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U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



FY24 Scale-Up of Integrated Biorefineries

FY24BETOSCALE-UP@ee.doe.gov

FOA Webinar
DE-FOA-0003371
October 2nd, 2024

Notice

- NO NEW INFORMATION OTHER THAN THAT PROVIDED IN THE FOA WILL BE DISCUSSED IN THE WEBINAR.
- There are no advantages or disadvantages to the application evaluation process with respect to participating on the webinar today.
- Your participation is completely voluntary.
- A recording of this webinar, a transcript, and a copy of the slides will all be posted following the conclusion of the webinar on EERE eXCHANGE.

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement **DE-FOA-0003371** (“FOA”) and adhere to the stated submission requirements.
- This presentation summarizes the contents of FOA. If there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document, and applicants should rely on the FOA language and seek clarification by submitting a question to **FY24BETOSCALE-UP@ee.doe.gov**.

Do not expect a direct response (via email) to your question

- You must select this specific FOA Number **DE-FOA-0003371** to view the Q&As
- EERE will attempt to respond to questions within 3 business days, unless a similar Q&A has already been posted on the website. This Q&A log will keep a running list of all questions asked.

Notice

EERE Funding Opportunity Exchange

DE-FOA-0003371: FY24 SCALE-UP OF INTEGRATED BIOREFINERIES

Funding Opportunity Announcement (FOA) DE-FOA-0003371 FY24 Scale-up of Integrated Biorefineries supports higher risk bioenergy technologies that are ready to scale, ultimately demonstrating feedstock-conversion variations, or production pathways, to support commercialization and meet the Sustainable Aviation Fuel (SAF) Grand Challenge goal of 35 billion gallons per year of SAF production by 2050 and the Clean Fuels and Products Shot goal of 50% projected demand for maritime, rail, off-road, and renewable carbon-based chemicals by 2050.

Apply

The activities to be funded under this FOA will support the advancement of cost-shared research, development, and demonstration projects with partners in industry, academia, and the National Laboratories focused on the design, construction, operation, and validation of new technology and feedstock pathways for engineering scale integrated biorefineries. The intent of this FOA is to reduce technology uncertainty and risk through cost-shared pilot- and demonstration-scale biorefinery projects. The FOA would support BETO's multi-year strategic goals to 1) decarbonize the transportation sector through the production of cost-effective SAF and other strategic fuels, and 2) decarbonize the industrial sector through cost-effective and sustainable chemicals, materials, and processes utilizing biomass and waste resources.

Topic Area 1 will identify, evaluate, and select applications proposing project definition, development, and execution plans for the scaling of pre-pilot (TRL 5) biofuel technologies to pilot scale (TRL 6).

Topic Area 2 will identify, evaluate, and select applications proposing project definition, development, and execution plans for the scaling of pilot (TRL 6) biofuel technologies to demonstration scale (TRL 7-8).

Topic Area 3 supports scale-up activities to produce organic chemicals from renewable biomass and waste feedstocks that can replace those currently derived from petroleum. Topic Area 3 will identify, evaluate, and select applications proposing project definition, development, and execution plans for the scaling of pre-pilot and pilot (TRL 5-6) biochemical technologies to pilot and demonstration scale (TRL 6-8).

Questions regarding the FOA must be submitted to FY24BETOScaleUp@ee.doe.gov

See the full Funding Opportunity Announcement (FOA) in the DOCUMENTS section below.

The required Concept Paper due date for this FOA is 11/07/2024 at 5PM ET. The Full Application due date for this FOA is 01/16/2025 at 5PM ET.

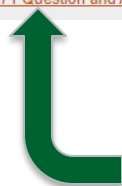
The eXCHANGE system is currently designed to enforce hard deadlines for Concept Paper and Full Application submissions. The APPLY and SUBMIT buttons automatically disable at the defined submission deadlines. The intention of this design is to consistently enforce a standard deadline for all applicants.

Applicants that experience issues with submissions PRIOR to the FOA Deadline: In the event that an Applicant experiences technical difficulties with a submission, the Applicant should contact the eXCHANGE helpdesk for assistance (exchangehelp@hq.doe.gov). The eXCHANGE helpdesk and/or the EERE eXCHANGE System Administrators (eXCHANGE@ee.doe.gov) will assist the Applicant in resolving all issues.

Applicants that experience issues with submissions that result in a late submission: In the event that an Applicant experiences technical difficulties with a submission that results in a late submission, the Applicant should contact the eXCHANGE helpdesk for assistance (exchangehelp@hq.doe.gov). The eXCHANGE helpdesk and/or the EERE eXCHANGE System Administrators (eXCHANGE@ee.doe.gov) will assist the Applicant in resolving all issues (including finalizing the submission on behalf of, and with the Applicant's concurrence). DOE will only accept late applications when the Applicant has a) encountered technical difficulties beyond their control; b) has contacted the eXCHANGE helpdesk for assistance; and c) has submitted the application through eXCHANGE within 24 hours of the FOA's posted deadline.

DOCUMENTS

- [DE-FOA-0003371 FY24 Scale-Up of Integrated Biorefineries](#) (Last Updated: 9/10/2024 03:47 PM ET)
- [DE-FOA-0003371 Question and Answer Log](#) (Last Updated: 9/26/2024 04:40 PM ET)



Answers to all questions received will be posted to this Q&A log (an Excel workbook)

DE-FOA-0003371

FY24 Scale-Up of Integrated Biorefineries

Anticipated Schedule:

FOA Issue Date:	9/11/2024
Submission Deadline for Concept Papers:	11/7/2024 5:00 p.m. ET
Submission Deadline for Full Applications:	1/16/2025 5:00 p.m. ET
Submission Deadline for Replies to Reviewer Comments:	3/13/2025 5:00 p.m. ET
Expected Date for EERE Selection Notifications:	4/30/2025
Expected Timeframe for Award Negotiations:	Summer 2025

Agenda

- 1) FOA Description
- 2) Topic Areas/Technical Areas of Interest
- 3) Award Information
- 4) Statement of Substantial Involvement
- 5) Cost Sharing
- 6) FOA Timeline
- 7) Concept Papers
- 8) Full Applications
- 9) Merit Review and Selection Process
- 10) Registration Requirements

FOA Description

This FOA will advance the Biden-Harris Administration's goals to put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050. The U.S. Department of Energy (DOE) is committed to catalyzing clean energy jobs through research, development, demonstration, and deployment, and ensuring environmental justice and inclusion of underserved communities.

In support of these Administration priorities, the Bioenergy Technologies Office (BETO) conducts research, development and demonstration (RD&D) activities to enable a diverse supply of **renewable waste streams and biomass** as well as cost-effective **conversion technologies** nationwide, emphasizing **later-stage demonstration** to accelerate deployment of **biofuels and bioproducts**.

FOA Description

This FOA supports high-impact technology RD&D to accelerate the bioeconomy via the production **of low-carbon fuels** for the aviation, marine, rail, and heavy-duty industries, and **renewable chemical** production with dramatically reduced lifecycle greenhouse gas (GHG) emissions compared to the petroleum incumbent.

This FOA supports higher risk technologies that are ready to scale, ultimately demonstrating feedstock-conversion variations, or production pathways, to support commercialization and meet **the SAF Grand Challenge**¹ goal of 35 billion gallons per year of SAF production by 2050 and the **Clean Fuels and Products Shot**² goal of 50% projected demand for maritime, rail, off-road, and carbon-based chemicals by 2050.

The scale-up strategy utilizes a phased approach with a down-select between **Phase 1**: Verification and Design Basis Definition and Phase 2: Detailed Design, Construction and Operation of pilot- or demonstration-scale biorefineries.

¹ <https://www.energy.gov/eere/bioenergy/sustainable-aviation-fuel-grand-challenge>

² <https://www.energy.gov/eere/clean-fuels-products-shottm-alternative-sources-carbon-based-products>

FOA Description

Topic Area	Scope
Topic Area 1 Pilot-Scale \$2-3M in Federal Funding	Identify, evaluate, and select applications proposing project definition, development, and execution plans for the scaling of pre-pilot biofuel and bioproduct technologies to pilot scale
Topic Area 2 Demonstration-Scale \$2-3M in Federal Funding	Identify, evaluate, and select applications proposing project definition, development, and execution plans for the scaling of pilot biofuel technologies to demonstration scale
Topic Area 3 Scale-Up of Organic Chemical Pathways \$2-3M in Federal Funding	Identify process technologies that have performed and validated all prior-scale experimentation and are ready to design a pilot- or demonstration-scale organic chemical production facility
All Topic Areas are for Phase 1 scope, Verification & Design Basis Definition, only. Subject to future appropriations, BETO may down-select a project into Phase 2, Final Design, Construction, and Operation.	

FOA Description

Phases	Budget Periods	Scope
Phase 1 – Verification & Design Basis Definition (24 Months)	BP1	Verification of baseline data presented in application
	Go/No-Go Review of Verification outcome	
	BP2	Design Basis Definition
Down-select Approve project scope and begin design (Subject to future appropriations)		
Phase 2 – Final Design, Construction, Operation (36-48 Months)	BP3	Project Definition - preliminary planning and design
	Go/No-Go Review to approve start of construction	
	BP4	Project Execution - complete final design and construction
	Go/No-Go Performance test to verify readiness to begin operations	
	BP5	Operations

FOA Description

At the end of Phase 1, a full design package and other project deliverables will be reviewed and verified by DOE and its Independent Engineer. The full design package includes items such as Process Design Basis Documents, Process Flow Diagrams, Mass and Energy Balances, budgetary estimates, and schedules. A complete list of design package elements and other Phase 1 requirements can be found in Appendix I of the FOA.

Selection for a Phase 1 award does not guarantee a Phase 2 award. Phase 2 funds are subject to future appropriations and availability of funds, which may be obligated to successful Phase 2 awards only if a down-select occurs.

Topic Area 1: Pilot Scale-up of Integrated Biorefineries

Metric:	Minimum:
Fuel Type	Sustainable aviation fuel, heavy-duty truck fuel, sustainable marine fuel, off-road vehicle fuel, and/or sustainable rail fuel.
Fuel Selling Price	Cost competitive with petroleum-based fuels (model TEA for n th plant)
Cumulative Time on Stream	1,500 hours
Continuous Time on Stream	1,000 hours
Throughput Equivalent	20,000 gallons of biofuel per year equivalent
GHG Reductions	70%
Allowable Feedstocks	Lignocellulosic Feedstocks, Algae, Organic Wet Waste, Sorted Municipal Solid Waste, Food Waste, Biogas, Grain Starch, Oilseed Crops, C&D Waste, Waste CO ₂ , and CO ₂ by Direct Air Capture
<p>*Applications submitted under Topic Area 1 must reflect the minimum requirements indicated in this table as the expectation for an eventual facility that may be constructed and operated in Phase 2, subject to the application's down-selection from Phase 1.</p>	

Selection for a Phase 1 award does not guarantee a Phase 2 award. Phase 2 funds are subject to future appropriations and availability of funds, which may be obligated to successful Phase 2 awards only if a down-select occurs.

Topic Area 2: Demonstration Scale-up of Integrated Biorefineries

Metric:	Minimum:
Fuel Type	Sustainable aviation fuel, heavy-duty truck fuel, sustainable marine fuel, off-road vehicle fuel, and/or sustainable rail fuel.
Fuel Selling Price	Cost competitive with petroleum-based fuels (model TEA for n th plant)
Cumulative Time on Stream	1,500 hours
Continuous Time on Stream	1,000 hours
Throughput Equivalent	1,000,000 gallons of biofuel per year equivalent
GHG Reductions	70%
Allowable Feedstocks	Lignocellulosic Feedstocks, Algae, Organic Wet Waste, Sorted Municipal Solid Waste, Food Waste, Biogas, Grain Starch, Oilseed Crops, C&D Waste, Waste CO ₂ , and CO ₂ by Direct Air Capture
*Applications submitted under Topic Area 2 must reflect the minimum requirements indicated in this table as the expectation for an eventual facility that may be constructed and operated in Phase 2, subject to the application's down-selection from Phase 1.	

Selection for a Phase 1 award does not guarantee a Phase 2 award. Phase 2 funds are subject to future appropriations and availability of funds, which may be obligated to successful Phase 2 awards only if a down-select occurs.

Topic Area 3: Scale-up of Organic Chemical Pathways

Metric:	Minimum:
Organic Chemical	Organic chemicals from renewable feedstocks with annual U.S. domestic production exceeding 0.5 million short tons.
Chemical Selling Price	Cost competitive with petroleum-based fuels (model TEA for n th plant)
Cumulative Time on Stream	1,500 hours
Continuous Time on Stream	1,000 hours
Throughput Equivalent	To be determined and justified by applicant for pilot- or demonstration-scale, e.g., 100 lbs per day, or 1 short ton per day for pilot-, or demonstration-scale, respectively.
GHG Reductions	85%
Allowable Feedstocks	Lignocellulosic Feedstocks, Algae, Organic Wet Waste, Sorted Municipal Solid Waste, Food Waste, Biogas, Grain Starch, Oilseed Crops, C&D Waste, Waste CO ₂ , and CO ₂ by Direct Air Capture
*Applications submitted under Topic Area 3 must reflect the minimum requirements indicated in this table as the expectation for an eventual facility that may be constructed and operated in Phase 2, subject to the application's down-selection from Phase 1.	

Selection for a Phase 1 award does not guarantee a Phase 2 award. Phase 2 funds are subject to future appropriations and availability of funds, which may be obligated to successful Phase 2 awards only if a down-select occurs.

Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award:

- Applications that fall outside the technical parameters specified in Section I.A, I.B, or I.D of the FOA
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
- Applications that propose using model feedstocks in lieu of commercially available feedstocks in accordance with acceptable feedstocks in Appendix E of the FOA.

Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award:

- Topic Area 1 or Topic Area 2 applications that propose transportation fuels pilot- or demonstration-scale projects with a coproduct where **less than 50%** of the total carbon is contained within the biofuel(s).
- Topic Area 1 or Topic Area 2 applications that propose pilot- or demonstration-scale projects for transportation modes other than sustainable marine, sustainable aviation, heavy-duty, sustainable rail fuel, or off-road vehicles, **e.g. light-duty vehicles.**
- Topic Area 1 or Topic Area 2 applications **that propose hydrogen or electricity** as transportation fuels.

Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award:

- Topic Area 3 applications proposing pilot- or demonstration-scale **processes to produce inorganic chemicals** e.g. chlorine, caustic soda, ammonia, hydrogen are not of interest.
- Topic Area 3 applications proposing or utilizing processes targeting **small, niche or fine** chemical markets, pharmaceutical markets, or nutraceutical markets are not of interest.
- Topic Area 3 applications proposing processes targeting the **production of protein or biomass** as an end-product are not of interest.

Teaming Partner List

- To facilitate the formation of new project teams for this FOA, a Teaming Partner List is available at <https://eere-exchange.energy.gov/#Foald5f7c9da6-d11b-4a97-86a6-6544d22b11b2>
- Any organization that would like to be included on this list should submit the following information to <https://eere-exchange.energy.gov/ApplicantProfile.aspx> :
 - Organization Name, Contact Name, Contact Address, Contact Email, Contact Phone, Organization Type, Area of Technical Expertise, and Brief Description of Capabilities.
- By submitting this information, you consent to the publication of the above-referenced information.
- By facilitating this Teaming Partner List, EERE does not endorse or otherwise evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List.

Award Information

Total Amount to be Awarded	Approximately \$12,000,000*
Average Award Amount	EERE anticipates making awards that range from \$2,000,000 to \$3,000,000
Type of Funding Agreement	Cooperative Agreements
Period of Performance	12 to 24 months
Cost Share Requirement	50% of Total Project Costs

*Subject to the availability of appropriated funds

Award Information

Phase 2 Award Considerations	Federal Share
Topic Area 1	\$15,000,000*
Topic Area 2	\$100,000,000*
Topic Area 3	\$15,000,000* –or– \$100,000,000*
Cost Share Requirement	50% of Total Project Costs
Contingency Requirement	>25% of Total Project Costs (Fed + Cost Share)

*Subject to the availability of appropriated funds

Statement of Substantial Involvement

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

- EERE shares responsibility with the Recipient for the management, control, direction, and performance of the Project.
- EERE 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.
- EERE may redirect or discontinue funding the Project based on the outcome of EERE's evaluation of the Project at that the Go/No Go decision point.
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

- Applicants are bound by the cost share proposed in their Full Applications if selected for award negotiations.
- The cost share **must be at least 50% of the total project costs**¹ for demonstration projects.²
- The cost share must come from non-federal sources unless otherwise allowed by law.
- To assist applicants in calculating proper cost share amounts, DOE has included a cost share information sheet and sample cost share calculation as Appendices A and B of this FOA.

Topic Area	Minimum Required Cost Share	Federal Share	Minimum Cost Share	Estimated Total Project
Topic Area 1	50%	\$2-3M	\$2-3M	\$4-6M
Topic Area 2	50%	\$2-3M	\$2-3M	\$4-6M
Topic Area 3	50%	\$2-3M	\$2-3M	\$4-6M

¹ Total project costs is the sum of the government share, including FFRDC costs if applicable, and the recipient share of project costs.

² 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.

Cost Share Contributions

- Contributions **must** be:
 - Specified in the project budget.
 - Verifiable from the Prime Recipient's records.
 - Necessary and reasonable for proper and efficient accomplishment of the project.
- If you are selected for award negotiations, 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
- Please note, vendors/contractors may NOT provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

Allowable Cost Share

- Cost Share must be allowable and must be verifiable upon submission of the Full Application.
- Refer to the following applicable Federal cost principles:

Entity	Cost Principles
For-profit entities	FAR Part 31 https://www.ecfr.gov/current/title-48/chapter-1/subchapter-E/part-31?toc=1
All other non-federal entities	2 CFR Part 200 Subpart E - Cost Principles https://www.ecfr.gov/cgi-bin/text-idx?node=2:1.1.2.2.1.5&rgn=div6

Allowable Cost Share

- Cash Contributions
 - May be provided by the Prime Recipient, Subrecipients, or a Third Party (may not be provided by vendors/contractors).
- In-Kind Contributions
 - Can include, but are not limited to: the donation of volunteer time or the donation of space or use of equipment.

For more information, see the Cost Share Appendix A in the FOA

Unallowable Cost Share

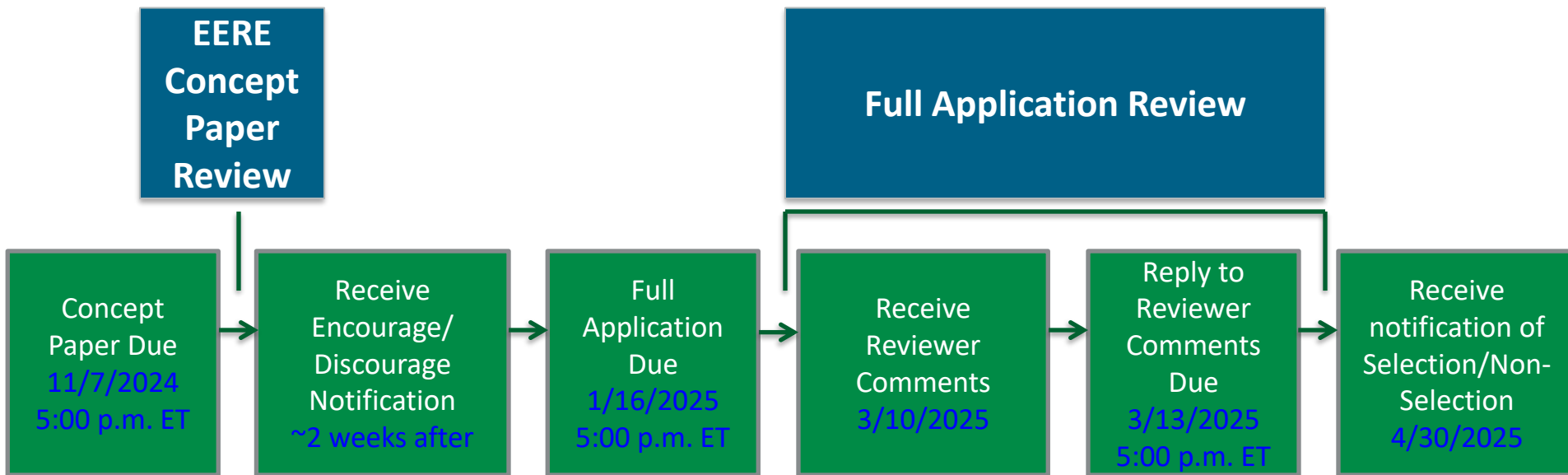
The Prime Recipient may **NOT** use the following sources to meet its cost share obligations including, but not limited to:

- Revenues or royalties from the prospective operation of an activity beyond the project period.
- Proceeds from the prospective sale of an asset of an activity.
- Federal funding or property.
- Expenditures reimbursed under a separate Federal Technology Office.
- The same cash or in-kind contributions for more than one project or program.
- Vendor/contractor contributions.

Cost Share Payment

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award.
- The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated.
- In limited circumstances, and where it is in the government's interest, the EERE 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. See Section III.B.VI of the FOA.

FOA Timeline



EERE anticipates making awards by **August 2025**

Concept Papers

- Applicants **must** submit a Concept Paper
 - Each Concept Paper **must** be limited to a single concept or technology.
- Section IV.C of the FOA states what information a Concept Paper should include and the page limits.
 - Failure to include the required content could result in the Concept Paper receiving a “discouraged” determination or the Concept Paper could be found to be ineligible.
- Concept Papers **must** be submitted by November 7th, 2024, 5:00 p.m. ET, through EERE eXCHANGE.
- EERE provides applicants with: (1) an “encouraged” or “discouraged” notification, and (2) the reviewer comments.

Concept Paper Review

Concept Paper Criterion: Overall FOA Responsiveness and Viability of the Project (Weight: 100%)

This criterion involves consideration of the following factors:

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

Full Applications

The Full Application includes:

- **SF-424 Application for Federal Assistance:** The formal application signed by the authorized representative of the applicant.
- **Technical Volume:** The key technical submission - info relating to the technical content, project team members, etc.
- **Resumes**
- **Letters of Commitment:**
- **Impacted Indian Tribes Documentation**
- **Statement of Project Objectives**
- **Diversity Equity and Inclusion Plan**
- **SF-424A Budget & Budget Justification:** a detailed budget and spend plan for the project.
- **Summary/Abstract for Public Release**
- **Summary Slide**
- **Subrecipient Budget Justification(s):** as necessary
- **DOE Work Proposal(s) for FFRDC:** as necessary
- **Authorization from Cognizant Contracting Officer for FFRDC:** as necessary
- **SF-LLL Disclosure of Lobbying Activities**
- **Foreign Entity Waiver Requests and Foreign Work Waiver Requests:** as necessary
- **Current and Pending Support**
- **Transparency of Foreign Connections**
- **Potentially Duplicative Funding Notice**
- **Block Flow Diagram and Supplemental Data**
- **Proforma Cash Flow Analysis**
- **Life Cycle Assessment**

Full Applications: Technical Volume Content

Technical Volume: the key technical component of the Full Application

Content of Technical Volume	Suggested % of Technical Volume
Cover Page	
Project Overview	10%
Technical Description, Innovation and Impact	30%
Workplan	40%
Technical Qualifications and Resources	20%

Full Application Eligibility Requirements

- Applicants must submit a Full Application by **January 16th, 2025, 5:00 p.m. ET**
- Full Applications are eligible for review if:
 - The Applicant is an eligible entity Section III.A of FOA.
 - The Applicant submitted an eligible Concept Paper.
 - The Cost Share requirement is satisfied Section III.B of FOA.
 - The Full Application is compliant Section III.C of FOA.
 - The proposed project is responsive to the FOA Section III.D of FOA.
 - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

Who is Eligible to Apply?

Eligible applicants for this FOA include:

1. Institutions of higher education
2. For-profit entities
3. Non-profits entities
4. State and local government entities
5. Indian Tribes, as defined in section 4 of the Indian Self-Determination and Education Assistance Act, 25 U.S.C. § 5304.

For more detail about eligible applicants, please see Section III.A of the FOA.

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.

Prime Recipients must be incorporated (or otherwise formed) under the laws of a State or territory of the United States and have a physical location for business operations in the United States. See Section III.A.ii for requirements applicable to foreign entities applying under this FOA.

Multiple Applications

Limitation on Number of Concept Papers and Full Applications Eligible for Review:

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

Merit Review and Selection Process (Full Applications)

- The Merit Review process consists of multiple phases that each include an eligibility review and a thorough technical review.
- Rigorous technical reviews 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, to make the selection decisions.

Technical Merit Review Criteria

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

Criterion 1: Technical Merit, Innovation, and Impact (50%)

This criterion involves consideration of the following factors:

Technical Merit and Innovation

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

Technical Merit Review Criteria

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

Criterion 1: Technical Merit, Innovation, and Impact (50%)

This criterion involves consideration of the following factors:

Impact of Technology Advancement

- Ability of the project to advance industry adoption;
- Extent to which the project supports the topic area 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
- Extent to which the project facilitates stakeholder relationships across new or existing stakeholders to gain technical buy-in and increase potential for future deployments.

Technical Merit Review Criteria

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

Criterion 1: Technical Merit, Innovation, and Impact (50%)

This criterion involves consideration of the following factors:

Project Management

- Adequacy of proposed project management systems including the ability to track scope, cost, and schedule progress and changes;
- Reasonableness of budget and spend plan as detailed in the budget justification workbook for proposed project and objectives;
- 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.

Technical Merit Review Criteria

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

Criterion 2: Project Research and Market Transformation Plan (20%)

This criterion involves consideration of the following factors:

Research Approach, Workplan, and SOPO

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

Identification of Technical Risks

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

Baseline, Metrics, and Deliverables

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

Market Transformation Plan

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

Industry Adoption Plan

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

Technical Merit Review Criteria

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

Criterion 3: Team and Resources (10%)

This criterion involves consideration of the following factors:

- Capability of the Principal Investigator(s) and the proposed team to address all aspects of the proposed work with a high probability of success. The qualifications, relevant expertise, and time commitment of the individuals on the team;
- Diversity of expertise and perspectives of the team and the inclusion of industry partners that will amplify impact;
- Sufficiency of the facilities to support the work;
- Degree to which the proposed consortia/team demonstrates the ability to facilitate and expedite further demonstration, development, and commercial deployment of the proposed technologies;
- Level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan; and
- Reasonableness of the budget and spend plan for the proposed project

Technical Merit Review Criteria

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

Criterion 4: Diversity, Equity, and Inclusion (20%)

This criterion involves consideration of the following factors:

Energy Equity and Environmental Justice

- Clear workplan tasks, staffing, research, and timeline for engaging energy equity stakeholders and/or evaluating the possible near and long-term implications of the project for the benefit of the American public, including, but not limited to public health and public prosperity benefits;
- Degree to which applicant has identified business-as-usual practices and how the proposed approach could confer benefits to the community;
- Degree to which the proposed project will share learnings with community members and other interested communities;
- Approach, methodology, and expertise articulated in the plan for addressing energy equity and justice issues associated with the technology innovation; and
- Likelihood that the plan will result in improved understanding of distributional public benefits and costs related to the innovation if successful.

Workforce Implications

- Clear and comprehensive workplan tasks, staffing, research, and timeline for engaging workforce stakeholders and/or evaluating the possible near- and long-term implications of the project for the U.S. workforce;
- Approach to document the knowledge, skills, and abilities of the workforce required for successful commercial deployment of innovations resulting from this research;
- Extent to which the proposed approach is likely to build organizational and/or staff capacity to support the installation of clean energy technologies located in the community/ies, and/or support the community's/ies' participation in the clean energy economy; and
- Likelihood that the plan will result in improved understanding of the workforce implications related to the innovation if successful.

Technical Merit Review Criteria

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

Criterion 4: Diversity, Equity, and Inclusion (20%)

This criterion involves consideration of the following factors:

Diversity, Equity, Inclusion and Accessibility (DEIA)

- Clear articulation of the project's goals related to diversity, equity, inclusion, and accessibility;
- Quality of the project's DEIA goals, as measured by the goals' depth, breadth, likelihood of success, inclusion of appropriate and relevant SMART milestones, and overall project integration;
- Degree of commitment and ability to track progress toward meeting each of the DEIA goals; and
- Extent of engagement of organizations that represent Diversity Advisory Councils as a core element of their mission, including Minority Serving Institutions (MSIs), Minority Business Entities, and nonprofit or community-based organizations.

Replies to Reviewer Comments

- EERE provides applicants with reviewer comments
- Applicants are not required to submit a Reply - it is optional
- To be considered by EERE, a Reply must be submitted by March 13th, 2025, 5:00 p.m. ET and submitted through EERE eXCHANGE
- Content and form requirements:

Section	Page Limit	Description
Text	2 pages max	Applicants may respond to one or more reviewer comments or supplement their Full Application.
Optional	1 page max	Applicants may use this page however they wish; text, graphs, charts, or other data to respond to reviewer comments or supplement their Full Application are acceptable.

Selection Factors

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available in arriving at selections for this FOA

Program Policy Factors

The Selection Official may consider the following program policy factors in making his/her selection decisions:

- The degree to which the proposed project exhibits technological diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA;
- The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives;
- The level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers;
- The degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty;
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications);
- The degree to which the proposed project incorporates applicant or team members from Minority Serving Institutions (e.g., Historically Black Colleges and Universities (HBCUs)/Other Minority Institutions (OMIs)); and partnerships with Minority Business Enterprises, minority-owned businesses, woman-owned businesses, veteran-owned businesses, or Indian Tribes; and
- The degree to which the proposed project will employ procurement of U.S. iron, steel, manufactured products, and construction materials.
- The degree to which the proposed project contributes to the diversity of organizations and organization types and sizes selected from the subject FOA when compared to the existing DOE project portfolio.
- The degree to which the proposed project has broad public support from the communities most directly impacted by the project.
- The degree to which the proposed project avoids duplication/overlap with other publicly or privately funded work.
- The degree to which the proposed project supports complementary efforts or projects, which, when taken together, will best achieve the research goals and objectives.
- The degree to which the proposed project enables new and expanding market segments.
- The degree to which the project's solution or strategy will maximize deployment or replication.

Registration Requirements

- To apply to this FOA, Applicants must submit application materials through EERE eXCHANGE:
 - Beginning in July 2022, eXCHANGE will be updated to integrate with [Login.gov](https://www.login.gov). As of Sept. 29, 2022, applicants must have a Login.gov account to access [EERE eXCHANGE](#). Please ensure that the email address associated with Login.gov matches the email address associated with your eXCHANGE account. For more information, refer to the eXCHANGE Multi-Factor Authentication (MFA) Quick Guide in the [Manuals section](#) in eXCHANGE.
- Obtain a “control number” at least 24 hours before the first submission deadline.
- Although not required to submit an Application, the following registrations must be complete to receive an award under this FOA:

Registration Requirement	Website
SAM	https://www.sam.gov
FedConnect	https://www.fedconnect.net
Grants.gov	http://www.grants.gov

Means of Submission

- Concept Papers, Full Applications, and Replies to Reviewer Comments must be submitted through EERE eXCHANGE at <https://eere-eXCHANGE.energy.gov>
 - EERE will not review or consider applications submitted through other means
- The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements can be found at <https://eere-eXCHANGE.energy.gov/Manuals.aspx>

Key Submission Points

- Check entries in EERE eXCHANGE
 - Submissions could be deemed ineligible due to an incorrect entry.
- EERE strongly encourages Applicants to submit 1-2 days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with EERE eXCHANGE.
- Make sure you hit the submit button.
 - Any changes made after you hit submit will un-submit your application and you will need to hit the submit button again.
- For your records, print out the EERE eXCHANGE page at each step, which contains the application's Control Number.

Applicant Points-of-Contact

- Applicants **must** designate primary and backup points-of-contact in EERE eXCHANGE with whom EERE will communicate to conduct award negotiations.
- It is imperative that the Applicant/Selectee be responsive during award negotiations and meet negotiation deadlines.
 - Failure to do so may result in cancellation of further award negotiations and rescission of the Selection.

Questions

- Questions about this FOA? Email FY24BETOSCALE-UP@ee.doe.gov
 - All Q&As related to this FOA will be posted on EERE eXCHANGE
 - You must select this specific FOA Number in order to view the Q&As
 - EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website
- Problems logging into EERE eXCHANGE or uploading and submitting application documents with EERE eXCHANGE? Email EERE-eXCHANGESupport@hq.doe.gov.
 - Include FOA name and number in subject line
- All questions asked during this presentation will be posted on EERE eXCHANGE