



**U.S. Department of Energy (DOE)
Office of Manufacturing and Energy Supply Chains (MESC)**

**Bipartisan Infrastructure Law (BIL)
Smart Manufacturing and Recycling Tactics for States (SMART)**

Funding Opportunity Announcement (FOA) Number: DE-FOA-0003376

FOA Type: Modification 000001

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FOA Issue Date:	08/01/2024
FOA Modification 000001	08/28/2024
Informational Webinar:	08/06/2024 2:30 p.m. ET
Submission Deadline for Full Applications:	09/16/2024 5:00 p.m. ET
Expected Date for DOE Selection Notifications:	December 2024
Expected Timeframe for Award Negotiations:	December 2024 – May 2025

- To apply to this FOA, applicants must register with and submit application materials through Clean Energy Infrastructure (S3) Exchange at <https://infrastructure-exchange.energy.gov/>, MESC's online application portal.
- Applicants must designate primary and backup points-of-contact in S3 Exchange with whom DOE will communicate to conduct award negotiations. If an application is selected for award negotiations, it is not a commitment to issue an award. It is imperative that the applicant/selectee be responsive during award negotiations and meet negotiation deadlines. Failure to do so may result in cancelation of further award negotiations and rescission of the selection.
- **Unique Entity Identifier (UEI) and System for Award Management (SAM)** - Each applicant is required to: (1) register in the SAM at <https://www.sam.gov> before submitting an application; (2) provide a valid UEI in the application; and (3) 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 (unless the applicant is excepted from those requirements under 2 CFR 25.110). DOE may not make a federal award to an applicant until the applicant has complied with all applicable UEI and SAM requirements. If an applicant has not fully complied with the requirements by the time DOE is ready to make a federal award, 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 number 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 use the [HELP](#) feature on [SAM.gov](#). SAM.gov will address 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](#).



Modifications

All modifications to the Funding Opportunity Announcement (FOA) are highlighted in the body of the FOA.

Mod. No.	Date	Description of Modification
000001	08/28/2024	<p>The purpose of this Modification is to update the following:</p> <p>Updates to Area of Interest 1:</p> <ul style="list-style-type: none">• Selection of Clean Energy Smart Manufacturing Innovation Institute (CESMII) to serve as the SMLP TA Field Manager (Section I.B.i.) <p>Updates to Eligibility:</p> <ul style="list-style-type: none">• Clean Energy Smart Manufacturing Innovation Institute (CESMII) is <i>not</i> eligible for award under AOI 1 (Section III.A.ii) <p>Update to Technical Volume, Technical Description, Innovation, and Impact (Section IV.C.iii.)</p> <p>Update to List of Acronyms (Appendix G)</p> <p>All changes are highlighted in yellow. Deleted text is denoted in strikethrough</p>



SUMMARY OVERVIEW OF KEY INFORMATION

Issuing Agency	Department of Energy, Office of Manufacturing and Energy Supply Chains
Program Overview	<p>This Funding Opportunity Announcement (FOA) will provide funding to support:</p> <ul style="list-style-type: none">• access to smart manufacturing technologies and high-performance computing (HPC) resources for small- and medium-sized manufacturers (SMMs); and• the recycling of batteries and battery-containing devices to support the establishment of a robust domestic critical material supply chain for electric vehicle batteries. <p>Funding from this FOA will be for projects to establish new or expand upon existing programs to support the two areas listed above.</p>
Objective	<p><u>Area of Interest 1:</u> For States to establish or expand programs to assist small- and medium-sized manufacturers in accessing and implementing smart manufacturing technologies and practices and accessing high-performance computing resources.</p> <p><u>Area of Interest 2:</u> For States and units of local government to establish or enhance battery collection, recycling, and reprocessing to support a domestic battery and critical materials supply chain.</p>
Areas of Interest (AOI)	<ul style="list-style-type: none">• AOI 1: State Manufacturing Leadership Program• AOI 2: State and Local Battery Collection, Recycling, and Reprocessing Program
Eligible Applicants	<ul style="list-style-type: none">• AOI 1: State entities• AOI 2: State entities, local government entities
Funding	<p>It is anticipated that this FOA will provide a total Federal funding amount of \$63,000,000 over 2 to 5 years.</p> <ul style="list-style-type: none">• AOI 1: approximately \$22,000,000 Federal funding; 23.1% cost share requirement• AOI 2: approximately \$41,000,000 Federal funding; 50% cost share requirement
Deadlines	September 16, 2024, at 5:00 pm ET: Full Application Due



Funding Opportunity Announcement Overview (Frequently Asked Questions):

Frequently Asked Question	Where to Look
1. Why is the U.S. Department of Energy (DOE) issuing this announcement?	<p>The U.S. Department of Energy is deploying funding from the Bipartisan Infrastructure Law to establish and enhance State programs that 1) support US small- and medium-sized manufacturers' (SMMs) of all products access to smart manufacturing technologies and/or access to high-performance computing resources, as well as 2) establish and expand state and local battery recycling programs.</p> <p>Accordingly, this program has two Areas of Interest (AOIs), a first on bringing advanced manufacturing to US SMMs (AOI 1), and a second on working with state and local government to enhance battery recycling (AOI 2).</p> <p>Information on the motivation for this announcement can be found in Section I.A Background and Context.</p>
2. Who can apply for this funding?	<p><u>Area of Interest (AOI) 1:</u> State entities <u>Area of Interest (AOI) 2:</u> State entities and/or local government entities</p> <p>For eligibility criteria, see Section III.A.i Restricted Eligibility.</p>
3. How do I apply?	<p>To apply, applicants must:</p> <ul style="list-style-type: none">• Register in the Clean Energy Infrastructure (S3) Exchange system (https://infrastructure-exchange.energy.gov);• Register in the System for Award Management (SAM) and obtain/have a Unique Entity Identifier (UEI) to apply for this funding;• Register in Grants.gov to receive automatic updates when Amendments to this announcement are posted;• Submit a Full Application that complies with the announcement requirements; and• Register in FedConnect to receive an Award if selected. <p>Details around applying for the award can be found on the Cover Page, and Section IV.A Application Process.</p>
4. When are the key deadlines?	<p>Key deadlines for submitting information to DOE and anticipated timeline for the process can be found on the Cover Page.</p>



5. How much DOE funding is available?	<p>DOE is making available up to \$63,000,000 over 2 to 5 years.</p> <p><u>Area of Interest 1:</u> approximately \$22,000,000 Federal funding with a maximum award of \$2,000,000.</p> <p><u>Area of Interest 2:</u> approximately \$41,000,000 Federal funding with a maximum award of \$10,000,000.</p> <p>See Section II.A.i Estimated Funding.</p>
6. What types of projects is DOE seeking? What does my application need to show?	<p>DOE is seeking projects that fall under one of two separate Areas of Interest (see Section V.A.i Technical Review Criteria):</p> <p><u>Area of Interest (AOI) 1:</u> Project run by a state entity will help establish or expand small- and medium-sized manufacturers' access to and implementation of smart manufacturing technologies and practices and/or access to high-performance computing resources; or</p> <p><u>Area of Interest (AOI) 2:</u> Project run by a state or local unit of government that will help establish or enhance used consumer electronics battery collection, recycling, and reprocessing to support a domestic battery and critical materials supply chain.</p> <p>Project applications should identify all corporate and community partners, but the state or local entity should be the prime applicant.</p> <p>See Questions 7-9 for more information on essential application elements and requirements.</p>
7. Are applicants required to provide cost share? What is meant by cost share?	<p>Cost sharing is required under this announcement. Cost sharing refers to the minimum amount of funding the applicant needs to provide, out of the total project cost. Cost share can come from any non-federal source, i.e. cash on hand, philanthropy, corporate investment, etc. If the project is awarded, DOE will fund the balance.</p> <p><u>Area of Interest 1:</u> Requires 23.1% Cost Share, i.e. applicants need to fund a minimum of 23.1% of the total project cost.</p> <p><u>Area of Interest 2:</u> Requires 50% Cost Share, i.e. applicants need to fund a minimum of 50% of the total project cost.</p> <p>Please see Section III.B Cost Sharing for more information.</p>



8. What are the application requirements?	All applicants will need to provide the documents listed in Section IV.C Content and Form of the Full Application .
9. What is a Community Benefits Plan and what should a Community Benefits Plan address?	<p>A Community Benefits Plan relays the Applicant’s approach to ensure that the federal investment in the project advances four goals:</p> <ol style="list-style-type: none">1. community and labor engagement;2. investing in job quality and workforce continuity;3. advancing diversity, equity, inclusion, and accessibility (DEIA); and4. contributing to the Justice40 Initiative. <p>Applications that do not thoroughly represent the community benefits plan will be non-competitive.</p> <p>Further details on Community Benefits Plans can be found in Section IV.C.v Community Benefits Plan.</p>
10. What happens after I submit my Full Application?	<p>DOE will have independent reviewers evaluate each project against the criteria outlined in Section V.A.i, and then convene a federal consensus board to select the final portfolio. If clarifications are required, DOE may reach out to the applicant.</p> <p>For details on the review criteria for Full Applications see Section V.A.i Technical Review Criteria and Section V.C.i Program Policy Factors.</p>
11. What does it mean to be selected for negotiations and do I get the money right away?	<p>If an applicant is selected for negotiations based on its application, then DOE notifies the applicant with the news that it has been selected to enter a negotiation phase. During negotiations DOE and the applicant work together to make sure project milestones, budget, and other key documents are agreed upon before DOE and the applicant sign an award. While being selected for negotiations is a significant achievement and we aspire for all selected applicants to be awarded, funding is contingent on bringing negotiations to a close and moving into the “awarded stage”. Even after being awarded, applicants do not receive funding immediately. The DOE project officially starts once the agreement is signed and funding will be made available based on the terms of the award.</p> <p>Further information can be found in Section VI Award Administration Information.</p>



12. What ongoing reporting and documentation will I have to provide?	Reporting requirements will be identified on the Federal Assistance Reporting Checklist, which will be attached to the award agreement. Further information can be found in Section VI.B.xii Reporting .
13. How can I learn more or ask other questions?	To learn more, email DE-FOA-0003376@netl.doe.gov .



Table of Contents

SUMMARY OVERVIEW OF KEY INFORMATION	iv
Table of Contents	ix
I. Funding Opportunity Description	1
A. Background and Context	1
i. Program Purpose	2
B. Areas of Interest	5
C. Applications Specifically Not of Interest	10
D. Community Benefits Plan: Job Quality and Equity	10
E. Authorizing Statutes	11
F. Notice of Bipartisan Infrastructure Law–Specific Requirements	11
II. Award Information	13
A. Award Overview	13
i. Estimated Funding	13
ii. Period of Performance	13
iii. New Applications Only	14
B. DOE Funding Agreements	14
i. Cooperative Agreements	14
ii. Funding Agreements with Federally Funded Research and Development Center (FFRDCs)	15
III. Eligibility Information	16
A. Eligible Applicants	16
i. Restricted Eligibility	16
ii. Domestic Entities	16
iii. Foreign Entities	17
B. Cost Sharing	18
i. Legal Responsibility	18
ii. Cost Share Allocation	19
iii. Cost Share Types and Allowability	19
iv. Cost Share Contributions by FFRDCs	20
v. Cost Share Verification	20
vi. Cost Share Payment	20
C. Compliance Criteria	21
D. Responsiveness Criteria	22
E. Other Eligibility Requirements	22
i. Requirements for DOE/NNSA and Non-DOE/NNSA FFRDCs Included as a Subrecipient	22
F. Limitation on Number of Full Applications Eligible for Review	23
G. Questions Regarding Eligibility	23
IV. Application and Submission Information	24
A. Application Process	24
i. Additional Information on S3 Exchange	24
B. Application Forms	25
C. Content and Form of the Full Application	25
i. Full Application Content Requirements	25
ii. SF-424: Application for Federal Assistance	27
iii. Technical Volume	27

Questions about this FOA? Email DE-FOA-0003376@netl.doe.gov.

Problems with S3 Exchange? Email InfrastructureExchangeSupport@hq.doe.gov Include FOA name and number in subject line.



iv.	State of Project Objectives (SOPO)	33
v.	Community Benefits Plan: Job Quality and Equity	35
vi.	Community Partnership Documentation	40
vii.	Budget Justification Workbook	41
viii.	Subrecipient Budget Justification (if applicable)	41
ix.	Letters of Commitment	41
x.	Resumes	42
xi.	Impacted Indian Tribes Documentation (AOI 2 only)	42
xii.	Summary for Public Release	45
xiii.	Summary Slide	46
xiv.	Location(s) of Work (AOI 2 only)	46
xv.	Environmental Questionnaire (EQ)	46
xvi.	Environmental Information Volume (EIV) (AOI 2 only)	46
xvii.	Budget for DOE/NNSA FFRDC (if applicable)	47
xviii.	Authorization for Non-DOE/NNSA or DOE/NNSA FFRDCs (if applicable)	47
xix.	SF-LLL: Disclosure of Lobbying Activities	47
xx.	Waiver Requests (if applicable)	48
xxi.	Transparency of Foreign Connections	48
xxii.	Current and Pending Support	50
xxiii.	Potentially Duplicative Funding Notice	52
D.	Post Selection Information Requests	53
E.	Unique Entity Identifier (UEI) and System for Award Management (SAM)	55
F.	Submission Dates and Times	55
G.	Intergovernmental Review	55
H.	Funding Restrictions	55
i.	Allowable Costs	55
ii.	Pre-Award Costs	56
iii.	Performance of Work in the United States (Foreign Work Waiver)	57
iv.	Construction	57
v.	Foreign Travel	57
vi.	Equipment and Supplies	58
vii.	Build America Buy America Requirements for Infrastructure Projects	58
viii.	Davis-Bacon Act Requirements	59
ix.	Lobbying	61
x.	Risk Assessment	62
xi.	Invoice Review and Approval	63
xii.	Prohibition Related to Foreign Government-Sponsored Talent Recruitment Programs	63
xiii.	Affirmative Action and Pay Transparency Requirements	64
xiv.	Foreign Collaboration Considerations	65
V.	Application Review Information	67
A.	Technical Review Criteria	67
i.	Full Applications	67
B.	Standards for Application Evaluation	74
C.	Other Selection Factors	74
i.	Program Policy Factors	74
D.	Evaluation and Selection Process	75
i.	Overview	75
ii.	Pre-Selection Interviews	75
iii.	Pre-Selection Clarification	76
iv.	Recipient Responsibility and Qualifications	76
v.	Selection	77

Questions about this FOA? Email DE-FOA-0003376@netl.doe.gov.

Problems with S3 Exchange? Email InfrastructureExchangeSupport@hq.doe.gov Include FOA name and number in subject line.



E.	Anticipated Notice of Selection and Award Negotiation Dates	77
VI.	Award Administration Information.....	78
A.	Award Notices	78
i.	Ineligible Submissions.....	78
ii.	Full Application Notifications.....	78
iii.	Applicants Selected for Award Negotiations	78
iv.	Alternate Selection Determinations	79
v.	Unsuccessful Applicants	79
B.	Administrative and National Policy Requirements.....	79
i.	Registration Requirements.....	79
ii.	Award Administrative Requirements	80
iii.	Foreign National Participation.....	80
iv.	Subaward and Executive Reporting.....	81
v.	National Policy Requirements	81
vi.	Environmental Review in Accordance with National Environmental Policy Act (NEPA)	81
vii.	Flood Resilience	82
viii.	Applicant Representations and Certifications	83
ix.	Statement of Federal Stewardship	84
x.	Statement of Substantial Involvement.....	85
xi.	Intellectual Property Provisions	85
xii.	Reporting	85
xiii.	Go/No-Go Review.....	86
xiv.	Conference Spending.....	87
xv.	Uniform Commercial Code (UCC) Financing Statements	88
xvi.	Real Property and Equipment	88
xvii.	Implementation of Executive Order 13798, Promoting Free Speech and Religious Liberty	89
xviii.	Participants and Collaborating Organizations	89
xix.	Current and Pending Support.....	89
xx.	Interim Conflict of Interest Policy for Financial Assistance	90
xxi.	Fraud, Waste, and Abuse.....	90
xxii.	Human Subjects Research	91
xxiii.	Cybersecurity Plan (AOI 2 only)	91
xxiv.	Construction Signage.....	92
VII.	Questions/Agency Contacts.....	93
VIII.	Other Information.....	94
A.	FOA Modifications.....	94
B.	Government Right to Reject or Negotiate.....	94
C.	Commitment of Public Funds	94
D.	Treatment of Application Information	94
E.	Evaluation and Administration by Non-Federal Personnel	95
F.	Notice Regarding Eligible/Ineligible Activities	96
G.	Notice of Right to Conduct a Review of Financial Capability	96
H.	Requirement for Full and Complete Disclosure	96
I.	Retention of Submissions.....	96
J.	Copyright.....	96
K.	Export Control	97
L.	Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment	97
M.	Personally Identifiable Information (PII)	97
N.	Annual Independent Audits	98

Questions about this FOA? Email DE-FOA-0003376@netl.doe.gov.

Problems with S3 Exchange? Email InfrastructureExchangeSupport@hq.doe.gov Include FOA name and number in subject line.



O. Informational Webinar.....	98
Appendix A – Smart Manufacturing and High-Performance Computing.....	99
Appendix B – Examples of available resources that support adoption of smart manufacturing technologies or high-performance computing resources across the United States	103
Appendix C – Cost Share Information	107
Appendix D – Waiver Requests For: 1. Foreign Entity Participation; and 2. Foreign Work	112
Appendix E – Buy America Requirements for Infrastructure Projects	115
Appendix F – Definition of Technology Readiness Levels.....	120
Appendix G – List of Acronyms	121



I. Funding Opportunity Description

A. Background and Context

The Office of Manufacturing and Energy Supply Chains is issuing this Funding Opportunity Announcement (FOA). Awards made under this FOA will be funded, in whole or in part, with funds appropriated by the Infrastructure Investment and Jobs Act,¹ more commonly known as the Bipartisan Infrastructure Law (BIL).

BIL is a once-in-a-generation investment in modernizing and upgrading American infrastructure to enhance U.S. competitiveness, drive the creation of good-paying jobs with a free and fair chance to join a union, tackle the climate crisis, and ensure strong access to economic, environmental, and other benefits for disadvantaged communities.² BIL appropriates more than \$62 billion to the U.S. 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.

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

The activities to be funded under this FOA support BIL sections 40534 and 40207(f)(3) and the broader government-wide approach to reinvigorating and reinvesting in the American industrial base; catalyzing American leadership and

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 (BIL).

² Pursuant to [Executive Order \(EO\) 14008](#), "Tackling the Climate Crisis at Home and Abroad," January 27, 2021, and the Office of Management and Budget's [Interim Justice40 Implementation Guidance M-21-28](#) and [Addendum M-23-09](#), DOE recognizes disadvantaged communities as the census tracts identified as disadvantaged by the White House Council on Environmental Quality's Climate and Economic Justice Screening Tool (CEJST), located at <https://screeningtool.geoplatform.gov/>, as well as all Federally Recognized Tribes (whether or not they have land). See https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf. 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 [EO 14008](#), "Tackling the Climate Crisis at Home and Abroad," January 27, 2021.



global competitiveness in the clean energy economy, investing in the American manufacturing workforce; and maximizing the benefits of the clean energy transition as the nation works to curb the climate crisis, empower workers, and advance environmental justice. These BIL sections are focused on:

- Appropriations of \$50 million over Fiscal Years (FYs) 2022 through 2026 to establish the State Manufacturing Leadership Program (SMLP), which supports state entities to provide assistance to small- and medium-sized manufacturers (SMMs) to:

- facilitate access to high-performance computing (HPC) resources; and
- implement smart manufacturing technologies and practices.⁵

The SMLP awarded over \$22,000,000 of the \$50,000,000 in federal funds in April 2024 to 12 projects in 12 states.⁶

- Appropriations of \$41 million over FYs 2022 through 2026 to increase the number of state and local programs to assist in the establishment or enhancement of state battery collection, recycling, and reprocessing programs, with the goal of:
 - increasing participation in recycling programs; and
 - developing recycling programs for electronics and batteries that can help immediately support a domestic battery supply chain.⁷

i. Program 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 to the benefit of all Americans.⁸ 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 for disadvantaged communities and inclusion of underserved communities.

As part of the whole-of-government approach to advance equity and encourage worker organizing and collective bargaining,^{9,10,11} and in alignment with BIL sections

⁵ BIL § 40534(d).

⁶ For information about the Round 1 selectees, visit <https://www.energy.gov/mesc/state-manufacturing-leadership-program-selections>.

⁷ BIL § 40207(f)(3).

⁸ [Executive Order \(E.O.\) 14008](#), "Tackling the Climate Crisis at Home and Abroad," January 27, 2021.

⁹ E.O. 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government," January 20, 2021.

¹⁰ E.O. 14025, "Worker Organizing and Empowerment," April 26, 2021.

¹¹ E.O. 14052, "Implementation of the Infrastructure Investment and Jobs Act," November 18, 2021.



40534 and 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 Indian Tribes. Consistent with Executive Order 14008,¹² this FOA is designed to help meet the goal that 40% of the benefits of the Administration's investments in clean energy and climate solutions be delivered to disadvantaged communities, as defined pursuant to the Executive Order, and to drive creation of accessible, good-paying jobs with the free and fair chance for workers to join a union.

Through the two (2) Areas of Interest (AOIs) of this FOA, the FOA will provide approximately \$63 million in support of programs by state or local government entities with the following purposes:

AOI 1: State Manufacturing Leadership Program (SMLP)

The digitization of manufacturing is transforming the industrial sector. In recent years, manufacturing firms have invested in bringing computers and electronics into their processes to automate processes. While companies could utilize robots to perform some processes without human intervention, they required programming and could only execute certain activities. Through smart manufacturing, or "Industry 4.0", the focus is shifting to interconnectivity, automation, and using real-time data to improve production; facilitating the adoption of advanced industrial robotics, artificial intelligence, and cybersecurity technologies that are critical to resilience and maintaining a competitive edge; and increasing product quality and sustainability by allowing manufacturers to sense and then correct anomalies.¹³

This AOI will support state entities in accelerating the deployment of smart manufacturing and high-performance computing technologies across their small- and medium-sized manufacturing firm base. DOE strives to make adoption of smart manufacturing technologies more accessible by partnering with states to remove cost and complexity barriers. In doing so, this AOI contributes to the Administration's goals of catalyzing American leadership and global competitiveness in the clean energy economy.

Smart manufacturing technologies can help SMMs identify opportunities for optimizing energy management, energy productivity, and energy efficiency. Accelerating the adoption of smart manufacturing technologies will not only accelerate innovation and competitiveness but will also yield efficiencies that can

¹² E.O. 14008, "Tackling the Climate Crisis at Home and Abroad," January 27, 2021.

¹³ National Institutes of Standards and Technology, <https://www.nist.gov/blogs/manufacturing-innovation-blog/cybersecurity-and-industry-40-what-you-need-know>.



reduce energy costs while driving down industrial emissions, which is essential for reaching national and global climate goals.

Training workers on the use of smart manufacturing technologies, maintenance of systems, and other associated skills will upskill the manufacturing workforce across the country. This AOI aims to expand smart manufacturing training for American workers through funding that enables states to increase the capacity of existing workforce development programs. Investing in the American workforce will ensure the emerging net zero economy delivers equitable economic prosperity to the American people.

For more info on Smart Manufacturing and High-Performance Computing resources, see Appendix A.

AOI 2: State and Local Battery Collection, Recycling, and Reprocessing Program

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.

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 recycling of 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 and localities. 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 recycled material supply chain for EVs will come from consumer electronics batteries until nearly 2040 (Figure 1).¹⁴

¹⁴ NREL Analysis. Cahya Winofa, Weigl, 2023.

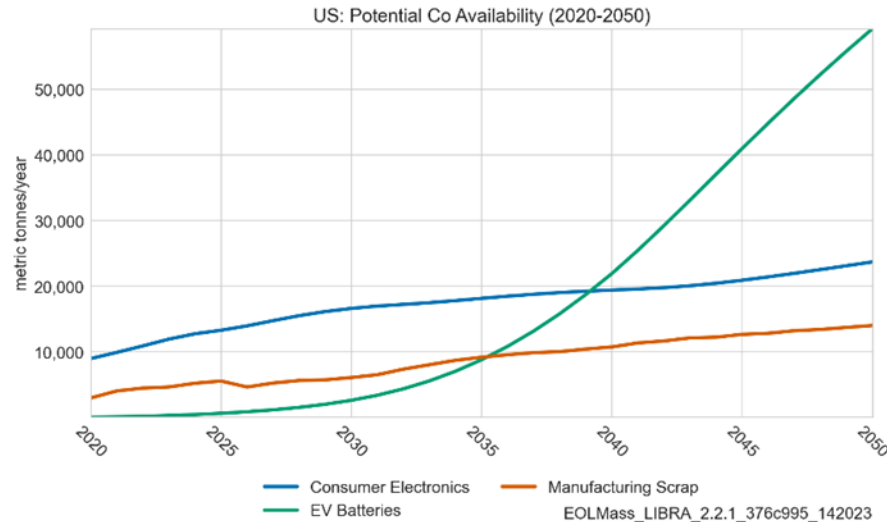


Figure 1. Availability of cobalt from domestic sources between 2020 and 2050.

B. Areas of Interest

Area of Interest	Title
1	State Manufacturing Leadership Program
2	State and Local Battery Collection, Recycling, and Reprocessing Program

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

i. Area of Interest 1: State Manufacturing Leadership Program (SMLP)

Introduction: The rapid development, deployment, and adoption of smart manufacturing technologies is a high priority for increasing economic competitiveness, efficiency, and energy productivity – and decreasing greenhouse gas emissions – in all U.S. manufacturing sectors.¹⁵

For the purposes of this AOI:

- “Smart Manufacturing” means advanced technologies in information, automation, monitoring, computation, sensing, modeling, artificial intelligence, analytics, and networking that—
 - (A) digitally
 - (i) simulate manufacturing production lines;

¹⁵ U.S. Department of Energy, *National Smart Manufacturing Strategic Plan* (July 2022).



- (ii) operate computer-controlled manufacturing equipment;
 - (iii) monitor and communicate production line status; and
 - (iv) manage and optimize energy productivity and cost throughout production;
 - (B) model, simulate, and optimize the energy efficiency of a factory building;
 - (C) monitor and optimize building energy performance;
 - (D) model, simulate, and optimize the design of energy efficient and sustainable products, including the use of digital prototyping and additive manufacturing to enhance product design;
 - (E) connect manufactured products in networks to monitor and optimize the performance of the networks, including automated network operations; and
 - (F) digitally connect the supply chain network.¹⁶
- “High-Performance Computing” means the use of supercomputers, sophisticated models, and/or large data sets to study and solve complex scientific and technological challenges.

Objective: Consistent with BIL 40534, the objective of this AOI is to expand access to smart manufacturing technologies and practices and high-performance computing resources for SMMs.

DOE is seeking applications for projects under this AOI from state entities to establish new or expand existing programs that (1) provide assistance to SMMs to implement smart manufacturing technologies and practices and (2) facilitate access to high-performance computing resources for SMMs.

Requirement: Applications for projects under this AOI must include support to SMMs that are focused on all or a subset of the following areas:

- **Outreach:** Promoting the benefits of smart manufacturing technologies among SMMs based on national and regional economic development and supply chain priorities;
- **Training and Workforce Development:** Educating the current and future workforce on smart manufacturing technologies, to include through apprenticeship, internship, or certification programs.
- **Facility, Product, or Process Assessments:** Evaluating SMM facilities for potential smart manufacturing technology improvements or leveraging HPC resources to identify product or process improvements.

¹⁶ BIL § 40531(7)



- **Roadmapping:** Building executable plans to implement smart manufacturing improvements for SMMs.
- **Direct Technology Implementation:** Identifying and/or directly providing financial assistance to facilitate SMMs' access to and/or implementation of smart manufacturing and high-performance computing resources and technologies.
- **Networking:** Connecting SMMs with a diverse coalition of public and private technical assistance providers, such as the Manufacturing USA institutes, the National Laboratories, Industrial Assessment Centers (IACs), National Institute of Standards and Technology (NIST) Manufacturing Extension Partnerships (MEPs), and institutions of higher education (IHEs).

In designing programs, states should familiarize themselves with the [National Strategy for Advanced Manufacturing](#),¹⁷ as well as with existing national resources. See below for more information.

SMLP Technical Assistance (TA) Field Manager

To support the impact and effectiveness of the SMLP, DOE will be partnering with a Technical Assistance (TA) Field Manager who will provide technical expertise, guidance, and access to existing smart manufacturing resources for SMLP projects. Specifically, the TA Field Manager will support SMLP and selected projects by:

- Providing access to existing training tools and resources that can be leveraged by projects to accelerate their smart manufacturing training programs;
- Reviewing and advising on technical and training classes, curricula, and certification programs designed by projects to improve the quality of the training materials and ensure they are up to industry standards;
- Reviewing and advising on facility assessments, roadmapping tools, business self-evaluations, and other assessment-related processes, tools, and materials designed by projects in order to improve their impact and effectiveness;
- Advising projects on the most recent available smart manufacturing technologies and current U.S. and international best practices and standards;
- Sharing industry use cases, manufacturing data, and industry best practices; and
- Conducting periodic virtual and/or in-person meetings or site visits with projects to assess and advise on the performance of training, technology demonstrations, facility assessments, or other related activities performed by the projects.

¹⁷ Subcommittee on Advanced Manufacturing Committee on Technology, National Science and Technology Council, *National Strategy for Advanced Manufacturing*, October 2022.



At a minimum, all projects selected under this AOI will be required to interact with the TA Field Manager in their role supporting the execution of SMLP projects and evaluating the impact and effectiveness of the SMLP program at large. **Applicants are strongly encouraged to leverage the tools, resources, and expertise available from the TA Field Manager listed above.** Leveraging these tools and resources may help a project expedite the delivery and reduce the cost of providing assistance to SMMs. Additionally, because the TA Field Manager is funded by DOE and contracted to support the SMLP program at large, their support is at no-added-cost to selected projects.¹⁸

DOE has selected the Clean Energy Smart Manufacturing Innovation Institute (CESMII)¹⁹ to serve as the SMLP TA Field Manager. Examples of other available resources that support adoption of smart manufacturing technologies across the United States are included in Appendix B.

ii. **Area of Interest 2: State and Local Battery Collection, Recycling, and Reprocessing Program**

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 Chains²⁰ provided recommendations to support high-capacity batteries including investments 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 in implementing 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: Consistent with BIL 40207(f)(3), the objective of this AOI 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.

¹⁸ As a subcontractor to DOE in support of the State Manufacturing Leadership Program, the TA Field Manager cannot serve as a subrecipient on any project under AOI 1 for this FOA.

¹⁹ <https://www.cesmii.org/>

²⁰ E.O. 14017, "America's Supply Chains," February 24, 2021.



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 applicant must specify how the proposed program will report on the number of battery collection points to be established or enhanced and the quantity of material to be collected.

DOE is seeking applications for projects under this AOI from state-entities or local government entities to establish or enhance programs for battery collection, recycling, and reprocessing. Applications should strive to achieve sustainable investments in establishing state or local recycling processes and infrastructure.

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 to be established or enhanced and the quantity of material to be collected.
- Applications must provide data and documentation to support anticipated collection amounts (pounds), rates (pounds collected annually), and site selection(s).

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

An application submitted under this AOI is required to focus on activities that align with the following definition of “battery” in BIL § 40207(f)(1)(B): “The term ‘battery’ means a device that—(i) consists of 1 or more electrochemical cells that are electrically connected; and (ii) is designed to store and deliver electric energy.”:

Deliverables

The number of battery collection points established or enhanced, and the quantity of material collected as a result of this cooperative agreement (pounds collected annually).

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).
- Area of Interest 1 only: Applications that do not primarily focus on the required areas described in Section I.B.i.
- Area of Interest 2 only: Applications that do not align with the definition of battery as described in Section I.B.ii of the FOA.

D. Community Benefits Plan: Job Quality and Equity

To support the goal of building a clean and equitable energy economy, BIL-funded projects are expected to (1) support meaningful community and labor engagement; (2) invest in quality jobs; (3) advance diversity, equity, inclusion, and accessibility (DEIA); and (4) contribute to the President’s goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities (the Justice40 Initiative).²¹ To ensure these goals are met,

²¹ The Justice40 Initiative, established by [EO 14008](#), sets a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities. Consistent with Justice40 guidance, DOE recognizes disadvantaged communities as the census tracts defined and identified as disadvantaged by the White House Council on Environmental Quality’s Climate and Economic Justice Screening Tool (CEJST), located at <https://screeningtool.geoplatform.gov/>, as well as all Federally Recognized Tribes (whether or not they have land). See https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf.



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 Federally Recognized Indian Tribes and 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 details on how to ensure the delivery of measurable community and jobs benefits, ideally using negotiated 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 community benefits agreements, Tribal agreements, community workforce agreements, project labor agreements, and other collective bargaining agreements. See Section IV.C.v. for the Community Benefits Plan content requirements.

E. Authorizing Statutes

The programmatic authorizing statute for Area of Interest 1: Public Law 117-58 Infrastructure Investment and Jobs Act of 2021 (referred to as BIL) Section 40534 (codified at 42 U.S.C § 18814.)

The programmatic authorizing statute for Area of Interest 2: Public Law 117-58 Infrastructure Investment and Jobs Act of 2021 (referred to as BIL), Section 40207(f)(3).

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

F. Notice of Bipartisan Infrastructure Law–Specific Requirements

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

- Cybersecurity Plan (Area of Interest 2);
- Davis-Bacon Act (Area of Interest 2);
- 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;

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- 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;
- 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.

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II. Award Information

A. Award Overview

i. Estimated Funding

DOE expects to make a total of approximately \$63,000,000 of federal funding available for new awards under this FOA, subject to the availability of appropriated funds. DOE anticipates making approximately 10 – 13 awards for AOI 1, and 10 – 25 awards for AOI 2 under this FOA. DOE may issue one, multiple, or no awards. Individual awards may vary between \$1,000,000 and \$2,000,000 for AOI 1 and \$250,000 and \$10,000,000 for AOI 2.

DOE may issue awards in one, both, or neither of the following AOIs:

AOI Number	AOI 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	State Manufacturing Leadership Program	10-13	\$1,000,000	\$2,000,000	\$22,000,000	Up to 36 months
2	State and Local Battery Collection, Recycling, and Reprocessing Program	10-25	\$250,000	\$10,000,000	\$41,000,000	36-60 months

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

DOE anticipates making awards that will be comprised of multiple 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.xiii. The anticipated period of performance by Area of Interest is reflected in the table below.



Area of Interest	Project Period of Performance
1	24 months to 36 months, comprised of one budget period
2	36 months to 60 months, comprised of 3 – 5 budget periods

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.

Entities who have existing DOE-funded awards may only submit a new application under this FOA for work that is not duplicative of that already funded by DOE.

Note: Applicants who previously submitted Applications that were not funded under other DOE FOAs are eligible to apply as long as the Applications are aligned with the current goals, eligibility requirements, etc. of this FOA.

B. DOE Funding Agreements

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

i. Cooperative Agreements

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

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

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



ii. Funding Agreements with Federally Funded Research and Development Center (FFRDCs)²²

When FFRDCs are not funded as subrecipients, 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.

²² FFRDCs are public-private partnerships that conduct research for the U.S. 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. Restricted Eligibility

AOI 1

In accordance with 2 CFR 910.126, Competition, eligibility for award is restricted to States.²³

AOI 2

In accordance with 2 CFR 910.126, Competition, eligibility for award is restricted to States and unites of local government.²⁴

ii. Domestic Entities

The following types of domestic entities are eligible to participate as a subrecipient of this FOA:

1. Institutions of higher education;
2. For-profit entities;
3. Nonprofit entities;
4. State and local governmental entities; and
5. Indian Tribes, as defined in section 4 of the Indian Self-Determination and Education Assistance Act, 25 U.S.C. § 5304²⁵

²³ "State means any state of the United States, the District of Columbia, the Commonwealth of Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any agency or instrumentality thereof exclusive of local governments." 2 CFR 200.1.

²⁴ "Local Government means any unit of government within a state, including a: county, borough, municipality, city, town, township, parish, local public authority, including any public housing agency under the United States Housing Act of 1937, special district, school district, intrastate district, council of government, whether or not incorporated as a nonprofit corporation under State law, and any other agency or instrumentality of a multi-, regional, or intra-State or local government." 2 CFR 200.1

²⁵ "Indian Tribe," for the purposes of this FOA and as defined in in section 4 of the Indian Self-Determination and Education Assistance Act ([25 U.S.C. § 5304](#)), [1]means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act ([85 Stat. 688](#)) [[43 U.S.C. § 1601, et seq.](#)], which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians. Federally Recognized Indian Tribes are also considered disadvantaged communities for the purposes of Justice40 requirements in this FOA per https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf.



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 or under the laws of the United States; have majority domestic ownership and control; and have a physical place of business in the United States.

DOE/NNSA FFRDCs are eligible to apply for funding as a subrecipient but are not eligible to apply as a prime recipient.

The Clean Energy Smart Manufacturing Innovation Institute (CESMII) is *not eligible* for award under AOI 1 and may not be proposed as a subrecipient on another entity's application. An application to AOI 1 that includes CESMII as a prime recipient or subrecipient will be considered non-responsive.

The National Energy Technology Laboratory (NETL) is *not eligible* for award under this announcement and may not be proposed as a subrecipient on another entity's application. An application that includes NETL as a prime recipient or subrecipient will be considered non-responsive.

Non-DOE/NNSA FFRDCs are eligible to participate as a subrecipient but are not eligible to apply as a prime recipient.

Federal agencies and instrumentalities (other than DOE) are eligible to participate as a subrecipient but are not eligible to apply as a prime recipient.

Entities banned from doing business with the U.S. government, such as entities debarred, suspended, or otherwise excluded from or ineligible for participating in federal programs, 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.

iii. Foreign Entities

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

B. Cost Sharing

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

Area of Interest 1:

The cost share must be at least 23.1% of the total project costs^{26,27,28} The cost share must come from non-federal sources unless otherwise allowed by law.

For example: For a project seeking the maximum \$2 million federal award size, the minimum non-federal funds would need to be \$600,781 (rounded up to the nearest dollar) in order to meet the 23.1% cost share requirement for AOI 1.

Area of Interest 2:

The cost share must be at least 50% of the total project costs. The cost share must come from non-federal sources unless otherwise allowed by law.

To help applicants calculate proper cost share amounts, DOE has included cost share information and sample cost share calculations in Appendix C to this FOA.

i. Legal Responsibility

Although the cost share requirement applies to the entire project, 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 prime recipient is required to contribute at least the cost share percentage of total expenditures incurred through the date of termination.

²⁶ Total project costs are the sum of the government share, including FFRDC costs if applicable, and the recipient share of project costs.

²⁷ BIL Section 40534(c)(3) requires that an entity receiving financial assistance under that section contribute matching funds in an amount equal to not less than 30 percent of the financial assistance (cost match). For consistency with AOI 2 of this FOA, this 30 percent cost match was converted to a 23.1 cost share, rounded up to the nearest decimal (see Appendix C).

²⁸ 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.



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 entire project 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.H.i. of the FOA. In addition, cost share must be verifiable upon submission of the Full Application. Cost share may be provided in the form of cash or cash equivalents, or in-kind contributions. Cost share must come from non-federal sources (unless otherwise allowed by law), such as project participants, state or local governments, or other third-party financing. DOE Loan Guarantees cannot be leveraged by applicants to provide the required cost share or otherwise support the same scope that is proposed under a project.

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

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

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

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

The prime recipient and subrecipient(s) may not use the following sources to meet cost share obligations:



- 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 as adopted and supplemented by 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 C of the FOA.

vi. Cost Share Payment

DOE requires prime recipients to contribute the cost share amount incrementally over the life of the award. Specifically, the prime recipient's cost share for each billing period must always reflect the overall cost share ratio negotiated by the parties (i.e., the total amount of cost sharing on each invoice when considered

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cumulatively with previous invoices must reflect, at a minimum, the cost sharing percentage negotiated). As FFRDC funding will be provided directly to the FFRDC(s) by DOE, prime recipients will be required to provide project cost share at a percentage commensurate with the FFRDC costs, on a budget period basis, resulting in a higher interim invoicing cost share ratio than the total award ratio.

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

C. Compliance Criteria

All applicant submissions must:

- Comply with the applicable content and form requirements listed in Section IV.C of the FOA;
- Include all required documents;
- Be uploaded and submitted to S3 Exchange <https://infrastructure-exchange.energy.gov>; and
- Be submitted by the deadline stated in the FOA.

DOE will not review or consider submissions submitted through means other than S3 Exchange, submissions submitted after the applicable deadline, or incomplete submissions.

Applicants are strongly encouraged to submit their Full Applications at least 48 hours in advance of the submission deadline. Under normal conditions (i.e., at least 48 hours before the submission deadline), applicants should allow at least one hour to submit a Full Application. Once the Full Application is submitted in S3 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 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.

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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 and Non-DOE/NNSA FFRDCs Included as a Subrecipient

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

a. Authorization for non-DOE/NNSA FFRDCs

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

b. Authorization for DOE/NNSA FFRDCs

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

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

c. Funding, Cost Share, and Subaward with FFRDCs

DOE will **not** fund DOE/NNSA FFRDCs participating as a subrecipient through the DOE field work authorization process. DOE will **not** fund non-DOE/NNSA FFRDCs through an interagency agreement with the sponsoring agency. Therefore, the prime recipient and FFRDC are responsible for entering into an appropriate subaward that will govern, among other things, the funding of the FFRDC portion of the work from the prime recipient under its DOE award. Such an agreement must be entered into before any project work begins.

The applicant should prepare the budgets using rates appropriate for funding the FFRDCs through subawards. The applicant's cost share requirement will

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be based on the total cost of the project, including the applicant's, the subrecipient's, and the FFRDC's portions of the project.

d. 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.

e. Limit on FFRDC Effort

The FFRDC effort, in aggregate, shall not be limited.²⁹

F. Limitation on Number of Full Applications Eligible for Review

An entity may submit more than one Full Application to this FOA, provided that each application describes a unique, scientifically distinct project.

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 apply in response to this FOA lies solely with the applicant.

²⁹ Total project cost is the sum of the government share, including FFRDC costs if applicable, and the recipient share of project costs.

IV. Application and Submission Information

A. Application Process

The application process includes one submission phase: 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" 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 S3 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.

i. Additional Information on S3 Exchange

S3 Exchange is designed to enforce the deadlines specified in this FOA. The "Apply" and "Submit" buttons will automatically disable at the defined submission deadlines.

Applicants who experience technical difficulties with submission PRIOR to the FOA deadline should contact the S3 Exchange helpdesk for assistance (CleanEnergyInfrastructureSupport@hq.doe.gov). The S3 Exchange helpdesk and/or the S3 Exchange system administrators will assist applicants in resolving issues.

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B. Application Forms

The application forms and instructions are available on S3 Exchange. To access these materials on S3 Exchange, go to <https://infrastructure-exchange.energy.gov> and select the appropriate funding opportunity number.

Note: The maximum file size that can be uploaded to the S3 Exchange website is 50MB. Files larger than 50MB cannot be uploaded and hence cannot be submitted for review. If a file is larger than 50MB but is still within the maximum page limit specified in the FOA, it must be broken into parts and denoted to that effect. For example:

TechnicalVolume_Part_1

TechnicalVolume_Part_2

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

C. Content and Form of the Full Application

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

All Full Application documents must be marked with the Control Number issued to the applicant.

i. Full Application Content Requirements

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

Component	File Format	Page Limit	File Name
SF-424: Application for Federal Assistance	PDF	n/a	ControlNumber_LeadOrganization_App424
Technical Volume	PDF	10 pages	ControlNumber_LeadOrganization_TechnicalVolume Breakdown: 1-page Cover; 1-page Overview; 5 pages Tech Desc/Innov/Impact; 1-page Workplan; and 2 pages Tech Qual/Resources.

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Statement of Project Objectives	MS Word	6 pages AOI 1 10 pages AOI 2	ControlNumber_LeadOrganization_SOPO
Community Benefits Plan: Job Quality and Equity	PDF	20 Pages	ControlNumber_LeadOrganization_CBP
Community Partnership Documentation	PDF	10 Pages	ControlNumber_LeadOrganization_PartnerDocs
Budget Justification Workbook	MS Excel	n/a	ControlNumber_LeadOrganization_Budget_Justification
Subrecipient Budget Justification	MS Excel	n/a	ControlNumber_LeadOrganization_Subrecipient_Budget_Justification
Letters of Commitment	PDF	1 page each	ControlNumber_LeadOrganization_LOCs
Resumes	PDF	2 pages each	ControlNumber_LeadOrganization_Resumes
Impacted Indian Tribes Documentation (AOI 2 only)	PDF	n/a	ControlNumber_LeadOrganization_ImpactedIndianTribes
Summary for Public Release	PDF	2 pages	ControlNumber_LeadOrganization_Summary
Summary Slides	MS PowerPoint	3 slides	ControlNumber_LeadOrganization_Slide
Location(s) of Work (AOI 2 only)	Excel	n/a	ControlNumber_LeadOrganization_LOW
Environmental Questionnaire (EQ)	PDF	n/a	ControlNumber_LeadOrganization_EQ
Environmental Information Volume (EIV) (AOI 2 only)	PDF	n/a	ControlNumber_LeadOrganization_EIV
DOE Work Proposal for FFRDC, (see DOE O 412.1A, Attachment 2)	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
Waiver Requests (if applicable)	PDF	n/a	ControlNumber_LeadOrganization_Waiver
Transparency of Foreign Connections	PDF	n/a	BusinessSensitive_ControlNumber_LeadOrganization_TFC
Current and Pending Support	PDF	n/a	ControlNumber_LeadOrganization_CPS
Potentially Duplicative Funding Notice	PDF	n/a	ControlNumber_LeadOrganization_PDFN

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Note: The maximum file size that can be uploaded to the S3 Exchange website is 50MB. See Section IV.B.

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

ii. SF-424: Application for Federal Assistance

Applicants must complete the SF-424: Application for Federal Assistance, which is available on the S3 Exchange at <https://infrastructure-exchange.energy.gov/>

Effective January 1, 2020, the System for Award Management (SAM) is the central repository for common government-wide certifications and representations required of Federal grant and cooperative agreement recipients. As registration in SAM is required for eligibility for a federal award and registration must be updated annually, Federal agencies use SAM information to comply with award requirements and avoid increased burden and costs of separate requests for such information, unless the recipient fails to meet a federal award requirement, or there is a need to make updates to their SAM registration for other purposes.

Note: The dates (Block 17) and dollar amounts (Block 18) on the SF-424 are for the complete project period and not just the first project year, first phase, or another subset of the project period. Save the SF-424 in a single PDF file using the following convention for the title: "ControlNumber_LeadOrganization_424".

iii. Technical Volume

A Technical Volume template is available on the S3 Exchange at <https://infrastructure-exchange.energy.gov/>. Applicants are not required to use the Technical Volume Template, but applicants must prepare a Technical Volume that includes all the requirements below and addresses the technical review criteria as discussed in Section V.A 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 10 pages, including the cover page, table of contents, and all citations, charts, graphs, maps, photos, or other graphics, and must include all information in the table



below. The applicant should consider the weighting of each of the technical review criteria (see Section V.A.i of the FOA) when preparing the Technical Volume.

Technical Volume Content Requirements	
SECTION/PAGE LIMIT	DESCRIPTION
Cover Page (1 page)	Area of Interest 1 and 2: The cover page should include: <ul style="list-style-type: none">• Project title• Specific FOA Area of Interest being addressed• Technical and business points of contact• Names of all team member organizations• Names of project managers, Senior/Key Personnel and their organizations• Project location(s)• Any statements regarding confidentiality.
Project Overview (1 page)	Area of Interest 1 and 2: The Project Overview should contain the following information: <ul style="list-style-type: none">• Background: The applicant should discuss the background of its organization, including the history, successes, and current work or programming relevant to the Area of Interest being addressed in the Full Application (e.g. smart manufacturing access, HPC access, SMM support, battery (or other) recycling/collection, community outreach, workforce development, etc.).• Project Objectives: The applicant should explicitly identify the objectives of the project in as well as the critical success factors in achieving those objectives, including the ways in which the proposed project location and related infrastructure, skilled workforce, community benefits, etc. will contribute to the success of the project.• 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 Description, Innovation, and Impact (5 pages)	Area of Interest 1 (only) – see below for AOI 2 requirements When describing the resources being deployed by the project, applicants should be sure to specify whether a project is targeting smart manufacturing, high performance computing, or both. For the purposes of this section, the term “smart manufacturing technologies” is used to refer to both types of resources. The Project Design and Impact should contain the following information: <u>Project Design:</u>

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- Discuss the proposed organizational model and operational plan for implementing the project, explaining how this approach will best enable fulfillment of the SMLP goals, and objectives. This should include:
 - The SMM base that the project intends to reach, including whether the project will seek to engage with SMMs broadly or target specific industries, geographies, or demographics (and why)
 - How the project will facilitate the accelerated deployment of smart manufacturing technologies, with a focus on (1) outreach; (2) training and workforce development; (3) facility, product, or process assessments; (4) smart manufacturing roadmapping; (5) direct technology implementation; and/or (6) networking.
 - Any new or innovative approaches that will be used to accelerate deployment of smart manufacturing technologies among SMMs through the proposed project.
 - The deployment plan for providing these resources, such as:
 - Whether the proposed project is expanding existing work or programming already conducted by the applicant or its key partners or is proposing to create new programming.
 - Whether and the extent to which the project intends to utilize available tools, resources, and expertise provided by the Clean Energy Smart Manufacturing Innovation Institute (CESMII) as the SMLP TA Field Manager, as described in Section I.B.i.
- If applicable, provide a detailed description of (i) any specific types of smart manufacturing technologies this project will introduce or expand utilization in the state and (ii) justification for each technology, as shown through an analysis of market demand and current supply.

Project Partnerships:

- Discuss what national, state, regional or local smart manufacturing technology-related resources the project anticipates leveraging (if applicable) and the services these resources will provide.
- Describe the anticipated types of agreements the applicant expects to enter into with manufacturing assistance resource providers, workforce development programs, community organizations, and/or Labor organizations. It is not necessary to repeat specific details provided in the Community Benefits Plan, but an overview of these partnerships and associated agreements should be included here.
- Discuss the structure for project management and collaboration among all partner organizations that will be a part of the project implementation. The applicant should include (i) a specific and detailed description of how tasks will be shared among the prime recipient and any subrecipients of funding or project partners; and (ii) a summary of the experience of any subrecipients and/or project partners in detailing their unique capabilities and expertise.

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	<p><u>Engagement Strategy:</u></p> <ul style="list-style-type: none">• Provide a proposed plan for engaging in broad statewide outreach to SMMs and particularly firms in disadvantaged communities. It is not necessary to repeat specific details provided in the Community Benefits Plan, but an overview of the project’s outreach strategy should be included here.• Identify opportunities to work with governmental and nongovernmental stakeholders to leverage diverse financing tools to support implementation of project recommendations at SMMs.• As part of the proposed engagement plans, applicants should specify when each particular engagement will take place in the project’s launch timeline. <p><u>Project Impact:</u></p> <p>Impacts in this section should use clear and measurable metrics, such as numbers of new/retained jobs, workers trained/upskilled, credentials obtained, apprenticeships provided, or economic measures such as GDP increase, tax revenue increase, or other metrics as appropriate. In discussing the project impact, the applicant should provide justification for how these impacts are achievable and the timescale over which these impacts are anticipated.</p> <ul style="list-style-type: none">• Discuss how this project plan contributes to the BIL goals of reinvigorating and reinvesting in the American industrial base; catalyzing American leadership and global competitiveness in the clean energy economy; and investing in the American manufacturing workforce. This should include, as applicable, how the project will result in:<ul style="list-style-type: none">○ Job and economic growth within individual SMMs, across the manufacturing sector, and/or across the state;○ A more skilled, competitive, and overall higher-quality workforce among SMMs;○ Increased productivity and competitiveness of SMMs;○ Reduced industrial emissions;○ The potential benefits to disadvantaged communities;○ Onshoring/reshoring of manufacturing capabilities.• Discuss the benefits of any partnerships established through this project in establishing a more robust and integrated ecosystem to support SMMs in the state.• Discuss the applicant’s plan for potential continuing this project beyond DOE funding, including identifying any Federal and/or non-Federal governmental assistance the project may seek or has received.• 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.
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	<p>Area of Interest 2 (only)</p> <p>The Technical Description should contain the following information:</p> <ul style="list-style-type: none">• Relevance and Outcomes: The applicant should provide a detailed description of the project and objectives that will be pursued in battery recycling. This section should describe the relevance of the proposed project to the goals and objectives of AOI 2, 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 to address battery recycling on a state or local level.• Feasibility: The applicant should demonstrate the technical feasibility of the proposed project 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 project in the focus area (if applicable), the advantages of proposed project over current and emerging battery recycling availability, and the overall impact on advancing the state of battery recycling, reprocessing, or collection if the project is successful.• Project Capacity: The applicant should discuss the battery product(s) to be recycled, reprocessed, or collected, the targeted annual capacity, and information or data to support the targeted annual capacity.• Domestic Supply Chain Impact: The applicant should describe the impact that the project will have in bolstering the relevant domestic supply chain (both upstream and downstream), including analysis of how the project will impact or improve the current baseline by increasing domestic capacity to meet current or projected demand. 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. Applicants should include impact on the local workforce.
<p>Workplan 1 page</p>	<p>Area of Interest 1 and 2:</p> <p>The Workplan should include the Buy America Requirements for Infrastructure Projects (if applicable) and a Project Management Overview. The Workplan should contain the following information:</p> <ul style="list-style-type: none">• Buy America Requirements for Infrastructure Projects: Include a short statement on whether the project will involve the construction, alteration, and/or repair of infrastructure in the United States. See Appendix E for applicable definitions and other information to inform this statement.

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	<ul style="list-style-type: none">• Project Management Overview: The applicant should discuss the team's proposed project management plan, including the following:<ul style="list-style-type: none">○ 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 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 (2 page)	<p>Area of Interest 1</p> <p>The Technical Qualifications and Resources section should contain the following information:</p> <ul style="list-style-type: none">• A description of the unique qualifications and expertise of the project team and subrecipients, including past experience in designing and implementing programs to support SMMs and partnering with public and private entities to do so; collaborating and coordinating with external stakeholders; and recruiting participation of private sector manufacturing firms in state-run programs.• A description of the project team's existing equipment and facilities 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 (if applicable);• An overview of the budget and a spend plan for the proposed project, including how the applicant will achieve the cost match requirement of the federal funds and long-term sustainability of the program following the federal award.• A description of the technical services to be provided by DOE/NNSA FFRDCs, if applicable. <p>Area of Interest 2</p> <p>The Technical Qualifications and Resources should contain the following information:</p> <ul style="list-style-type: none">• A description of the project team's unique qualifications and expertise, including those of key subrecipients including any past experience in

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	<p>designing and implementing programs to support battery recycling and partnering with public and private entities to do so; collaborating and coordinating with external stakeholders; and recruiting participation of private sector firms in state-run and local programs.</p> <ul style="list-style-type: none">• A description of 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 (if applicable);• Relevant, previous work efforts, demonstrated innovations, and how these enable the applicant to achieve the project objectives;• The time commitment of the key team members to support the project;• A description of the technical services to be provided by DOE/NNSA FFRDCs, if applicable;• The skills, certifications, or other credentials of the construction and ongoing operations workforce (if applicable);• A description of the proposed plan for collecting, utilizing, analyzing, and publicly sharing project data (refer to VI.B.xii for Reporting);• For multi-organizational projects, describe succinctly:<ul style="list-style-type: none">○ 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.
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iv. **State of Project Objectives (SOPO)**

The SOPO template is available on the S3 Exchange at <https://infrastructure-exchange.energy.gov/>. The SOPO, including the Milestone Table, must not exceed the page limit of 6 pages for AOI 1 and 10 pages for AOI 2, 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).

The SOPO should describe the work to be accomplished and how the applicant will achieve the milestones, accomplish the final project goal(s), and produce all deliverables. The SOPO includes the following information and sections:

- **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 and end of project goal. (3-4 sentences)
- **Scope of Work:** 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 budget/performance periods that are separated by discrete, approximately annual decision points. The applicant should describe the specific expected end result of each performance period, including milestones in the Community Benefits Plan.
- **Tasks to be Performed:** 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.
 - **For AOI 1,** tasks to be performed should include information on how the applicant will use technical expertise to facilitate deployment of smart manufacturing and high-performance computing resources in at least the following areas (as applicable to each project): outreach; training and workforce development; facility, product, or process assessment; roadmapping; direct technology implementation; and networking.
 - **For AOI 2,** tasks to be performed should include information on how the applicant will use technical expertise to facilitate deployment of resources in the following areas (as applicable to each project): Battery collection, sorting, recycling, transportation, data-collection, and/or outreach, training, and workforce development.
- **Milestone Tables:** As part of the ‘Tasks to be Performed’ section, the applicant should provide milestone tables throughout the project to demonstrate success, broken down by budget/performance periods. A milestone must be 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. The requirement is that each project must have at least one milestone per

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quarter for the duration of the project with at least one SMART technical milestone per year. The applicant should also provide the means by which the milestones will be verified.

- **Go/No-Go Decision Points** As part of the Milestone Tables (See Section VI.B.xii for more information on the Go/No-Go Review), the applicant should provide project-wide Go/No-Go decision points. At a minimum, each project must have at least one project-wide Go/No-Go decision point for each budget/performance period (12-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. Go/No-Go decision points are considered “SMART” and can fulfill the requirement for an annual SMART milestone.

v. Community Benefits Plan: Job Quality and Equity

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 four goals: 1) community and labor engagement; 2) investing in quality jobs; 3) advancing DEIA; and 4) contributing to the Justice40 Initiative. 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 S3 Exchange at <https://infrastructure-exchange.energy.gov/>. 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 should include at least one Specific, Measurable, Achievable, Relevant, and Timely (SMART) milestone per budget period to measure progress on the proposed actions. The 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 20 pages. It must be submitted in PDF format using the following convention for the title: "Control Number_LeadOrganization_CBP." This Plan must address the technical review criterion titled "Community Benefits Plan: Job Quality & Equity." See Section V.A.i of the FOA.

For additional information, see [About Community Benefits Plans](#).

The Community Benefits Plan must address the following:

1. Community and Labor Engagement: The Community Benefits Plan must describe the applicant's actions to date and plans to engage with community partners, such as state and local governments, Indian Tribes, labor unions, and community-based organizations that support or work with underserved populations, as well as disadvantaged communities as defined for purposes of the Justice40 Initiative³⁰. By facilitating community input, social buy-in, and accountability, such engagement has the potential to substantially reduce or eliminate delays, litigation, and other risks associated with project implementation.

Although Tribal governments are included in this section on community and labor stakeholders, American Indian and Alaska Native Tribal Nations have rights as sovereign governments recognized under the Constitution of the United States, treaties, statutes, Executive Orders, and court decisions. Applicants are required to make Indian Tribes aware of potential impacts and obtain letters of support when projects are on Tribal land or intersect with Tribal subsurface rights, as required under "Impacted Indian Tribes Documentation" of Section IV.C.xi of this FOA.

Community and labor engagement should lay the groundwork for the negotiation of Workforce and Community Agreements, which could take the form of one or more kinds of negotiated agreements with Indian Tribes,

³⁰ Pursuant to [EO 14008](#), "Tackling the Climate Crisis at Home and Abroad," January 27, 2021, and the Office of Management and Budget's [Interim Justice40 Implementation Guidance M-21-28](#) and [Addendum M-23-09](#), DOE recognizes disadvantaged communities as the census tracts identified as disadvantaged by the White House Council on Environmental Quality's Climate and Economic Justice Screening Tool (CEJST), located at <https://screeningtool.geoplatform.gov/>, as well as all Federally Recognized Tribes (whether or not they have land). See https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf. DOE's Justice40 Implementation Guidance is located at <https://www.energy.gov/media/277188>



communities, labor unions, or, ideally, each. Registered apprenticeship programs, labor-management training partnerships, quality pre-apprenticeship programs, and local and targeted hiring goals are key components of workforce agreements. Community agreements can include economic benefits for Tribes and local and disadvantaged communities as well as provisions such as a community-governed fund, a community steering committee, and environmental, wealth-building, energy or other benefits for communities or Tribes.

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

2. Investing in Quality Jobs: 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.

The National Labor Relations Act requires that employees have the right to organize and bargain collectively through labor organizations of their choosing, thereby creating a workplace more amenable to resolving disputes before work disruptions occur. This helps assure project efficiency, continuity, and multiple public benefits.

The Plan should include:

- A) A summary of the applicant's plan to attract, train, and retain a skilled and well-qualified workforce for planning, construction, *and* ongoing operations/production activities, as applicable. A collective bargaining agreement, labor-management partnership, or other similar agreement could provide evidence of such a plan. Alternatively, applicants may describe:
 - i. Wages, benefits, and other worker supports to be provided, benchmarked against prevailing wages for construction and local median wages for other relevant occupations as well as other measures of job quality;



- ii. 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
 - iii. Efforts to engage employees in the design and execution of workplace safety and health plans.
- B) It is the policy of the United States to eliminate the causes of certain substantial obstructions to the free flow of commerce by encouraging the practice and procedure of collective bargaining and by protecting the exercise by workers of full freedom of association. Applicant should provide a description of how and if they plan to affirmatively support worker organizing and collective bargaining. For example, 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.

3. 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 underrepresented³¹ businesses, residents of disadvantaged communities, 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 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:

³¹ “Underrepresented” refers to populations sharing a particular characteristic, as well as geographic communities, that are shown to have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by communities that have been denied fair, just, and impartial treatment, which may include Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; persons otherwise adversely affected by persistent poverty or inequality; women; and veterans



- A) Commit to partnering or contracting with Minority Serving Institutions³² or businesses majority owned or controlled by residents of disadvantaged communities, underrepresented persons or groups of underrepresented persons;
- B) To fill open positions for the DOE-funded project, partner with workforce training organizations serving underrepresented populations and those facing systemic barriers to quality employment, such as those with disabilities, women, returning citizens, opportunity youth, and veterans;
- C) Provide workers with comprehensive support services, such as childcare and transportation, to increase representation and access in project's construction and operations jobs.

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

- A) Identification of applicable disadvantaged communities to which the anticipated project benefits will flow, by making clear whether Federally Recognized Tribes or Tribal entities will benefit or if benefits will flow to disadvantaged communities as identified by the Climate and Economic Justice Screening Tool (<https://screeningtool.geoplatform.gov/>).
- B) 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 quality job creation, the clean energy job pipeline, and job training for individuals; (5) increases in clean energy enterprise creation and contracting; (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. Applicants should also discuss how the project will maximize all the benefits listed in number 4 above.

³² Minority-Serving Institution is defined in [7 CFR § 3430.302](#).



- C) A description of the mechanism and timing of anticipated benefits are expected to flow to disadvantaged communities. For example, whether the benefits will be provided directly within the disadvantaged communities identified in the Justice40 Initiative section or in another way; whether the benefits will flow during project development and/or after project completion; and how the applicant will track benefits delivered.
- D) A discussion of anticipated negative environmental, social or economic impacts as described in B. above on local and disadvantaged communities including communities geographically near the project or directly affected by project construction or operations, as well as known impacts upstream (in the supply chain, e.g., raw material extraction) or downstream (e.g., waste disposal). Applicants should discuss any anticipated negative or positive environmental impacts associated with the project, and how they will mitigate any negative impacts, including cumulative negative impact. Within the context of negative or positive impacts created by the project, applicants should use the Climate and Economic Justice Screening Tool (CEJST) to quantitatively discuss existing environmental impacts in the project area. See <https://screeningtool.geoplatform.gov/>.

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

vi. Community Partnership Documentation

In support of the Community Benefits Plan, applicants are encouraged to 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. Examples of such entities include organizations that carry out workforce development programs, labor unions, Indian Tribes, Tribal organizations, and community-based organizations that work with disadvantaged communities. The partnership documentation can be a letter on a partner's letterhead outlining the planned partnership and signed by an officer of the entity, a Memorandum of Understanding, or another 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, they should include letters from proposed partners. Each letter must not exceed one 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".

vii. Budget Justification Workbook

For your convenience, a Budget Justification Workbook template is available on the S3 Exchange at <https://infrastructure-exchange.energy.gov/>. Applicants are strongly encouraged to use the suggested template. If applicants choose not use the suggested template, you must also submit an SF-424A Budget Information form (available on grants.gov) and include a breakdown of all costs by Budget Category as outlined in the SF-424A and the Budget Justification suggested template, including all work to be performed by the prime recipient and its subrecipients and contractors. Applicants should include costs associated with implementing award requirements (e.g., Buy America requirements for infrastructure projects, Davis-Bacon, Community Benefits Plan, reporting, oversight, construction signage³³) 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. The "Instructions and Summary" and "SF-424A" tabs 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".

viii. 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% of the total work effort, whichever is less. The budget justification must include the same justification information described in the "Budget Justification Workbook" section above. Save each subrecipient budget justification in a Microsoft Excel file using the following convention for the title: "ControlNumber_LeadOrganization_Subrecipient_Budget_Justification".

ix. 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

³³ After receiving a DOE award, recipients are encouraged to display DOE Investing in America signage during and after construction. Guidance can be found at: (<https://www.energy.gov/design>). Proposed signage costs that meet these specifications are an allowable cost and should be included in the proposed project budget.



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 one 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 will not be accepted.

x. Resumes

A resume provides information reviewers can use to evaluate an individual's relevant skills and the experience of the key project personnel. Applicants must submit a resume (limited to two pages) for each project manager and Senior/Key Personnel that includes the following:

1. Contact information;
2. Education: 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 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 over the past 5 years; and
6. There should be no lapses in time over the past 10 years or since age 18, whichever period is shorter.

xi. Impacted Indian Tribes Documentation (AOI 2 only)

For any application that potentially impacts Indian Tribes or is on Tribal land³⁴, including when the potentially impacted Indian Tribe is the applicant, applicants are required to submit additional documentation at the time of application, and possibly during negotiation and prior to award. For any project that potentially impacts Indian Tribes, applicants are required to submit documentation demonstrating that an authorized representative³⁵ of each potentially impacted Indian Tribe is, at a minimum, aware of the nature of the application and its

³⁴ Tribal land is as defined in 25 U.S.C. §§ 3501(2), (3), (4)(A) and (13)

³⁵ An authorized representative must be an elected official or designated leader according to the traditions, constitution, or charter of the Indian Tribe, or someone with relevant delegated authority within the Tribal government. Examples include: Chief, Chairman, Chairwoman, Governor, Nation Representative, President, Chief Executive Officer, Chief Financial Officer, Speaker of the Council, Speaker of the Congress, Tribal administrator



potential impacts to the relevant Indian Tribes. The notified authorized representative must be holding their position while the award is open for applications, and documentation must demonstrate affirmative awareness of the application (e.g. a delivery record from certified mail, a reply by the authorized representative).

For any project intended to be sited on Tribal land(s) or intersecting with Tribal subsurface rights, applicants are required to submit documentation demonstrating support from the relevant Indian Tribes at the time of application. Documentation of support submitted at the time of application will be considered to also demonstrate awareness of an Indian Tribe (specified above). Documentation may include either:

- A letter of support from Tribal leadership. The letter must be signed by an authorized representative of the Indian Tribe. The signer(s) must be holding their position while the award is open for applications or negotiations.
- A Tribal Council Resolution, Board resolution (including the Board of Directors of an Alaska Native Corporation (ANC)), or similar act passed by the legislative body of the Tribal government or Board of Directors of an ANC, expressing support for the project.

Applicants are encouraged to reference or include any applicable community benefits agreements in the Tribal support documentation, and to integrate any Tribal support documentation in the community benefits plan as appropriate. For projects not intended to be sited on Tribal land(s) or intersecting with Tribal subsurface rights, but that may have other potential impacts on Tribal resources or reserved rights, letters of support or resolutions of support are strongly encouraged and, depending on the nature of the impact, may be required if selected for negotiation of an agreement. Applicants are encouraged to reach out to Indian Tribes as early as possible in the application process to give Indian Tribes ample time to evaluate and respond.

The following resources may be useful to help determine if a project may impact an Indian Tribe(s) resources or reserved rights and the appropriate contacts. These resources are not exhaustive, and many Indian Tribes have resources or reserved rights which extend beyond their Tribal lands, or are covered within treaties, statutes, or case-law. Applicants are encouraged to do additional research:

- Map of Indian Lands: <https://bia-geospatial-internal.geoplatform.gov/indianlands/>
- Tribal Treaties Database: <https://treaties.okstate.edu/>

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- Directory of federally recognized Tribes and Tribal leaders:
<https://www.bia.gov/service/tribal-leaders-directory>
- Best Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and other similar rights in federal regulatory actions:
https://www.bia.gov/sites/default/files/dup/inline-files/best_practices_guide.pdf

To help determine if an Indian Tribe's resources or reserved rights may be impacted by the project, applicants must address the following elements. If the applicant is an Indian Tribe, these elements should be addressed to ascertain impacts to Indian Tribes other than the applicant. Applicants do not need to reveal specific details about sacred sites such as specific location or specific ceremonies:

- Identify any elements of the project that will occur on or near Indian land, Tribal historic sites, or sacred sites and describe its potential impacts to Indian Tribes. Identify the potentially impacted Indian Tribe(s).
- Identify any [other] proposed actions which may impact an Indian Tribe(s) resources or reserved rights. Tribal resources and reserved rights include, and are not limited to, an Indian Reservation or Land (as defined in 25 U.S.C. § 3501) [or intersecting Tribal sub-surface rights], historic homelands from which they were removed, cultural sites, sacred sites, water rights, mineral and other subsurface rights, fishing rights, and hunting rights. Identify the Tribe(s) potentially impacted and any sources of uncertainty or confidentiality.
- Explain any actions taken by the applicant to mitigate or address any potential impacts identified above, including engaging with the potentially impacted Indian Tribe(s), in the application.

Applicants are required to document any efforts taken to identify any potential impacts to Indian Tribes, Indian lands, Alaska Native regional and village land, traditional homelands, Tribal rights, or Tribal historic sites, or sacred sites. This includes any correspondence with Indian Tribes. These documents should be available on request to DOE. An applicant's failure to submit documentation of an Indian Tribe's awareness, or a letter of support, when required as described above, may constitute grounds for determining an application ineligible, non-responsive to the FOA/OT solicitation, not subject to further review and/or not otherwise subject to selection or award.

Any application that may potentially impact Indian Tribe(s) may be shared with the potentially impacted Indian Tribe(s). Applicants should include a Notice of Restriction on Disclosure and Use of Data identifying any business sensitive, trade secrets, proprietary, or otherwise confidential information. Such

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information shall be used or disclosed only for evaluation of the application or to determine whether the proposed project affects an Indian Tribe(s). If an applicant determines an Indian Tribe(s) will be impacted, the applicant must provide information on the project location, potential impacts and how the applicant will engage with Indian Tribe(s), during the period of performance of the agreement, and, if necessary, after the end of the agreement. Approval by DOE must be obtained before any activities take place that could impact Tribal resources or reserved rights, including but not limited to lands, cultural sites, sacred sites, water rights, mineral rights, fishing rights, and hunting rights. DOE will determine if formal government-to-government consultation is needed, and DOE will conduct that consultation accordingly, in addition to any engagement by applicant. Save the Impacted Indian Tribes Documentation in a single PDF file using the following convention for the title:
“ControlNumber_LeadOrganization_ImpactedIndianTribes”.

xii. Summary for Public Release

Applicants must submit a two-page summary of their project that is suitable for dissemination to the public. A Public for Summary Release template is available on the S3 Exchange website <https://infrastructure-exchange.energy.gov>.

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,
- project location(s),
- a description of the project, including methods to be employed,
- the potential impact of the project (e.g., benefits, outcomes),
- major participants (for collaborative projects), and
- the project’s commitments and goals described in the Community Benefits Plan.

This document must not include any proprietary or business-sensitive information as DOE may make it available to the public after selections are made. The summary must not exceed two 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. Save the Summary for Public Release in a single PDF file using the following convention for the title:
“ControlNumber_LeadOrganization_Summary”.



xiii. Summary Slide

Applicants must provide 3 slides summarizing the proposed project. The Summary Slide template is available on the Clean Energy Exchange at <https://infrastructure-exchange.energy.gov/> and must include the following information:

- Project location (location of work)
- A description of the project's impact;
- Proposed project overview;
- Topline community benefits;
- Project title, prime recipient, PI/LPM, 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".

xiv. Location(s) of Work (AOI 2 only)

Applicants must complete the Locations of Work document, available on the S3 exchange at <https://infrastructure-exchange.energy.gov> which can be found under the respective FOA # and Section titled "APPLICATION FORMS AND TEMPLATES".

The applicant must complete the supplied template by listing the city, state, zip code + 4 digits, and latitude and longitude for each location where project work will be performed by the prime recipient or subrecipient(s).

Applicants must provide the Locations of Work Documentation as a Microsoft Excel file using the following convention for the title: "Control Number_LeadOrganization_LOW."

xv. Environmental Questionnaire (EQ)

You must complete the Environmental Questionnaire. This form is available on Exchange at <https://infrastructure-exchange.energy.gov>. Save the Environmental Questionnaire in a single PDF file using the following convention for the title "Control Number_LeadOrganization_EQ."

xvi. Environmental Information Volume (EIV) (AOI 2 only)

You must complete the Environmental Information Volume. This form is available on Exchange at <https://infrastructure-exchange.energy.gov>. The file is available in both Word and PDF. Save the Environmental Information Volume in



a single PDF file using the following convention for the title “Control Number_LeadOrganization_EIV.” Files submitted in Word format will also be accepted.

xvii. 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 work proposal (WP) in accordance with the requirements in DOE Order 412.1A, Work Authorization System, Attachment 2, 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”.

xviii. 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”.

xix. SF-LLL: Disclosure of Lobbying Activities

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” (grants.gov/forms/forms-repository/sf-424-individual-family) 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(s) in a single PDF file using the following convention for the title: “ControlNumber_LeadOrganization_SF-LLL”.



xx. 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.A.ii. To request a waiver of this requirement, the applicant must submit an explicit waiver request in the Full Application. Appendix D lists the information that must be included in a waiver request.

Performance of Work in the United States (Foreign Work Waiver Request)

As set forth in Section IV.H.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 D 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".

xxi. Transparency of Foreign Connections

A Transparency of Foreign Connections template is available on the S3 Exchange at <https://infrastructure-exchange.energy.gov/>. Applicants must provide the following information as it relates to the proposed recipient and subrecipient(s). 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, 2 and 9, 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. 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;

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5. Percentage, if any, that the proposed recipient or subrecipient has foreign ownership or control;
6. Percentage, if any, that the proposed recipient or subrecipient is wholly or partially owned, directly or indirectly, by an entity in a foreign country of risk;
7. 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;
8. Any technology licensing or intellectual property sales to a foreign country of risk, during the 5-year period preceding submission of the proposal;
9. Any foreign equipment that will be used on the project:
 - a. Equipment originally made or manufactured in a foreign country of risk (including relabeled or rebranded equipment).
 - b. Coded equipment where the source code is written in a foreign country of risk.
 - c. Equipment from a foreign country of risk that will be connected to the internet or other remote communication system.
 - d. Any companies from a foreign country of risk that will have physical or remote access to any part of the equipment used on the project after delivery.
10. Any foreign business entity, offshore entity, or entity outside the United States related to the proposed recipient or subrecipient;
11. 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;
12. 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.
13. 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 5%;
14. 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
15. An organization chart to illustrate the relationship between your entity and the immediate parent, ultimate parent, and any intermediate parent,

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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."

xxii. Current and Pending Support

Current and pending support is intended to allow the identification of potential duplication, overcommitment, potential conflicts of interest or commitment, and all other sources of support. As part of the application, the 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 proposals, provide the total amount of requested funding;
- The award period (start date through end date); and
- The person-months of effort per year 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 approved common disclosure format available at [Common Form for Current and Pending \(Other\) Support \(nsf.gov\)](#). Regardless of the format used, the individual must include a signature, date, and a certification statement using the language included in the paragraph above.

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

Definitions:

Current and Pending Support – (a) All resources made available, or expected to be made available, to an individual in support of the individual's RD&D efforts, regardless of (i) whether the source is foreign or domestic; (ii) whether the resource is made available through the entity applying for an award or directly to the individual; or (iii) whether the resource has monetary value; and (b) includes in-kind contributions requiring a commitment of time and directly supporting the individual's RD&D efforts, such as the provision of office or laboratory space, equipment, supplies, employees, or students. This term has the same meaning

as the term Other Support as applied to researchers in NSPM-33: For researchers, Other Support includes all resources made available to a researcher in support of and/or related to all of their professional RD&D efforts, including resources provided directly to the individual or through the organization, and regardless of whether or not they have monetary value (e.g., even if the support received is only in-kind, such as office/laboratory space, equipment, supplies, or employees). This includes resource and/or financial support from all foreign and domestic entities, including but not limited to gifts provided with terms or conditions, financial support for laboratory personnel, and participation of student and visiting researchers supported by other sources of funding.

Foreign Government-Sponsored Talent Recruitment Program – An effort directly or indirectly organized, managed, or funded by a foreign government, or a foreign government instrumentality or entity, to recruit science and technology professionals or students (regardless of citizenship or national origin, or whether having a full-time or part-time position). Some foreign government-sponsored talent recruitment programs operate with the intent to import or otherwise acquire from abroad, sometimes through illicit means, proprietary technology or software, unpublished data and methods, and intellectual property to further the military modernization goals and/or economic goals of a foreign government. Many, but not all, programs aim to incentivize the targeted individual to physically relocate 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 a DOE award.³⁶

xxiii. Potentially Duplicative Funding Notice

³⁶ 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.



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."

D. 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 list of examples of information that may be required:

- Personnel proposed to work on the project and collaborating organizations (See Section VI.B.xiii. Participants and Collaborating Organizations);
- Current and Pending Support (See Sections IV.C.xxii. and VI.B.ix. Current and Pending Support);
- Community Benefits Outcomes and Objectives (See Section IV.C.v.);
- 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;

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- 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 or Collective Bargaining Agreements;
- Environmental Questionnaire; and
- Project Management Plan.



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

Each applicant is required to: (1) register in the SAM at <https://www.sam.gov> before submitting an application; (2) provide a valid UEI in the application; and (3) 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 (unless the applicant has an exception approved by the federal awarding agency under 2 CFR 25.110). DOE may not make a federal award to an applicant until the applicant has complied with all applicable UEI and SAM requirements. If an applicant has not fully complied with the requirements by the time DOE is ready to make a federal award, 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 use 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](#).

F. Submission Dates and Times

All required submissions must be submitted in the S3 Exchange no later than 5 p.m. ET on the dates provided on the cover page of this FOA.

G. Intergovernmental Review

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

H. 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 (selectees) 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 its 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 overrides 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

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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 D 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. Recipients are encouraged to display DOE Investing in America signage during and after construction. Guidance can be found at: (<https://www.energy.gov/design>). Proposed signage costs that meet these specifications are an allowable cost and should be included in the proposed project budget.

v. Foreign Travel

Foreign travel costs are not allowable under this FOA.



vi. Equipment and Supplies

To the greatest extent practicable, all equipment and products purchased with funds made available under this FOA should be American made. This requirement does not apply to used or leased equipment.

vii. Build America Buy America Requirements for Infrastructure Projects

Pursuant to the Build America Buy America Act, subtitle IX of BIL (Buy America or BABA), and in accordance with 2 CFR Part 184, no funds for federal financial assistance which is subject to BABA requirements may be used for an infrastructure project unless:

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

In general, whether a given project must apply this requirement is 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 BIL (discussed in more detail in Appendix E), based in part on whether the infrastructure in question is publicly owned or serves a public function. For this FOA specifically, all projects subject to this FOA are considered "infrastructure" within the Buy America provision of BIL, based on implementation guidance from the Office of Management and Budget issued on October 25, 2023.

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 Buy America requirements to subrecipients, even if those subrecipients are non-Federal entities otherwise subject to BABA requirements. Conversely, prime recipients subject to BABA requirements must flow the Buy America requirements down to all subrecipients, even if those subrecipients are for-profit entities otherwise not subject to BABA requirement.

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 domestically manufactured products 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 E and the terms and conditions of an award.

Applicants are strongly encouraged to consult Appendix E and 2 CFR Part 184 for more information.

viii. Davis-Bacon Act Requirements

Projects awarded under this FOA will be funded under Division D of BIL. 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, 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 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 subrecipient or contract awards;

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

(3) Being responsible for compliance by any subrecipient or contractor with the Davis-Bacon labor standards;



- (4) Receiving and reviewing certified weekly payrolls submitted by all subrecipients or contractors for accuracy and to identify potential compliance issues;
- (5) Maintaining original certified weekly payrolls for three years after the completion of the project and making those payrolls available to DOE or the U.S. 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 subrecipients or contractors and as requested or directed by DOE;
- (7) Cooperating with any authorized representative of DOL in its 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 Grants/Contracting Officer of all labor standards issues, including all complaints regarding incorrect payment of prevailing wages and/or fringe benefits, received from 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 award, subrecipient award, contract or subcontract; and
- (10) Preparing and submitting to the Grants/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.

Recipients of funding under this FOA will also be required to undergo Davis-Bacon Act compliance training and maintain competency in Davis-Bacon Act compliance. The Grants/Contracting Officer will notify the recipient of any DOE-sponsored Davis-Bacon Act compliance trainings. 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>.

Recipients of funding under this FOA must ensure the timely submission of weekly certified payrolls as part of its compliance with the Davis-Bacon Act.

DOE has contracted with [LCPtracker](#), a third-party DBA electronic payroll compliance software application. A waiver for the use of LCPtracker may be granted to a particular recipient if they are unable or limited in their ability to use or access the system. LCPtracker allows for certified payroll reports and workforce data to be uploaded electronically, 24 hours a day, 7 days per week and currently partners with several commercially available payroll systems. If a recipient uses a different payroll system, LCPtracker provides a free, spreadsheet template they can use to map out their payroll file, which would allow them to upload their employee and payroll data into the system. LCPtracker validation system checks payrolls for federal Davis-Bacon prevailing wage requirements by flagging mathematical errors or omission discrepancies for the recipient to review on a report. Examples include base hourly rate, total hourly rate, overtime, double time, apprentice approval, and fringe benefit contributions. Additionally, LCPtracker utilizes industry standard eSignature technology, thus allowing recipients to electronically sign payroll reports versus using a wet signature. Individual program offices will coordinate with recipients on access and training.

For more information, visit [Davis-Bacon Act Requirements for Recipients of Bipartisan Infrastructure Law Funding](#)

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

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

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:

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

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

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

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

Further, as DOE invests in critical infrastructure and funds critical and emerging technology areas, DOE also considers possible threats to United States research, technology, and economic security from undue foreign government influence when evaluating risk. If high risks are identified and cannot be sufficiently mitigated, DOE may elect to not fund the applicant. As part of the research, technology, and economic security risk review, DOE may contact the applicant and/or proposed project team members for additional information to inform the review. This risk review is conducted separately from the technical merit review.

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

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

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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 applicants must comply with all applicable federal labor and employment laws, including but not limited to Title VII of the Civil Rights Act of 1964, the Fair Labor Standards Act, the Occupational Safety and Health Act, and the National Labor Relations Act, which protects employees' right to bargain collectively and engage in concerted activities for the purpose of workers' mutual aid or protection.

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

- (1) Recipients, subrecipients, contractors, and subcontractors are prohibited from discriminating in employment decisions on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (2) Recipients and contractors are required to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. This includes flowing down the appropriate language to all subrecipients, contractors, and subcontractors.



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

DOL's Office of Federal Contractor Compliance Programs (OFCCP) uses a neutral process to schedule compliance evaluations. Consult OFCCP's Technical Assistance Guide³⁷ to gain an understanding of the requirements and possible actions the recipients, subrecipients, contractors, and subcontractors must take. Additional guidance may also be found in the National Policy Assurances, produced by DOE.

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 the 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 term 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, organizations, and governments. The recipient will be required to provide DOE with advanced written notification of any potential collaboration with foreign entities, organizations, 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, organization, or government regarding the potential collaboration or negotiating the terms of any potential agreement.
- b. Existing collaborations with foreign entities, organizations, and governments. The recipient will be required to provide DOE with a written list of all existing foreign collaborations in which it 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

³⁷ 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>



recipient. A thing of value includes but may not be limited to all resources made available to, or from, the recipient in support of and/or related to the DOE award, regardless of whether or not they have monetary value. Things of value also may include in-kind contributions (such as office/laboratory space, data, equipment, supplies, employees, students). In-kind contributions not intended for direct use on the DOE award but resulting in provision of a thing of value from or to the DOE award must also be reported. Collaborations do not include routine workshops, conferences, use of the recipient's services and facilities by foreign investigators resulting from its standard published process for evaluating requests for access, or the routine use of foreign facilities by awardee staff in accordance with the recipient's standard policies and procedures.

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V. Application Review Information

A. Technical Review Criteria

i. Full Applications

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

Area Of Interest 1: State Manufacturing Leadership Program

Criterion 1: Technical Merit, Innovation, and Impact (35%)

This criterion involves consideration of the following factors:

Project Design

- Extent to which the proposed project has provided an organization model and operational plan for the project, explaining how the approach will best enable fulfillment of the SMLP goals and objectives including:
 - The SMM base that the project intends to reach;
 - How the project will facilitate the accelerated deployment of smart manufacturing technologies with a focus on (1) outreach, (2) training and workforce development, (3) facility, product, or process assessments, (4) smart manufacturing roadmapping, (5) direct technology implementation, and/or (6) networking;
 - Any new or innovative approaches that will be used to accelerate deployment of smart manufacturing; and
 - The deployment plan for providing these resources for the project, to include whether the proposed project will leverage existing work or programming.

Project Partnerships and Engagement Strategy

- The extent to which the project will utilize national, state, regional, or local smart manufacturing technology related resources;
- The extent to which the anticipated types of agreements the applicant expects to enter into with project partners will increase the likelihood of the project's success;
- The extent to which the project's outreach to SMMs will either broadly reach SMMs across the state or target SMMs based on industries, geographies, or demographics such as disadvantaged communities, that are of particular importance to the project or state; and
- The extent to which the project's partnership with governmental and nongovernmental stakeholders to include academic and private sector partners increases the likelihood of the project's success.

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Project Impact

- The extent to which the proposed project as designed will be impactful in achieving the focus areas listed above (whether all or a subset), or other focus areas as determined by the project;
- Ability of the project to advance industry adoption of smart manufacturing or high-performance computing in SMMs;
- Extent to which the project supports the AOI objectives of expanding access to smart manufacturing technologies and practices and high-performance computing resources to SMMs;
- Potential impact of the project on advancing the state of the art;
- The extent to which the project contributes to the BIL goals of reinvigorating and reinvesting in the American industrial base, catalyzing American leadership and global competitiveness in the clean energy economy, and investing in the American manufacturing workforce, by resulting in:
 - Job and economic growth within individual SMMs, across the manufacturing sector, and/or across the state;
 - A more skilled, competitive, and overall higher-quality workforce among SMMs;
 - Increased productivity and competitiveness of SMMs;
 - Reduced industrial emissions;
 - The potential benefits to disadvantaged communities; and
 - Onshoring/reshoring of manufacturing capabilities.
- The extent to which the project is positioned to continue beyond DOE funding, to include any alternate sources of funding identified; and
- The extent to which the DOE funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives.

Criterion 2: Project Workplan (35%)

This criterion involves consideration of the following factors:

- Degree to which the approach and critical path have been clearly described and thoughtfully considered;
- 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;
- Level of clarity in the definition of the baseline, metrics, and milestones;
- The strength of the quantifiable metrics, milestones, and mid-point deliverables defined in the application, such that meaningful interim progress will be made, relative to a clearly defined project baseline;
- Adequacy, reasonableness, and soundness of the project schedule, as well as annual Go/No-Go decisions prior to a budget period continuation application, interim milestones, and metrics to track process; and

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- The degree to which the project plan is comprehensive for expanding services to SMMs including, but not limited to, the scope of resources to be utilized, implementation timeline, facilities and infrastructure requirements, and services and distribution.

Project Management

- Adequacy of proposed project management systems including the ability to track scope, cost, and schedule progress and changes;
- Reasonableness of the budget and spend plan for the proposed project and objectives, extent of alternative funding sources for the project, and potential to sustain a project beyond federal funding; and
- Adequacy of the identification of risks, including labor and community opposition or disputes, and “timely” and appropriate strategies for mitigation and resolution.

Criterion 3: Technical Qualifications and Resources (10%)

This criterion involves consideration of the following factors:

- 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 including past experience in designing and implementing programs to support SMMs and partnering with public and private entities to do so; collaborating and coordinating with external stakeholders; and recruiting participation of private sector manufacturing firms in state-run programs;
- Diversity of expertise and perspectives of the team and the inclusion of industry partners that will amplify impact;
- The extent to which the partnerships established through this project will result in a more robust and integrated ecosystem to support SMMs in the state;
- Sufficiency of the facilities and equipment to support the work (if applicable); and
- Level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan/SOPO.

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 enforceable Workforce & Community Agreements—with labor unions, Tribal

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organizations, 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.

Investing in Quality Jobs

- 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

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- Extent to which the project would contribute to meeting the objective that 40% of the benefits of climate and clean energy investments will flow to disadvantaged communities.

Area of Interest 2: State and Local Battery Collection, Recycling, and Reprocessing Program

Criterion 1: Technical Merit, Innovation, and Impact (35%)

Technical Merit and Innovation

- Extent to which the proposed technology, process, or project is innovative or relevant to the goals and objectives of the AOI and describes clear expected outcomes;
- Degree to which the current state of the recycling, reprocessing, or collection technology and the feasibility of the proposed project 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 of recycling, reprocessing, or collection in the target area and the overall impact on advancing the field of recycling, reprocessing, or collection if the project is successful;
- Sufficiency of technical detail in the application to assess whether the proposed work is meritorious, including relevant data, calculations, and discussion of prior work and proposed project capacity with analyses that support the viability of the proposed work;
- Extent to which project has buy-in from needed stakeholders to ensure success;
- Degree to which key manufacturing and supply chain challenges are considered (as applicable);
- Degree to which siting and environmental constraints are considered for deployment;
- Extent to which project has the potential to provide critical materials to the supply chain through recycling and benefits the community or region; and
- Sufficiency of existing infrastructure to support addition of proposed demonstration.

Impact of Technology Advancement

- Ability of the project to advance recycling adoption;
- Extent to which the project supports the AOI objectives and target specifications and metrics;
- 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

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- Extent to which the project facilitates stakeholder relationships across new or existing stakeholders to gain technical buy-in and increase potential for future deployments.

Criterion 2: Project Plan (35%)

Project Management

- Adequacy of proposed project workplan including the ability to track scope, tasks, milestones, cost, and schedule progress and changes 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 proposed plan for collecting, utilizing, analyzing, and publicly sharing project data;
- Reasonableness of the allocation of project resources, including project budget and spend plan as detailed in the budget justification workbook for proposed project and objectives;
- Soundness of the 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;
- 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, interim milestones, and metrics to track process;
- Adequacy, reasonableness, and soundness of the project schedule, as well as annual Go/No-Go decisions prior to a budget period continuation application, 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 3: Project Team and Qualifications (10%)

This criterion involves consideration of the following factors:

- Extent of key personnel qualifications, expertise, and experience, in relation to project and AOI objectives;

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- Extent of the alignment between the team organizations' missions and strategic goals with the objectives of the AOI and with the teaming arrangement proposed by the Applicant;
- Reasonableness of the approach to managing the work, including the extent to which the involvement of project team organizations and/or individuals are defined in relation to specific work tasks, milestones and deliverables, and of the structure of the plan for communication among team members; 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: Job Quality and Equity (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 enforceable Workforce & Community Agreements—with labor unions, Tribal organizations, 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.

Investing in Quality Jobs

- 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

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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 benefits of climate and clean energy investments will 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," effective October 1, 2020, 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;

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- 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 team members from Minority Serving Institutions (e.g., Historically Black Colleges and Universities (HBCUs)/Other Minority Institutions (OMIs)); and partnerships with underrepresented businesses or Indian Tribes; and
- The degree to which the proposed project, when compared to the existing DOE project portfolio and other projects to be selected from the subject FOA, contributes to the total portfolio meeting the goals reflected in the Community Benefits Plan criteria.

D. Evaluation and Selection Process

i. Overview

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

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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 response 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](https://sam.gov) (see 41 U.S.C. § 2313).

The applicant, at its option, may review information in the entity information domain in [SAM.gov](https://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](https://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](https://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, risk reviews, and the amount of funds available in arriving at selections for this FOA.

E. Anticipated Notice of Selection and Award Negotiation Dates

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



VI. Award Administration Information

A. Award Notices

i. Ineligible Submissions

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

ii. Full Application Notifications

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

iii. Applicants Selected for Award Negotiations

DOE may stagger its selection determinations. As a result, some applicants may receive their notification letter in advance of other Applicants. 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 takes approximately 60 days. Applicants must designate a primary and a backup point-of-contact in the Clean Energy 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.H.ii. of the FOA for guidance on pre-award costs.



iv. **Alternate Selection Determinations**

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

v. **Unsuccessful Applicants**

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

B. **Administrative and National Policy Requirements**

i. **Registration Requirements**

There are several one-time actions applicants must take before applying to this FOA. Some of these may take several weeks, so it is vital applicants build in enough time to complete them. Failure to complete these actions could interfere with application or negotiation deadlines or the ability to receive an award if selected. These requirements are as follows:

1. **S3 Exchange (Exchange)**

Register and create an account on S3 Exchange at <https://infrastructure-exchange.energy.gov>. This account will allow the user to apply to any open MESC FOAs in the S3 Exchange.

To access [Infrastructure Exchange: Funding Opportunity \(energy.gov\)](https://infrastructure-exchange.energy.gov), potential applicants must have a [Login.gov](https://login.gov) account. As part of the Exchange registration process, new users will be directed to create an account in Login.gov. Please note that the email address associated with Login.gov must match the email address associated with the Exchange account. For more information, refer to the Exchange Multi-Factor Authentication (MFA) Quick Guide in the [Infrastructure Exchange: User Guides \(energy.gov\)](https://infrastructure-exchange.energy.gov) of Exchange.

Each organization or business unit, whether acting as a team or a single entity, should use only one account as the contact point for each submission. Applicants must also designate backup points of contact. **This step is required to apply to this FOA.** The Exchange registration does not have a delay; however, **the remaining registration requirements below could take**

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several weeks to process and are necessary for a potential applicant to receive an award under this FOA.

2. System for Award Management

Register in SAM (<https://www.sam.gov>). Please update your SAM registration annually.

3. FedConnect

Register in FedConnect (<https://www.fedconnect.net>).

4. Grants.gov

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

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 S3 Exchange and FedConnect, 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 adopted and supplemented by 2 CFR Part 910.

iii. Foreign National Participation

All applicants selected for award negotiations and recipients of an award under this FOA as well as project participants (including subrecipients and contractors) who anticipate involving foreign nationals in the performance of an award may be required to provide DOE with specific information about each foreign national to satisfy requirements for foreign national participation. 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.

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A “foreign national” is defined as any person without U.S. citizenship or nationality (may include a stateless person). The volume and type of information collected may depend on various factors associated with the award. DOE concurrence may be required before a foreign national can participate in the performance of any work under an award.

DOE may elect to deny a foreign national’s participation in the award. Likewise, DOE may elect to deny a foreign national’s access to a DOE site, 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.isp>.

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 applicants selected for award negotiations and recipients of 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 documents must be prepared to complete the NEPA review process, the recipient may be required to prepare

the documents and the costs to prepare the necessary documents may be included as part of the project costs. DOE will independently evaluate the environmental document and will take responsibility for the contents, including ensuring the professional integrity of the discussion and analysis, as required by NEPA.

National Historic Preservation Act (NHPA)

DOE must comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA) prior to deciding whether or how to distribute federal funds. Section 106 requires DOE to identify and consider adverse effects to historic properties that are listed in or eligible for listing in the National Register of Historic Places. DOE will perform a NHPA review under the umbrella of its NEPA review and will require applicants to assist in this review and consider impacts to historic, Tribal, and cultural resources.

vii. Flood Resilience

Executive Order 11988, Floodplain Management, requires agencies engage in a decision-making process to evaluate the potential effects of any action it may take in a floodplain and to avoid development in a floodplain to the extent possible. DOE procedures for implementing the Executive Order are in 10 CFR part 1022. Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input (reinstated by EO 14030, Climate-Related Financial Risk), directs federal agencies to “expand management from the current base flood level to a higher vertical elevation and corresponding horizontal floodplain to address current and future flood risk and ensure that projects funded with taxpayer dollars last as long as intended.” The higher flood elevation is based on one of three approaches: climate-informed science (preferred), freeboard value, or 0.2% annual flood change (500-year floodplain). Selectees will be required to indicate whether the proposed project location(s) is within a floodplain, how the floodplain was defined, and how the project’s design has been modified to reduce the risk of flood loss and minimize the impact of floods on human safety, health, and welfare. Information to assist in the implementation of these requirements is available at:

- <https://www.energy.gov/nepa/articles/eo-13690-establishing-federal-flood-risk-management-standard-and-process-further>
- <https://www.fema.gov/floodplain-management/intergovernmental/white-house-flood-resilience-interagency-working-group>
- <http://floodstandard.climate.gov>

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viii. 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 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, a corporation is any for-profit or nonprofit 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].

3. Nondisclosure and Confidentiality Agreements Representations

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

- a. It **does not and will not** require its employees or contractors to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting its employees or contractors from lawfully reporting waste, fraud, or abuse to a designated investigative or law enforcement representative of a federal department or agency authorized to receive such information.
- b. It **does not and will not** use any federal funds to implement or enforce any nondisclosure and/or confidentiality policy, form, or agreement it uses unless it contains the following provisions:

“These provisions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations,

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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.”

- (1) 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.
- (2) 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 U.S. government, may contain provisions appropriate to the 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 during such activity unless specifically authorized to do so by the U.S. 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 U.S. Department of Justice, that are essential to reporting a substantial violation of law.

ix. 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

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conditions; and reviewing technical performance after project completion to ensure that the project objectives have been accomplished.

x. Statement of Substantial Involvement

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

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

xi. 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>.

xii. Reporting

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

Additional reporting requirements apply to BIL-funded projects. DOE may require specific data collection to track progress toward key departmental goals: ensuring justice and equity, investing in quality jobs, boosting domestic manufacturing, reducing greenhouse gas emissions, and advancing a pathway to private sector deployment. 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



- Workforce demographics, including local hires
- Efforts to minimize risks of labor disputes and disruptions
- Dollar value of contributions to worker training; number of new employee certificates and training credentials; ratio of apprentice- to journey-level workers employed
- Number of individuals trained, number of trainees placed in new full-time employment, number of trainings partnering with community-based organizations or labor unions
- Justice and Equity data, including:
 - Underrepresented businesses acting as vendors and subcontractors for bids on supplies, services, and equipment
 - Value, number, and type of partnerships with MSIs
 - Stakeholder engagement events, community engagement process
 - 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 generation and utilization.
- For AOI 1:
 - Aggregate number of SMMs supported;
 - Number of facility, product, or process assessments conducted for SMMs;
 - Number of implementation roadmaps built for SMMs;
 - Number of instances and amount of direct financial assistance provided to SMMs to acquire smart manufacturing technologies or access high performance computing resources;
 - Number of outreach or networking events conducted;
- For AOI 2:
 - Number of battery collection points established or enhanced, Quantity of material collected (pounds per year, kilograms per year, gallons per year, etc.)

xiii. 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 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

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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;³⁸ 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.

xiv. 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 U.S. government of a conference held by any Executive branch department, agency, board, commission, or office for which the cost to the U.S. government would otherwise exceed \$20,000, thereby circumventing the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General (or senior ethics official for any entity without an Inspector

³⁸ 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.



General), of the date, location, and number of employees attending such conference.

xv. 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 million 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.

xvi. 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. In addition, pursuant to the FY23 Consolidated Appropriations Act (Pub. L. No. 117-328), Division D, Title III, Section 309, at the end of the award period the Secretary or a designee of the Secretary, at their discretion, may vest unconditional title or other property interests acquired under this project regardless of the fair market value of the property.

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

States, local governments, and other public entities may not condition subawards in a manner that would discriminate against or otherwise disadvantage subrecipients based on their religious character.

xviii. 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.

xix. 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.C.xxii.

xx. Interim Conflict of Interest Policy for Financial Assistance

The DOE interim Conflict of Interest Policy for Financial Assistance (COI Policy)³⁹ 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 its 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. 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>.

³⁹ DOE’s interim COI Policy can be found at <https://www.energy.gov/management/department-energy-interim-conflict-interest-policy-requirements-financial-assistance>.



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.gov. 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/recipients 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.

xxii. 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 \(SC\) \(osti.gov\)](#).

xxiii. Cybersecurity Plan (AOI 2 only)

In accordance with BIL section 40126, applicants selected for award negotiations must submit a cybersecurity plan to DOE prior to receiving funding.⁴⁰ These plans are intended to foster a cybersecurity-by-design approach for BIL efforts. The Department will 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

⁴⁰ 42 U.S.C. § 18725



projects selected under this FOA will be required to submit a cybersecurity plan during the award negotiation phase.

DOE 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).⁴¹ 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.
- At a minimum, cybersecurity plans should address questions noted in BIL section 40126 (b), Contents of Cybersecurity Plan.⁴²

Supplementary guidance on the cybersecurity plan requirement is available at <https://www.energy.gov/ceser/bipartisan-infrastructure-law-implementation>.

xxiv. Construction Signage

After receiving a DOE award, recipients are encouraged to display DOE Investing in America signage during and after construction. Guidance can be found at: (<https://www.energy.gov/design>). Proposed signage costs that meet these specifications are an allowable cost and should be included in the proposed project budget.

⁴¹ 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).

⁴² 42 U.S.C. § 18725



VII. Questions/Agency Contacts

Upon the issuance of a FOA, DOE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the FOA except through the established question and answer process described below. Questions regarding this FOA must be submitted to DE-FOA-0003376@netl.doe.gov no later than three (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 S3 Exchange at <https://infrastructure-exchange.energy.gov>. **You must first select the FOA Number to view the questions and answers specific to this FOA.** DOE will attempt to respond to a question within three (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 S3 Exchange website should be submitted to: InfrastructureExchangeSupport@hq.doe.gov.



VIII. Other Information

A. FOA Modifications

Amendments to this FOA will be posted on the S3 Exchange 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. DOE recommends that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any amendments or other FOAs.

B. Government Right to Reject or Negotiate

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

C. Commitment of Public Funds

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

D. Treatment of Application Information

Applicants should not include trade secrets or business-sensitive, 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 trade secrets or business-sensitive, proprietary, or otherwise confidential information, it is furnished to the federal 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 federal government's right to use the information if it is obtained from another source.



If an applicant chooses to submit trade secrets or business-sensitive, proprietary, or otherwise confidential information, the applicant must provide **two copies** of any document of the submission (e.g., Concept Paper, Full Application) that contains such information. 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 trade secrets or business-sensitive, 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 federal government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose as authorized by law.

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

Notice of Restriction on Disclosure and Use of Data:

Pages [list applicable pages] of this document may contain trade secrets or business-sensitive, 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 trade secrets or business-sensitive, proprietary, or otherwise confidential information must be marked as follows: “Contains Trade Secrets, Business-Sensitive, Proprietary, or Otherwise Confidential Information Exempt from Public Disclosure,” and (2) every line or paragraph containing such information must be clearly marked with double brackets or highlighting. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

E. Evaluation and Administration by Non-Federal Personnel

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

Questions about this FOA? Email DE-FOA-0003376@netl.doe.gov

Problems with S3 Exchange? Email InfrastructureExchangeSupport@hq.doe.gov Include FOA name and number in subject line.



(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 that 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 cancellation of award negotiations;
- The modification, suspension, and/or cancellation 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. Copyright

The prime recipient and subrecipient(s) 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.



K. 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 investigations, indictments, charges, convictions, and violations upon occurrence, at the recipient or subrecipient level, and provide the corrective action(s) to prevent future violations.

L. 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; exercise an option to procure, or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use *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.

M. Personally Identifiable Information (PII)

All information provided by the applicant must to the greatest extent possible exclude PII. “PII” refers to information that can be used to distinguish or trace an individual’s identity, such as their name, Social Security number, or biometric records, alone or combined with other personal or identifying information linked or linkable to a specific individual, such as date and place of birth or mother’s maiden name. (See [OMB Memorandum M-17-12](#) dated January 3, 2017.)



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).

N. 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, nonprofit 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, 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.

O. Informational Webinar

DOE will conduct one informational webinar during the FOA process. It will be held after the initial FOA release but before the due date for Full Applications.

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



APPENDIX A – SMART MANUFACTURING AND HIGH-PERFORMANCE COMPUTING

For the purposes of this FOA, “Smart Manufacturing” means advanced technologies in information, automation, monitoring, computation, sensing, modeling, artificial intelligence, analytics, and networking that—

1. digitally
 - a) simulate manufacturing production lines;
 - b) operate computer-controlled manufacturing equipment;
 - c) monitor and communicate production line status; and
 - d) manage and optimize energy productivity and cost throughout production;
2. model, simulate, and optimize the energy efficiency of a factory building;
3. monitor and optimize building energy performance;
4. model, simulate, and optimize the design of energy efficient and sustainable products, including the use of digital prototyping and additive manufacturing to enhance product design;
5. connect manufactured products in networks to monitor and optimize the performance of the networks, including automated network operations; and
6. digitally connect the supply chain network.⁴³

Smart manufacturing produces fully-integrated, collaborative manufacturing systems that respond in real time to meet changing demands and conditions in the factory, in the supply network, and in customer needs.⁴⁴ Rather than each machine and product line operating independently and remotely, smart manufacturing technology can cause machines and operators to communicate with each other—through digitization, automation, and artificial intelligence—helping manufacturers track and anticipate problems, and create efficiencies and optimized processes.

⁴³ BIL § 40531(7)

⁴⁴ <https://www.nist.gov/programs-projects/product-definitions-smart-manufacturing>.

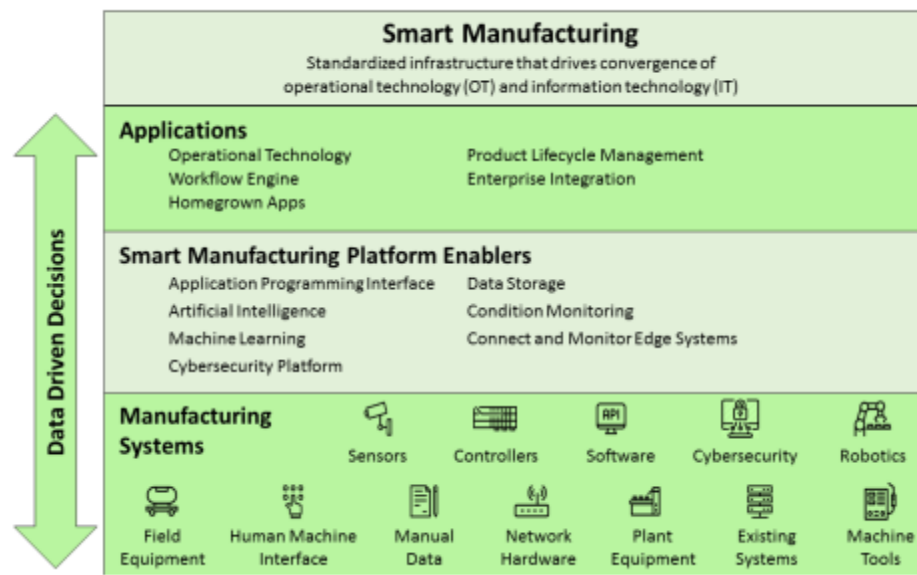


Figure 2. Smart Manufacturing Implementation

Source: U.S. Department of Energy National Smart Manufacturing Strategic Plan (July 2022)

In smart manufacturing, organizations, people, and technology work in synergy. Smart manufacturing is radically impacting the performance of the manufacturing ecosystem through measurable improvements in areas such as speed, agility, innovation, quality, costs/profitability, safety, asset reliability, and energy productivity.⁴⁵

Smart manufacturing technologies play a key role in increasing energy efficiency and performance, including by modeling, simulating, and optimizing energy efficiency and energy performance of buildings and manufacturing plants; and modeling, simulating, and optimizing the design of energy efficient and sustainable products, including through the use of digital prototyping and additive manufacturing to enhance product design.⁴⁶ Further, smart manufacturing technologies can connect manufactured products to optimize performance of automated network operations and digitally connect supply chain networks.⁴⁷

With the increase in deployment of smart manufacturing technologies, utilizing data and connectivity also comes an increase in cybersecurity risks. Manufacturing firms must therefore make complementary investments in this area to secure implementation of their smart manufacturing technologies.

Leveraging AI in manufacturing, for example, enables manufacturers to make fast, actionable decisions, resulting in improvements such as predictive maintenance, predictive quality, increased yield/throughput, and demand and inventory forecasting. These improvements can

⁴⁵ <https://www.cesmii.org/about/what-is-smart-manufacturing/>.

⁴⁶ BIL § 40531(7).

⁴⁷ BIL § 40531(7).

lead to reduced downtime of manufacturing lines, increased cost savings, and maximized product quality.⁴⁸

What is High-Performance Computing?

For the purposes of this FOA, “High-Performance Computing” means the use of supercomputers, sophisticated models, and/or large data sets to study and solve complex scientific and technological challenges.

Manufacturers have long relied on computers for modeling during process and product development and in-plant troubleshooting. Recent increases in computer processing power have enabled dramatically faster and more accurate modeling, simulation, and data analysis.

In manufacturing, HPC is used to develop advanced materials and manufacturing processes. These HPC capabilities can be applied by SMMs to:

- Model and simulate the operation of highly complex processes and advanced technologies;
- Accurately predict the effects from changing design configurations;
- Rapidly analyze huge data sets;
- Gain a deeper understanding of the underlying physical behavior to inform decision-making;
- Lower energy and material use and costs; and
- Improve manufacturing line performance, increase energy efficiency, and cut emissions.⁴⁹

Advanced modeling and simulations through the use of HPC, for example, can replace physical product prototyping with less expensive computer simulations. HPC simulations can offer a faster and more efficient way to iterate and optimize the design of processes and devices. They can be used with confidence to replace the need for costly physical ‘trial-and-error’ development steps. As a result, testing cycles can be accelerated or, in some cases, eliminated.

- Designs can be tested safely, and errors can be corrected before building the first prototype;
- Product ‘use cases’ can be run to predict wear and tear over time; and
- Failure of metal, plastic, and ceramic parts can be predicted and used to schedule preventive maintenance.

⁴⁸ National Institute for Standards and Technology, *Artificial Intelligence in Manufacturing: Real World Success Stories and Lessons Learned* (January 2022).

⁴⁹ U.S. Department of Energy Office of Energy Efficiency & Renewable Energy, *High Performance Computing for Manufacturing* (May 2021).

In turn, this can reduce the time to take products to market while simultaneously making quality improvements and ultimately cutting overall manufacturing costs.⁵⁰

Technical and economic benefits from HPC in manufacturing

Types of Benefits	Examples
Energy	<ul style="list-style-type: none">• Lower lifecycle energy demand• Increased energy efficiency and performance
Materials	<ul style="list-style-type: none">• Reduced material demand• Longer lasting materials• Lighter-weight materials• Reduced use of critical materials in short supply• Increased recyclability
Emissions	<ul style="list-style-type: none">• Lower air pollutants• Reduced toxic emissions
Waste	<ul style="list-style-type: none">• Fewer rejected parts• Less unused materials and byproducts
Costs	<ul style="list-style-type: none">• Lower production costs• Reduced technology operating costs• Lower input costs of material and energy• Increased reliability / Reduced unexpected downtime• Better scheduling of preventive maintenance
	<ul style="list-style-type: none">• Innovative designs that differentiate the manufacturer

Figure 3. Technical and Economic Benefits from HPC in Manufacturing

Source: U.S. Department of Energy Office of Energy Efficiency & Renewable Energy, *High-Performance Computing for Manufacturing* (May 2021)

By working with states to provide access to HPC resources and accelerate scaled adoption of smart manufacturing technologies, AOI1 will advance DOE's strategic goals of (i) deploying best-in-class technologies, tools, and practices to improve energy efficiency, increase productivity, mitigate cybersecurity risk, enhance resilience, and reduce waste, emissions, and pollution at SMM facilities; (ii) leveraging resources from across the Federal Government, as well as from state, Tribal, local, private sector and nongovernmental entities, to enhance the competitiveness of the manufacturing base; and (iii) equitably developing the clean energy workforce of the future.

States are invited in this FOA to submit applications that expand upon existing or create new state-level programs to advance these objectives.

⁵⁰ *Ibid.*



APPENDIX B – EXAMPLES OF AVAILABLE RESOURCES THAT SUPPORT ADOPTION OF SMART MANUFACTURING TECHNOLOGIES OR HIGH-PERFORMANCE COMPUTING RESOURCES ACROSS THE UNITED STATES

In support of the SMLP goal of advancing a robust and integrated support ecosystem for SMMs, DOE encourages applicants to partner with existing local, state, and national resources. This coordination will foster a more robust and whole-of-government approach to the deployment of smart manufacturing technologies and help ensure that firms from across the country have access to resources where they are—making it less costly and less time consuming on SMMs. It also ensures that the funding received through this Program does not have a one-time and short-term impact, but rather sets the foundation for enduring partnerships and the continuation of these relationships between States, SMMs, and resources.

The following are examples of the types of available resources that applicants could consider supporting the adoption of smart manufacturing technologies or high-performance computing resources through their projects.

Manufacturing USA⁵¹

Manufacturing USA is a national network to secure U.S. global leadership in advanced manufacturing through public-private collaboration in areas including manufacturing technology, supply chain, and workforce development. Nine federal agencies work to foster a whole-of-government approach through Manufacturing USA to bolster U.S. industrial competitiveness, economic growth and national security. The Manufacturing USA network is made up of 16 Manufacturing Innovation Institutes across the country, each with a distinct technology focus. Each institute is a public-private partnership connecting industry, academia, and government partners. There are currently more than 2300 member organizations in Manufacturing USA.

Manufacturing USA allows manufacturing firms to collaborate to solve process and technical challenges, test innovative ideas, access workforce training, learn from one another, and advance the American manufacturing sector.

Institutes can engage with States and SMMs on a range of projects such as:

- Workforce development programs, including training programs in specific technologies and curriculum development assistance;
- Access to shared test facilities and equipment for SMMs to de-risk technologies before deployment;

⁵¹ <https://www.manufacturingusa.com>.

- R&D assistance on manufacturing process, system and technology development and improvements;
- Verifying the cybersecurity of technologies and training the manufacturing workforce on cybersecurity risks; and
- Connecting manufacturing firms with potential financial partners through its network of stakeholders.

Further information regarding the Manufacturing USA Institutes can be found here: [Institutes | Manufacturing USA](#).

DOE National Laboratories

The 17 National Labs serve as leading institutions of scientific innovation—addressing large-scale, complex R&D challenges with an approach focusing on translating basic science to innovation.⁵² Labs are conducting a variety of research activities in smart manufacturing for deployment among manufacturers. Among just some of the areas where National Labs could be valuable smart manufacturing partners include:

- Innovation in Sensor development to improve data collection of manufacturing lines;
- Robotics development for expanding smart and digital manufacturing applications;
- Engagement between industry and National Lab scientific experts for manufacturing demonstration assessments; and
- Access to some of the world’s most powerful HPC systems.⁵³

NIST Manufacturing Extension Partnership⁵⁴ (MEP)

The National Institute of Standards and Technology’s (NIST’s) Hollings Manufacturing Extension Partnership (MEP) Program is a nationwide network of Centers. MEP Centers are located in all 50 States and Puerto Rico and serve as trusted business advisors focused on transforming U.S. manufacturers’ ability to compete globally, supporting supply chain integration, providing access to technology for improved productivity, and supporting a strong manufacturing workforce.

The MEP National Network™ is a diverse network of state, non-profit organizations, and public colleges and universities, comprising more than 1,400 manufacturing experts

⁵² <https://www.energy.gov/national-laboratories>.

⁵³ U.S. Department of Energy Office of Energy Efficiency & Renewable Energy, *High Performance Computing for Manufacturing* (May 2021).

⁵⁴ <https://www.nist.gov/mep/about-nist-mep>.

offering hands-on technical expertise and assistance services that address the critical needs of their local manufacturers that will impact U.S. Manufacturing. MEP Centers work directly with area manufacturers in each state to provide expertise and services tailored to manufacturers' most critical needs, ranging from process improvement and workforce development to business practices and technology transfer and implementation. Additionally, MEP Centers connect manufacturers with government and trade associations, universities and research laboratories, and a host of other public and private resources to help manufacturers realize individual business goals.

- The MEP National Network offers nation-wide resource, covering State, regional, or locally based SMMs and providing services in assessing how and where to implement smart manufacturing technologies;
- Inform investment decisions through innovative facility modeling focused on the incorporation of new products and processes;
- Planning technology adoption in accordance with ongoing operations and maintenance needs;
- Increasing supply chain resiliency through enhanced interconnections among OEMs and SMMs; and
- Identify workforce needs and resources related to the development and implementation of smart manufacturing technologies.

Further information regarding NIST MEP centers can be found here: [MEP National Network | NIST](#).

DOE Industrial Assessment Centers (IACs)

DOE-funded IACs are currently located at 37 institutions of higher education (IHE) across the nation. IACs bolster U.S. manufacturing competitiveness by providing small- and medium-sized manufacturers with no-cost assessments and recommendations to improve energy efficiency, productivity, sustainability, and competitiveness—typically resulting in cost-savings for the SMM. In addition, the network of IACs can enhance cybersecurity awareness, promote resiliency planning, help achieve decarbonization objectives, and provide some level of tech transfer/training to manufacturers located in disadvantaged communities. IACs also work to build up the workforce of engineering professionals, specifically those who can conduct assessments of manufacturing and industrial facilities. The IAC Program is currently expanding to community colleges, trade schools, and union training programs, which can also serve as regionally and locally relevant resources to scale adoption of and workforce training related to smart manufacturing technologies.



Institutes of Higher Education (IHEs)

Institutions of Higher Education, including both four-year and two-year colleges and universities, can be an important resource for SMMs adopting Industry 4.0 technologies. IHEs are poised at the nexus of research, development, workforce training, and deployment, and can strategically combine these roles in the support of manufacturing firms. They can, for example, be places where technologies are tested and improved. Partnerships between manufacturing firms and research faculty can be impactful, cost-saving, and timesaving. IHEs may have HPC equipment that manufacturing firms can access and later partner with the IHE for creating implementation plans.

Manufacturing processes can also be tested and refined in industry settings by university faculty—a process in and of itself that has an educational component for students working alongside these faculty. Similarly, IHEs can work in partnership with industry and labor unions to train workforce, including in areas like data mining, supply chain optimization, and cybersecurity, which can critically enhance capability to implement smart manufacturing technologies within SMMs at scale.



APPENDIX C – COST SHARE INFORMATION

Cost Sharing and Cost Matching

While the terms “cost sharing” and “cost matching” are sometimes used interchangeably, there is an important distinction between them. DOE uses “cost sharing” to indicate that the non-federal share is calculated as a percentage of the Total Project Cost. On the other hand, for “cost matching”, the non-federal match is calculated as a percentage of the federal funds only, rather than the Total Project Cost.

The statutory language that authorizes AOI 1, the Smart Manufacturing Leadership Program, requires proponents to provide at least 30 percent cost match.⁵⁵ The statutory language that authorizes AOI 2, State and Local Battery Collection, Recycling, and Reprocessing Program, requires proponents to provide at least a 50 percent cost share.⁵⁶ So that both AOIs in this FOA are expressed in the same terms, the 30 percent cost matching requirement for AOI 1 has been converted to a 23.1 percent cost sharing requirement.

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. Below are two examples of how to calculate cost sharing amounts using representative values for the two Areas of Interest.

First, for AOI 1, the cost share for a project with \$2 million in federal funds and a minimum 23.1% non-federal cost sharing requirement is as follows:

- Formula: Federal share (\$) divided by federal share (%) = Total Project Cost
Example: \$2,000,000 divided by 76.9% = \$2,600,781 (rounded up to the nearest dollar)
- Formula: Total Project Cost (\$) minus federal share (\$) = Non-federal share (\$)
Example: \$2,600,781 minus \$2,000,000 = \$600,781
- Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)
Example: \$600,781 divided by \$2,600,781 = 23.1%

⁵⁵ BIL Section 40534 (c) (3): “MATCHING REQUIREMENT.—Each State that receives financial assistance under this section shall contribute matching funds in an amount equal to not less than 30 percent of the amount of the financial assistance.”

⁵⁶ BIL Section 40207 (f) (3) (B): “NON-FEDERAL COST SHARE.—The non-Federal share of the cost of a project carried out using a grant under this paragraph shall be 50 percent of the cost of the project.”



Second, for AOI 2, the cost share for a project with \$250,000 in federal funds and a minimum 50% non-federal cost sharing requirement is as follows:

- Formula: Federal share (\$) divided by federal share (%) = Total Project Cost
Example: \$250,000 divided by 50% = \$500,000
- Formula: Total Project Cost (\$) minus federal share (\$) = Non-federal share (\$)
Example: \$500,000 minus \$250,000 = \$250,000
- Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)
Example: \$250,000 divided by \$500,000 = 50%

What Qualifies for Cost Sharing

While it is not possible to explain what specifically qualifies for cost sharing in one or two 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, it is allowable as cost share. Conversely, if the cost is not allowable under the cost principles and not eligible for reimbursement, 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 above regulations, other factors may come into play, such as timing of donations and length of the project period. For example, the value of 10 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, or equipment for their company with organizational resources. If the cost of the item or service is reimbursed, 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, and 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. Consult your DOE contact if you have questions 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 incur only 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 adopted and supplemented 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 D – 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 economic security.⁵⁷ 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 (for subrecipients only), an applicant must submit an explicit waiver request in the Full Application.

Waiver Criteria

Foreign entities (subrecipients only) 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
- 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 ownership breakdown of the foreign entity, and the percentage of ownership/control by foreign entities, foreign shareholders, foreign state, or foreign individuals;

⁵⁷ See [Critical and Emerging Technologies List Update \(whitehouse.gov\)](https://www.whitehouse.gov/critical-emerging-technologies/).

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- 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 Request)

As set forth in Section IV.H.iii., all work funded 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 U.S. 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 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.

DOE may require additional information before considering the waiver request.

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



APPENDIX E – Buy America Requirements for Infrastructure Projects

Required Use of American Iron, Steel, Manufactured Products, and Construction Materials

A. Definitions

For purposes of the Buy America Requirement, the following definitions apply:

Components See 2 CFR 184.3 Definitions

Construction Materials See 2 CFR 184.3 Definitions

“Buy America Preference,” “Buy America Requirement,” or “domestic content procurement preference” means the requirements set forth in section 70914 of the Build America, Buy America Act, which requires the head of each Federal agency to ensure that none of the funds subject to the requirements are made available for a Federal award for an infrastructure project may be obligated unless all of the iron, steel, manufactured products, and construction materials incorporated into the project are produced in the United States.

Infrastructure See 2 CFR 184.4(c) and (d).

Manufactured Products See 2 CFR 184.3 Definitions

Predominantly of iron or steel See 2 CFR 184.3 Definitions.

Infrastructure project See 2 CFR 184.3 Definitions

B. Buy America Requirement for Infrastructure Projects (Buy America Requirement)

None of the award 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 is 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. See 2 CFR 184.5 for determining the cost of components for manufactured products; and

(3) all construction materials⁵⁸ are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. See 2 CFR 184.6 for construction material standards.

The Buy America Requirement only applies to those articles, materials, and supplies that are consumed in, incorporated into, or affixed to the infrastructure in the 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 Requirement 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.

The Buy America Requirement only applies to an article, material, or supply classified into one of the following categories* based on its status at the time it is brought to the work site for incorporation into an infrastructure project:

- (i) Iron or steel products;
- (ii) Manufactured products; or
- (iii) Construction materials;

The Buy America Requirement only applies to the iron or steel products, manufactured products, and construction materials used for the construction, alteration, maintenance, or repair of public infrastructure in the United States when those items are consumed in, incorporated into, or permanently affixed to the infrastructure. An article, material, or supply incorporated into an infrastructure project should not be considered to fall into multiple categories, but rather must meet the Buy America Preference Requirement for only the single category in which it is classified.

The Buy America Requirement applies to public infrastructure projects in the United States. For purposes of this guidance, applicants should consider whether the infrastructure project will serve a public function. Infrastructure projects should generally be considered “public” if the infrastructure is: publicly owned, privately owned but operated on behalf of the public, or is a place of public accommodation. Review the implementation guidance in OMB Memorandum

⁵⁸ Excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

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[OMB Memorandum M-24-02](#) and consult with DOE if you are unsure if your project is subject to Buy America requirements.

All iron and steel, manufactured products, and construction materials used in the infrastructure project must be produced in the United States.

** Section 70917(c) Materials* are cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives as provided in section 70917(c) of BABA. Section 70917 (c) materials are excluded from Construction materials. Asphalt concrete pavement mixes are typically composed of asphalt cement (a binding agent) and aggregates such as stone, sand, and gravel. Accordingly, asphalt is also excluded from the definition of Construction materials.

Section 70917(c) materials, on their own, are not manufactured products. Further, Section 70917(c) materials should not be considered manufactured products when they are used at or combined proximate to the work site—such as is the case with wet concrete or hot mix asphalt brought to the work site for incorporation. However, certain Section 70917(c) materials (such as stone, sand, and gravel) may be used to produce a manufactured product, such as is precast concrete. Precast concrete is made of components, is processed into a specific shape or form, and is in such state when brought to the work site. Furthermore, wet concrete should not be considered a manufactured product if not dried or set prior to reaching the work site.

Further clarification is provided in 2 CFR Part 184 on the circumstances under which a determination is made that Section 70917(c) materials should be treated as components of a manufactured product. That determination is based on consideration of: (i) the revised definition of the “manufactured products” at 2 CFR 184.3; (ii) a new definition of “section 70917(c) materials” at 2 CFR 184.3; (iii) new instructions at 2 CFR 184.4(e) on how and when to categorize articles, materials, and supplies; and (iv) new instructions at 2 CFR 184.4(f) on how to apply the Buy America preference by category.

The recipient is responsible for flowing the Buy America Requirement down to all subawards, contracts, subcontracts, and purchase orders for work performed under the proposed infrastructure project, including to For-Profit Entities when the For-Profit Entity is a subrecipient or subawardee.

Recipients must certify or provide equivalent documentation for proof of compliance that a good faith effort was made to solicit bids for domestic products used in the infrastructure project under this award.

Recipients must also maintain certifications or equivalent documentation for proof of compliance that those articles, materials, and supplies that are consumed in, incorporated into, affixed to, or otherwise used in the infrastructure project, not covered by an approved waiver or an exemption provided in 2 CFR 184.8, are produced in the United States. The certification or

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proof of compliance must be provided by the suppliers or manufacturers of the iron, steel, manufactured products and construction materials and flow up from all subawardees, contractors and vendors to the recipient. Recipients must keep these certifications with the award/project files and be able to produce them upon request from DOE, auditors or Office of Inspector General.

C. DOE Submission Requirements for Full Application

Within the first two pages of the workplan or project description, applicants must provide a short statement on whether the project will involve the construction, alteration, maintenance and/or repair of infrastructure in the United States. The ultimate determination about whether a project includes infrastructure remains with DOE, but the applicant's statement will assist project planning and integration of the Buy America Requirement, which may impact the project's proposed budget and/or schedule.

D. Waivers

In limited circumstances, DOE may waive the application of the Buy America Requirement in an award where DOE determines that:

- (1) applying the Buy America requirements would be inconsistent with the public interest (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 (Non-Availability); 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 (Unreasonable Cost).

DOE will only process waiver requests after an award has been made but prior to any purchase of items the recipient is seeking to waive, and for which the requests have been submitted in accordance with the term and conditions of the award. Waiver requests must be reviewed by DOE and the Office of Management and Budget's Made in America Office and are subject to a public comment period of no less than 15 calendar days.

DOE or OMB may request additional information for consideration of the waiver. DOE may reject or grant waivers in whole or in part depending on its review, analysis, and/or feedback from OMB or the public. DOE's final determination regarding approval or rejection of the waiver request may not be appealed by a recipient.

Requests to waive the Buy America Requirement must include the following:

- Waiver type (Public Interest, Non-Availability, or Unreasonable Cost);

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- Recipient name and Unique Entity Identifier (UEI);
- Award information (Federal Award Identification Number, Assistance Listing number);
- A brief description of the project, its location, and the specific infrastructure involved;
- Total estimated project cost, with estimated federal share and recipient cost share breakdowns;
- Total estimated infrastructure costs, with estimated federal share and recipient cost share breakdowns;
- List and description of iron or steel item(s), manufactured goods, and/or construction material(s) the recipient seeks to waive from the Buy America Requirement, including name, cost, quantity(ies), country(ies) of origin, and relevant Product Service Codes (PSC) and North American Industry Classification System (NAICS) codes for each;
- A detailed justification as to how the non-domestic item(s) is/are essential the project;
- A certification that the recipient made a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and non-proprietary communications with potential suppliers;
- A justification statement—based on one of the applicable justifications outlined above—as to why the listed items cannot be procured domestically, including the due diligence performed (e.g., market research, industry outreach, cost analysis, cost-benefit analysis) by the recipient to attempt to avoid the need for a waiver. This justification may cite, if applicable, the absence of any Buy America-compliant bids received for domestic products in response to a solicitation;
- A description of the market research conducted that includes who conducted the market research, when it was conducted, sources that were used, and the methods used to conduct the research; and Anticipated impact to the project if no waiver is issued.

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APPENDIX F – DEFINITION OF TECHNOLOGY READINESS LEVELS

TRL 1:	Basic principles observed and reported
TRL 2:	Technology concept and/or application formulated
TRL 3:	Analytical and experimental critical function and/or characteristic proof of concept
TRL 4:	Component and/or breadboard validation in a laboratory environment
TRL 5:	Component and/or breadboard validation in a relevant environment
TRL 6:	System/subsystem model or prototype demonstration in a relevant environment
TRL 7:	System prototype demonstration in an operational environment
TRL 8:	Actual system completed and qualified through test and demonstrated
TRL 9:	Actual system proven through successful mission operations



APPENDIX G – LIST OF ACRONYMS

BIL	Bipartisan Infrastructure Law
CETs	Critical and Emerging Technologies
CEJST	Climate and Economic Justice Screening Tool
CESMII	Clean Energy Smart Manufacturing Innovation Institute
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
EERE	Energy Efficiency and Renewable Energy
EV	Electric Vehicle
FAR	Federal Acquisition Regulation
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
HPC	High-Performance Computing
IAC	Industrial Assessment Center
IPMP	Intellectual Property Management Plan
IRB	Institutional Review Board
M&O	Management and Operating
MESC	Manufacturing and Energy Supply Chains
MFA	Multi-Factor Authentication
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
OIG	Office of Inspector General
OMB	Office of Management and Budget
OSS	Open-Source Software
OSTI	Office of Scientific and Technical Information

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OTA	Other Transactions Authority
PII	Personal Identifiable Information
RD&D	Research, Development, and Demonstration
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
SMLP	State Manufacturing Leadership Program
SMMs	Small- and Medium-sized Manufacturers
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
WBS	Work Breakdown Structure
WP	Work Proposal