agency EJSCREEN tool to quantitatively discuss existing environmental impacts in the project area. See EJScreen: Environmental Justice Screening and Mapping Tool | US EPA.

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

xix. Current and Pending Support (only applicable to Topic Area 2)

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 principal investigator or lead project manager 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 applications, 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.

PIs 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 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.

Any project participant who submits a resume will be considered "key personnel" and must comply with the Current and Pending Support requirement. 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. [22]

xx. Transparency of Foreign Connections

Applicants must provide the following information as it relates to the proposed recipient and subrecipients. Include a separate disclosure for the applicant and each proposed subrecipient. U.S. National Laboratories, domestic government entities, and institutions of higher education are only required to respond to items 1 and 2, and if applying as to serve as the prime recipient, must provide complete responses for project team members that are not U.S. National Laboratories, domestic government entities, or institutions of higher education.

1. Entity name, website address and physical address;
2. The identity of all owners, principal investigators, project managers, and senior/key personnel who are a party to any *Foreign Government-Sponsored Talent Recruitment Program* of a foreign country of risk (i.e., China, Iran, North Korea, and Russia);
3. The existence of any joint venture or subsidiary that is based in, funded by, or has a foreign affiliation with any foreign country of risk, including the People's Republic of China;
4. Percentage, if any, that the proposed recipient or subrecipient has foreign ownership or control;
5. Percentage, if any, that the proposed recipient or subrecipient is wholly or partially owned by an entity in a foreign country of risk.

[22] 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 reserves the right to request additional or clarifying information based on the information submitted.

Save the Transparency of Foreign Connections information in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_TFC".

If selected for award negotiations, DOE may require the applicant provide the following:

1. Any current or pending contractual or financial obligation or other agreement specific to a business arrangement, or joint venture-like arrangement with an enterprise owned by a foreign state or any foreign entity;
2. Percentage, if any, of venture capital or institutional investment by an entity that has a general partner or individual holding a leadership role in such entity who has a foreign affiliation with any foreign country of risk;
3. Any technology licensing or intellectual property sales to a foreign country of risk, during the 5-year period preceding submission of the application;
4. Any foreign business entity, offshore entity, or entity outside the United States related to the proposed recipient or subrecipient;
5. Complete list of all directors (and board observers), including their full name, citizenship and shareholder affiliation, date of appointment, duration of term, as well as a description of observer rights as applicable;
6. Complete capitalization table for your entity, including all equity interests (including LLC and partnership interests, as well as derivative securities). Include both the number of shares issued to each equity holder, as well as the percentage of that series and all equity on a fully diluted basis. Identify the principal place of incorporation (or organization) for each equity holder. If the equity holder is a natural person, identify the citizenship(s). If the recipient or subrecipient is a publicly traded company, provide the above information for shareholders with an interest greater than five percent;
7. A summary table identifying all rounds of financing, the purchase dates, the investors for each round, and all the associated governance and information rights obtained by investors during each round of financing; and
8. An organization chart to illustrate the relationship between your entity and the immediate parent, ultimate parent, and any intermediate parent,

as well as any subsidiary or affiliates. Identify where each entity is incorporated.

DOE reserves the right to request additional or clarifying information based on the information submitted.

Save the Transparency of Foreign Connections information in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_TFC".

xxi. Potentially Duplicate Funding Notice

If the applicant or project team member has other active awards of federal funds, the applicant must determine whether the activities of those awards potentially overlap with the activities set forth in its application to this FOA. If there is a potential overlap, the applicant must notify DOE in writing of the potential overlap and state how it will ensure any project funds (i.e., recipient cost share and federal funds) will not be used for identical cost items under multiple awards. Likewise, for projects that receive funding under this FOA, if a recipient or project team member receives any other award of federal funds for activities that potentially overlap with the activities funded under the DOE award, the recipient must promptly notify DOE in writing of the potential overlap and state whether project funds from any of those other federal awards have been, are being, or are to be used (in whole or in part) for one or more of the identical cost items under the DOE award. If there are identical cost items, the recipient must promptly notify the DOE Contracting Officer in writing of the potential duplication and eliminate any inappropriate duplication of funding.

Save the Potentially Duplicative Funding Notice in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_PDFN.pdf."

xxii. Project Eligibility

In accordance with BIL Sections 40207(f)(2)(3) and (4), Applicants shall prepare and submit a statement of project eligibility in the format provided in Appendix G of the FOA. The statement must be signed by an Authorized Organization Representative (AOR) on behalf of the organization and be submitted in PDF.

Save the Eligibility statement in a single PDF using the following convention for the title "ControlNumber_LeadOrganization_Eligibility.pdf."

E. Post Selection Information Requests

If selected for award negotiations, DOE reserves the right to require that selected applicants provide additional or clarifying information regarding the application submissions, the project, the project team, the award requirements, and any other matters related to anticipated award. The following is a non-exhaustive list of examples information that may be required:

- Personnel proposed to work on the project and collaborating organizations (See Section VI.B.xvi. Participants and Collaborating Organizations);
- Current and Pending Support (See Sections IV.D.xix. and VI.B.xvii. Current and Pending Support);
- A Data Management Plan (if applicable) describing how all research data displayed in publications resulting from the proposed work will be digitally accessible at the time of publications, in accordance with Section VI.B.xx.;
- 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; Information related to any proposed Workforce and Community Agreement, as defined above in "Community Benefits Plan: Job Quality and Equity," that applicants may have made with the relevant community;
- Any proposed or required Project Labor Agreements; and
- Environmental Questionnaire.

F. 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 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.

G. 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.

H. Intergovernmental Review

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

I. 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 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. DOE 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.

3. Waiver

To seek a foreign work waiver, the applicant must submit a written waiver request to DOE. Appendix C lists the information that must be included in a request for a foreign work waiver.

Save the waiver request(s) in a single PDF file. The applicant does not have the right to appeal DOE's decision concerning a waiver request.

iv. Construction

Recipients are required to obtain written authorization from the Contracting Officer before incurring any major construction costs.

DOE strongly encourages the use of project labor agreements (PLAs) in connection with construction projects. A PLA is a pre-hire agreement between a private entity (or entities) and a labor organization (or organizations) representing individuals who will be working on the construction project. Applicants that commit to using best-practice project labor agreements will generally be likely to produce a construction workforce plan that meets the criteria in this FOA. By contrast, applicants that do not commit to using a PLA will

be required to submit workforce continuity plans and show that they have taken other measures to reduce the risk of delays in project delivery.

For large construction projects, DOE may require a PLA. Assessment of applicability will be conducted on a case-by-case basis.

v. Foreign Travel

If international travel is proposed for your project, please note that your organization must comply with the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. § 40118), commonly referred to as the "Fly America Act," and implementing regulations at 41 CFR 301-10.131 through 301-10.143. The law and regulations require air transport of people or property to, from, between, or within a country other than the United States, the cost of which is supported under this award, to be performed by or under a cost-sharing arrangement with a United States flag carrier, if service is available. Foreign travel costs are allowable only with the written prior approval of the Contracting Officer assigned to the award.

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. Buy America Requirements for Infrastructure Projects

Pursuant to the Build America Buy America Act, subtitle IX of BIL (Buy America, or "BABA"), Federally assisted projects that involve infrastructure work, undertaken by applicable recipient types, require that:

- all iron, steel, and manufactured products used in the infrastructure work are produced in the United States; and
- all construction materials used in the infrastructure work are manufactured in the United States.

Whether a given project must apply this requirement is project-specific and dependent on several factors, such as the recipient's entity type, whether the work involves "infrastructure," as that term is defined in Section 70914 of the Bipartisan Infrastructure Law, and whether the infrastructure in question is publicly owned or serves a public function.

Please note that, based on the implementation guidance from the Office of Management and Budget (OMB) issued on April 18, 2022, the Buy America

requirements of the BIL do not apply to DOE projects in which the prime recipient is a for-profit entity; the requirements only apply to projects whose prime recipient is a "non-Federal entity," e.g., a State, local government, Indian tribe, Institution of Higher Education, or nonprofit organization. Subawards should conform to the terms of the prime award from which they flow; in other words, for-profit prime recipients are not required to flow down these Buy America requirements to subrecipients, even if those subrecipients are non-Federal entities as defined above. Conversely, prime recipients which are non-Federal entities must flow the Buy America requirements down to all subrecipients, even if those subrecipients are for-profit entities. Finally, for all applicants—both non-Federal entities and for-profit entities—DOE is including a Program Policy Factor that the Selection Official may consider in determining which Full Applications to select for award negotiations that considers whether the applicant has made a commitment to procure U.S. iron, steel, manufactured products, and construction materials in its project.

The DOE financial assistance agreement will require each recipient: (1) to fulfill the commitments made in its application regarding the procurement of U.S.-produced products and (2) to fulfill the commitments made in its application regarding the procurement of other key component metals and manufactured products domestically that are deemed available in sufficient and reasonably available quantities or of a satisfactory quality at the time of award negotiation. Applicants may seek waivers of these requirements in very limited circumstances and for good cause shown. Further details on requesting a waiver can be found in Appendix D and the terms and conditions of an award

Applicants are strongly encouraged to consult Appendix D of this FOA to determine whether their project may have to apply this requirement, both to make an early determination as to the need of a waiver, as well as to determine what impact, if any, this requirement may have on the proposed project's budget.

Applicants are strongly encouraged to consult Appendix D for more information

viii. 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.

DOE anticipates contracting with a third party for a Davis-Bacon Act electronic payroll compliance software application. Recipients of funding under this FOA must ensure the timely electronic submission of weekly certified payrolls through this software as part of its compliance with the Davis-Bacon Act unless a waiver is granted to a particular contractor or subcontractor because it is unable or limited in its ability to use or access. Applicants should indicate if they will seek a waiver.

ix. 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:

- 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.

x. 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:

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

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.

xi. 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:

- Summary of costs by cost categories;
- Timesheets or personnel hours report;
- Proof of compliance with Davis-Bacon and electronic submittals of certified payroll reports (if applicable);
- 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.

xii. 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 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.

xiii. 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 Equal Employment Opportunity:

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

(2) Recipients must 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 and contractors.

(3) Recipients 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 DOL Office of Federal Contractor Compliance Programs (OFCCP) uses a neutral process to schedule compliance evaluations. OFCCP's Technical Assistance Guide[23] should be consulted to gain an understanding of the requirements and possible required actions.

Additionally, for construction projects valued at $35 million or more and lasting more than one year, the recipients, subrecipients, contractors and subcontractors may be selected by OFCCP to participate in the *Mega Construction Project Program*. DOE, under relevant legal authorities including Sections 205 and 303(a) of Executive Order 11246, will require participation as a condition of the award. This program offers extensive compliance assistance with EO 11246. For more information regarding this program, see https://www.dol.gov/agencies/ofccp/construction/mega-program.

xiv. Foreign Collaboration Considerations

a. Consideration of new collaborations with foreign entities and governments. The recipient will be required to provide DOE with advanced written notification of any potential collaboration with foreign entities or 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 foreign entity or government regarding the potential collaboration or negotiating the terms of any potential agreement.

b. Existing collaborations with foreign entities and 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,

[23] 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

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 polies and procedures.

V. Application Review Information

A. Technical Review Criteria

i. Concept Papers Not Required for Round 2

~~Concept Papers are evaluated based on consideration of the following factors. All sub-criteria are of equal weight.~~

~~**Topic Area 2**~~
~~**Concept Paper Criterion: Overall FOA Responsiveness and Viability of the Project (Weight: 100%)**~~
~~This criterion involves consideration of the following factors:~~

- ~~The applicant clearly describes the proposed technology, describes how the technology is unique and innovative, and how the technology will advance the current state-of-the-art;~~
- ~~The applicant has identified risks and challenges, of the technology, regulatory, and financial aspects of the application including possible mitigation strategies, and has shown the impact that EERE/MESC funding and the proposed project would have on the relevant field and application;~~
- ~~The applicant has the qualifications, experience, capabilities and other resources necessary to complete the proposed project; and~~
- ~~The proposed work, if successfully accomplished, would clearly meet the objectives as stated in the FOA.~~

~~**Topic Areas 1, 3 and 4**~~
~~**Concept Paper Criterion: Overall FOA Responsiveness and Viability of the Project (Weight: 100%)**~~
~~This criterion involves consideration of the following factors:~~

- ~~The applicant clearly describes the problem being addressed by the project, the project goal, and what approach will be used in the proposed project;~~
- ~~The applicant clearly describes how the project could be effective in realizing the goals of the topic;~~
- ~~The applicant demonstrates significant involvement from consumers or material providers, recyclers and intended partners;~~
- ~~The applicant has the qualifications, experience, capabilities and other resources necessary to complete the proposed project;~~
- ~~The proposed project clearly meets the requirements of the FOA topic; and~~

- ~~The proposed work, if successfully executed, would have a meaningful impact on the problem described by the FOA topic.~~

ii. Full Applications

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

Topic Area 1 Topic Area 1 is now closed

Criterion 1: Project Approach and Impact (40%)

This criterion involves consideration of the following factors:

- Extent to which the proposed approach is relevant to the topic area objectives, demonstrates how DOE funding will impact the problem that is being addressed, and is innovative;
- Extent to which the applicant demonstrates an understanding of the battery recycling landscape and how they will effectively encourage participation in the recycling process;
- Extent to which the awareness of safely recycling, availability of recycling, and awareness of data protection practices is addressed in the project plan and implementation of the project activities; and

Extent to which the project includes activities to produce and share valuable insights and best practices that will effectively enable others to replicate the project successes.

Criterion 2: Project Plan (30%)

This criterion involves consideration of the following factors:

- Extent to which the workplan clearly defines the scope, tasks, milestones, and schedule of the project such that the parameters of the project are appropriately defined, the tasks are logically ordered, the task durations are reasonable, and that the overall plan will result in successful achievement of project outcomes and goals;
- Reasonableness of the approach to managing the work, including the extent to which the involvement of project team organizations/individuals are defined in relation to specific work tasks, milestones and deliverables, and of the structure of the plan for communication among team members;
- Reasonableness of the proposed plan for collecting, utilizing, analyzing, and publicly sharing project data; and
- Reasonableness of the allocation of project resources, including project budget and key personnel time commitment, to ensure the successful completion of the proposed work.

Criterion 3: Project Team and Qualifications (30%)

This criterion involves consideration of the following factors:

- Extent of key personnel qualifications, expertise, and experience, in relation to project and Topic Area objectives;
- Extent of the alignment between the team organizations' missions/strategic goals with the objectives of the Topic Area and with the teaming arrangement proposed by the Applicant; and
- Appropriateness of the resource commitments proposed by project partners, or other key participants, and to the degree of commitment as validated by letters of commitment.
- Experience of partners with similar proposed efforts which would contribute to the higher rate of success of the project.

Topic Area 2–**Topic Area 2 is now closed**

~~**Criterion 1: Technical Merit, Innovation, and Impact (45%)**~~

~~This criterion involves consideration of the following factors:~~

~~Technical Merit and Innovation~~

- ~~Extent to which the proposed technology, process, or project is innovative or replicable;~~
- ~~Degree to which the current state of the technology and the proposed advancement to demonstration and commercialization are clearly described;~~
- ~~Extent to which the application specifically and convincingly demonstrates how the applicant will move the state-of-the-art to the proposed advancement to demonstration and commercialization;~~
- ~~Sufficiency of technical detail in the application to assess whether the proposed work is scientifically meritorious and revolutionary, including relevant data, calculations and discussion of prior work with analyses that support the viability of the proposed work;~~
- ~~Extent to which project has buy-in from needed stakeholders to ensure success of the demonstration;~~
- ~~Degree to which key manufacturing and supply chain challenges are considered, as applicable, for viable scale-up in this and future demonstrations;~~
- ~~Degree to which siting and environmental constraints are considered for deployment;~~
- ~~Extent to which project has the potential to reduce emissions and provide clean energy acceleration benefits for a community or region; and~~
- ~~Sufficiency of existing infrastructure to support addition of proposed demonstration.~~

~~Impact of Technology Advancement~~

- ~~The ability of the project to advance industry adoption;~~
- ~~The extent the project supports the topic area objectives and target specifications and metrics;~~
- ~~The potential impact of the project on advancing the state-of-the-art;~~
- ~~Extent to which demonstration/ deployment is replicable and may lead to future demonstrations; and~~
- ~~Extent to which the project facilitates stakeholder relationships across new or existing stakeholders to gain technical buy-in and increase potential for future deployments.~~

~~Project Management~~

- ~~Adequacy of proposed project management systems including the ability to track scope, cost, and schedule progress and changes;~~
- ~~Adequacy of contingency funding based on quality of cost estimate and identified risks;~~
- ~~Adequacy, reasonableness, and soundness of the project schedule, as well as periodic Go/No-Go decisions prior to further funds disbursement/budget period continuation, interim milestones, and metrics to track process;~~
- ~~Adequacy of the identification of risks, including labor and community opposition or disputes, and "timely" and appropriate strategies for mitigation and resolution; and~~
- ~~Soundness of a plan to expeditiously address environmental, siting, and other regulatory requirements for the project, including evaluation of resilience to climate change.~~

~~**Criterion 2: Project Demonstration and Market Transformation Plan (25%)**~~
~~This criterion involves consideration of the following factors:~~

~~Demonstration Approach, Workplan and SOPO~~

- ~~Degree to which the approach and critical path have been clearly described and thoughtfully considered; and~~
- ~~Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPO will succeed in meeting the project goals.~~

~~Identification of Technical Risks~~

- ~~Discussion and demonstrated understanding of the key technical risk areas involved in the proposed work and the quality of the mitigation strategies to address them.~~

~~Baseline, Metrics, and Deliverables~~

- ~~The level of clarity in the definition of the baseline, metrics, and milestones; and~~
- ~~Relative to a clearly defined project baseline, the strength of the quantifiable metrics, milestones, and mid-point deliverables defined in the application, such that meaningful interim progress will be made.~~

~~Market Transformation Plan~~

- ~~Identification of target market, competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including mitigation plan; and~~
- ~~Comprehensiveness of market transformation plan including but not limited to product development and/or service plan, commercialization timeline, financing, product marketing, legal/regulatory considerations including intellectual property, infrastructure requirements, and product distribution.~~

~~Industry Adoption Plan~~

- ~~Identification of the interest and extent of industry adoption of the technology/process.~~

~~Criterion 3: Team and Resources (15%)~~

~~This criterion involves consideration of the following factors:~~

- ~~The capability of the Project Manager(s) and the proposed team to address all aspects of the proposed work with a high probability of success. The qualifications, relevant expertise, and time commitment of the individuals on the team;~~
- ~~The sufficiency of the facilities to support the work;~~
- ~~The degree to which the proposed consortia/team demonstrates the ability to facilitate and expedite further demonstration, development and commercial deployment of the proposed technologies;~~
- ~~The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan; and~~
- ~~The reasonableness of the budget and spend plan for the proposed project and objectives.~~

~~Criterion 4: Community Benefits Plan (15%)~~

~~This criterion involves consideration of the following factors:~~

~~Diversity, Equity, Inclusion, and Accessibility (DEIA)~~

- ~~Clear articulation of the project's goals related to diversity, equity, inclusion, and accessibility. These are four different, but related, concepts that should not be conflated. That is, diversity can be achieved without equity; all four are necessary for top scores.~~

- ~~Quality of the project's DEIA goals, as measured by the goals' depth, breadth, likelihood of success, inclusion of appropriate and relevant SMART milestones, and overall project integration.~~
- ~~Commitment and ability to track progress towards meeting each of the diversity, equity, inclusion, and accessibility goals.~~
- ~~Extent of engagement of organizations that represent disadvantaged communities as a core element of their mission, including Minority Serving Institutions, Minority Business Entities, and non-profit or community-based organizations.~~

~~Energy Equity~~

- ~~Clear workplan tasks, staffing, research, and timeline for engaging energy equity stakeholders and/or evaluating the possible near and long-term implications of the project for the benefit of the American public, including, but not limited to the public health and public prosperity benefits.~~
- ~~Approach, methodology, and expertise articulated in the plan for addressing energy equity and justice issues associated with the technology innovation.~~
- ~~Likelihood that the plan will result in improved understanding of distributional public benefits and costs related to the innovation if successful.~~

~~Workforce Implications~~

- ~~Clear and comprehensive workplan tasks, staffing, research, and timeline for engaging workforce stakeholders and/or evaluating the possible near and long-term implications of the project for the U.S. workforce.~~
- ~~Approach to document the knowledge, skills, and abilities of the workforce required for successful commercial deployment of innovations resulting from this research.~~
- ~~Likelihood that the plan will result in improved understanding of the workforce implications related to the innovation if successful.~~

Topic Areas 3 and 4 **Topic Area 3 is now closed**

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

Criterion 1: Project Approach and Impact (30%)

This criterion involves consideration of the following factors:

- Extent to which the proposed approach is relevant to the topic area objectives and demonstrates how DOE funding will impact the problem that is being addressed;
- Extent to which the application objectively describes the current state of the market sector using quantifiable metrics and how the project outcomes will measurably advance the state of the market sector;
- Accuracy of cost estimate and calculations, reasonableness of assumptions, including integration of processes, equipment and equipment availability, and labor for deriving productivity.

Criterion 2: Project Plan (30%)

This criterion involves consideration of the following factors:

- Extent to which the workplan clearly defines the scope, tasks, milestones, and schedule of the project such that the parameters of the project are appropriately defined, the tasks are logically ordered, the task durations are reasonable, and that the overall plan will result in successful achievement of project outcomes and goals;
- Reasonableness of the approach to managing the work, including the extent to which the involvement of project team organizations/individuals are defined in relation to specific work tasks, milestones and deliverables, and of the structure of the plan for communication among team members;
- Reasonableness of the proposed plan for collecting, utilizing, analyzing, and publicly sharing project data; and
- Reasonableness of the allocation of project resources, including project budget and key personnel time commitment, to ensure the successful completion of the proposed work.
- Cost share: soundness of proposed cost share, including extent of use of cash as cost share; extent of the amount of cost share in proportion to the Federal funds requested; and extent of leverage measured in terms of collection amounts and value of throughput per government dollar invested for the entire project.

Criterion 3: Project Team and Qualifications (20%)

This criterion involves consideration of the following factors:

- Extent of key personnel qualifications, expertise, and experience, in relation to project and Topic Area objectives;
- Extent of the alignment between the team organizations' missions/strategic goals with the objectives of the Topic Area and with the teaming arrangement proposed by the Applicant; and
- Appropriateness of the resource commitments proposed by project partners or other key participants as validated by letters of commitment.

Criterion 4: 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 that results in support for the proposed project;
- Extent to which the applicant has a clear and appropriately robust plan to engage—ideally through a clear commitment to negotiate an enforceable Workforce & Community Agreements--with labor unions, Tribal entities, and community-based organizations that support or work with disadvantaged communities and other affected stakeholders;
- Extent to which the applicant has considered accountability to affected workers and community stakeholders, including those most vulnerable to project activities with a plan to publicly share SMART community benefits plan commitments; and
- Extent to which the applicant demonstrates that community and labor engagement will lead to the delivery of high-quality jobs, minimal environmental impact, and allocation of project benefits to disadvantaged communities.

Job Quality and Workforce Continuity
- Quality and manner in which the proposed project will create and/or retain high quality, good-paying jobs with employer-sponsored benefits for all classifications and phases of work;
- Extent to which the project provides employees with the ability to organize, bargain collectively, and participate, through labor organizations of their choosing, in decisions that affect them and that contribute to the effective conduct of business and facilitates amicable settlements of any potential disputes between employees and employers, providing assurances of project efficiency, continuity, and multiple public benefits; and
- Extent to which applicant demonstrates that they are a responsible employer, with ready access to a sufficient supply of appropriately skilled labor, and an effective plan to minimize the risk of labor disputes or disruptions.

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, supplier diversity plans, and other DEIA initiatives; and
- Quality of any partnerships and agreements with apprenticeship readiness programs, or community-based workforce training and support organizations serving workers facing systematic barriers to employment to facilitate participation in the project's construction and operations.

Justice40 Initiative

- Extent to which the Community Benefits Plan identifies specific, measurable benefits for disadvantaged communities, how the benefits will flow to disadvantaged communities, and how negative environmental impacts affecting disadvantaged communities would be mitigated; and
- Extent to which the project would contribute to meeting the objective that 40% of the overall benefits of climate and clean energy investments flow to disadvantaged communities.

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," which is available at: https://energy.gov/management/downloads/merit-review-guide-financial-assistance-and-unsolicited-proposals-current.

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 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 will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty;
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications);
- The degree to which the proposed project incorporates applicant or team members from Minority Serving Institutions (e.g., Historically Black Colleges and Universities (HBCUs)/Other Minority Serving Institutions); partnerships with Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or Tribal Nations;
- 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;
- The degree to which the proposed project will employ procurement of U.S. iron, steel, manufactured products, and construction materials; and
- The degree to which the proposed project avoids duplication/overlap with other publicly or privately funded work.

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.

ii. Pre-Selection Interviews

As part of the evaluation and selection process, DOE may invite one or more applicants to participate in Pre-Selection Interviews. Pre-Selection Interviews are distinct from and more formal than pre-selection clarifications (See Section V.D.iii. of the FOA). The invited applicant(s) will meet with DOE representatives to provide clarification on the contents of the Full Applications and to provide DOE an opportunity to ask questions regarding the proposed project. The information provided by applicants to DOE through Pre-Selection Interviews contributes to DOE's selection decisions.

DOE will arrange to meet with the invited applicants in person at DOE's offices or a mutually agreed upon location. DOE may also arrange site visits at certain applicants' facilities. In the alternative, DOE may invite certain applicants to participate in a one-on-one conference with DOE via webinar, videoconference, or conference call.

DOE will not reimburse applicants for travel and other expenses relating to the Pre-Selection Interviews, nor will these costs be eligible for reimbursement as pre-award costs.

Participation in Pre-Selection Interviews with DOE does not signify that applicants have been selected for award negotiations.

iii. 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.

iv. Recipient Responsibility and Qualifications

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 responsibility and qualification information about the applicant that is in the entity information domain in SAM.gov (see 41 U.S.C. § 2313).

The applicant, at its option, may review information in the entity information domain in SAM.gov and comment on any information about itself that a federal awarding agency previously entered and is currently in the entity information domain in SAM.gov.

DOE will consider any written comments by the applicant, in addition to the other information in the entity information domain in SAM.gov, 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.

v. 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

EERE/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 Concept Papers and 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 Concept Paper or the Full Application is ineligible and not considered for further review.

ii. Concept Paper Notifications

DOE will notify applicants of its determination to encourage or discourage the submission of a Full Application. DOE will post these notifications to EERE Exchange. DOE may include general comments provided from reviewers on an applicant's Concept Paper in the encourage/discourage notifications.

Applicants may submit a Full Application even if they receive a notification discouraging them from doing so. By discouraging the submission of a Full Application, DOE intends to convey its lack of programmatic interest in the proposed project. Such assessments do not necessarily reflect judgments on the merits of the proposed project. The purpose of the Concept Paper phase is to save applicants the considerable time and expense of preparing a Full Application that is unlikely to be selected for award negotiations.

iii. 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.

iv. Applicants Selected for Award Negotiations

Successful applicants will receive written notification that they have been selected for award negotiations. 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 nor is it a guarantee of Federal Government funding. Applicants do not receive an award unless and 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 90 days. Applicants must designate a primary and a backup point-of-contact in EERE Exchange with whom 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.I.ii. of the FOA for guidance on pre-award costs.

v. 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.

vi. 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:

1. 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 EERE FOAs that are currently in EERE Exchange. 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 Exchange registration 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.**

2. **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.

3. **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.

4. **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 Concept Papers and Full Applications will not be accepted through Grants.gov.

5. **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, will be required to provide DOE with specific information about each foreign national to satisfy requirements for foreign national participation and access approvals. 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.

Approval for foreign nationals in Principal Investigator/Co-Investigator roles, from countries of risk (i.e., China, Iran, North Korea and Russia), or from countries identified on the U.S. Department of State's list of State Sponsors of Terrorism (https://www.state.gov/state-sponsors-of-terrorism/) may require written authorization from DOE before they can participate in the performance of any work under an award.

A "foreign national" is defined as any person who is not a United States citizen by birth or naturalization. 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.

Applicants selected for award negotiations must include this requirement in subawards.

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.

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**
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 contactors 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 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. Subject Invention Utilization Reporting

To ensure that prime recipients and subrecipients holding title to subject inventions are taking the appropriate steps to commercialize subject inventions, DOE may require that each prime recipient holding title to a subject invention submit annual reports for ten (10) years from the date the subject invention was disclosed to DOE on the utilization of the subject invention and efforts made by prime recipient or their licensees or assignees to stimulate such utilization. The reports must include information regarding the status of development, date of first commercial sale or use, gross royalties received by the prime recipient, and such other data and information as DOE may specify.

x. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards. It is expected that awards resulting from this FOA will be considered to be R&D awards for intellectual property purposes.

xi. 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 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;
- Jobs data including:
    - Number and types of jobs provided, wages and benefits paid;
    - Demographics of workforce including local hires;
    - Efforts to minimize risks of labor disputes and disruptions;
    - Contributions to training; certificates and training credentials received by employees; ratio of apprentice-to-journey level workers employed;
    - Number of trainings completed, trainees' places in full-time employment, or number of trainings with workforce partnerships involving employers, community-based organizations, or labor unitions;
- 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;
- Funding leveraged, follow-on-funding, Intellectual Property (IP) Generation and IP Utilization.

xii. 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 application[24]; 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.

xiii. 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,

[24] 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.

board, commission, or office to the Inspector General (or senior ethics official for any entity without an Inspector General), of the date, location, and number of employees attending such conference.

xiv. 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.

xv. Real Property and Equipment

Real property and equipment purchased with project funds (federal share and recipient cost share) are subject to the requirements at 2 CFR 200.310, 200.311, 200.313, and 200.316 (non-federal entities, except for-profit entities) and 2 CFR 910.360 (for-profit entities). For projects selected for awards under this FOA, the recipients may (1) take disposition action on the real property and equipment; or (2) continue to use the real property and equipment after the conclusion of the award period of performance with Contracting Officer approval. The recipient's written request for Continued Use must identify the property and include: a summary of how the property will be used (must align with the authorized project purposes); a proposed use period, (e.g., perpetuity, until fully depreciated, or a calendar date when the recipient expects to submit disposition instructions); acknowledgement that the recipient shall not sell or encumber the property or permit any encumbrance without prior written DOE approval;

current fair market value of the property; and an estimated useful life or depreciation schedule for equipment.

When the property is no longer needed for authorized project purposes, the recipient must request disposition instructions from DOE. For-profit entity disposition requirements are set forth in 2 CFR 910.360. Property disposition requirements for other non-federal entities are set forth in 2 CFR 200.310 – 200.316.

xvi. 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.

xvii. 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.

xviii. 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. Also See Section IV.D.xix.

xix. 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.

xx. Interim Conflict of Interest Policy for Financial Assistance

The DOE interim Conflict of Interest Policy for Financial Assistance (COI Policy) [25] 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 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.

xxi. Data Management Plan (DMP)

Each applicant whose Full Application is selected for award negotiations will be required to submit a DMP during the award negotiations phase. A DMP explains how, when appropriate, data generated in the course of the work performed under a DOE award will be shared and preserved in order to validate the results of the proposed work or how the results could be validated if the data is not shared or preserved. The DMP must provide a plan for making all research data

[25] 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.

displayed in publications resulting from the proposed work digitally accessible at the time of publications.

xxii. 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.

xxiii. 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).

xxiv. Cybersecurity Plan

In accordance with BIL section 40126, applicants selected for award negotiations may be required to submit an acceptable cybersecurity plan to DOE prior to receiving funding.[26] These plans are intended to foster a cybersecurity-by-design approach for BIL efforts. The Department will also use these plans to ensure effective integration and coordination across its research, development, and demonstration programs. A cybersecurity plan is NOT required as part of the application submission for this FOA, but all projects selected under this FOA may be required to submit a cybersecurity plan during the award negotiation phase.

The Department recommends using open guidance and standards such as the National Institute of Standards and Technology's (NIST) Cybersecurity Framework (CSF) and the DOE Cybersecurity Capability Maturity Model (C2M2[27]).

The cybersecurity plan created pursuant to BIL section 40126 should document any deviation from open standards, as well as the utilization of proprietary standards where the awardee determines that such deviation is necessary.

- Cybersecurity plans should be commensurate to the threats and vulnerabilities associated with the proposed efforts and demonstrate the cybersecurity maturity of the project.
- Cybersecurity plans may cover a range of topics relevant to the proposed project, e.g., software development lifecycle, third-party risks, and incident reporting.

[26] 42 U.S.C. § 18725

[27] NERC critical infrastructure protection (CIP) standards for entities responsible for the availability and reliability of the bulk electric system. NIST IR 7628: 2 Smart grid cyber security strategy and requirements. NIST SP800-53, Recommended Security Controls for Federal Information Systems and Organizations: Catalog of security controls in 18 categories, along with profiles for low-, moderate-, and high-impact systems. NIST SP800-82, Guide to Industrial Control Systems (ICS) Security. NIST SP800-39, Integrated Enterprise-Wide Risk Management: Organization, mission, and information system view. AMI System Security Requirements: Security requirements for advanced metering infrastructure. ISO (International Organization for Standardization) 27001, Information Security Management Systems: Guidance on establishing governance and control over security activities (this document must be purchased). IEEE (Institute of Electrical and Electronics Engineers) 1686-2007, Standard for Substation Intelligent Electronic Devices (IEDs) Cyber Security Capabilities (this document must be purchased). DOE Cybersecurity Capability Maturity Model (C2M2).

- At a minimum, cybersecurity plans should address questions noted in BIL section 40126 (b) 'Contents of Cybersecurity Plan'.[28]

A draft version of supplementary guidance on the cybersecurity plan requirement will be available at https://www.energy.gov/ceser/bipartisan-infrastructure-law-implementation.

[28] 42 U.S.C. § 18725

VI. 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: DE-FOA-0002897@netl.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**. EERE/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.

VII. 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. EERE recommends that you register as soon as possible 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 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 submissions must be marked as follows and identify the specific pages that include 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 agreement 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 COI and non-disclosure acknowledgements (NDA) prior to reviewing an application. Non-federal personnel conducting administrative activities must sign an NDA.

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:
    - 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 IV.B 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 require additional submissions or requirements as authorized by any applicable DEC.

- 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:

DOE has issued a class waiver that applies to this FOA. Under this class waiver, domestic large businesses may elect title to their subject inventions similar to the right provided to the domestic small businesses, educational institutions, and nonprofits by law. In order to avail itself of the class waiver, a domestic large business must agree that any products embodying or produced through the use of a subject invention first created or reduced to practice under this program will be substantially manufactured in the United States.

- DOE may issue and publish on the website above further DECs 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.

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.

For Topic Area 2 only

Government Rights in Technical Data Produced Under Awards: The United States government normally retains unlimited rights in technical data produced under government financial assistance awards, including the right to distribute to the public. However, pursuant to special statutory authority, certain categories of data generated under DOE awards may be protected from public disclosure for

up to five years after the data is generated ("Protected Data"). For awards permitting Protected Data, the protected data must be marked as set forth in the award's intellectual property terms and conditions and a listing of unlimited rights data (i.e., non-protected data) must be inserted into the data clause in the award. In addition, invention disclosures may be protected from public disclosure for a reasonable time in order to allow for filing a patent application.

For this FOA, selectees and recipients may request an extended period of protection (more than five years and not to exceed thirty years) if reasonably required for commercialization for specific categories of data for Topic Area 2 first produced under the resulting awards in accordance with 15 U.S.C. § 3710a(c)(7)(B)(ii) and the Energy Policy Acts of 1992 and 2005, or 42 U.S.C. § 7256(g)(5) for OTAs, if applicable. Further direction will be provided during the negotiation process upon request.

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 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.

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

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

(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 – SAMPLE COST SHARE CALCULATION FOR BLENDED COST SHARE PERCENTAGE

The following example shows the math for calculating required cost share for a project with $2,000,000 in federal funds with four tasks requiring different non-federal cost share percentages:

Task	Proposed Federal Share	Federal Share %	Recipient Share %
Task 1 (R&D)	$1,000,000	80%	20%
Task 2 (R&D)	$500,000	80%	20%
Task 3 (Demonstration)	$400,000	50%	50%
Task 4 (Outreach)	$100,000	100%	0%

Federal share ($) divided by federal share (%) = Task Cost

Each task must be calculated individually as follows:

Task 1
$1,000,000 divided by 80% = $1,250,000 (Task 1 Cost)
Task 1 Cost minus federal share = non-federal share
$1,250,000 - $1,000,000 = $250,000 (non-federal share)

Task 2
$500,000 divided 80% = $625,000 (Task 2 Cost)
Task 2 Cost minus federal share = non-federal share
$625,000 - $500,000 = $125,000 (non-federal share)

Task 3
$400,000 / 50% = $800,000 (Task 3 Cost)
Task 3 Cost minus federal share = non-federal share
$800,000 - $400,000 = $400,000 (non-federal share)

Task 4
Federal share = $100,000
Non-federal cost share is not mandated for outreach = $0 (non-federal share)

The calculation may then be completed as follows:

Tasks	$ Federal Share	% Federal Share	$ Non-Federal Share	% Non-Federal Share	Total Project Cost
Task 1	$1,000,000	80%	$250,000	20%	$1,250,000
Task 2	$500,000	80%	$125,000	20%	$625,000
Task 3	$400,000	50%	$400,000	50%	$800,000
Task 4	$100,000	100%	$0	0%	$100,000
Totals	$2,000,000		$775,000		$2,775,000

Blended Cost Share %
Non-federal share ($775,000) divided by Total Project Cost ($2,775,000) = 27.9% (non-federal)
Federal share ($2,000,000) divided by Total Project Cost ($2,775,000) = 72.1% (federal)

APPENDIX C – WAIVER REQUESTS FOR: 1. FOREIGN ENTITY PARTICIPATION; AND 2. FOREIGN WORK

1. Waiver for Foreign Entity Participation

Many of the technology areas DOE funds fall in the category of critical and emerging technologies (CETs). CETs are a subset of advanced technologies that are potentially significant to United States national and economy security. [29] For projects selected under this FOA, all ~~recipients and~~ subrecipients must be organized, chartered or incorporated (or otherwise formed) under the laws of a state or territory of the United States; have majority domestic ownership and control; and have a physical location for business operations in the United States. To request a waiver of this requirement, an applicant must submit an explicit waiver request in the Full Application.

Waiver Criteria

Foreign entities seeking to participate in a project funded under this FOA must demonstrate to the satisfaction of DOE that:

a. Its participation is in the best interest of the United States industry and United States economic development;
b. The project team has appropriate measures in place to control sensitive information and protect against unauthorized transfer of scientific and technical information;
c. Adequate protocols exist between the United States subsidiary and its foreign parent organization to comply with export control laws and any obligations to protect proprietary information from the foreign parent organization;
d. The work is conducted within the United States and the entity acknowledges and demonstrates that it has the intent and ability to comply with the U.S. Competitiveness Provision (see Section VI.B.xviii.); and
e. The foreign entity will satisfy other conditions that may be deemed necessary by DOE to protect United States government interests.

Content for Waiver Request

A Foreign Entity waiver request must include the following:

a. Information about the entity: name, point of contact, and proposed type of involvement in the project;
b. Country of incorporation, the extent of the ownership/level control by foreign entities, whether the entity is state owned or controlled, a summary of the

[29] See Critical and Emerging Technologies List Update (whitehouse.gov).

ownership breakdown of the foreign entity and the percentage of ownership/control by foreign entities, foreign shareholders, foreign state or foreign individuals;

c. The rationale for proposing a foreign entity participate (must address criteria above);
d. A description of the project's anticipated contributions to the United States economy;
    - How the project will benefit the United States, including manufacturing, contributions to employment in the United States and growth in new markets and jobs in the United States;
    - How the project will promote manufacturing of products and/or services in the United States;
e. A description of how the foreign entity's participation is essential to the project;
f. A description of the likelihood of Intellectual Property (IP) being created from the work and the treatment of any such IP; and
g. Countries where the work will be performed (Note: if any work is proposed to be conducted outside the United States, the applicant must also complete a separate request foreign work waiver).

DOE may also require:

- A risk assessment with respect to IP and data protection protocols that includes the export control risk based on the data protection protocols, the technology being developed and the foreign entity and country. These submissions could be prepared by the project lead (if not the prime recipient), but the prime recipient must make a representation to DOE as to whether it believes the data protection protocols are adequate and make a representation of the risk assessment – high, medium or low risk of data leakage to a foreign entity.
- Additional language be added to any agreement or subagreement to protect IP, mitigate risk or other related purposes.

DOE may require additional information before considering the waiver request.

DOE's decision concerning a waiver request is not appealable.

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

As set forth in Section IV.I.iii., all work under funding under this FOA must be performed in the United States. To seek a waiver of the Performance of Work in the United States requirement, the applicant must submit an explicit waiver request in the Full Application. A separate waiver request must be submitted for each entity proposing performance of work outside of the United States.

Overall, a waiver request must demonstrate to the satisfaction of DOE that it would further the purposes of this FOA and is otherwise in the economic interests of the United States to perform work outside of the United States. A request for a foreign work waiver must include the following:

1. The rationale for performing the work outside the United States ("foreign work");
2. A description of the work proposed to be performed outside the United States;
3. An explanation as to how the foreign work is essential to the project;
4. A description of the anticipated benefits to be realized by the proposed foreign work and the anticipated contributions to the United States economy;
5. The associated benefits to be realized and the contribution to the project from the foreign work;
6. How the foreign work will benefit the United States, including manufacturing, contributions to employment in the United States and growth in new markets and jobs in the United States;
7. How the foreign work will promote manufacturing of products and/or services in the United States;
8. A description of the likelihood of Intellectual Property (IP) being created from the foreign work and the treatment of any such IP;
9. The total estimated cost (DOE and recipient cost share) of the proposed foreign work;
10. The countries in which the foreign work is proposed to be performed; and
11. The name of the entity that would perform the foreign work. Information about the entity(ies) involved in the work proposed to be conducted outside the United States. (i.e., entity seek a waiver and the entity(ies) that will conduct the work).

DOE may require additional information before considering the waiver request.

DOE's decision concerning a waiver request is not appealable.

APPENDIX D – REQUIRED USE OF AMERICAN IRON, STEEL, MANUFACTURED PRODUCTS, AND CONSTRUCTION MATERIALS BUY AMERICA REQUIREMENTS FOR INFRASTRUCTURE PROJECTS

A. Definitions

For purposes of the Buy America requirements, based both on the statute and OMB Guidance Document dated April 18, 2022, the following definitions apply:

Construction materials includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives —that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- lumber; or
- drywall.

Infrastructure includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

Moreover, according to the OMB guidance document:

> When determining if a program has infrastructure expenditures, Federal agencies should interpret the term "infrastructure" broadly and consider the definition provided above as illustrative and not exhaustive. When determining if a particular construction project of a type not listed in the definition above constitutes "infrastructure," agencies should consider whether the project will serve a public function, including whether the project is publicly owned and operated, privately operated on behalf of the public, or is a place of public accommodation, as opposed to a project that is privately owned and not open to the public. Projects with the former qualities have greater indicia of infrastructure, while projects with the latter quality have fewer. Projects consisting solely of the purchase, construction, or improvement of a private home for personal use, for example, would not constitute an infrastructure project.

The Agency, not the applicant, will have the final say as to whether a given project includes infrastructure, as defined herein. Accordingly, in cases where the "public" nature of the infrastructure is unclear, but the other relevant criteria are met DOE strongly recommends that applicants complete their full application with the assumption that Buy America requirements will apply to the proposed project.

Project means the construction, alteration, maintenance, or repair of infrastructure in the United States.

B. Buy America Requirements for Infrastructure Projects ("Buy America" requirements)
In accordance with Section 70914 of the BIL, none of the project funds (includes federal share and recipient cost share) may be used for a project for infrastructure unless:

> (1) all iron and steel used in the project are produced in the United States--this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;
>
> (2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and
>
> (3) all construction materials[30] are produced in the United States—this means that all manufacturing processes for the construction material occurred in the United States.

The Buy America requirements only apply to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does the Buy America requirements apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project, but are not an integral part of the structure or permanently affixed to the infrastructure project.

These requirements must flow down to all sub-awards, all contracts, subcontracts, and purchase orders for work performed under the proposed project, except where the prime recipient is a for-profit entity. Based on guidance from the Office of Management and Budget

[30] Excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

(OMB), the Buy America requirements of the BIL do not apply to DOE projects in which the prime recipient is a for-profit entity; the requirements only apply to projects whose prime recipient is a State, local government, Indian tribe, Institution of Higher Education, or nonprofit organization.

For additional information related to the application and implementation of these Buy America requirements, please see OMB Memorandum M-22-11, issued April 18, 2022: https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf

Note that for all applicants—both non-Federal entities and for-profit entities—DOE is including a Program Policy Factor that the Selection Official may consider in determining which Full Applications to select for award negotiations that considers whether the applicant has made a commitment to procure U.S. iron, steel, manufactured products, and construction materials in its project.

C. Waivers

The DOE financial assistance agreement will require each recipient: (1) to fulfill the commitments made in its application regarding the procurement of U.S.-produced products and (2) to fulfill the commitments made in its application regarding the procurement of other key component metals and manufactured products domestically that are deemed available in sufficient and reasonably available quantities or of a satisfactory quality at the time of award negotiation.

In limited circumstances, DOE may waive the application of the Buy America requirements where DOE determines that:

> (1) applying the Buy America requirements would be inconsistent with the public interest;
>
> (2) the types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
>
> (3) the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent.

If an applicant or recipient is seeking a waiver of the Buy America requirements, it may submit a waiver request after it has been notified of its selection for award negotiations. A waiver request must include:

- A detailed justification for the use of "non-domestic" iron, steel, manufactured products, or construction materials to include an explanation as to how the non-domestic item(s) is essential to the project
- A certification that the applicant or recipient made a good faith effort to solicit bids for domestic products supported by terms included in requests for applications, contracts, and nonproprietary communications with potential suppliers
- Applicant/Recipient name and Unique Entity Identifier (UEI)
- Total estimated project cost, DOE and cost-share amounts
- Project description and location (to the extent known)
- List and description of iron or steel item(s), manufactured goods, and construction material(s) the applicant or recipient seeks to waive from Domestic Content Procurement Preference requirement, including name, cost, country(ies) of origin (if known), and relevant PSC and NAICS code for each
- Waiver justification including due diligence performed (e.g., market research, industry outreach) by the applicant or recipient
- Anticipated impact if no waiver is issued

DOE may require additional information before considering the waiver request.
Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Made in America Office. There may be instances where an award qualifies, in whole or in part, for an existing waiver.

DOE's decision concerning a waiver request is not appealable.

APPENDIX E – R&D COMMUNITY BENEFITS PLAN GUIDANCE

The DOE is committed to pushing the frontiers of science and engineering; catalyzing high-quality domestic clean energy jobs through research, development, demonstration, and deployment; and ensuring energy equity and energy justice[31] for disadvantaged communities. Therefore, and in accordance with the Administration's priority to empower workers and harness opportunities to create good union jobs as stated in EO 14008 (Executive Order on Tackling the Climate Crisis at Home and Abroad), it is important to consider the impacts of the successful commercial deployment of any innovations resulting from this FOA on current and future workforce.

The goal of the three-section R&D Community Benefits Plan is to allow the application to illustrate engagement in critical thought about implications of how the proposed work will benefit the broadest swaths of American people and lead to broadly shared prosperity, including for workers and disadvantaged communities[32]. The sections of the R&D Community Benefits Plans are considered together because there may be significant overlap between audiences considered in workforce and disadvantaged communities.

Example DEIA, Energy Equity, and Workforce Plan Elements

Outlined below are examples of activities that applicants might consider when developing their R&D Community Benefits Plan. Applicants are not required to implement any of these specific examples and should propose the Plan that best fits their research goals, institutional environment, team composition, and other factors. Creativity is encouraged.

DEIA

DOE strongly encourages applicants to involve individuals and entities from disadvantaged communities. Tapping all of the available talent requires intentional approaches and yields broad benefits.

Equity extends beyond diversity to equitable treatment. Equitable access to

[31] At DOE, we define energy justice as "the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system" (Initiative for Energy Justice, 2019). Aligned with that document, the remainder of this document refers to this as, 'energy equity,' and is meant to encompass energy justice as well as DOE's efforts related to Justice40. https://www.energy.gov/diversity/articles/how-energy-justice-presidential-initiatives-and-executive-orders-shape-equity

[32] See footnote 2 for guidance on the definition and tools to locate and identify disadvantaged communities.

opportunity for members of the project team is paramount. This includes ensuring that all members of the team, including students, are paid a living wage, provided appropriate working conditions, and provided appropriate benefits. In the execution of their project plan, applicants are asked to describe efforts in diversity, equity, inclusion, and accessibility. In this context, efforts toward DEIA are defined as:[33]

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.

Successful plans will not only describe how the project team seeks to increase DEIA, but will describe the overall approaches to retention, engagement, professional development, and career advancement. Specifically, they will demonstrate clear approaches to ensure all team members' strengths are meaningfully leveraged and all members are provided opportunities and paths for career development, especially including paths for interns and trainees to secure permanent positions. Diversity should be considered at all levels of the project team, not just leveraging early career individuals to meet diversity 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, Disability Owned Business, Women 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.

When crafting the DEIA section of the Plan, applicants should describe the

[33] https://www.whitehouse.gov/wp-content/uploads/2021/11/Strategic-Plan-to-Advance-Diversity-Equity-Inclusion-and-Accessibility-in-the-Federal-Workforce-11.23.21.pdf

ways in which they will act to promote each of the four DEIA efforts above into their investigation. It is important to note that diversity, equity, inclusion, and accessibility are four different, but related, concepts that should not be conflated. That is, you can achieve diversity without equity; all four must be addressed. Applicants could discuss how the proposed investigation could contribute to training and developing a diverse scientific workforce. Applicants could describe the efforts they plan to take, or will continue to take, to create an inclusive workplace, free from retaliation, harassment, and discrimination. Applicants could outline any barriers to creating an equitable and inclusive workplace and address the ways in which the team will work to overcome these barriers within the bounds of the specific research project. The plan could detail specific efforts to inform project team members in any capacity of their labor rights and rights under Equal Employment Opportunity laws, and their free and fair chance to join a union. Note that this inclusion of informing project team members is also incorporated into awards through the National Policy Assurances.

Equal treatment of workers, including students, is necessary but overcoming institutional bias requires intentionally reducing sometimes hidden barriers to equal opportunity. Applicants could consider measures like childcare, flexible schedules, paid parental leave, pay transparency, and other supports to ensure that societal barriers are not hindering realization of DEIA intentions. Some of these considerations may result in common approaches in different sections of the plan, and that is acceptable, as long as the submission is not a singular approach to all sections.

EERE/MESC especially encourages applicants to form partnerships with diverse and often underrepresented institutions, such as Minority Serving Institutions, labor unions, and community colleges that otherwise meet the eligibility requirements. Underrepresented institutions that meet the eligibility requirements are encouraged to lead these partnerships as the prime applicant. The DEIA section of the Plan could include engagement with underrepresented institutions to broaden the participation of disadvantaged communities and/or with local stakeholders, such as residents and businesses, entities that carry out workforce development programs, labor unions, local government, and community-based organizations that represent, support, or work with disadvantaged communities. Applicants should ensure there is transparency, accountability, and follow-through when engaging with community members and stakeholders.

Specific examples include:

- Building collaborations and partnerships with researchers and staff at Minority Serving Institutions
- Addressing barriers identified in climate surveys to remove inequities
- Providing anti-bias training and education in the project design and implementation teams
- Offering training, mentorship, education, and other support to students and early/mid-career professionals from disadvantaged communities
- Providing efforts toward improving a workplace culture of inclusion
- Developing technology and technology integration innovations to meet the needs of disadvantaged communities
- Creating partnerships with local communities, especially under-resourced and disadvantaged communities
- Voluntary recognition of a union and informing employees of their rights, regardless of their classification
- Making research products and engagement materials accessible in a greater variety of formats to increase accessibility of research outputs
- Implementing training or distributing materials to reduce stigma towards individuals with disabilities
- Designing technologies that strategically fit within the existing workforce for installation and maintenance of the potential innovation

Energy Equity

The Energy Equity section should articulate how project applications will drive equitable access to, participation in, and distribution of the benefits produced from successful technology innovations to disadvantaged communities and groups. Intentional inclusion of energy equity requires evaluating the anticipated long-term costs and benefits that will accrue to disadvantaged groups as a result of the project, and how research questions and project plans are designed for and support historically disadvantaged communities' engagement in clean energy decisions. Similar to potential cost reductions or groundbreaking research findings resulting from the research, energy equity and justice benefits may be uncertain, occur over a long period of time, and have many factors within and outside the specific proposed research influencing them.

Applicants should describe the influencing factors, and the most likely energy equity implications of the proposed research. Applicants should describe any long-term constraints the proposed technology may pose to communities' access to natural resources and Tribal Cultural resources. There may be existing equity research available to use and citation in this description or the applicant could describe milestone-based efforts toward developing that understanding through this innovation. These near and long term outcomes may include, but are not limited to: a decrease in the percent of income a household spends on energy costs (energy burden[34]); an increase in access to low-cost capital; a decrease in environmental exposure and burdens; increases in clean energy enterprise creation and contracting (e.g., women or minority-owned business enterprises); increased parity in clean energy technology access and adoption; increases in energy democracy, including community ownership; and an increase in energy resilience.

Specific examples include:

- Describing how a successful innovation will support economic development in diverse geographic or demographic communities
- Creating a plan to engage equity and justice stakeholders in evaluating the broader impacts of the innovation or in the development of the research methodology
- Describe how the proposed research strategy and methodology was informed by input from a wide variety of stakeholders
- A literature review of the equity and justice implications of the outcomes of the specific research if the innovation is successful or a plan with dedicated budget and expertise (staffing or subawardee) to evaluate the potential equity implications of successful innovation outcomes.

Workforce

The Workforce section of the R&D Community Benefits Plan should articulate the future workforce implications of the innovation or a milestone-driven plan for understanding those implications. This includes documenting the skills, knowledge, and abilities that would be required of workers installing, maintaining, and operating the technology that may be derivative of the applicant's research, as well as the training pathways and their accessibility for workers to acquire the necessary skills. There may be field-

[34] Energy burden is defined as the percentage of gross household income spent on energy costs: https://www.energy.gov/eere/slsc/low-income-community-energy-solutions

specific or relevant existing research that could be cited in this section. In addition, applicants could detail the process they will use to evaluate long-term impacts on jobs, including job growth or job loss, a change in job quality, disruptions to existing industry and resulting changes to relationships between employers and employees and improvements or reductions in the ability of workers to organize for collective representation, and anything else that could result in changes to regional or national labor markets.

For additional support with developing the Workforce section of a R&D Community Benefits Plan, please refer to the DOE's Community Benefits Plan Frequently Asked Questions (FAQs) webpage (https://www.energy.gov/bil/community-benefits-plan-frequently-asked-questions-faqs). This new resource, though created primarily for demonstration and deployment projects funded by the Bipartisan Infrastructure Law (BIL), may be useful for R&D projects which is the main subject of this FOA template.

Applicants will find section 2 of the FAQ ("Investing in America's Workforce") particularly helpful for understanding key federal policies, terms and concepts, as well as workforce development strategies relevant to examination of the workforce implications of applicants' proposed research.

Specific examples include:

- Outlining the challenges and opportunities for commercializing the technology in the US
- Creating a literature review of the workforce implications of the outcomes of the specific research if the innovation is successful or a plan with dedicated budget and expertise (staffing or subawardee) to evaluate the potential equity implications of successful innovation outcomes
- Creating a plan and milestones for assessing how a successful innovation will have implications for job savings or loss, either at the macroeconomic level or within specific industries
- Describing how the project will support training of workforce to address needs of successful innovation
- Voluntary recognition of a union and informing employees of their rights, regardless of their classification
- Creating a plan to evaluate how a successful innovation, will result in potential workforce shifts between industries or geographies.

Inclusion of SMART milestones

EERE/MESC requires that the applicant's R&D Community Benefits Plan include one Specific, Measurable, Achievable, Relevant and Timely (SMART) milestone for each budget period. An exemplar SMART milestone clearly answers the following questions:

- What needs to be accomplished?
- What measures and deliverables will be used to track progress toward accomplishment?
- What evidence suggests that the accomplishment is achievable?
- Why choose this milestone?
- When will the milestone be reached?

APPENDIX F – LIST OF ACRONYMS

BIL	Bipartisan Infrastructure Law
CETs	Critical and Emerging Technologies
CEJST	Climate and Economic Justice Screening Tool
CFR	Code of Federal Regulations
COI	Conflict of Interest
CRADA	Cooperative Research and Development Agreement
DEC	Determination of Exceptional Circumstances
DEIA	Diversity, Equity, Inclusion, and Accessibility
DMP	Data Management Plan
DOE	Department of Energy
DOI	Digital Object Identifier
DOL	Department of Labor
DOT	Department of Transportation
EERE	Energy Efficiency and Renewable Energy
EOL	End of Life
EPA	Environmental Protection Agency
EV	Electric Vehicle
FAPIIS	Federal Awardee Performance and Integrity Information System
FAR	Federal Acquisition Regulation
FCAB	Federal Consortium for Advanced Batteries
FCOI	Financial Conflicts of Interest
FFATA	Federal Funding and Transparency Act of 2006
FOA	Funding Opportunity Announcement
FOIA	Freedom of Information Act
FFRDC	Federally Funded Research and Development Center
GAAP	Generally Accepted Accounting Principles
HBCUs	Historically Black Colleges and Universities
HSRD	Human Subjects Research Database
IPMP	Intellectual Property Management Plan
IRB	Institutional Review Board
M&O	Management and Operating
MESC	Office of Manufacturing and Energy Supply Chains
MFA	Multi-Factor Authentication
MPIN	Marketing Partner ID Number
MSI	Minority-Serving Institution
MYPP	Multi-Year Program Plan
NDA	Non-Disclosure Acknowledgement
NEPA	National Environmental Policy Act
NIST	National Institute of Standards and Technology
NNSA	National Nuclear Security Administration

NSF	National Science Foundation
OFCCP	Office of Federal Contractor Compliance Programs
OHRP	Office of Human Research Protection
OIG	Office of Inspector General
OMB	Office of Management and Budget
OSS	Open-Source Software
OSTI	Office of Scientific and Technical Information
OTA	Other Transactions Authority
PII	Personal Identifiable Information
RCRA	Resource Conservation and Recovery Act
RDD&D	Research, Development, Demonstration, and Deployment
RFI	Request for Information
RFP	Request for Proposal
SAM	System for Award Management
SciENcv	Science Experts Network Curriculum Vita
SMART	Specific, Measurable, Achievable, Relevant, and Timely
SOPO	Statement of Project Objectives
SPOC	Single Point of Contact
STEM	Science, Technology, Engineering, and Mathematics
TAA	Technical Assistance Agreement
TIA	Technology Investment Agreement
TRL	Technology Readiness Level
UCC	Uniform Commercial Code
UEI	Unique Entity Identifier
VTO	Vehicle Technologies Office
WBS	Work Breakdown Structure
WP	Work Proposal

APPENDIX G – BIL SECTION 40207 (F)(2)(3)(4) ELIGIBILITY CERTIFICATION

1. **Applicant Name:**

2. **Applicant Address:**

3. **Project Title**

4. **Topic Area:**

Based on the Topic Area noted in #3, specify (mark with "X") the entity type of the applicant organization:

~~**Topic Area 1 (Section 40207(f)(2))**~~
~~_____(i) an institution of higher education~~
~~_____(ii) a National Laboratory~~
~~_____(iii) a Federal research agency~~
~~_____(iv) a State research agency~~
~~_____(v) a nonprofit organization~~
~~_____(vi) an industrial entity~~
~~_____(vii) a manufacturing entity~~
~~_____(viii) a private battery collection entity~~
~~_____(ix) an entity operating 1 or more battery recycling activities~~
~~_____(x) a State or municipal government entity~~
~~_____(xi) a battery producer~~
~~_____(xii) a battery retailer~~
~~_____(xiii) a consortium of 2 or more entities described in clauses (i) through (xii)~~

~~**Topic Area 2 (Section 40207(f)(2))**~~
~~_____ (i) an institution of higher education~~
~~_____(ii) a National Laboratory~~
~~_____(iii) a Federal research agency~~
~~_____(iv) a State research agency~~
~~_____(v) a nonprofit organization~~
~~_____(vi) an industrial entity~~
~~_____(vii) a manufacturing entity~~
~~_____(viii) a private battery collection entity~~
~~_____(ix) an entity operating 1 or more battery recycling activities~~
~~_____(x) a State or municipal government entity~~

~~_____ (xi) a battery producer~~
~~_____ (xii) a battery retailer~~
~~_____ (xiii) a consortium of 2 or more entities described in clauses (i) through (xii)~~

~~**Topic Area 3 (Section 40207(f)(3))**~~

~~_____States and units of local government~~

Topic Area 4 (Section 40207(f)(4))

_____Retailers that sell covered batteries or covered battery-containing products to establish and implement a system for the acceptance and collection of covered batteries and covered battery-containing products, as applicable, for reuse, recycling, or proper disposal.

5. **Authorized Organizational Representative (AOR): please provide name, address, phone number and e-mail address for the authorized agent to bind the entity.**

Authorized Organizational Representative (AOR):

Name:
Address:
Phone:
E-mail:

I, [Full Name and Title], certify to the best of my knowledge and belief that the information contained in this PDAD 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).

Signature of Certification of Organizational Representative (AOR)

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